

Lwarp

L^AT_EX HTML⁵

The lwarp package

L^AT_EX to HTML

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Abstract

The `lwarp` package converts L^AT_EX to HTML by using L^AT_EX to process the user's document and directly generate HTML tags. External utility programs are only used for the final conversion of text and images. Math may be represented by SVG images or MATHJAX. More than 500 L^AT_EX packages and classes are supported, of which more than 90 also support MATHJAX.

Documents may be produced by DVI or PDF L^AT_EX, LuaL^AT_EX, XeL^AT_EX; by several CJK engines, classes, and packages; or by customized systems such as `perltext` and `pythontex`. A `texlua` script automates compilation, index, glossary, and batch image processing, and also supports `latexmk`. Configuration is semi-automatic at the first manual compile. Support files are self-generated. Print and HTML versions of each document may coexist.

Assistance is provided for HTML import into EPUB conversion software and word processors.

Requirements include the commonly-available POPPLER utilities (included with M^IK_TE_X) and PERL. Detailed installation instructions are included for each of the major operating systems and T_EX distributions.

A quick-start tutorial is provided, as well as extensive documentation for special cases, a general index, and a troubleshooting index. Automatic error testing is provided for configuration files, package load order, and image generation.

SVG math and many other generated images include L^AT_EX expressions in the `alt` tags. MATHJAX may be used with advanced equation numbering under the direct control of `lwarp`.

Complicated tables are supported, which copy/paste well into LIBREOffice WRITER.

Supported classes and packages include `memoir` and `koma-script`, `cleveref`, `caption`, `mdframed`, `siunitx`, and many popular packages for tabulars, floats, graphics, theorems, the title page, bibliography, indexing, footnotes, and editorial work, as well as a number of CJK-related classes and packages.

T_EX is a self-modifying tokenized macro-expansion language. Since `lwarp` is written directly in L^AT_EX, it is able to interpret the document's meaning at a deeper level than external conversions which merely approximate T_EX. HTML5 and CSS3 are leveraged to provide advanced features such as `booktabs trim`, `multicolumns`, `side-by-side minipages`, and JAVASCRIPT-free navigation.

For a list of supported features, see [table 2: Supported packages and features](#).

To update existing projects, see [section 1: Updates](#).

Lwarp is still in development. Changes are likely.

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T_EX and related projects:

- are mostly open-sourced and a volunteer effort;
- benefit students, academics, scientists, engineers, and businesses;
- help drive education, public and private research, and commercial activity;
- are used in the fields of mathematics, science, engineering, and humanities;
- are international in reach;
- span decades of development;
- are enduring — many older packages are still actively used and maintained;
- are largely backwards compatible;
- are portable across all the major computing platforms;
- are usable even on older computers and away from internet access;
- are continuing to maintain relevance with modern improvements;
- require no yearly subscription fees;
- and are supported by an active community of knowledgeable volunteers.

Please consider helping by joining and/or contributing to the T_EX Users Group, a United States 501(c)(3) tax-exempt charitable organization. Contributions are accepted by credit card, check, or Pay Pal, via the United Way, or by USA or European bank transfer. Membership in TUG supports the development of T_EXLive, the major T_EX distribution.

Donations may be directed towards individual projects:

TUG Bursary Fund: Assistance for attending annual TUG meetings.

CTAN: The Comprehensive T_EX Archive Network — Central storage for T_EX.

TeX Development Fund: Support for specific projects.

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GUST e-foundry fonts: Enhanced for math and additional language groups.

LaTeX Project: Modernizing the L^AT_EX core.

Libre Font Fund: Fonts, tools (FontForge), and distribution (the Open Font Library).

LuaTeX: Combining the pdfT_EX engine and the Lua language.

MetaPost: Postscript graphics.

MacTeX: T_EX for Mac.

PDF Accessibility: Modern PDF standards.

Other: Additional projects may be specified.

To make a contribution: <https://www.tug.org/donate.html>

For country-specific T_EX users groups: <http://tug.org/usergroups.html>

For users of MiK_TE_X: <https://miktex.org/donations.html>

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1 Updates

The following is a summary of updates to `lwarp`, highlighting new features and any special changes which must be made due to improvements or modifications in `lwarp` itself.

For a detailed list of the most recent changes, see the end of the Change History on page 1320.

v0.894: MATHJAX additions and improvements.

- `MATHJAX`
 - Improved warning message for enabling SVG graphics for select math expressions while using MATHJAX.
 - Accept and ignore a star for `\hspace`.
 - Ignores `\arabic`, `\number`, `\noalign`.
- `packages`
 - Added MATHJAX emulation for `backnaur`, `colortbl`, `nicematrix`.
 - `booktabs`: MATHJAX emulation now absorbs and discards `trim`.
 - `menukeys`: Updated to v1.6.1.

v0.893: Minor fixes, more packages.

- `MATHJAX`
 - Added MATHJAX emulation for `\mathnormal`.
- `packages`
 - Fixed `pstricks` `pspicture*`.
 - Fixed `tikz` font macros.
 - `braket`: Now uses the MATHJAX extension.
 - Added `esvect`, `fixmath`, `keystroke`, `mathastext`, `menukeys`, `picinpar`, `plimsoll`, `repltext`, `selectp`, `seqsplit`, `simplebnf`, `statistics`, `swfigure`.
 - Added MATHJAX emulation for `mathspec`.
 - Verified to work as-is for `apxproof`, `syntaxdi`, `venndiagram`.

v0.892: `minted`, `fvextra`, MATHJAX `\left/\right`.

- `MATHJAX`
 - `fourier`, `libertinustlmath`, `newpxmath`, `newtxmath`, `newtxsf`, `unicode-math`: Added MATHJAX `\left/\right` support for additional delimiters.
- `packages`
 - `textpos`: Updated to v1.10.
 - `xcolor`: Fixed optional args for `\fcolorbox` and related.
 - Added `fvextra`, `minted`.

v0.891: MATHJAX additions and improvements.

- `core`
 - Now displays inline `\verb` text as `\texttt`.
 - Fixed `alltt` and `verbatim`s with \LaTeX lists.
 - Now generates an error if nested each of `warpHTML`, `warpprint`, `warpMathJax` inside itself.
- `MATHJAX`
 - Added MATHJAX `textmacros` extension, allowing formatting inside `\text`.
- `packages`
 - `biblatex`, `hyperref`: Added back page references.

- `fancyvrb`: Fixed `BVerbatim` with a label.
- `listings`: Fixed `MATHJAX` with captions, improved `HTML` sanitation.
- `babel-french`: Fixed `\texorpdfstring` conflict.
- Now honors Greek package options for `mathdesign`, `mathpazo`, `mathptmx`, `newpxmath`, `newtxmath`.
- Improved `MATHJAX` for `colonequals`, `mathdesign`, `mathdots`, `mathfixs`, `mathtools`, `multiobjective`, `nicefrac`, `shuffle`, `units`.
- `unicode-math`: Added Greek macros, as well as macros for the first several categories listed in `texdoc unimath-symbols`. Improved symbol shape macros with Greek. Improved documentation.
- Added `bussproofs`, `cmbright`, `fourier`, `kpfonts`, `kpfonts-otf`, `libertinustlmath`, `scalerel`, `txgreek`.

v0.89: Additional `MATHJAX` support.

- | | |
|-----------------------|---|
| <code>core</code> | <ul style="list-style-type: none"> • Adapted to upcoming <code>L^AT_EX</code> kernel changes. • Allows load of <code>amsmath</code> before <code>lwarp</code>. |
| <code>lwarpmk</code> | <ul style="list-style-type: none"> • Also removes <code>*.bbl</code> when cleaning aux files. |
| <code>MATHJAX</code> | <ul style="list-style-type: none"> • <code>MATHJAX</code>: Neutralized <code>\protect</code>, <code>\mathcode</code> and related, ligatures. Fixed nested environments. |
| <code>packages</code> | <ul style="list-style-type: none"> • <code>caption</code>: Updated for v3.5, fix for label sep. • <code>thmtools</code>: Updated for v0.72. Fixed <code>swapnumber</code>, <code>margin</code>. • Improved <code>MATHJAX</code> for <code>centernot</code>, <code>mathtools</code>, <code>mismath</code>, <code>Slunits</code>, <code>siunitx</code>, <code>statmath</code>. • Added <code>MATHJAX</code> emulation for accents, <code>hepunits</code>, <code>hhtensor</code>, <code>mathalpha</code>, <code>mathdesign</code>, <code>mathpazo</code>, <code>mathptmx</code>, <code>mleftright</code>, <code>newpxmath</code>, <code>newtxmath</code>, <code>newtxsf</code>, <code>pxfonts</code>, <code>shuffle</code>, <code>txfonts</code>, <code>upgreek</code>, <code>ushort</code>. • Verified to work as-is: <code>authoraftertitle</code>. |

v0.88: Indexing, boxing, theorems.

- | | |
|-----------------------|---|
| <code>core</code> | <ul style="list-style-type: none"> • Now has programmed support for more than 500 packages and classes, of which more than 60 also support <code>MATHJAX</code>. • Fixed: <code>\ref*</code>, and also added <code>MATHJAX</code> emulation. • If starting a new paragraph, <code>\hrulefill</code> creates a <code><div></code> with a thin horizontal line across the page. Use instead of <code>\hrule</code>. • Fixed: Use <code>\chaptername</code> where appropriate. • Fixed: Inline links causing extraneous paragraphs. |
| <code>lwarpmk</code> | <ul style="list-style-type: none"> • Added <code>lwarpmk -v</code> to print the version number. |
| <code>indexing</code> | <ul style="list-style-type: none"> • Added the <code>IndexRef</code> option to control the display of index entries. See section 7.5. • Added <code>\IndexPageSeparator</code> and <code>\IndexRangeSeparator</code> for custom index styles. • Added support for <code>gindex</code>, <code>xindex</code>. • Verified to work as-is with <code>varindex</code>. |

packages

- `cleveref`, `varioref`: Fix for starred macros.
- `varioref`: Removed page-related text from HTML output.
- `xfakebold`: Updated to v0.08, using `pdfrender`.
- `caption`, `scrextend`: Fixed `\caption*`.
- Added `fbox`, `shadethm`, `tcolorbox`, `termcal`, `thmbox`, `thmtools`.

v0.87: MATHJAX, bibliography packages.

core

- Added boolean `FixSmallCaps` for fonts which render small caps as all caps.
- Fixed `\bibliography` to use the HTML version's `.bbl` file. Previously the HTML bibliography relied on the print version's `.bbl`, thus would fail if the print document had not yet been created.
- Added `\ifstar` and `\ifnextchar` to MATHJAX, and removed `\DeclareIfstar`. See section 8.7.5.
- `physics`: Now supports the MATHJAX v3 extension.
- `mathtools`: Improved `\underbracket`, `\overbracket` for MATHJAX.
- `nccmath`: Improved `\underrel` for MATHJAX.
- `mhchem`: Now supports the MATHJAX v3 extension for `\ce` inside math.
- `cancel`: Now supports the MATHJAX v3 extension.
- `embrace`: Neutralized kerning for improved HTML conversion.
- Added `citeref`, `drftcite`, `jurabib`, `multibib`, `splitbib`.
- Verified to work as-is with `bibtopic`, `collref`, `mciteplus`.

MATHJAX

△ Removed
`\DeclareIfstar`
packages

v0.86: MATHJAX major updates.

core

- Fixed: Filename if named files with `*`, parens, period in section name.
- Fixed: Labels in `eqnarray`, `lateximage`.

MATHJAX

- Updated to MATHJAX v3. New repository.
- Fixed forward references for MATHJAX.
- Improved MATHJAX equation number formatting, now compatible with `amsmath \numberwithin` for chapters, sections, subsections, as well as `amsmath subequations`. See section 8.7.5.
- Added `\DeclareIfstar` to define starred `TeX` macros in MATHJAX. See section 8.7.5.
- Generates an error if `\MathJaxFilename` file does not exist.

packages

- `mathtools`, `nccmath`, `physics`: Added starred macros for MATHJAX.
- `nccmath`: Fixed `\nr`, `\displaybreak` for MATHJAX.
- `xcolor`: Fixed `\textcolor` with `babel-french`.

v0.85: fontspec

packages

△ `acro` formats

- `fontspec`: Fixed core font change macros for world languages.
- `acro`: Due to v3 changes, when defining acronym formats, use `\textbf` instead of `\bfseries`, etc.
- Fixed `idxlayout`, `mathtools`, `titlesec`, `url`.

v0.84: Previous/next page links, numerous fixes.

docs

- Added documentation of `BlockClass` and `\InlineClass` for CSS `<div>s` and `s`. See section 7.8.
- Added `\LinkPrevious`, `\LinkNext` page links. See section 7.6.
- Added `\FirstPageBottom`. Home page no longer shares `\PageBottom`. See section 7.6.

⚠ home page footer changed

core

- Improved coexistence with `comment`, support for nested environments.
- No longer requires but still supports the `caption` package.
- Improved filenames and HTML titles when using special characters.

⚠

- Change: Append `-0` to section named `Index` previously `_index` to distinguish from `index.html`
- Fixed style tags for `\multicolumn`, `\multirow`.
- Fixed spacing in `tabbing`.
- Fixed `lateximage` for: `quote`, `quotation`, `verse`, `center`, `flushleft`, `flushright`, `<par>` tags, packages `verbatim`, `alltt`, `epigraph`.
- Fixed `textcomp` due to integration into \LaTeX kernel.
- Fixed `\itshape`, etc. Adapted to \LaTeX fontaxes integration.
- Fixed `\@fnsymbol`.
- Warns about section names with dollar-delimited math.
- Warns about a `` containing a float, caption, section, `mdframed`, or other `<div>` object.
- Only warn about \XeTeX logo and `graphics` if actually used `\Xe`.
- **lwarpmk clean** also removes `comment_*.cut`.
- `scrextend`, `scrartcl`, `scrbook`: Added `\titlehead`, `\subject`, `\subtitle`, `\publishers`.
- `titling`: Fixed `\printthanks`.
- `memoir`, `abstract`: Fixed for updated `memoir`.
- `memoir`: Fixed `\newcomment`, `pagenotes`, `crossreferences`. Fixed setting a recursive name.
- Fixed or improved: `amsthm`, `backref`, `biblatex`, `fixme`, `nfssect-cfr`, `ntheorem`, `parcolumns`, `realscripts`, `rotfloat`, `titling`.
- Added `boxedminipage`, renamed from `boxedminipage2e` per author.
- Verified to work as-is with `mcite`.

lwarpmk packages

v0.83: memoir fixes.

packages

- `memoir`: Various fixes and updates.
- `physunits`: Updated to v1.0.4.

v0.82: MATHJAX notes, xpinyin improvements, various updates.

- MATHJAX
 - Improved footnotes with MATHJAX.
 - Added MATHJAX emulation for endnotes, marginnote, nccfoots, pagenote, parnotes, sidenotes.
- packages
 - xpinyin: Added pinyin with modern HTML.
 - luatexko: Added `\dotemph`, `\ruby`, `\uline`, etc.
 - soul: Fixed `\<`.
 - chemfig: Updated to v1.5.
 - draftwatermark: Updated to v2.0.
 - ulem: Fixed: `\dashuline`.
 - amsmath: Fixed: `\intertext` with MATHJAX.
 - endnotes: Fixed: Marks in print mode.
 - tocvsec2, tableof: Verified to work as-is.
 - Added etoc (nullified).

v0.81: MATHJAX speedup and additional emulations.

- core
 - Improved warning regarding SVG math sizing/baselines and graphics/graphics. See section 8.7.
- MATHJAX
 - Improved MATHJAX emulation processing speed.
 - Added MATHJAX emulation for accsupp, axessibiltiy, colonequals, decimal, dotlessi, econometrics, engtlc, multiobjective, physunits, Slunits, stackrel, statmath.
- packages
 - axessibility: Updated to 2020/01/08 version.
 - gridset: Updated to v0.3.
 - Slunits: Fixed for math mode.
 - Added DotArrow, nolbreaks, luamplib, returntograd, statex2, tagpdf.
 - Verified to work as-is with icomma, mathpunctspace, textualicomma.

v0.80: MATHJAX, biblatex.

- MATHJAX
 - Added docs and warning/info messages re: avoiding slow MATHJAX compilation. See section 8.7.5, [Customizing MATHJAX](#).
 - Added MATHJAX emulation for accessibility, autobreak, centernot, extarrows, fouridx, gensymb, leftidx, mathcomp, mathdots, mathfixs, mismath, nccmath, noitcrul, pdfcomment, relsize, rmathbr, subsubscripts, xfrac.
 - Improved MATHJAX emulation for unicode-math.
- packages
 - biblatex, url: Now create hyperlinks.
 - amsmath: Fix to center starred environments.
 - xcolor, graphics: Made more macros robust.
 - colortbl: Fix: Rule color in a lateximage.
 - chemmacros: Updated to v5.10.
 - Added fewerfloatpages, ghsystem, hline, mismath, nccmath.

v0.79: MATHJAX, nested tabular.

- MATHJAX**
 - Added or improved MATHJAX emulation for amsmath, ar, arydshln, bm, bigdelim, bigstrut, booktabs, braket, mathtools, multirow, physics, siunitx, slashed, unicode-math, xfakebold.
 - Warn if using certain packages not supported by MATHJAX.
- core**
 - tabular: Now may be nested.
 - minipage, \parbox, fminipage, \makebox, \framebox: Fix: Adjust for virtual page size.
 - Uses new iftex.
- packages**
 - graphicx: Fix: Negative angles.
 - caption: Fix: \captionlistentry with longtable.
 - multirow: Fix: Centered vertical alignment.
 - siunitx: Fix: \square, \cubed.
 - booktabs: Fix: memoir with lateximage.
 - babel and polyglossia: Added troubleshooting warnings.
 - fontawesome, fontawesome5: Supports text color and size.
 - transparent: Fix: lateximages.
 - epigraph: Updated to v1.5e.
 - xurl: Updated to v0.08.
 - subcaption: Fixed with memoir.
 - floatrow: Fix: \linewidth. No longer require float, graphics.
 - floatflt, wrapfig, niceframe: Fix: Adjust for virtual page size.
 - Added widetable, witharrows, steinmetz.
 - Added awesomebox, catoptions.
 - Added svg, supports svg-extract.
 - Added parcolumns, pdfcolparcolumns,
 - Added parallel, pdfcolparallel.
 - Added pdfcol, pdfcolfoot, pdfcolmk.

v0.78: Fixes for support files, alt tags, hyperlinks, and the 2019/10 L^AT_EX release.

- docs**
 - Docs: Improved documentation regarding package options. See section 8.1.
 - Fix to overwrite existing support files using new filecontents environment.
- packages**
 - breqn: Previously broken by the 2019/10 L^AT_EX update, but now working again.
 - graphics: Fix for \includegraphics alt tags.
 - babel-french: Fix for hyperlinks.
 - media9, movie15, multimedia: Fix for the 2019/10 L^AT_EX update.
 - accessibility: Added.

v0.77: Updates to fix recently-broken packages.

- booktabs: Updated to v1.6180339.
- chemformula: Updated to v4.15.

v0.76: MATHJAX, updates for L^AT_EX 2019/10 release.

docs

- Docs: Expanded documentation regarding the use of multiple projects in the same directory. See section 5.17.

MATHJAX

- MATHJAX: Updated to v2.7.6.

packages

- xr: Updated to v5.05.
- xr-hyper: Updated to v6.1.
- Verified works as-is with xcite.
- acro: Updated to v2.10.

⚠ broken

- Currently broken in print mode by the 2019/10 L^AT_EX update, and waiting for fixes: breqn, grffile, multimedia, movie15.

v0.75: keyfloat, wrapfig

packages

- \minipage: Fix for \linewidth.
- keyfloat: Improved color control.
- wrapfig: Fix for \linewidth.

v0.74: Docs, svg math, *lwarpmk*, HTML alt and title text, lyluatex

docs

- Added to the tutorial the section **What next?**. See section 5.19.
- Added documentation about localization options. See section 7.1.
- Added documentation about accessibility options. See section 7.2.
- Renamed and updated HTML alt text macros:

⚠ HTML alt text
changed names

Old	New
(hard coded as “image”)	\ImageAltText
\mathimagename	\MathImageAltText
\packagediagramname	\PackageDiagramAltText

- Added \ImageAltText for the default HTML alt text for an image. See section 7.6.
- Added \ThisAltText, which may be used to assign a one-time HTML alt tag to the very next image generated by lwarp, such as a lateximage, picture, tikzpicture, an image generated by various chemistry or engineering packages, or an svg math image. This macro also adds a title tag to a reference or hyperlink. See section 7.6.

svg math

- Adjusted \LateximageFontSize default from .75 to 1.
- Fix: Font control for svg math.

misc

- Fix: Ignores negative \hspace.
- Warning if SideTOCDepth < FileDepth.

lwarpmk

- *lwarpmk*: **lwarpmk clean** removes additional files.

- *lwarpmk*: **lwarpmk epstopdf** and **lwarpmk pdftosvg** now honor directories.
- *lyluatex*: Split images by system or per fullpage, improved margins and scaling.
- Tested to work as-is with *mathspec*, *unicode-math*.

packages

v0.73: `\include`, *memoir*, *koma-script*, *caption*, *xy*, *datatool*, music scores.

packages

- Fix for `\include`.
- Warning for a *tabular* inside a ``.
- `\color`: Added HTML support for rules and frames, but not inline text. Use `\textcolor` if possible.
- Improved many HTML tags, reducing *tidy* warnings. See Change History.
- *memoir*: Fixes for `\frontmatter*` and `\mainmatter*`. Added `\book`.
- *koma-script*: Fix for starred captions in the toc.
- *caption*: Fix for starred captions.
- *datatool*: Added pie, bar, and plot charts.
- *threeparttable*: Added *measuredfigure*.
- *intopdf*: Updated to v0.2.1.
- *tocdata*: Updated to v2.03.
- *quotchap*: Updated to v1.2.
- *versonotes*: Updated to v0.4.
- *backnaur*: Now uses SVG images. Updated to v3.1.
- *xy*: Fix for `\xybox`, improved *xy*, also now compatible with *qccircuit*.
- *fancyvrb*: Fix for label HTML tags.
- Added *stackengine*.
- Added *lyluatex*. (Music scores.)
- *musicography*: Updated to 2019/05/28. Added support for *lateximages*.

music

v0.72: Font control, `\multicolumn`, *xr* and *xr-hyper*.

 images

- Due to internal changes, images for inline SVG math and *lateximages* will have new hash values, and will have to be regenerated using


```
Enter => lwarpmk cleanlimages
```

 and


```
Enter => lwarpmk limages
```
- Docs: Color-codes package names in the table of supported packages and features, table 2, according to each package's level of support by *lwarp*.
- `\multicolumn`: Fix for paragraph columns.
- *xr*, *xr-hyper*: Fixes for references, `\externaldocument`.
- *soulutf8*: Fix: Loads *soul* for emulation.
- *boxedminipage2e*: Added support for *lateximages*.
- *zhlineskip*: Updated to v1.0e.
- Added *fontaxes*, *slantsc*, *tabfigures*.
- Added *nfssect-cfr*, thus supporting *cfr-lm* and several other font packages.
- Added *backnaur*, *hyrbmsec*, *minibox*, *pdfcrypt*, *shapepar*.

packages

v0.71: Error handling, multimedia, tabular.

- tabular: Added support for ‘*’ columns. Fix for paragraph tags.
- quotation: Fix for HTML tag.
- Docs: Added a section about error conditions tested by lwarp. See section 13.1.
- *lwarpmk*: If file `lwarpmk.conf` is an older version, or the incorrect operating system, displays the print command to use to recompile.
- packages
 - chemfig: Updated for v1.4.
 - endfloat: Updated for v2.7.
 - textpos: Updated for v1.9.1.
- multimedia
 - Added media9, movie15, multimedia.

v0.70: Error handling, MATHJAX, mathtools.

- Error handling for “Label(s) changed.” Refuses to `lwarpmk` `limages` until recompile first.
- Fix: If Computer Modern font is used, ensures `cm-super` or `lmodern` is used.
- Fixes for `\makebox`.
- Fixes for `\parbox` inside a ``.
- MATHJAX: Updated to v2.7.5. Loads the `autoload-all.js` extension. Added `\MathJaxFilename` to select custom scripts.
- packages
 - textcomp, xunicode: Fix for `\textinterrobang`.
 - mhchem: Works with MATHJAX. See section 386.
 - changes: Updated to v3.1.2.
 - Added `autonum`, `changelayout`, `inputtrc`, `mathtools`, `metalogo`.

v0.69: Error handling, many fixes, improved `keyfloat` / `tocdata`.

- Fix for HTML corruption of `lateximage` displays.
- `\makebox`, `\framebox`: Fix for `(\langle width,height \rangle)` arguments.
- `fminipage`: Honors `\minipagefullwidth`.
- packages
 - `array`, `longtable`: Fix for `\tabularnewline`.
 - `tabularx`, `tabulary`: Fix to require the `array` package.
 - `supertabular`, `xtab`: Fix to clear caption after use.
 - `graphics`: Added a warning if used the `\includegraphics scale` option.
 - `multirow`: Added an error if didn’t use `\mrowcell` or `\mcolrowcell` when using `\multirow` or `\multicolumnrow`.
 - `keyfloat`: Updated for v2.00, additional improvements.
 - Added `ctable`, `eqlist`, `eqparbox`, `ftcap`, `listliketab`, `minitoc`, `tocdata`, `topcapt`.

v0.68: Error handling, tabulars, footnotes.

- lwarpmk*
 - *lwarpmk*: Improved error handling for image generation if compile was incomplete.
 - *tabular*: Fix for `\warpprintonly`.
- packages
 - *longtable*: Improved flexibility for `\endhead`, etc. Improved error reporting if `\endhead`, etc. incorrect for *lwarp*.
 - *threeparttable*: Fix for caption type.
 - *hyperref*: Fix for options with braces.
 - *morefloats*: Fix to be loaded early for print output.
 - *listings*: Updated for v1.7.
 - Added *bigfoot*, *fnpara*, *footnotebackref*, *manyfoot*, *tablefootnote*, *threeparttablex*.
 - Added *layouts*, *niceframe*, *perpage*, *showtags*.
 - Prevented *alg*, *algorithmic*, *pdfcprot*, *fncylab*.

v0.67: Filename generation, symbol fonts.

- docs
 - Documentation fix for `<project>-images`, `<project>-images.txt`.
 - Added discussion regarding section names. See section 8.4.
- filenames
 - Added `\FilenameNullify` and `\FilenameSimplify` for filename generation. See section 8.4.
 - *Core*, *textcomp*, *xunicode*: Nullified additional symbols during filename generation.
- packages
 - *color*: Fix for version number warnings.
 - Added *academicons*, *bbding*, *dingbat*, *eurosym*, *fontawesome*, *fontawesome5*, *marvosym*, *pifont*, *typicons*.
 - Added *changes*, *easyReview*, *fitbox*, *foreign*, *gloss*, *karnaugh-map*, *multicap*, *nomencl*, *notes*, *struktex*, *umoline*, *xfakebold*.
 - Tested to work as-is with *askmaps*, *curves*, *euro*, *karnaughmap*, *tikz-karnaugh*.

v0.66: *xr*, multiple projects, image names/directory, HTML formatting

- ⚠ Reset the configuration
 - Due to changes in *lwarpmk*, **recompile any existing project a single time** using **pdfLatex filename.tex** or similar, after which *lwarpmk* may then be used with the new configuration files.
- lateximage
 - Adds options `ImagesDirectory` and `ImagesName` to assign directory and name prefixes for *lateximage* images. The new defaults include the job-name, allowing the image directories for multiple projects to coexist.
- ⚠ existing projects
 - To reuse existing *lateximage* directories, add *lwarp* options


```
\usepackage[
  ImagesDirectory={lateximages},
  ImagesName={lateximage-}
]{lwarp}
```

If not reused, the existing *lateximages* directory and *lateximages.txt* file may be removed.

- filenames
 - Added `\FilenameLimit` to control the maximum length of the filenames generated by `lwarp`.
- △ Possible filename changes
 - Improved filename generation when special characters or macros are used in section names.
- WINDOWS
 - Fix for `lwarpmk cleanimages` with `WINDOWS`.
- floats
 - Fixes for floats in the home page.
- lists, table notes
 - Improved css for definition lists, table notes.
- tabular
 - `tabular`: Fixes for `\par` in column specifier, `minipage` inside `tabular`.
- indexing
 - Indexing: Fix for a long line of multiple entries.
- minipage
 - `\minipagefullwidth`: Fix for global changes.
 - Added `\UseMinipageWidths` and `\IgnoreMinipageWidths`. See section 8.3.3.
- colors
 - Improved `\fbox`, `\fboxBlock`, `\fminipage` to use current text color.
- HTML
 - Improved HTML output formatting.
- docs
 - Added discussion regarding invalid HTML. See section 8.1.1.
 - Added discussion regarding math in section names, `\imagegraphics scale` option. See section 6.
 - Added discussion regarding international languages in section names. See section 8.14.
- packages
 - `caption`: Fix for options clash.
 - `xr`, `xr-hyper`: Now compatible.
 - `subcaption`: Improved horizontal spacing.
 - `multicol`: Fix for `minipage` inside `multicols`.
 - `multicolrule`: Updated for v1.2.
 - `tocbasic`: Minor update.
 - `acronym`: Fix for acronym in float caption.
 - `kotexutf`: Patch with `pdflatex` and new `lwarp` labels.
 - `extramarks`, `fancyhdr`: Updated for v3.10.
 - `memoir`: Added docs regarding version numbers. See section 8.13.
 - `zref`: No longer required.
 - Added `ar`, `ed`, `indentfirst`, `nameauth`, `truncate`.
 - Verified to work as-is with `changelog`.
 - Prevented `colortab`, `epsf`, `hyper`, `picinpar`, `picins`, `sistyle`, `ucs`.
- v0.65: css layout, alt tags, Japanese.
 - Moved the `sideroc` to the left side, allowing improved css for margin notes.
 - Improved page layout css.
- page layout
 - Moved the `sideroc` to the left side, allowing improved css for margin notes.
 - Improved page layout css.
- image alt tags
 - `graphicx \includegraphics`: Added the `alt` key to assign an alt tag to an image. Default is “image”, assigned to pass validation.
- duplicate HTML files
 - Detects and causes an error if duplicate HTML file names are generated, caused by identical or similar sectioning names.
- fixes
 - Fix for `tabular*`.

- Fix for tabular border colors.
 - Fixes `\quad`, `\enskip`, and figure captions to pass validation.
- Japanese
- Added `ltj*` classes, `bounddvi`, `gentombow`, `ltxtext`, `plarydshln`, `plext`, `plextarydshln`, `plextcolortbl`, `pxatbegshi`, `pxeveryshi`, `pxftnright`, `pxjahyper`, `tasctmac`.
 - Verified to work with `plarray`, `plautopatch`, `plextarray`, `plextdelarray`, `pxgentombow`, `plsiunitx`, `pxpdfpages`, `pxpgfrcs`, `pxpgfmark`.
- packages
- Added support for `fontspec \textsi` and `\sishape`.
 - Added `multicol's \docolaction`.
 - Added `embrace`, `footnoterange`, `multicolrule`, `versionotes`.
- v0.64:** Koma-Script, Japanese, Chinese.
- Japanese
- Added `utarticle` and related classes.
 - Improved `ujarticle` and related classes.
- Chinese
- Fix for `biblatex` with `CTEX` and other classes.
- Koma-Script
- Fixes for `sclayer`, `sclayer-scrpage`.
- packages
- `addlines`: Updated to v0.3.
 - Added `bsheaders`, `gmeometric`, `marginal`, `rmpage`, `scrpage2`.
- v0.63:** `mdframed`, Chinese, Japanese, Korean
- localization
- Added `\Linkhomename`: A user-definable name for the **Home** link.
 - Documented `\sidetocname`: A user-definable name for the `sideroc`.
- fixes
- Fix: `\LinkHome` for print output.
- optimizations
- Moved package load checks to the `lwarp` core to reduce the number of `lwarp-*` files.
- packages
- `mdframed`: Fix with `amsthm`, improved titles and font control. Improved rule widths.
- Chinese
- Fixes for `xeCJK`.
 - Added `xpinyin`, `zhlineskip`.
 - Verified to work with `ckjpunct`, `upzhkinsoku`, `zhspacing`.
- Japanese
- Verified to work with `zxjatype`, `luatexja`, `luatexja-fontspec`.
 - Added `bxjsarticle` and related classes.
 - Added `ltjsarticle` and related classes.
 - Added `pLATEX`, `upLATEX`, `ujarticle` and related classes.
 - Prevented `utarticle` and related classes.
 - Prevented `bxckatype`.
- Korean
- Verified to work with `kotex`, `xetexko`, `luatexko`.

v0.62: MiKTeX docs, HTML title, CTeX, xeCJK, bitpattern.

- docs
 - Docs: Setting a UTF-8 locale. See section 9.8.
- MiKTeX
 - MiKTeX: Docs for *MiKTeX Console* and miktex-poppler-bin.
- HTML <title>
 - HTML subpage titles: Added \HTMLTitleBeforeSection and \HTMLTitleAfterSection to select whether the HTML <title> displays the website name before or after the section name. See section 7.6.
- fixes
 - Fix for package options handling.
 - Fixes for horizontal white space between fminipage, fcolorminipage, colorboxBlock, fcolorboxBlock.
 - Logos: Fix for XeTeX logo, improved css, made robust, improved search-engine optimization.
 - \[\$1]: Additional HTML
 if \$1 > 0 pt.
 - Fixes for \includgraphics filename, and with FormatWP.
 - Fix: css for \textup.
 - Fix: Added \slshape.
- Chinese
 - Added ctex package and related classes, xeCJK.
 - Prevented CJK, CJKutf8 unless xeCJK, ctex are used.
- packages
 - chemfig: Docs for new macro \polymerdelim.
 - asymptote: Docs for compilation.
 - chngpage: Fix to load lwarp-changepage.
 - algorithm2e: Fix with non-book classes.
 - register: Updated to v1.8.
 - nicefrac: Improved font control and css, honors nice and ugly.
 - units: Improved font control and css, honors tight and loose.
 - xfrac: Improved css.
 - textcomp and xunicode: Fix conflicts with \textcircled.
 - ulem: Improved compatibility with CJKulem, lateximage.
 - MathJax and siunitx: Removed inoperable extension.
 - Added bitpattern, pdfcomment, pdfmarginpar, tram, unitsdef, xexchangebar.
 - Added musicography, octave, semantic-markup.
 - Added 2in1, flippdf, notespages, rviewport, twoup.

v0.61: Custom compilation, EPS-related packages, documentation, indexes.

- docs
 - Split index into multiple indexes.
 - Improved documentation regarding font selection. See section 7.4.
 - Added documentation regarding debugging options. See section 34.
 - Added documentation regarding HTML entities inside program listings. See section 8.2.1.
- custom compiling
 - Added options to specify the shell commands to execute for **lwarpmk print** and **lwarpmk html**, allowing the use of lwarp with perltex, pythontex, etc. If not specified, these are set automatically depending on the L^AT_EX engine, --shell-escape, and lwarp options. See section 9.

⚠ changed names

- Changed macro names to match `\displaymathother`, `\displaymathnormal`:

Old	New
<code>\StartDynamicMath</code>	<code>\inlinemathother</code>
<code>\StopDynamicMath</code>	<code>\inlinemathnormal</code>

fixes

- Fix: Paragraph tags in a tabular.
- Fix: supertabular and xtab captions.
- Fix: DVI L^AT_EX `\includegraphics` EPS images.
- Fix: newfloat lists.
- Fix: css footnotes text align, minipage tabular and footnote margins.

packages

- Added epsfig, psfrag, psfragx, pstool.
- Added copyrightbox, pdfprivacy, thinsp, threadcol, uspace.
- Added chkfloat, cmdtrack, dprogress, lua-visual-debug, refcheck, srcltx, srctex, vpe, xbmks.

v0.60: Fixes for longtable, listings.

fixes

- longtable, etc.: Fixes for slowdown and memory management for very long tables.
- listings: Fix for HTML entities, and also when used inside a list.
- diagbox: Fix for incorrect HTML par tags.

packages

- Added 2up, booklet.
- Added bophook, drafffigure, fullminipage, grid-system, layaureo.
- Added leading, widows-and-orphans.
- Added fancytabs, thumb, thumbs.

v0.59: DVI *latex*, MATHJAX, asymptote, pdftricks and pstricks, epstopdf, brqen.

⚠ Reset the configuration

- Due to changes in *lwarpmk*, **recompile any existing project a single time** using `pdfLatex filename.tex` or similar, after which *lwarpmk* may then be used with the new configuration files.

lwarpmk

- Added an error if `lwarpmk.conf`'s format has changed and the document must be recompiled.
- Added a warning if the `lwarpmk.conf` configuration file appears to be for the wrong operating system, in case files are transferred between systems.
- Added

```
lwarpmk epstopdf <list-of-EPS-files>
```

to quickly convert a document's EPS images to PDF or SVG. See section 8.8.

DVI *latex*

latexmk

math

- Added support for DVI *latex*. See section 7.5.
- Fix for `--shell-escape` with *latexmk*.
- Updated MathJax script to v2.7.4.
- Fix: Mathjax chapter number removed from non-numeric tagged equations.
- Added MathJax support for nicefrac, units.
- Fix for `\[` and `\]` with `\displaymathnormal`.

- images
 - Fix for `\includegraphics` filename expansion.
 - `\includegraphics` now works with `.pdf` and `.eps` filename extensions.
- packages
 - Moved `amsmath` out of the `lwarp` core.
 - Fix for `chemformula \NMR`.
 - Added `asymptote`, `pdftricks`, `pstricks`, `pst-eps`.
 - Added `breqn`, `Slunits`.
 - Added `bxpapersize`, `canoniclayout`, `draftcopy`, `fnbreak`, `nccfancyhdr`.
 - Added `accsupp`, `axessibility`.
 - Added `xunicode`.
 - Improved and now supports `epstopdf`.
 - Tested to work as-is: `eepic`, `sepfootnotes`.
- docs
 - Added information about setting up a development version of `lwarp`.

v0.58: Extensive improvements in indexing, glossaries. Adds PDF-inclusion packages.



Reset the configuration

- Due to changes in `lwarpmk`, **recompile any existing project a single time** using `pdf latex filename.tex` or similar, after which `lwarpmk` may then be used with the new configuration files.

`lwarpmk`

glossaries

- `lwarpmk`: Added the `-p` option to specify the project name.
- `lwarpmk`: Now uses `makeglossaries` for glossary generation, allowing the processing of multiple glossaries at once.
- Added `lwarp` option `GlossaryCmd` to specify the shell command used by `lwarpmk printglossary` and `lwarpmk htmlglossary`. Defaults to `makeglossaries`.

index and glossary

- Docs: Extra indexing options. See section 8.6.14.
- Added support for `makeindex`. (Previously supported only `xindy`.) Also added indexing packages listed below.
- Added `lwarp` options `PrintIndexCmd`, `HTMLIndexCmd`, and `LatexmkIndexCmd` to specify shell commands used by `lwarpmk printindex`, `lwarpmk htmlindex`, and `latexmk`. May be preset with the `makeindex` or `xindy` `lwarp` options. See section 7.5.
- Added `lwarp` options `makeindex` and `xindy` to set `PrintIndexCmd`, `HTMLIndexCmd`, and `LatexmkIndexCmd` to sensible values for a typical single index. See section 7.5.
- Added `lwarp` option `makeindexStyle` to tell `lwarpmk` to use a custom style instead of `lwarp.ist`. See section 8.6.20.

misc. fixes

- Fix for index entries with `\see`, `\seealso`, `\emph`, `\textbf`, etc.
- Replaced each `\csuse` with `\@nameuse` for improved error detection.
- Additional internal print/HTML macro selection improvements.

packages

- Fix: `\printindex` finishes pending `\index` writes first.
- Fixes for `memoir`: `makeidx`, `ccaption`, multiple indexes, `\specialindex`.
- Fixes for `komascript`: Indexing improvements.
- Added `imakeidx`, `index`, `repeatindex`, `splitidx`.
- Added `attachfile`, `attachfile2`, `intopdf`, `pdfpages`, `pdfx`.
- Added `cases`.
- Tested to work as-is: `notes2bib`, `hvinde`.

v0.57: algorithm2e, float styles, tabular packages, internal improvements.

MathJax

math macros

dynamic math

 new name

lateximage alt tags

- Added support for MathJax equations with `\footnote`, `\footnotemark`.
- Added `\StartDefiningMath` and `\StopDefiningMath` for use when defining macros in the preamble which contain `$`. See section 8.7.7.
- Added `\inlinemathother` and `\inlinemathnormal` to delimit math expressions which depend on a variable condition such as a counter. Such expressions will not be hashed for reuse, and will be converted to SVG math images even when MathJax is enabled. See section 8.7.8.
- Renamed `\EndDefiningTabulars` to `\StopDefiningTabulars`.
- Improved localization for `lateximage` HTML alt tags. For SVG math images, the alt tag under some conditions will be set to `\MathImageAltText`, which defaults to `math image`. For packages, the alt tag is set using the package name followed by `\PackageDiagramAltText`, which defaults to `diagram`. Ex:

`(-xy- diagram)`

See section 7.6.

misc. fixes

packages

- Fix: Improved print/HTML macro selection.
- Fix: `\href` text catcodes.
- Fix: `\subref` text.
- Fixes: Colored `\rule` and `\boxframe`.
- `float`, `rotfloat`: Adds support for float styles `ruled` and `boxed`.
- `float`: Fix: Do not create `\l@<type>` until `\listof` is used.
- `marginnote`: Fix: Long optional argument.
- `ellipsis`: Adds `\midwordellipsis`.
- `breakurl`: Fix for text catcodes.
- Added `algorithm2e`, `register`, `ltablex`, `xltabular`, `xellipsis`, `trimclip`, `errata`, `vowel`, `xpiano`.
- Prevents `glossary`.
- Tested to work as-is with `gauss`, `phonrule`, `piano`, `Slunits`, `tikzcodeblocks`.

v0.56: Shell escape, tabular packages.

lwarpmk

tabular

misc. fixes

- Added `lwarpmk pdftosvg <list-of-PDF-files>` to quickly convert a document's PDF images to SVG, for use with HTML. See section 8.8.
- Added support for `--shell-escape`. See section 7.3.
- Added support for `array w` and `W` columns.
- Fix: `\multicolumn` parameter handling.
- Added support for double `\hlines`, `\midrules`, and vertical rules.
- Added support for `arydshln` dashed lines with HTML `tabular`, but reverts to plain rules for `lateximage` and `SVG math array`.
- Fix: `\thinspace`.

- Fix: paralist compact environments.
- Added parnotes, quoting, lua-check-hyphen, tocenter, underscore.
- Added bibunits.
- Tested to work as-is with babelbib, bodegraph, fast-diagram, nicematrix, structmech.

v0.55: Various fixes.

- misc fixes**
 - Fix: Extraneous space in file links, which also prevented *Calibre* EPUB conversions.
 - Fix: Float optional argument regression.
 - Fix: \ForceHTMLTOC with \phantomsection.
 - Fix: Overfull boxes in lateximages.
 - Fix: QED symbols in lateximage.
- packages**
 - koma-script: Fix: Figure with \centering, etc.
 - Added clrdblpg.

v0.54: Float \centering, improved image checks.

⚠ Reset the configuration

- Due to changes in *lwarpmk*, **recompile any existing project a single time** using `pdflatex filename.tex` or similar, after which *lwarpmk* may then be used with the new configuration files.

lwarpmk

- *lwarpmk* `limages` checks for the presence of the HTML version of the document and valid image references before attempting to create the `lateximages`.
- *lwarpmk*: Improved error message if configuration file does not exist.

BibTeX

- Added documentation for avoiding error with BibTeX and `\eta\lchar`. See section 8.6.9.

polyglossia

- Added documentation regarding polyglossia. See section 8.15.4.

macros in section names

- Added documentation regarding the use of macros in section names. See section 8.1.

document encoding

⚠ New and revised encoding options

- Renamed and added package options:

Old Package Option	New Package Option
<code>xdyFilename</code>	<code>xindyStyle</code>
<code>IndexLanguage</code>	<code>xindyLanguage</code>
–	<code>xindyCodepage</code>
–	<code>pdftotextEnc</code>

Use these options along with `inputenc` or `inputenx` to process documents in an encoding other than UTF-8. See section 7.4.

floats with \centering, etc.

- Floats now honor `\centering`, `\raggedright`, `\raggedleft`, and their `ragged2e` equivalents, when placed directly after:

```
\begin{floattype}
\centering
```

misc. fixes

- `tikz`: `\pgfpicture`, `fit`, `align`, `font`.

- `ragged2e`: `\centering` etc.
 - `hyperref`: `\hypertarget` was creating duplicate of `\label`.
 - `hyperref`: Active chars inside `\hyperref`, `\hyperlink`.
 - `hyperref`: `\ref` inside `\hyperlink` caused a nested HTML link.
 - `glossaries`: Fix when not using `babel` or `polyglossia`.
 - `textcomp`: `\textperthousand`.
 - L^AT_EX core verse environment: line spacing.
 - Removed `\citetitle`, adjusted `\attribution`.
 - `memoir`: Minor update for v3.7g.
 - Added `inputenx`, `bibunits`, `chngpage`, `forest`, `magaz`, `gridset`.
 - Prevents loading `ae`, `aecc`, `t1enc`, and `wasysym`.
- v0.53:** Improved image checks.
- `lwarpmk`: Added a warning about corrupted images due to the need to recompile the document one more time.
 - `lwarpmk`: Added the `lwarpmk cleanimages` command.
 - Added documentation for `lwarpmk cleanimages` and `lwarpmk pdftohtml`.
- v0.52:** Improved footnotes, SVG math.
- Improved install instructions regarding `lwarp_baseline_marker.png`.
 - Added documentation regarding footnotes in section headings, and footnotes with `\VerbatimFootnotes` from `fancybox`, `fancyvrb`. See section 8.5.4.
 - Added documentation regarding font selection when using X_YL^AT_EX or Lua^AT_EX with `fontspec` and traditional font packages. See section 7.4.
 - Fix: Limit the number of background tasks when generating `lateximages`.
 - Added user-adjustable SVG math font scaling. See section 82.3.
 - Added warnings if `lwarp_baseline_marker.png` is not present, or if `graphicx` or `graphics` is not loaded.
 - Improved `\ensuremath` hashing expansion.
 - Fix: `equation*` with `split`.
 - `tabbing` now works inside a `lateximage`. Use for math in `tabbing`.
 - Fix: MathJax script was not executing in some conditions.
 - Added `\CustomizeMathJax` to add custom functions. See section 8.7.
 - Fix: Footnote numbering when using `HTMLDebugComments`.
 - Fix: Footnote paragraph tags.
 - Fix: `FootnoteDepth` defaults to `\subsubsection`.
 - Fix: `\kill` in a `lateximage`.
 - Fix: `\FileDepth`, misc. others, when input encoding is not `utf8`.
 - Fix: `\texorpdfstring` in a section name.
 - `hyperref` emulation: Fix for `#`, `%`, `&`, `~`, `_` characters in URLs.
 - `fancybox`, `fancyvrb`: Initial support for `\VerbatimFootnotes`.

- nicefrac: Added with fix for `\ensuremath`.
- graphicx: Fix for option defaults. Added v1.1a/b options.
- endfloat: Updated for v2.6.
- url: Fixes for active characters.

v0.51: Improved svg math, added numerous chemistry packages.

documentation

- Docs: Added **Things to avoid**.
- Docs: Added to **Converting an existing document**.
- Docs: Multiple authors and affiliations with custom classes. See section **8.6.1**.
- Docs: tikz with matrices. See section **8.8.1**.

SVG math

- Improved svg math baseline.
- Improved svg math font and color.
- Faster svg math rendering.
- Improved support for display math containing complicated math objects, such as tikz-cd. See section **8.7.9**.
- Fix: `\addcontentsline` inside svg math.
- Fix: SVG math containing an embedded `lateximage`.

MathJax

misc. fixes

- MathJax now handles `\ensuremath` in expressions.
- Fix: Added `alignat` environment.
- Fix: `afterpackage` no longer required, which conflicted with `scrfile`.
- Fix: `titling` `\thanks` mark.
- Fix: `fancybox` improvements.
- Fix: `tikz` `\tikz` macro. (Previously only the `tikzpicture` environment worked.)
- Fix: `tikz` with optional argument.

packages

- Added `mhchem`, `chemfig`, `chemformula`, `chemmacros`, `chemnum`, `chemgreek`, `epstopdf-base`, `grid`, `ltxgrid`.

2 Introduction

The `lwarp` project aims to allow a rich \LaTeX document to be converted to a reasonable `HTML5` interpretation, with only minor intervention on the user's part. No attempt has been made to force \LaTeX to provide for every `HTML`-related possibility, and `HTML` cannot exactly render every possible \LaTeX concept. Where compromise is necessary, it is desirable to allow the print output to remain typographically rich, and compromise only in the `HTML` conversion.

Several “modern” features of `HTML5`, `CSS3`, and `SVG` are employed to allow a fairly feature-rich document without relying on the use of `JAVASCRIPT`. Limited testing on older browsers shows that these new features degrade gracefully.

`lwarp` is a native \LaTeX package, and operates by either patching or emulating various functions. Source-level compatibility is a major goal, but occasional user intervention is required in certain cases.

As a package running directly in \LaTeX , `lwarp` has some advantages over other methods of `HTML` conversion. `TEX` itself is still used, allowing a wider range of `TEX` trickery to be understood. Lua expressions are still available with `LuaTeX`. Entire categories of \LaTeX packages work as-is when used with `lwarp`: definitions, file handling, utilities, internal data structures and calculations, specialized math-mode typesetting for various fields of science and engineering, and anything generating plain-text output. Blocks of `PDF` output may be automatically converted to `SVG` images while using the same font and spacing as the original print document, directly supporting `Tikz` and `picture`. Numerous packages are easily adapted for `HTML` versions, either by loading and patching the originals, or by creating nullified or emulated replacements, and all without resorting to external programming. As a result, several hundred packages have already been adapted (table 2), and an uncounted number more work as-is.

Packages have been selected according to several criteria: perceived importance, popularity lists, recent CTAN updates, CTAN topics, mention in other packages, support by other `HTML` conversion methods, and from sample documents taken from public archives. These include some “obsolete” packages as well.¹

Assistance is also provided for modifying the `HTML` output to suit the creation of `EPUB` documents, and for modifying the `HTML` output to ease import into a word processor.

`pdflatex`, `xelatex`, or `lualatex` may be used, allowing `lwarp` to process the usual image formats. While generating `HTML` output, `SVG` files are used in place of `PDF`. Other formats such as `PNG` and `JPG` are used as-is.

¹An amazing number of decades-old packages are still in use today.

SVG images may be used for math, and are also used for `picture`, `Tikz`, and similar environments. The `svg` format has better browser and e-book support than `MathML` (as of this writing), while still allowing for high-quality display and printing of images (again, subject to potentially bug-ridden² browser support).

Furthermore, `svg` images allow math to be presented with the same precise formatting as in the print version. Math is accompanied by `<alt>` tags holding the `LATEX` source for the expression, allowing it to be copy/pasted into other documents.³ Custom `LATEX` macros may be used as-is in math expressions, since the math is evaluated entirely inside `LATEX`. An MD5 hash is used to combine multiple instances of the same inline math expression into a single image file, which then needs to be converted to `svg` only a single time.

The `MATHJAX` JavaScript display engine may be selected for math display instead of using `svg` images. Subject to browser support and Internet access, `MATHJAX` allows an `HTML` page to display math without relying on a large number of external image files.⁴ `lwarp` maintains `LATEX` control for cross-referencing and equation numbering, and attempts to force `MATHJAX` to tag equations accordingly.

A `texlua` program called `lwarpmk` is used to process either the print or `HTML` version of the document. A few external utility programs are used to finish the conversion from a `LATEX`-generated `PDF` file which happens to have `HTML5` tags, to a number of `HTML5` plain-text files and accompanying images.

`lwarp` automatically generates the extra files necessary for the `HTML` conversion, such as `css` and `.xdy` files, and configuration files for the utility `lwarpmk`. Also included is a parallel version of the user's source document, `<sourcename>-html.tex`, which selects `HTML` output and then inputs the user's own source. This process allows both the printed and `HTML` versions to co-exist side-by-side, each with their own auxiliary files.

When requesting packages during `HTML` conversion, `lwarp` first looks to see if it has its own modified version to use instead of the standard `LATEX` version. These `lwarp-packagename.sty` files contain code used to emulate or replace functions for `HTML` output.

²`FIREFOX` has had an on-again/off-again bug for quite some time regarding printing `svgs` at high resolution.

³There seems to be some debate as to whether `MathML` is actually an improvement over `LATEX` for sharing math. The author has no particular opinion on the matter, except to say that in this case `LATEX` is much easier to implement!

⁴One `svg` image file per math expression, except that duplicate inline math expressions are combined into a single file according to the MD5 hash function of its contents. A common scientific paper can easily include several thousand files, and in one case the MD5 hash cut the number of files in half and the rendering time by 30%.

2.1 Typesetting conventions

Font weight, family, and style are used to indicate various objects:

Table 1: Typesetting conventions

package	L ^A T _E X package.
<i>program</i>	Program's executable name.
option	Program or package option.
filename	File name in the operating system.
BRAND NAME	Proper name for a program, operating system, etc.
commands	Commands to be entered by the user.
code	Program code.
\macroname	L ^A T _E X macro.
environment	L ^A T _E X environment.
counter	L ^A T _E X counter.
boolean	L ^A T _E X boolean.
<element>	HTML element.
attribute	HTML attribute.
User Interface	A user-interface item.
ACRO	Acronym.

2.2 Supported packages and features

Table 2 lists some of the various L^AT_EX features and packages which may be used.

Package names are colored according to their support level:

name: Supported as-is.

name: Modified to work with HTML output, and perhaps also as print output in `svg` `math` or `lateximage` environments.

name: Emulated for HTML output.

name: Ignored for HTML output, but provides source-level compatibility.

MJ: Supported as-is for MATHJAX, subject to limitations.

MJ: Emulated for MATHJAX using custom macros, subject to limitations.

MJ: Ignored by MATHJAX, but may be used in the document source. May be converted to SVG images.

Table 2: L^AT_EX lwarp package — Supported features

Category	Status and supported features.
Engines:	DVI L ^A T _E X, pdfL ^A T _E X, X _Y L ^A T _E X, LuaL ^A T _E X, upL ^A T _E X
Compiling:	<i>latexmk</i> , <i>perltex</i> , <i>pythontex</i> , <i>make</i> , etc.
Classes:	article, book, report, scrartcl, scrbook, screprt, memoir, CJK-related as listed below.
Koma-script:	scrextend , scrhack , scrlayer . Others as listed below.
Memoir:	memhfixc
Languages:	babel , polyglossia . cjkpunct , xeCJK .
Chinese:	CT _E X, ctex , upzhkinsoku , xpinyin , zhlineskip , zhspacing .
Japanese:	upL ^A T _E X, LuaT _E X-ja, gentombow , lltjext , plarray , plarydshln , plautopatch , plext , plextarray , plextarydshln , plextcolortbl , plextdelarray , pxatbegshi , pxeveryshi , pxftnright , pxgentombow , pxjahyper , pxpdfpages , pxpgfrcs , pxpgfmark , tascmac , zxjatype . bxjsarticle and related, ltjsarticle and related, luatexja , luatexja-fontspec , ujarticle and related, utarticle and related.
Korean:	kotex , luatexko , xetexko .

lwarp Supported Functions — continued

Category	Status
Page layout:	2in1, 2up, a4, a4wide, a5comb, addlines, anysize, atbegshi , blowup, booklet, bophook, bounddvi, bxpapersize, canoniclayout, changelayout , change page , chngpage, clrdblpg, continue, draftcopy, drafftfigure, draftwatermark, ebook, everyshi, fancyhdr , fancytabs, flippdf, fullminipage, fullpage, fwlw, geometry, gmeometric, grid, grid-system , gridset, layaureo, layout, layouts, leading, ltxgrid, nccfancyhdr, notespages, nowidow, pagegrid, pagesel, parallel , parcolumns , pdfcolparallel, pdfcolparcolumns, pdfcrypt, pdfprivacy, preview, ragged2e , returntogrid, rmpage, scr layer-scrpage , scrpage2 , setspace , selectp, textarea, threadcol, thumb, thumbs, titleps, tocenter, turnthepage, twoup, typearea, underlin, vmargin, watermark, widows-and-orphans, zwpagelayout.
Sectioning:	Adds FileDepth for splitting the HTML output. Files may be numbered sequentially or named according to section name. Common short words and punctuation are removed from the file names. anonchap , bsheaders, fncychap, hypbmsc , indentfirst , quotchap , section, sectionbreak , secdot , sectsty, titlesec, tocvsec2 .
Table of contents, figures, tables:	Supported, with hyperlinks. etoc, minitoc, multitoc, shorttoc , tableof , titletoc, tocbasic, tocbibind , tocdata , tocloft, tocstyle, tocvsec2 .
Title page:	<code>\maketitle</code> , titlepage, authblk , authoraftertitle , titling .
Front & back matter:	abstract , appendix .
Indexing:	makeindex , xindy , and xindex are supported, with hyperlinks. gindex , hvindex , idxlayout , imakeidx , index , makeidx , repeatindex , splitidx , varindex , xindex .
Glossary:	gloss , glossaries and xindy , nomencl .
Bibliography:	babelbib , bibtopic , backref , biblatex , bibunits , chapterbib , cite , citeref , collref , drftcite , hypernat , jurabib , mcite , mciteplus , multibib , natbib , notes2bib , splitbib , showtags .

lwarp Supported Functions — continued

Category	Status
Cross-references:	bookmark, breakurl , cleveref , fancyref , hypdestopt , hyperref , perpage , prettyref , titleref , url , varioref , xcite , xr , xr-hyper , xurl , zref .
Margin notes:	marginal , marginfit , marginfix , sclayer-notecolumn , versonotes .
Footnotes:	Adds FootnoteDepth to print footnotes at section breaks. MATHJAX emulation for <code>\footnote</code> , and also as marked in the following: bigfoot , dblfnote , endheads , endnotes^{MJ} , fixfoot , fnbreak , fnpara , fnpos , footmisc , footnote , footnotebackref , footnoterange , footnpag , manyfoot , marginnote^{MJ} , nccfoots^{MJ} , pagenote^{MJ} , parnotes^{MJ} , pdfcolfoot , pfnote , sepfootnotes , sidenotes^{MJ} , tablefootnote .
Math:	Converted to SVG images with HTML <code><alt></code> tags containing the L ^A T _E X source for the math expression. MATHJAX supported as an alternative. amsmath^{MJ} : $\mathcal{A}\mathcal{M}\mathcal{S}$ environments are supported. User-defined macros are available during conversion, due to native L ^A T _E X processing.
Theorems:	Native L ^A T _E X theorems, amsthm , apxproof , nththeorem , shadethm , theorem , thmbox , thmtools .
Additional math:	Math fonts via SVG images, accents^{MJ} , amscd^{MJ} , autobreak^{MJ} , autonum , backnaur^{MJ} , bm^{MJ} , bracket^{MJ} , breqn^{MJ} , bussproofs^{MJ} , cases^{MJ} , centernot^{MJ} , cmbright^{MJ} , colonequals^{MJ} , decimal^{MJ} , delarray , DotArrow^{MJ} , dotlessi^{MJ} , dotlessj^{MJ} , esvect^{MJ} , extrarrows^{MJ} , fixmath^{MJ} , fouridx^{MJ} , fourier^{MJ} , guass , hhtensor^{MJ} , icomma^{MJ} , jkmath , kpfonts^{MJ} , kpfonts-otf^{MJ} , leftidx^{MJ} , libertinust1math^{MJ} , mathalpha^{MJ} , mathastext^{MJ} , mathcomp^{MJ} , mathdesign^{MJ} , mathdots^{MJ} , mathfixs^{MJ} , mathpazo^{MJ} , mathptmx^{MJ} , mathpunctspace^{MJ} , mathspec^{MJ} , mathtools^{MJ} , mismath^{MJ} , mleftright^{MJ} , multiobjective^{MJ} , nccmath^{MJ} , nicematrix^{MJ} , noitcrul^{MJ} , newpxmath^{MJ} , newtxmath^{MJ} , newtxsf^{MJ} , pb-diagram , pxfonts^{MJ} , resizegather^{MJ} , rmathbr^{MJ} , scalarel^{MJ} , shuffle^{MJ} , stackrel^{MJ} , statex2^{MJ} , statistics , statmath^{MJ} , subsupscripts^{MJ} , textualicomma^{MJ} , txfonts^{MJ} , txgreeks^{MJ} , unicode-math^{MJ} , upgreek^{MJ} , ushort^{MJ} , witharrows^{MJ} , xfakebold^{MJ} , xy . Many others work as-is.
Display math with <code>\displaymath</code> or <code>\displaymathother</code> :	Complicated math objects in display math, such as tikz-cd , etc.

lwarp Supported Functions — continued

Category	Status
Units and fractions:	<code>nicefrac^{MJ}</code> , <code>Slunits^{MJ}</code> , <code>siunitx^{MJ}</code> , <code>units^{MJ}</code> , <code>unitsdef</code> , <code>xfrac^{MJ}</code> .
Floats:	Appear where declared. <code>capt-of</code> , <code>caption</code> , <code>cutwin</code> , <code>dblfloatfix</code> , <code>endfloat</code> , <code>fewerfloatpages</code> , <code>fix2col</code> , <code>flafter</code> , <code>float</code> , <code>floatflt</code> , <code>floatrow</code> , <code>fltrace</code> , <code>ftcap</code> , <code>hycap</code> , <code>keyfloat</code> , <code>morefloats</code> , <code>multicap</code> , <code>newfloat</code> , <code>nonfloat</code> , <code>picinpar</code> , <code>placeins</code> , <code>rotfloat</code> , <code>stfloats</code> , <code>subcaption</code> , <code>subfig</code> , <code>subfigure</code> , <code>subfloat</code> , <code>swfigure</code> , <code>topcapt</code> , <code>trivfloat</code> , <code>wrapfig</code> .
Tabular:	<code>tabular</code> environment, <code>array^{MJ}</code> , <code>arydshln^{MJ}</code> , <code>bigdelim^{MJ}</code> , <code>bigstrut^{MJ}</code> , <code>booktabs^{MJ}</code> , <code>colortbl^{MJ}</code> , <code>ctable</code> , <code>diagbox</code> , <code>hhline^{MJ}</code> , <code>longtable</code> , <code>ltablex</code> , <code>ltxtable</code> , <code>multirow^{MJ}</code> , <code>supertabular</code> , <code>tabularx</code> , <code>tabulary</code> , <code>threeparttable</code> , <code>threeparttablex</code> , <code>widetable</code> , <code>xltabular</code> , <code>xtab</code> .
Graphics:	<code>graphics</code> and <code>graphicx</code> . <code>\includegraphics</code> supports width, height, origin, angle, and scale tags, and adds class. References to PDF files are changed to svg, other image types are accepted as well. <code>\rotatebox</code> and <code>\scalebox</code> are supported as well as HTML can handle. <code>rotating</code> is emulated but all objects are unrotated. <code>picture</code> , <code>tikz</code> , and <code>xy</code> are converted to an svg image. <code>asymptote</code> , <code>curves</code> , <code>datatool</code> , <code>eepic</code> , <code>epsfig</code> , <code>epstopdf</code> , <code>figsize</code> , <code>fitbox</code> , <code>grffile</code> , <code>luamplib</code> , <code>media9</code> , <code>movie15</code> , <code>multimedia</code> , <code>overpic</code> , <code>pict2e</code> , <code>psfrag</code> , <code>psfragx</code> , <code>pst-eps</code> , <code>pstool</code> , <code>pstricks</code> , <code>rviewport</code> , <code>svg</code> , <code>svg-extract</code> , <code>tikz-3dplot</code> .
xcolor:	Full package color names, any color models, and mixing. <code>\textcolor</code> , <code>\colorbox</code> , <code>\fcolorbox</code> . Enhanced for HTML compatibility.
Lists:	Standard L ^A T _E X environments, <code>enumerate</code> , <code>enumitem</code> , <code>eqlist</code> , <code>hang</code> , <code>listliketab</code> , <code>paralist</code> .
Environments:	Standard L ^A T _E X environments.
<code>minipage</code> , <code>\parbox</code> :	Some HTML5-imposed limitations. Nested minipages are supported. <code>eqparbox</code> , <code>minibox</code> , <code>pbox</code> , <code>shapepar</code> .
Quotations:	<code>copyrightbox</code> , <code>csquotes</code> , <code>epigraph</code> , <code>quoting</code> , <code>verse</code> .
Verbatim:	<code>fancyvrb</code> , <code>fvextra</code> , <code>moreverb</code> , <code>shortvrb</code> , <code>verbatim</code> .

lwarp Supported Functions — continued

Category	Status
Frames:	<code>boxedminipage</code> , <code>boxedminipage2e</code> , <code>fancybox</code> , <code>fbox^{MJ}</code> , <code>framed</code> , <code>mdframed</code> , <code>niceframe</code> , <code>shadow</code> , <code>tcolorbox^{MJ}</code> , <code>vertbars</code> .
Multi-columns:	<code>adjmulticol</code> , <code>multicol</code> , <code>multicolrule</code> , <code>vwcol</code> .
Margins:	<code>fullwidth</code> , <code>hanging</code> , <code>midpage</code> .
Line numbering:	<code>fnlineno</code> , <code>lineno</code> .
Direct formatting:	<code>\emph</code> , <code>\textsuperscript</code> , <code>\textbf</code> , etc are supported. <code>\bfseries</code> , etc. are only supported in some cases. <code>cancel^{MJ}</code> , <code>ellipsis</code> , <code>embrace</code> , <code>enparen</code> , <code>hyphenat</code> , <code>lettrine</code> , <code>lips</code> , <code>lua-check-hyphen</code> , <code>luacolor</code> , <code>magaz</code> , <code>moresize</code> , <code>nolbreaks</code> , <code>normalcolor</code> , <code>pdfcol</code> , <code>pdfcolmk</code> , <code>pdfrender</code> , <code>realscripts</code> , <code>resize^{MJ}</code> , <code>scalegnt</code> , <code>seqsplit^{MJ}</code> , <code>soul</code> , <code>soulpos</code> , <code>soulutf8</code> , <code>stackengine</code> , <code>textfit</code> , <code>thinsp</code> , <code>trimclip</code> , <code>truncate</code> , <code>ulem</code> , <code>umoline</code> , <code>underscore</code> , <code>uspace</code> , <code>xellipsis</code> .
Acronyms:	<code>acro</code> , <code>acronym</code> .
Ordinals:	<code>engord</code> , <code>fntcount</code> , <code>nth</code> .
Text ligatures:	Ligatures for symbols are supported. Ligatures for f, q, t are intentionally turned off because many simpler browsers do not display them correctly. Modern full-featured browsers re-create these ligatures on-the-fly.
Horizontal space:	HTML output for <code>thin-unbreakable</code> , <code>unbreakable</code> , <code>\enskip</code> , <code>\quad</code> , <code>\qqquad</code> , <code>\hspace</code> .
Rules:	<code>\rule</code> with <code>width</code> , <code>height</code> , <code>raise</code> , <code>text color</code> .
HTML reserved characters:	<code>\&</code> , <code>\textless</code> , and <code>\textgreater</code> are converted to HTML entities.
Fonts:	Used as-is. Appear in SVG math expressions or embedded image environments. <code>fontaxes</code> , <code>nfssect-cfr</code> , <code>slantsc</code> , <code>tabfigures</code> . Tested to work as-is: Special font macros in <code>cfr-lm</code> and others which use <code>nfssect-cfr</code> . Also see the math section for math and MATHJAX support for math font packages.

lwarp Supported Functions — continued

Category	Status
Symbols:	Native L ^A T _E X diacriticals, <code>academicons</code> , <code>amssymb</code> ^{MJ} , <code>bbding</code> , <code>chemgreek</code> , <code>dingbat</code> , <code>euro</code> , <code>eurosym</code> , <code>fontawesome</code> , <code>fontawesome5</code> , <code>gensymb</code> ^{MJ} , <code>latexsym</code> ^{MJ} , <code>marvosym</code> , <code>metalogo</code> , <code>metalogox</code> , <code>pifont</code> , <code>textalpha</code> , <code>textcomp</code> , <code>textgreek</code> , <code>typicons</code> , <code>xunicode</code> .
Files:	<code>attachfile</code> , <code>attachfile2</code> , <code>hyperxmp</code> , <code>inputtrc</code> , <code>intopdf</code> , <code>pdfpages</code> , <code>pdfx</code> , <code>xmpincl</code> .
Science and engineering:	<code>algorithm2e</code> , <code>algorithmicx</code> , <code>ar</code> ^{MJ} , <code>askmaps</code> , <code>axodraw2</code> , <code>bitpattern</code> , <code>blochsphere</code> , <code>bodegraph</code> , <code>bohr</code> , <code>bytefield</code> , <code>chemfig</code> , <code>chemformula</code> , <code>chemgreek</code> , <code>chemmacros</code> , <code>chemnum</code> , <code>circuitikz</code> , <code>econometrics</code> ^{MJ} , <code>elements</code> , <code>engtlc</code> ^{MJ} , <code>fast-diagram</code> , <code>ghsystem</code> , <code>hepnicenames</code> , <code>heppennames</code> , <code>hepunits</code> ^{MJ} , <code>karnaughmap</code> , <code>karnaugh-map</code> , <code>keystroke</code> , <code>listings</code> , <code>listingsutf8</code> , <code>linop</code> , <code>menukeys</code> , <code>mhchem</code> ^{MJ} , <code>minted</code> , <code>pgfgantt</code> , <code>phfjit</code> , <code>physics</code> ^{MJ} , <code>physunits</code> ^{MJ} , <code>plimsoll</code> ^{MJ} , <code>qccircuit</code> , <code>register</code> , <code>simplebnf</code> , <code>simpler-wick</code> , <code>slashed</code> ^{MJ} , <code>steinmetz</code> ^{MJ} , <code>structmech</code> , <code>struktex</code> , <code>syntaxdi</code> , <code>tikz-karnaugh</code> , <code>tikzcodeblocks</code> , <code>venndiagram</code>
Arts and humanities:	<code>foreign</code> , <code>forest</code> , <code>lyluatex</code> , <code>musicography</code> , <code>nameauth</code> , <code>octave</code> , <code>phonrule</code> , <code>piano</code> , <code>schemata</code> , <code>semantic-markup</code> , <code>tikz-dependency</code> , <code>vowel</code> , <code>xpiano</code>
Calendars:	<code>termcal</code>
Admonitions:	<code>awesomebox</code> , <code>notes</code> .
Editorial:	<code>changebar</code> , <code>changelog</code> , <code>changes</code> , <code>easy-todo</code> , <code>easyReview</code> , <code>ed</code> , <code>errata</code> , <code>fixme</code> , <code>fixmetodonotes</code> , <code>pdfcomment</code> ^{MJ} , <code>pdfmarginpar</code> , <code>todo</code> , <code>todonotes</code> , <code>tram</code> , <code>xchangebar</code> .
Accessibility:	<code>accessibility</code> ^{MJ} , <code>accsupp</code> ^{MJ} , <code>axessibility</code> ^{MJ} , <code>pdfcomment</code> ^{MJ} , <code>repltext</code> ^{MJ} , <code>tagpdf</code> .
Package handling:	<code>catoptions</code> .
Debug:	<code>chkfloat</code> , <code>cmdtrack</code> , <code>dprogress</code> , <code>lua-visual-debug</code> , <code>refcheck</code> , <code>srcltx</code> , <code>srtex</code> , <code>vpe</code> , <code>xbmks</code> .

lwarp Supported Functions — continued

Category	Status
Working as-is:	Various utility, calculation, file, and text-only packages, such as <code>calc</code> , <code>fileerr</code> , <code>somedefs</code> , <code>trace</code> , <code>xspace</code> . Also, most math-only packages, including specialized typesetting for various fields of science and engineering.

3 Alternatives

Summarized below are several other ways to convert a \LaTeX or other document to HTML. Where an existing \LaTeX document is to be converted to HTML, `lwarp` may be a good choice. For new projects with a large number of documents, it may be worth investigating the alternatives before decided which path to take.

3.1 internet class

Cls `internet` The closest to `lwarp` in design principle is the `internet` class by Andrew Stacey—an interesting project which directly produces several versions of markdown, and also HTML and EPUB. <https://github.com/loopspace/latex-to-internet>

3.2 TeX4HT

Prog `TeX4ht` <http://tug.org/tex4ht/>
 Prog `htlatex`

This system uses native \LaTeX processing to produce a DVI file containing special commands, and then uses additional post-processing for the HTML conversion by way of numerous configuration files. In some cases `lwarp` provides a better HTML conversion, and it supports a different set of packages. `TeX4ht` produces several other forms of output beyond HTML, including ODT and a direct path to EPUB, and is still being developed.

3.3 Translators

These systems use external programs to translate a subset of \LaTeX syntax into HTML. Search for each on CTAN (<http://ctan.org>).

Prog `Hevea` **H^Ev^Ea**: <http://hevea.inria.fr/> (not on CTAN)
 Prog `TtH` **T_TH**: <http://hutchinson.belmont.ma.us/tth/>
 Prog `GELLMU` **GELLMU**: <http://www.albany.edu/~hammond/gellmu/>
 Prog `LaTeXML` **\LaTeX XML**: <http://dlmf.nist.gov/LaTeXML/>
 Prog `Plastex` **PlasTeX**: <https://github.com/tiarno/plastex>
 Prog `LaTeX2HTML` **\LaTeX 2HTML**: <http://www.latex2html.org/>
 and <http://ctan.org/pkg/latex2html>.
 Prog `TeX2page` **TeX2page**: <http://ds26gte.github.io/tex2page/index.html>

Finally, `GladTeX` may used to directly insert \LaTeX math into HTML:

Prog `GLadTeX` **GLadTeX**: <http://humenda.github.io/GLadTeX/>

3.4 ASCII DOC and ASCIIDOCTOR

AsciiDoc is one of the most capable markup languages, providing enough features to produce the typical technical-writing document with cross-references, and it writes L^AT_EX and HTML.

Prog AsciiDoc **Asciidoctor:** <http://asciidoctor.org/> (More active.)

Prog AsciiDoctor **AsciiDoc:** <http://asciidoc.org/> (The original project.)

3.4.1 ASCIIDOCTOR-L^AT_EX

The Asciidoctor-LaTeX project is developing additional L^AT_EX-related features.

Asciidoctor-Lat_EX:

<http://www.noteshare.io/book/asciidoctor-latex-manual>

Prog AsciiDoctor-LaTeX <https://github.com/asciidoctor/asciidoctor-latex>

3.5 PANDOC

Prog Pandoc A markup system which also reads and writes L^AT_EX and HTML.

Pandoc: <http://pandoc.org/>

(Watch for improvements in cross-references to figures and tables.)

3.6 Word processors

Prog Word It should be noted that the popular word processors have advanced through the years
 Prog LibreOffice in their abilities to represent math with a L^AT_EX-ish input syntax, unicode math fonts,
 Prog OpenOffice and high-quality output, and also generate HTML with varying success. See recent
 developments in MICROSOFT[®] *Word*[®] and LIBREOFFICE[™] *Writer*.

3.7 Commercial systems

Prog Adobe Likewise, several professional systems exist whose abilities have been advancing
 Prog FrameMaker in the areas of typesetting, cross-referencing, and HTML generation. See ADOBE[®]
 Prog InDesign *FrameMaker*[®], ADOBE *InDesign*[®], and MADCAP *Flare*[™].

Prog Flare

Prog Madcap

3.8 Comparisons

AsciiDoc, Pandoc, and various other markup languages typically have a syntax which tries to be natural and human-readable, but the use of advanced features tends to

require many combinations of special characters, resulting in a complicated mess of syntax. By contrast, \LaTeX spells things out in readable words but takes longer to type, although integrated editors exist which can provide faster entry and a graphic user interface. For those functions which are covered by the typical markup language it is arguable that \LaTeX is comparably easy to learn, while \LaTeX provides many more advanced features where needed, along with a large number of pre-existing packages which provide solutions to numerous common tasks.

Text-based document-markup systems share some of the advantages of \LaTeX vs. a typical word processor. Documents formats are stable. The documents themselves are portable, work well with revision control, do not crash or become corrupted, and are easily generated under program control. Formatting commands are visible, cross-referencing is automatic, and editing is responsive. Search/replace with regular expressions provides a powerful tool for the manipulation of both document contents and structure. Markup systems and some commercial systems allow printed output through a \LaTeX back end, yielding high-quality results especially when the \LaTeX template is adjusted, but they lose the ability to use \LaTeX macros and other \LaTeX source-document features.

The effort required to customize the output of each markup system varies. For print output, \LaTeX configuration files are usually used. For HTML output, a CSS file will be available, but additional configuration may require editing some form of control file with a different syntax, such as XML. In the case of `lwarp`, CSS is used, and much HTML output is adjusted through the usual \LaTeX optional macro parameters, but further customization may require patching \LaTeX code.

The popular word processors and professional document systems each has a large base of after-market support including pre-designed styles and templates, and often include content-management systems for topic reuse.

4 Installation

Table 3 shows the tools which are used for the L^AT_EX to HTML conversion. In most cases, these will be available via the standard package-installation tools.

Detailed installation instructions follow.

Table 3: Required software programs

Provided by your L^AT_EX distribution:

From T_EXLive: <http://tug.org/texlive/>.

L^AT_EX: *pdflatex*, *xelatex*, or *lualatex*.

The lwarp package: This package.

The *lwarpmk* utility: Provided along with this package. This should be an operating-system executable in the same way that *pdflatex* or *latexmk* is. It is possible to have the *lwarp* package generate a local copy of *lwarpmk* called *lwarpmk.lua*. See table 4.

***luatex* :** Used by the *lwarpmk* program to simplify and automate document generation.

***xindy*:** The *xindy* program is used by *lwarp* to create indexes. On a MiK_TE_X system this may have to be acquired separately, but it is part of the regular installer as of mid 2015.

***latexmk*:** Optionally used by *lwarpmk* to compile L^AT_EX code. On a MiK_TE_X system, *Perl* may need to be installed first.

***pdfcrop*:** Used to pull images out of the L^AT_EX PDF.

POPPLER PDF utilities:

***pdftotext*:** Used to convert PDF to text.

***pdfseparate*:** Used to pull images out of the L^AT_EX PDF.

***pdftocairo*:** Used to convert images to SVG.

These might be provided by your operating-system package manager, and MiK_TE_X provides *miktex-poppler-bin-** packages.

From POPPLER: poppler.freedesktop.org.

For MACOS[®], see <https://brew.sh/>, install *Homebrew*, then

```
Enter ⇒ brew install poppler
```

For WINDOWS, see MiK_TE_X *miktex-poppler-bin-**, or:

<https://sourceforge.net/projects/poppler-win32/> and:

<http://blog.alivate.com.au/poppler-windows/>

Perl:

This may be provided by your operating-system package manager, and may be required for some of the POPPLER PDF utilities.

strawberryperl.com (recommended), perl.org

Automatically downloaded from the internet as required:

MATHJAX: Optionally used to display math. From: mathjax.org

4.1 Installing the lwarp package

There are several ways to install lwarp. These are listed here with the preferred methods listed first:

Pre-installed: Try entering into a command line:

```
Enter ⇒ kpsewhich lwarp.sty
```

If a path to lwarp.sty is shown, then lwarp is already installed and you may skip to the next section.

TEX Live: If using a TEX Live distribution, try installing via *tlmgr*:

```
Enter ⇒ tlmgr install lwarp
```

MiKTeX:

1. For newer versions of MiKTeX, install or update lwarp using the *MiKTeX Console* program.
2. For older versions of MiKTeX, to install lwarp the first time, use the *MiKTeX Package Manager (Admin)*. To update lwarp, use *MiKTeX Update (Admin)*.
3. Either way, also update the package miktex-misc, which will install and update the *lwarpmk* executable.

Operating-system package: The operating-system package manager may already have lwarp, perhaps as part of a set of TEX-related packages.

CTAN TDS archive: lwarp may be downloaded from the Comprehensive TEX Archive:

1. See <http://ctan.org/pkg/lwarp> for the lwarp package.
2. Download the TDS archive: lwarp.tds.zip
3. Find the TEX local directory:

TEX Live:

```
Enter ⇒ kpsewhich -var-value TEXMFLOCAL
```

MiKTeX:

In the **Settings** window, **Roots** tab, look for a local TDS root.

This should be something like:

```
/usr/local/texlive/texmf-local/
```

4. Unpack the archive in the TDS local directory.
5. Renew the cache:

```
Enter ⇒ mktexlsr
```

— or —

```
Enter ⇒ texhash
```

Or, for WINDOWS MiKTeX, start the program called *MiKTeX Settings (Admin)* and click on the button called **Refresh FNDB**.

CTAN .dtx and .ins files: Another form of TEX package is .dtx and .ins source files. These files are used to create the documentation and .sty files.

1. See <http://ctan.org/pkg/lwarp> for the lwarp package.
2. Download the zip archive `lwarp.zip` into your own lwarp directory.
3. Unpack `lwarp.zip`.
4. Locate the contents `lwarp.dtx` and `lwarp.ins`
5. Create the `.sty` files:
 Enter ⇒ **pdflatex lwarp.ins**
6. Create the documentation:

```
pdflatex lwarp.dtx (several times)
makeindex -s gglo.ist -o lwarp.gls lwarp.glo
makeindex -s gind.ist lwarp.idx
pdflatex lwarp.dtx (several times)
```

7. Copy the `.sty` files somewhere such as the T_EX Live local tree found in the previous CTAN TDS section, under the subdirectory:
 `<texlocal>/tex/latex/local/lwarp`
8. Copy `lwarp_baseline_marker.png` and `lwarp_baseline_marker.eps` to the same place as the `.sty` files.
9. Copy the documentation `lwarp.pdf` to a source directory in the local tree, such as:
 `<texlocal>/doc/local/lwarp`
10. Renew the cache:
 Enter ⇒ **mktxlsr**
 — or —
 Enter ⇒ **texhash**
 Or, for WINDOWS MiK_TE_X, start the program called *MiKTeX Settings (Admin)* and click on the button called **Refresh FNDB**.
11. See section 4.2.1 to generate your local copy of *lwarpmk*.
12. Once the local version of `lwarpmk.lua` is installed, it may be made available system-wide as per section 4.2.

Project-local CTAN `.dtx` and `.ins` files: The `.dtx` and `.ins` files may be downloaded to a project directory, then compiled right there, alongside the document source files. The resultant `*.sty` and `lwarpmk.lua` files may be used as-is, so long as they are in the same directory as the document source. The files `lwarp_baseline_marker.png` and `lwarp_baseline_marker.eps` must also be copied as well. This approach is especially useful if you would like to temporarily test lwarp before deciding whether to permanently install it.

Just testing!

4.2 Installing the *lwarpmk* utility

(Note: If *lwarpmk* is not already installed, it is easiest to use a local copy instead of installing it system-wide. See section 4.2.1.)

After the lwarp package is installed, you may need to setup the *lwarpmk* utility:

1. At a command line, try executing `lwarpmk`. If the *lwarpmk* help message appears, then *lwarpmk* is already set up. If not, it is easiest to generate and use a local copy. See section 4.2.1.
2. For MiKTeX, try updating the miktex-misc package. This may install the *lwarpmk* executable for you.

Otherwise, continue with the following:

3. Locate the file `lwarpmk.lua`, which should be in the `scripts` directory of the TDS tree. On a T_EX Live or MiKTeX system you may use

```
Enter ⇒ kpsewhich lwarpmk.lua
```

(If the file is not found, you may also generate a local copy and use it instead. See section 4.2.1.)

4. Create *lwarpmk*:

Unix: Create a symbolic link and make it executable:

- (a) Locate the T_EX Live binaries:

```
Enter ⇒ kpsewhich -var-value TEXMFROOT
```

This will be something like:

```
/usr/local/texlive/<year>
```

The binaries are then located in the `bin/<arch>` directory under the root:

```
/usr/local/texlive/<year>/bin/<architecture>/
```

In this directory you will find programs such as *pdflatex* and *makeindex*.

- (b) In the binaries directory, create a new symbolic link from the binaries directory to `lwarpmk.lua`:

```
Enter ⇒ ln -s <pathto>lwarpmk.lua lwarpmk
```

- (c) Make the link executable:

```
Enter ⇒ chmod 0755 lwarpmk
```

WINDOWS T_EX Live: Create a new `lwarpmk.exe` file:

- (a) Locate the T_EX Live binaries as shown above for UNIX.
- (b) In the binaries directory, make a *copy* of `runscript.exe` and call it `lwarpmk.exe`. This will call the copy of `lwarpmk.lua` which is in the `scripts` directory of the distribution.

WINDOWS MiKTeX: Create a new `lwarpmk.bat` file:

- (a) Locate the MiKTeX binaries. These will be in a directory such as:

```
C:\Program Files\MiKTeX 2.9\miktex\bin\x64
```

In this directory you will find programs such as `pdflatex.exe` and `makeindex.exe`.

- (b) Create a new file named `lwarpmk.bat` containing:

```
texlua "C:\Program Files\MiKTeX 2.9\scripts\lwarp\lwarp.texlua" %*
```

This will call the copy of `lwarpmk.lua` which is in the `scripts` directory of the distribution.

4.2.1 Using a local copy of *lwarpmk*

It is also possible to use a local version of *lwarpmk*:

1. When compiling the tutorial in section 5, use the `lwarpmk` option for the `lwarp` package:

```
\usepackage[lwarpmk]{lwarp}
```

2. When the tutorial is compiled with *pdflatex*, the file `lwarpmk.lua` will be generated along with the other configuration files.
3. `lwarpmk.lua` may be used for this project:

Unix:

- (a) Make `lwarpmk.lua` executable:

```
Enter ⇒ chmod 0755 lwarpmk.lua
```

- (b) Compile documents with

```
Enter ⇒ ./lwarpmk.lua html
```

```
Enter ⇒ ./lwarpmk.lua print
```

etc.

- (c) It may be useful to rename or link to a version without the `.lua` suffix.

WINDOWS:

Compile documents with either of the following, depending on which command shell is being used:

```
Enter ⇒ texlua lwarpmk.lua html
```

```
Enter ⇒ texlua lwarpmk.lua print
```

etc.

Or:

```
Enter ⇒ lwarpmk html
```

```
Enter ⇒ lwarpmk print
```

etc.

4.3 Installing additional utilities

To test for the existence of the additional utilities:

Enter the following in a command line. If each program's version is displayed, then that utility is already installed. See table 3 on page 77.

```
Enter ⇒ luatex --version
```

```
Enter ⇒ xindy --version
```

```
Enter ⇒ latexmk --version
```

```
Enter ⇒ perl --version
```

```
Enter ⇒ pdftocrop --version
```

```
Enter ⇒ pdftotext -v
```

```
Enter ⇒ pdfseparate --version
```

```
Enter ⇒ pdftocairo -v
```

To install *xindy*, *latexmk*, and *pdfcrop*:

The T_EX utilities *xindy*, *latexmk*, and *pdfcrop* may be installed in *TeXLive* with *tlmgr*, installed by *MiKTeX*, provided by your operating system's package manager, or downloaded from the *CTAN* archive:

<http://ctan.org/pkg/xindy>

<http://ctan.org/pkg/latexmk>

<http://ctan.org/pkg/pdfcrop>

To install the POPPLER utilities to a UNIX/LINUX system:

The tools from the POPPLER project should be provided by your operating system's package manager.

To install the POPPLER utilities to a MACOS machine:

1. Install *Homebrew* from <https://brew.sh/>:

```
/usr/bin/ruby -e "$(curl -fsSL https://raw.githubusercontent.com/Homebrew/install/master/install)"
```

2. Install the POPPLER utilities:

```
Enter ⇒ brew install poppler
```

To install the POPPLER utilities to a WINDOWS machine:

If using MikT_EX, install a *miktex-poppler-bin-** package. Otherwise:

1. See table 3 on page 77.
2. Download and extract the POPPLER utilities *pdftotext*, *pdfseparate*, and *pdfseparate* to a directory, such as Poppler.
3. In the **Start** window, type "Path" to search for results related to Path. Or, open the control panel and search for "Path".
4. Choose **Edit the system environment variables** in the control panel.
5. Choose the **Environment Variables** button.
6. Choose the **Path** variable, then the **Edit** button.
7. Choose the **New** button to make an additional entry.
8. Enter the bin directory of the POPPLER utilities, such as:

```
C:\Users\

```

Be sure to include \bin.

9. Click **Ok** when done.

To install PERL to a WINDOWS machine:

1. Download and install a version of PERL, such as STRAWBERRY PERL, to a directory without a space in its name, such as C:\Strawberry.
2. Edit the **Path** as seen above for the POPPLER utilities.
3. Enter the bin directory of the *perl* utility, such as:

```
C:\Strawberry\perl\bin
```

Be sure to include \bin.

4. Click **Ok** when done.

Any utilities installed by hand must be added to the PATH.

5 Tutorial

This section shows an example of how to create an lwarp document.

Need help?

See the [General Index](#) for “how-to”, and the [Troubleshooting Index](#) if something doesn’t work. A [Troubleshooting](#) section is also available. The [Index of Objects](#) contains automated entries for each package, macro, environment, counter, boolean, and other objects; individually and also sorted by category.

5.1 Starting a new project

1. Create a new project directory called `tutorial`.

File `tutorial.tex`

2. Inside the `tutorial` directory, create a new file called `tutorial.tex`. This may be done several ways:

Copy from the documentation PDF:

A listing is in [fig. 1](#), which may be copied/pasted from the figure directly into your own editor, depending on the quality of the PDF viewer and editor, or:

Copy from the lwarp documentation directory:

Another copy may be found by entering into a command line:

```
Enter ⇒ texdoc -l lwarp_tutorial.tex
```

This should be in the `doc/latex/lwarp/` directory along with this PDF documentation. Copy `lwarp_tutorial.tex` directly into your `tutorial` directory, renamed as `tutorial.tex`.

File `lwarp_tutorial.txt`

 **Note: .txt suffix!**

 **Bad formatting!**

When using WINDOWS, use an editor other than NOTEPAD, since NOTEPAD does not accept the end-of-line from a UNIX text file.

3. Compile the project:

```
Enter ⇒ pdflatex tutorial.tex
```

(several times)

(*xelatex* or *lualatex* may be used as well. lwarp also supports DVI *latex* for use with `.eps` images.)

4. View the resulting `tutorial.pdf` with a PDF viewer.

A number of new files are created when `tutorial.tex` is compiled, as shown in [table 4](#). These files are created by the lwarp package.

(Two of the new files are configuration files for the helper program *lwarpmk*. Whenever a print version of the document is created, the configuration files for *lwarpmk* are updated to record the operating system, L^AT_EX engine (*latex*, *pdflatex*, *xelatex*, or *lualatex*), the filenames of the source code and HTML output, and whether the additional helper program *latexmk* will be used to compile the document.)

Figure 1: tutorial.tex listing

Note: There are two pages!

```
% Save this as tutorial.tex for the lwarp package tutorial.

\documentclass{book}

\usepackage{iftex}

% --- LOAD FONT SELECTION AND ENCODING BEFORE LOADING LWARP ---

\ifPDFTeX
\usepackage{lmodern}           % pdflatex or dvi latex
\usepackage[T1]{fontenc}
\usepackage[utf8]{inputenc}
\else
\usepackage{fontspec}         % XeLaTeX or LuaLaTeX
\fi

% --- LWARP IS LOADED NEXT ---
\usepackage[
% HomeHTMLFilename=index,    % Filename of the homepage.
% HTMLFilename={node-},     % Filename prefix of other pages.
% IndexLanguage=english,    % Language for xindy index, glossary.
% latexmk,                  % Use latexmk to compile.
% OSWindows,                % Force Windows. (Usually automatic.)
% mathjax,                  % Use MathJax to display math.
]{lwarp}
% \boolfalse{FileSectionNames} % If false, numbers the files.

% --- LOAD PDFLATEX MATH FONTS HERE ---

% --- OTHER PACKAGES ARE LOADED AFTER LWARP ---
\usepackage{makeidx} \makeindex
\usepackage{xcolor}   % (Demonstration purposes only.)
\usepackage{hyperref,cleveref} % LOAD THESE LAST!

% --- LATEX AND HTML CUSTOMIZATION ---
\title{The Lwarp Tutorial}
\author{Some Author}
\setcounter{tocdepth}{2} % Include subsections in the \TOC.
\setcounter{secnumdepth}{2} % Number down to subsections.
\setcounter{FileDepth}{1} % Split \HTML\ files at sections
\booltrue{CombineHigherDepths} % Combine parts/chapters/sections
\setcounter{SideTOCDepth}{1} % Include subsections in the side\TOC
\HTMLTitle{Webpage Title} % Overrides \title for the web page.
\HTMLAuthor{Some Author} % Sets the HTML meta author tag.
\HTMLLanguage{en-US} % Sets the HTML meta language.
\HTMLDescription{A description.} % Sets the HTML meta description.
\HTMLFirstPageTop{Name and \fbox{HOMEPAGE LOGO}}
\HTMLPageTop{\fbox{LOGO}}
\HTMLPageBottom{Contact Information and Copyright}
\CSSFilename{lwarp_sagebrush.css}
```

```

\begin{document}

\maketitle           % Or titlepage/titlingpage environment.

% An article abstract would go here.

\tableofcontents    % MUST BE BEFORE THE FIRST SECTION BREAK!
\listoffigures

\chapter{First chapter}

\section{A section}

This is some text which is indexed.\index{Some text.}

\subsection{A subsection}

See \cref{fig:withtext}.

\begin{figure}\begin{center}
\fbbox{\textcolor{blue!50!green}{Text in a figure.}}
\caption{A figure with text\label{fig:withtext}}
\end{center}\end{figure}

\section{Some math}

Inline math:  $r = r_0 + vt - \frac{1}{2}at^2$ 
followed by display math:
\begin{equation}
a^2 + b^2 = c^2
\end{equation}

\begin{warpprint} % For print output ...
\cleardoublepage % ... a common method to place index entry into TOC.
\phantomsection
\addcontentsline{toc}{chapter}{\indexname}
\end{warpprint}
\ForceHTMLPage    % HTML index will be on its own page.
\ForceHTMLTOC     % HTML index will have its own toc entry.
\printindex

\end{document}

```

Table 4: Configuration files created by print version

- tutorial.pdf:** The PDF output from L^AT_EX. The print version of the document.
- tutorial_html.tex:** A small .tex file used to create a parallel HTML version of the document, which co-exists with usual the PDF version, and which will have its own auxiliary files. In this way, both PDF and HTML documents may co-exist side-by-side.
- Auxiliary files:** The usual L^AT_EX files .aux, .log, .out, .toc, .lof, .idx. When an HTML version of the document is created, _html versions of the auxiliary files will also be generated.
- lwarpmk.conf:** A configuration file for *lwarpmk*, which is used to automate the compilation of PDF or HTML versions of the document.
- tutorial.lwarpmkconf:** Another configuration file used by *lwarpmk*, which is only useful if you wish to have several projects residing in the same directory.
- .css files:** *lwarp.css*, *lwarp_formal.css*, *lwarp_sagebrush.css* These files are standard for *lwarp*, and are not meant to be modified by the user.
- sample_project.css:** An example of a user-customized css file, which may be used for project-specific changes to the *lwarp* defaults.
- lwarp.ist:** Used by *lwarp* while creating an index using *makeindex*. This file should not be modified by the user. A custom file may be used instead, if necessary.
- lwarp.xdy:** Used by *lwarp* while creating an index using *xindy*. This file should not be modified by the user. A custom file may be used instead, if necessary.
- lwarp_one_limage.txt:** For WINDOWS only. Used to process SVG images in the background. Copied to *lwarp_one_limage.cmd* when images are generated.
- lwarp_mathjax.txt:** Inserted into the HTML files when MATHJAX is used to display math. Do not modify, see `\MathJaxFilename` instead.
- comment_*.cut:** Temporary files used by *lwarp* to conditionally process blocks of text. These files may be ignored.

When the *lwarpmk* option is given to the *lwarp* package:

lwarpmk.lua: A local copy of the *lwarpmk* utility.

On UNIX-related operating systems this file must be made executable:

```
chmod u+x lwarpmk.lua
```

This may be useful to have to archive with a project for future use.

5.2 Compiling the print version with *lwarpmk*

The *lwarpmk* utility program is used to compile either the printed or the HTML version of the document.

`lwarpmk print` is used to recompile a printed version of the document.

1. Re-compile the print version:

Enter ⇒ **lwarpmk print**

lwarpmk prints an introduction then checks to see if the document must be recompiled. If it seems that the files are up-to-date, then *lwarpmk* informs you of that fact and then exits.

2. Make a small change in the original document, such as adding a space character.
3. Recompile again.

Enter ⇒ **lwarpmk print**

The document is recompiled when a change is seen in the source. Several compilations may be necessary to resolve cross-references.

4. Force a recompile to occur.

Enter ⇒ **lwarpmk again**

Enter ⇒ **lwarpmk print**

`lwarpmk again` updates the date code for the file, triggering a recompile the next time the document is made.⁵

5. Process the index.^{6 7}

Enter ⇒ **lwarpmk printindex**

6. Recompile again to include the index.

Enter ⇒ **lwarpmk print**

7. To force a single recompile when needed, even if no changes were detected:

Enter ⇒ **lwarpmk print1**

Note that the HTML customization commands are ignored while making the print version.

⁵Although, when using the utility *latexmk* (introduced later), the changed date is ignored and an actual change in contents must occur to cause a recompile.

⁶The command `lwarpmk printglossary` is also available to process a glossary produced with the `glossaries` package. See section 8.6.12.

⁷Also see section 8.6.15 for index options.

5.3 Compiling the HTML version with *lwarpmk*

`lwarpmk html` is used to recompile an HTML version of the document.

1. Compile the HTML version:

Enter ⇒ **lwarpmk html**

- (a) *lwarpmk* uses L^AT_EX to process `tutorial_html.tex` to create `tutorial_html.pdf`.
- (b) *pdftotext* is then used to convert to the file `tutorial_html.html`. This file is a plain-text file containing HTML tags and content for the entire document.
- (c) *lwarpmk* manually splits `tutorial_html.html` into individual HTML files according to the HTML settings. For this tutorial, the result is `tutorial.html` (the home page), along with `First-chapter.html`⁸, `Some-math.html`, and the document's index in `_Index.html`.⁹

2. View the HTML page in a web browser.

Open the file `tutorial.html` in a web browser.

math

Note that math is still displayed as its alt tag, which is the plain-text L^AT_EX source, until the images of the math expressions have been generated. Math may be displayed as SVG images or by a MATHJAX script, as seen in sections 5.4 and 5.5.

3. Force a recompile:

Enter ⇒ **lwarpmk again**

Enter ⇒ **lwarpmk html**

Enter ⇒ **lwarpmk print**

4. Process the HTML index and recompile:¹⁰¹¹

Enter ⇒ **lwarpmk htmlindex**

Enter ⇒ **lwarpmk html**

`_Index.html` is updated for the new L^AT_EX index.

5. Reload the web page to see the added index.

6. To force a single recompile when needed, even if no changes were detected:

Enter ⇒ **lwarpmk html1**

⁸`First-chapter.html` also contains the first section, even though the second section is its own HTML page. This behavior is controlled by the boolean `CombineHigherDepths`.

⁹`index.html` is commonly used as a homepage, so the document index is in `_Index.html`.

¹⁰The command `lwarpmk htmlglossary` is also available to process a glossary produced with the `glossaries` package. See section 8.6.12.

¹¹Also see section 8.6.15 for index options.

5.4 Generating the svg images

math as svg images By default `lwarp` represents math as svg images, with the \LaTeX source included in `alt` attributes. In this way, the math is displayed as it was drawn by \LaTeX , and the \LaTeX source may be copied and pasted into other documents.

picture and Tikz `lwarp` uses the same mechanism for `picture` and `Tikz` environments.

1. Create the svg images:

Enter \Rightarrow `lwarpmk limages`

Enter \Rightarrow `lwarpmk html`

2. Move to the tutorial's HTML math page and reload the document in the browser.
3. The math images are displayed using the same font and formatting as the printed version.
4. Copy/paste a math expression into a text editor to see the \LaTeX source.

adding/removing When a math expression, `picture`, or `Tikz` environment is added or removed, the svg images must be re-created by entering `lwarpmk limages` to maintain the proper image-file associations. Inline svg math may be hashed and thus not need to be recreated, but display math and objects such as `Tikz` may move to new image numbers when the document is changed.

recompile first Before attempting to create the svg image files, `lwarpmk` verifies that the HTML version of the document exists and has correct internal image references.¹² If it is necessary to recompile the document's HTML version one more time, `lwarpmk` usually will inform the user with an error message, but there are some conditions which cannot be detected, so the user should watch for the \LaTeX recompile warnings.

HTML instead of images If HTML appears where an svg image should be, recompile the document one more time to get the page numbers back in sync, then remake the images one more time.

page counter Incorrect svg images will also occur if the document changes the page counter:

```
\setcounter{page}{<value>}
```

The page counter must *not* be adjusted by the user.

Lots of files! Expressing math as svg images has the advantage of representing the math exactly as \LaTeX would, but has the disadvantage of requiring an individual file for each math expression. For inline math, and some other objects, `lwarp` uses an MD5 hash on its \LaTeX source to combine multiple instances of identical inline expressions into a single image file, but display math and other environments such as `picture` and `Tikz` require one image file each. For a document with a large amount of math, see section 5.5 to use `MATHJAX` instead.

¹²This becomes important when dealing with a document containing thousands of images.

5.5 Using MATHJAX for math

math with MATHJAX Math may also be represented using the MATHJAX JAVASCRIPT project.


1. In the tutorial's source code, uncomment the mathjax package option for lwarp:

```
mathjax, % Use MathJax to display math.
```

2. Recompile

```
Enter ⇒ lwarpmk html
```

3. Reload the math page.

 **MATHJAX requirements** MATHJAX requires web access unless a local copy of MATHJAX is available, and it also requires that JAVASCRIPT is enabled for the web page. The math is rendered by MATHJAX. Right-click on math to see several options for rendering, and for copying the L^AT_EX source.

While using MATHJAX has many advantages, it may not be able to represent complex expressions or spacing adjustments as well as L^AT_EX, and it may not support some math-related packages.

5.6 Changing the css style

For a formal css style, add to the preamble:

```
\usepackage{lwarp}  
...  
\CSSFilename{lwarp_formal.css}  
...  
\begin{document}
```

For a modern css style, `lwarp_sagebrush.css` is also provided:

```
\CSSFilename{lwarp_sagebrush.css}
```

See section [7.7](#) for more information about modifying the css styling of the document.

5.7 Customizing the HTML output

A number of settings may be made to control the HTML output, including filename generation, automatic compilation, math output, document splitting, meta data, and page headers and footers.

See section [7.6](#) for more information.

5.8 Using *latexmk*

latexmk is a L^AT_EX utility used to monitor changes in source files and recompile as needed.

1. In the tutorial's source code uncomment the `latexmk` option for the `lwarp` package:

```
latexmk, % Use latexmk to compile.
```

2. Recompile the printed version of the document.

```
Enter ⇒ lwarpmk print
```

`lwarp` updates its own configuration files (`lwarpmk.conf` and `tutorial.lwarpmkconf`) whenever the printed version of the document is compiled. These configuration files remember that *lwarpmk* should use *latexmk* to compile the document.

3. Recompile the document.

```
Enter ⇒ lwarpmk print
```

and/or

```
Enter ⇒ lwarpmk html
```

Changes are detected by comparing checksums rather than modification times, so `lwarpmk` again will not trigger a recompile, but *latexmk* has a much better awareness of changes than the *lwarpmk* utility does and it is likely to correctly know when to recompile. A recompile may be forced by making a small change to the source, and a single recompile may be forced with:

```
Enter ⇒ lwarpmk print1
```

and/or

```
Enter ⇒ lwarpmk html1
```

[forced single-pass recompile](#)

5.9 Using Xe_ΛTeX or Lua_ΛTeX

Xe_ΛTeX or Lua_ΛTeX may be used instead of _ΛTeX.

1. Remove the auxiliary files for the project:

```
Enter ⇒ lwarpmk cleanall
```

2. Use *xelatex* or *lualatex* to compile the printed version a single time.

```
Enter ⇒ xelatex tutorial.tex
```

— *or* —

```
Enter ⇒ lualatex tutorial.tex
```

When the compile occurs, the configuration files for *lwarpmk* are modified to remember which TeX engine was used. Xe_ΛTeX or Lua_ΛTeX will be used for future runs of *lwarpmk*.

3. To recompile the document:

```
Enter ⇒ lwarpmk print
```

-and-

```
Enter ⇒ lwarpmk html
```

4. Also remember to update the indexes and recompile again:

```
Enter ⇒ lwarpmk htmlindex
```

```
Enter ⇒ lwarpmk html
```

```
Enter ⇒ lwarpmk printindex
```

```
Enter ⇒ lwarpmk print
```

5.10 Using DVI _ΛTeX


Traditional DVI LaTeX may also be used along with .eps image files. An svg version of each image must also be provided. *lwarpmk* may be used to convert image formats.

To convert EPS files to PDF:

```
Enter ⇒ lwarpmk epstopdf *.eps (or a list of files)
```

To convert PDF files to SVG:

```
Enter ⇒ lwarpmk pdftosvg *.pdf (or a list of files)
```

 **bitmapped fonts** See section 7.4 regarding font selection to avoid the use of bitmapped fonts.

5.11 Using a glossary

lwarp supports the `gloss` and `glossaries` packages, although this tutorial does not supply an example.

5.11.1 `gloss` package

See section [8.6.11](#).

5.11.2 `glossaries` package

To process the glossary for the print version:

```
Enter ⇒ lwarpmk printglossary
```



(If `makeglossaries` is not found, see section [8.6.12](#).)

To process the glossary for the HTML version:

```
Enter ⇒ lwarpmk htmlglossary
```

In each case, the document will have to be recompiled afterwards:

```
Enter ⇒ lwarpmk html1
```

```
Enter ⇒ lwarpmk html
```

```
Enter ⇒ lwarpmk print1
```

```
Enter ⇒ lwarpmk print
```

See section [8.6.12](#) to set options for processing glossaries.

5.12 Cleaning auxiliary files

To remove the auxiliary files `.aux`, `.toc`, `.lof`, `.lot`, `.idx`, `.ind`, `.log`, and `.gl*`, and a few others:

```
Enter ⇒ lwarpmk clean
```

5.13 Cleaning auxiliary and output files

To remove the auxiliary files, and also remove the `.pdf` and `.html` files:

```
Enter ⇒ lwarpmk cleanall
```

5.14 Cleaning the images from the `<project>-images` directory

The `<project>-images` directory contains SVG images automatically generated for inline and display math, tikz, etc. To remove all the images from the `<project>-images` directory:

```
Enter ⇒ lwarpmk cleanimages
```

5.15 Converting PDF or EPS images to SVG

HTML cannot display PDF or EPS images, so any external PDF graphics images must be converted to SVG format. *pdftocairo* and *epstopdf* may be used one image at a time, but *lwarpmk* also provides a way to convert PDF or EPS images in bulk:

```
Enter ⇒ lwarpmk epstopdf *.eps (or a list of files)
```

```
Enter ⇒ lwarpmk pdftosvg *.pdf (or a list of files)
```


Be sure to always provide SVG files for HTML output.

5.16 Creating HTML from an incomplete compile

During testing it may be useful to finish the HTML conversion even when the document had errors and did not compile successfully. To attempt an HTML conversion of an incomplete document:

```
Enter ⇒ lwarpmk pdftohtml [-p project]
```

5.17 Processing multiple projects in the same directory

 `xr`, `xr-hyper`, `xcite`

It is possible to have several projects in the same directory. *lwarpmk* has an optional parameter which is the document to compile.

To create each project:

```
Enter ⇒ pdflatex project_a
```

```
Enter ⇒ pdflatex project_b
```

Each project is given its own configuration file:

```
project_a.lwarpmkconf, project_b.lwarpmkconf
```

To compile each project with `lwarkmk`:

```
Enter ⇒ lwarpmk print -p project_a
```

```
Enter ⇒ lwarpmk print -p project_b
```

```
Enter ⇒ lwarpmk html -p project_a
```

```
Enter ⇒ lwarpmk html -p project_b
```

To generate each project's images:

```
Enter ⇒ lwarpmk limages -p project_a
```

```
Enter ⇒ lwarpmk limages -p project_b
```

To clean each project's images:

```
Enter ⇒ lwarpmk cleanlimages -p project_a
```

```
Enter ⇒ lwarpmk cleanlimages -p project_b
```

To clean each project's auxiliary files:

```
Enter ⇒ lwarpmk cleanall -p project_a
```

```
Enter ⇒ lwarpmk cleanall -p project_b
```

If using *bibtex*, for example, the HTML version must also be processed:

```
Enter ⇒ bibtex project_a_html
```

5.18 Using the *make* utility

lwarpmk has an action which may be useful for integration with the common *make* utility:

```
lwarpmk pdftohtml [-p project]
```

make may be used to compile the code to PDF with HTML tags (`project_html.pdf`), then *lwarpmk* may be used to convert each target to HTML files.

5.19 What next?

How do I do something? See the [General Index](#).

Something do not work! See the [Troubleshooting Index](#) or section 13: [Troubleshooting](#).

Package options: See section 28, [Package options](#).

HTML and filename settings: See section 7.6, [Customizing the HTML output](#).

Footnote placement: See section 7.6, [Customizing the HTML output](#).

Title page, indexing, glossaries: See section 8.6, [Front and back matter](#).

Shell escape: See section 7.3, [Shell escape](#).

css customization: See section 7.7, [Customizing the css](#).

MATHJAX customization: See section 8.7.5, [Customizing MATHJAX](#).

Localization: (languages) — See section 7.1, [Localization](#).

Accessibility: (alt and title tags) — See section 7.2, [Accessibility](#).

Converting an existing document: See section 6, [Converting an existing document](#).

EPUB conversion: See section 10, [EPUB conversion](#).

Word processor conversion: See section 11, [Word-processor conversion](#).

6 Converting an existing document

To convert an existing document for use with lwarp:

1. Arrange the document in the following order:

- (a) Declare the `\documentclass`.
- (b) Load text fonts.
- (c) Load `inputenc` or `inputenx`, `fontenc`, or `fontspec`.
- (d) Load `lwarp`.
- (e) Load remaining packages.

2. Modify the document:

- (a) If using named HTML files, in section names use paren math `\(x+y\)` instead of dollar math `$x+y$`. (Dollar math works, but appears in the filename.) Or, use a short name for the TOC entry without the math, or use `\texorpdfstring` from the `hyperref` package:

```
\section{Some math \texorpdfstring{$1+2=3$}{three}}
```

- (b) Avoid using the `\includegraphics` `scale` option. Change:

```
\includegraphics[scale=<xx>]{ . . . }
```

to:

```
\includegraphics[width=<yy>\linewidth]{ . . . }
```

- (c) Possible changes to `tabular` environments include: `* columns`, `multirow`, `longtable`, `supertabular`, `xtable`, `bigdelim`. See section 8.10.1.

- (d) If using braces in package options, such as with `caption`, see section 8.1.

- (e) Possible option clashes with `memoir`. See section 8.13.

- (f) If using indexes, see section 8.6.15.

- (g) If using many indexes, glossaries, `.aux` files, etc., see section 8.6.15 regarding `morewrites`. If `morewrites` is already used, be sure to add the setup with `allocate=10`.

- (h) Other changes as per [Special cases and limitations](#), section 8.

3. Convert any PDF images to SVG. See section 8.8.

4. Manually compile the print version with `latex`, `pdflatex`, `lualatex`, or `xelatex`.

5. `lwarpmk print` to finish the print version.

6. `lwarpmk html` to create the HTML version.

7. `lwarpmk limages` to create the SVG images of any SVG math, `lateximage`, `Tikz`, etc.

[Need help?](#)

See the [General Index](#) for “how-to”, and the [Troubleshooting Index](#) if something doesn’t work. A [Troubleshooting](#) section is also available. The [Index of Objects](#) contains automated entries for each package, macro, environment, counter, boolean, and other objects; individually and also sorted by category.

 [math in section names](#)

 [scale](#)

 [tabular](#)

 [package options](#)

 [indexes](#)

Table 5: Localization settings

Object names: L^AT_EX provides redefinable names for various objects, and lwarp adds a few more. Use `\renewcommand` to change these.

`\abstractname`: This macro is honored by lwarp.

`\linkhomename`: Displayed by the link to the homepage.

`\linkpreviousname`: Displayed by the link to the previous page

`\linknextname`: Displayed by the link to the next page.

`\sitetocname`: Displayed at the head of the sideroc.

HTML settings: See table 8 and section 7.6 for details.

`\HTMLLanguage`: The language to declare for each web page.

`\ImageAltText`, `\MathImageAltText`, `\PackageDiagramAltText`, `\AltTextOpen`, `\AltTextClose`: The defaults used for HTML alt text for images. See section 7.2.

`\CSSFilename`: The name of the css file to use.

`\MathJaxFilename`: The name of the MATHJAX script to use.

Package options:

`ImagesName` and `ImagesDirectory`: These options control the filenames used by lwarp when it automatically generates images. See table 7 and section 7.5.

`xindyStyle`, `xindyLanguage`, `xindyCodepage`: When using *xindy*, these options may be set according to local use. See section 8.6.21.

`pdftotextEnc`: To adjust the encoding of *pdftotext*.

7 Additional details

7.1 Localization

Regional localization is supported by lwarp via the package options and macros shown in table 5.

7.2 Accessibility

lwarp provides several methods for improving access to the document using tools such as text-only browsers, copy/paste, text-to-speech readers, or Braille readers. HTML provides the `alt` text attribute for images, which is used by lwarp as describe below. HTML also provides the `title` attribute, which usually generates a pop-up text. lwarp can add this to a reference or hyperlink. MATHJAX also has provisions for improved accessibility as well. See table 6.

Table 6: Accessibility settings

\ImageAltText: The default HTML alt text for `\includegraphics` and `lateximages`. Set with `\renewcommand`.

\includegraphics alt key: For `\includegraphics`, `lwarp` adds the alt key/value. For example:

```
\includegraphics[alt={Some text.}]{filename}
```

svg math: For simple svg math, `lwarp` places the L^AT_EX math expression in the alt text, so that the L^AT_EX expression may be copied and pasted to another document as plain text.

\MathImageAltText: For complicated svg math, such as enclosed in `\InlineMathOther/\InlineMathNormal`, or `\DisplayMathOther/\DisplayMathNormal`, the HTML alt text will be set to `\MathImageAltText`. Set with `\renewcommand`.

MATHJAX: For MATHJAX, the accessibility tools provided by MATHJAX are enabled by default by `lwarp`'s MATHJAX scripts.

\PackageDiagramAltText: Various packages create diagrams which `lwarp` converts into svg images. These are given alt text set to `\PackageDiagramAltText`. Set with `\renewcommand`.

\ThisAltText: The HTML alt text of the next image may be set with:

```
\ThisAltText{Custom text about the image.}
<SVG math, Tikz, picture, etc.>
```

The next single image will be generated with the given text, and the following images will revert to back to their defaults.

`\ThisAltText` may also be used to assign an HTML title to the next reference or hyperlink.

```
\ThisAltText{Custom text about the link.}
Text ... \ref{label_name} ... text.
```


See section 7.6.

\AltTextOpen and \AltTextClose: By default, HTML alt text is enclosed by parentheses. This may be changed by redefining `\AltTextOpen` and `\AltTextClose`. Set with `\renewcommand`.

7.3 Shell escape

Opt `--shell-escape` Some documents require the use of an external program, which is allowed when using the `--shell-escape` command-line option. When the document is first compiled manually, and also whenever the print version is recompiled, `lwarp` detects and remembers whether shell escape is enabled. If so, it will also be enabled when the document is recompiled with `lwarpmk`.

7.4 Font and UTF-8 support

 **type 3 bitmapped fonts** `lwarp` uses `pdftotext` to convert PDF output into UTF-8-encoded text. This process requires that UTF-8 information be embedded in the PDF file, which may prevent the use of older “type 3” bit-mapped fonts, and of older packages such as `ae`. The `lwarp` option `pdftotextEnc` may be useful in some situations. See section 7.5.

vector fonts While using DVI `latex` or PDF `pdflatex`, if no font-related package is specified then the default COMPUTER MODERN font is used, which may be a “type 3” bit-mapped font which may not convert well to plain text. A “type 1” vector font is required.

 `pdflatex`

 `DVI latex`

Pkg `cm-super`

To use the updated `cm-super`'s type 1 fonts instead of Computer Modern, install the `cm-super` font package.

Pkg `lmodern` To use Latin Modern instead, add


```
usepackage{lmodern}
```

to the preamble.


Pkg `dejavu` Another useful option is the Deja Vu series of fonts, which have an increased coverage of language and glyphs:

```
\usepackage{dejavu}
```

latex, pdflatex, T1, UTF8 While using DVI `latex` or PDF `pdflatex`, `lwarp` automatically loads `fontenc` with T1 encoding. `fontenc` may be loaded with an additional encoding after `lwarp`. `inputenc` is automatically loaded with UTF8 encoding if it has not yet been loaded, but may also be specified with another encoding such as `latin1`. See the next section regarding index encoding.

 **xelatex, luatex, fontspec** X_ƎLaTeX and LuaLaTeX users must use the `fontspec` package. Do NOT use `fontenc`!

Place `fontspec` or `fontenc`, `xunicode`, and other font and UTF-8 related commands after the `\documentclass` command and before `\usepackage{lwarp}`.

 **package conflicts** In some cases, a package conflict may require that a font package be loaded after `lwarp`, which should work as well:

1. `documentclass{article/book/report}` comes first, followed by any of:

2. Font and UTF-8 related commands:

- For X_ƎLaTeX or LuaLaTeX:

Pkg fontspec

ligatures

– fontspec and font choices

lwarp sets the following to turn off T_EX ligatures during the generation of HTML tags, and turn off common ligatures in regular text, since older browsers may not display them correctly and newer browsers can automatically re-create them.

```
\defaultfontfeatures[\rmfamily]{Ligatures={NoCommon,TeX}}
\defaultfontfeatures[\sffamily]{Ligatures={NoCommon,TeX}}
\defaultfontfeatures[\ttfamily]{Ligatures=NoCommon}
```

• For *pdflatex*:

Pkg lmodern

Pkg fontenc

Pkg inputenc

Pkg inputenx

Pkg newunicodechar

File glyphtounicode.tex

(a) `\usepackage{lmodern}`, or other font-related packages(b) `\usepackage[T1]{fontenc}`(c) `\usepackage[utf8]{inputenc}`, or `latin1`, etc. Or use `inputenx`.(d) `\usepackage{newunicodechar}` along with related definitions.

(e) To assist with the PDF-HTML conversion:

i. `\input glyphtounicode.tex`ii. `\input glyphtounicode-cmr.tex`% from the pdfx packageiii. `\pdfgentounicode=1`(f) Another option to assist with the PDF-HTML conversion, such as the `dotless j` (`\j`):– `\usepackage{cmap}` — *or* —– `\usepackage{mmap}` — *or* —– `\usepackage[noTeX]{mmap}`(g) `\usepackage{textcomp}`

⚠ dotless j

Pkg cmap

Pkg mmap

Pkg textcomp

3. `\usepackage{newtxmath}` or other math-related font packages. Many of these load `amsmath`, which may now be loaded before `lwarp`.

4. `\usepackage{lwarp}` (section 7.5) is placed after any of the above, followed by:

⚠ fontspec with monospaced fonts

5. `\setmonofont{TeX Gyre Cursor}` or similar may be required if using X_EL^AT_EX or Lua^AT_EX and `fontspec` along with traditional font packages such as `txfonts`, `newtxtext`, etc. This is required to turn off the monospaced font’s ligatures with `fontspec` after loading the traditional font packages. Monospaced output ligatures must be turned off to produce the correct HTML characters.

Any monospace font with built-in ligatures may require these ligatures to be disabled for HTML. In one example, JETBRAIN MONO, it is required to use

```
\setmonofont{JetBrains Mono}[%
...
Contextuals=AlternateOff,
]
```

After `lwarp` is loaded, the ligature may be re-enabled for print mode by using `\setmonofont` again inside a `warpprint` environment.

6. ... the rest of the preamble and the main document.

⚠ JETBRAIN MONO

⚠ HTML corrupted

⚠ UTF-8 locale In some cases, an external program may require a UTF-8 “locale”. See section 9.8.

7.4.1 Indexes, glossaries, and encoding

lwarp supports *makeindex*, *xindy*, *xindex*, and glossaries, gloss, and nomencl.

See section [8.6.14](#) for indexing, and section [8.6.12](#) for the glossaries package.

7.5 lwarp package loading and options

lwarp supports book, report, and article classes, as well as the equivalent Koma-script classes and memoir, and various CJK-related classes and packages.

Load the lwarp package immediately after the font and UTF-8 setup commands.

Package options may be set while loading lwarp, or later with

```
\lwarpsetup{<key=value, . . . >}
```

Pkg lwarp lwarp package options are as follows:

Opt mathsvg **mathsvg** and **mathjax**: Selects SVG images or MATHJAX for math display. See section 8.7.

Opt mathjax

Default: mathsvg

Opt latexmk **latexmk**: Tells *lwarpmk* to use *latexmk* to recompile the document several times if necessary. Otherwise, *lwarpmk* attempts to determine for itself whether to recompile. See section 7.6.

Default: false

Opt dvips **dvips**: Tells *lwarpmk* to use *dvips* and *ps2pdf* to convert DVI output to PDF.

Default: false

Opt dvipdfm **dvipdfm**: Tells *lwarpmk* to use *dvipdfm* to convert DVI output to PDF.

Default: false

Opt dvipdfmx **dvipdfmx**: Tells *lwarpmk* to use *dvipdfmx* to convert DVI output to PDF.

Default: false

Opt HomeHTMLFilename **HomeHTMLFilename**:

Default: \BaseJobname

Filename of the homepage, without the “.html” suffix. Defaults to the \BaseJobname. A common setting is:

```
HomeHTMLFilename=index
```

causing the homepage to be the file index.html. Underscores are allowed in HomeHTMLFilename and HTMLFilename options, but may need to be escaped elsewhere, such as when appearing in a list:

filename underscores

```
\item [\href{file\_name.pdf}{text}] \
```

See section 7.6.1 for examples of naming and numbering HTML files.

Opt HTMLFilename **HTMLFilename**: A filename prefix for the rest of the HTML web pages. Useful for numbered web pages with a common prefix. May be empty. See section 7.6.1 for examples of naming and numbering HTML files.

Default: <empty>

Opt ImagesName **ImagesName**: The prefix for the images automatically generated by lwarp for objects such as svg math and lateximages.

Default: image-

Opt ImagesDirectory **ImagesDirectory**: The directory for the images automatically generated by lwarp for

Default: \jobname-images

Table 7: Lwarp package options

Option	Description
mathsvg	Show math using SVG images.
mathjax	Show math using MATHJAX.
latexmk	Use <i>latexmk</i> for compiling documents.
dvips	Use <i>dvips</i> and <i>ps2pdf</i> to convert DVI documents.
dvipdfm	Use <i>dvipdfm</i> to convert DVI documents.
dvipdfmx	Use <i>dvipdfmx</i> to convert DVI documents.
HomeHTMLFilename	The filename of the home page.
HTMLFilename	A prefix for the filenames of the remaining web pages.
ImagesName	A prefix for the filenames of generated images.
ImagesDirectory	The directory used to hold generated images.
PrintLatexCmd	The shell commands for lwarpmk print .
HTMLLatexCmd	The shell commands for lwarpmk html .
For indexing (section 8.6.15) and glossaries (section 8.6.12):	
makeindex	Use <i>makeindex</i> to generate indices.
makeindexStyle	Set a custom style for <i>makeindex</i> .
xindy	Use <i>xindy</i> to generate indices.
xindyStyle	Set a custom style for <i>xindy</i> .
xindyLanguage	The <i>xindy</i> language option used for index generation.
xindyCodepage	The <i>xindy</i> codepage option used for index generation.
xindex	Use <i>xindex</i> to generate indices.
xindexConfig	Set a custom configuration file for <i>xindex</i> .
PrintIndexCmd	Shell commands executed by lwarpmk printindex .
HTMLIndexCmd	Shell commands executed by lwarpmk htmlindex .
LatexmkIndexCmd	Shell commands executed by <i>latexmk</i> .
IndexRef	How to format index links.
GlossaryCmd	Shell command executed by lwarpmk printglossary and lwarpmk htmlglossary .
Seldom necessary:	
OSWindows	Force compatibility with MS-WINDOWS.
pdftotextEnc	Set the encoding for <i>pdftotext</i> .
Lwarpmk	Generate a local copy of <code>lwarpmk.lua</code> .
Used internally by lwarp:	
warpprint	Generate print output, and also generate configuration files.
warpHTML	Generate HTML output.
BaseJobname	The <code>\jobname</code> to use. Set to the <code>\jobname</code> of the printed version even while generating HTML.

objects such as `svg math` and `lateximages`. By default, these images will appear in a directory named `<jobname>-images`, and the images will be named and numbered `image-<nn>`.

- Opt `PrintLatexCmd` **PrintLatexCmd:** Sets the shell commands executed by `lwarpmk print`. If not specified, will automatically be set according to the detected `LATEX` engine and the use of `--shell-escape`.
Default: `<automatic>`
- Opt `HTMLLatexCmd` **HTMLLatexCmd:** Sets the shell commands executed by `lwarpmk html`. If not specified, will automatically be set according to the detected `LATEX` engine and the use of `--shell-escape`.
Default: `<automatic>`
- Opt `makeindex` **makeindex:** Sets `PrintIndexCmd`, `HTMLIndexCmd`, and `LatexmkImageCmd` to use `makeindex` when generating indexes with `lwarpmk printindex`, `lwarpmk htmlindex`, or `latexmk`. If neither `makeindex` nor `xindy` is used, `makeindex` is assumed.
Default: `makeindex`
- Opt `makeindexStyle` **makeindexStyle:** If you wish to use a custom `.ist` file for index generation, see section 8.6.20.
Default: `lwarp.ist`
- Opt `xindy` **xindy:** Sets `PrintIndexCmd`, `HTMLIndexCmd`, and `LatexmkImageCmd` to use `xindy` when generating indexes with `lwarpmk printindex`, `lwarpmk htmlindex`, or `latexmk`.
Default: `makeindex`
- Opt `xindyStyle` **xindyStyle:** If you wish to use a custom `.xdy` file for index generation, see section 8.6.21.
Default: `lwarp.xdy`
- Opt `xindyLanguage` **xindyLanguage:** If using an index or glossary, see section 28.
Default: `english`
- Opt `xindyCodepage` **xindyCodepage:** If using an index, see section 28.
Default: `utf8`
- Opt `xindex` **xindex:** Sets `PrintIndexCmd`, `HTMLIndexCmd`, and `LatexmkImageCmd` to use `xindex` when generating indexes with `lwarpmk printindex`, `lwarpmk htmlindex`, or `latexmk`.
Default: `makeindex`
- Opt `xindexConfig` **xindexConfig:** If you wish to use a custom `xindex-*.lua` file for index generation, see section 8.6.22.
Default: `<empty>`
- Opt `PrintIndexCmd` **PrintIndexCmd:** Sets the shell commands executed by `lwarpmk printindex`. If not specified, will be set by the selection of `makeindex` or `xindy`. May be used to specify the creation of multiple indexes. See section 8.6.15.
Default: `<automatic>`

Examples:

```
makeindex -s lwarp.ist projectname.idx (makeindex)
xindy -M lwarp.xdy -L english -C utf8 projectname.idx (xindy)
```

automatic setting

The use of the `makeindex` or `xindy` options sets `PrintIndexCmd` to sensible values for each of those programs while compiling a single index. `lwarp`'s `makeindexStyle`, `xindyStyle`, `xindyLanguage`, and `xindyCodepage` options will be used if specified.

⚠ **xindy**

If specifying `PrintIndexCmd` manually, be sure to assign an *xindy* language and codepage with the `-L` and `-C xindy` options, as the `lwarp xindyLanguage` and `xindyCodepage` options are not used for the `PrintIndexCmd` option when it is set manually.

This option is stored in the configuration files `lwarpmk.conf` and `*.lwarpmkconf`, and is then passed by the `lwarpmk printindex` command to the operating system to compile the print indexes. Since the command string is parsed by `TEX`, written to a file, read from the file by `LuaTEX`, and finally passed to the operating system, any attempt at quoting will be problematic. For complicated commands, it would be best to create a shell script, and simply refer to the script with the `lwarp PrintIndexCmd` option.

Opt HTMLIndexCmd

Default: <automatic>

HTMLIndexCmd: Sets the shell commands executed by `lwarpmk htmlindex`. If not specified, will be set by the selection of `makeindex` or `xindy`. May be used to specify the creation of multiple indexes. See section 8.6.15.

⚠ **filenames**

Example settings are similar to `PrintIndexCmd`, but append `_html` to the filenames:

```
makeindex -s lwarp.ist projectname_html.idx (makeindex)
xindy -M lwarp.xdy -L english -C utf8 projectname_html.idx (xindy)
```

automatic setting

The use of the `makeindex` or `xindy` options sets `HTMLIndexCmd` to sensible values for each of those programs while compiling a single index. `lwarp`'s `makeindexStyle`, `xindyStyle`, `xindyLanguage`, and `xindyCodepage` options will be used if specified.

⚠ **xindy**

If specifying `HTMLIndexCmd` manually, be sure to assign an *xindy* language and codepage with the `-L` and `-C xindy` options, as the `lwarp xindyLanguage` and `xindyCodepage` options are not used for the `HTMLIndexCmd` option when it is set manually.

As with `PrintIndexCmd`, to generate complicated indexes it may be worthwhile to use a shell script, then refer to that script with `HTMLIndexCmd`.

Opt LatexmkIndexCmd

Default: <automatic>

LatexmkIndexCmd: Sets the shell commands executed by `latexmk`. Unlike `PrintIndexCmd` and `HTMLIndexCmd`, `LatexmkIndexCmd` does not include any filenames, which will be provided instead by `latexmk`. See section 8.6.15.

Example settings are similar to `PrintIndexCmd`, but without a filename:

```
makeindex -s lwarp.ist (makeindex)
xindy -M lwarp.xdy -L english -C utf8 (xindy)
```

automatic setting

The use of the `makeindex` or `xindy` options sets `LatexmkIndexCmd` to either of the two settings show above. `lwarp`'s `makeindexStyle`, `xindyStyle`, `xindyLanguage`, and `xindyCodepage` options will be used if specified. Unlike `PrintIndexCmd` and `HTMLIndexCmd`, *latexmk* uses either of the single-line settings of `LatexmkIndexCmd` shown above to compile each of multiple indexes if necessary.

⚠ xindy

If specifying `LatexmkIndexCmd` manually, be sure to assign an *xindy* language and codepage with the `-L` and `-C xindy` options, as the `lwarp xindyLanguage` and `xindyCodepage` options are not used for the `LatexmkIndexCmd` option when it is set manually.

Opt IndexRef Default: cref

IndexRef: Describes how to display the index entries for HTML output. Possible values are `ref`, `nameref`, `refnameref`, `cref`, `crefnameref`, `autoref`, or a text string such as `(link)` or `(*)` for each index entry reference. (Adding parentheses around a single character makes the link larger and easier to click on.) The default is `cref`, which is available even if the print document does not use `cleveref`, as the `lwarp` package relies on `cleveref` during HTML output. Option `autoref` gives the same results as `cref`.

`\ref` and `\cref` to starred or otherwise unknown links will display as `(*)` instead of `??`.

⚠ ??

If using `cref` (the default), and if a reference appears as `??` with a non-functional link, use `cleveref`'s `\crefname` to give a name to that type of label.

In general, `crefnameref` gives the most information, but the index can become quite verbose. Using `(*)` or similar yields a very compact index.

Opt GlossaryCmd Default: makeglossaries

GlossaryCmd: Sets the shell command executed by `lwarpmk printglossary` and `lwarpmk htmlglossary`. The print or HTML glossary filename is appended to this command. See section 8.6.12.

Opt OSWindows

OSWindows: `lwarp` attempts to automatically sense WINDOWS, but it may be forced with this option. See section 7.9.

Opt pdftotextEnc Default: UTF-8

pdftotextEnc: Used to specify the encoding used by `pdftotext` during the PDF-HTML conversion. In most situations, the default is the correct choice.

Opt lwarpmk

lwarpmk: If you wish to have `lwarp` generate a local copy of `lwarpmk.lua` for archival or local-installation purposes, compile the print version with the `lwarpmk` option set. See section 28.

The following options are used internally by `lwarp`, and usually are not used in the user's document:

Opt warpprint Opt warpHTML

warpprint and **warpHTML:** Usually controlled by `lwarpmk`, and not set in the docu-

ment. Select the `warpprint` option to generate print output (default), or the `warpHTML` option to generate HTML5 output. The default is print output, so the print version may be compiled with the usual *pdflatex*, etc. When `lwarp` is loaded in print mode, it creates `<project>_html.tex`, which sets the `warpHTML` option before calling the user's source code `<project>.tex`. In this way, `<project>.tex` can `\usepackage{lwarp}` without any options to create a printed version, while `<project>_html.tex` will create an HTML version.

Opt BaseJobname **BaseJobname:** Not intended for the user. Used internally by `lwarp` when creating the
Default: `\jobname` `*_html.tex` file used to compile the HTML version. See section 28.

7.6 Customizing the HTML output

⚠ Placement!

Table 8 shows several settings may be used to customize the HTML output. Watch for the correct placement of each!

⚠ Changes!

Note that if changes are made, it is best to first:

1. Clear all the HTML, PDF, and auxiliary files:

Enter ⇒ `lwarpmk clearall`

2. Recompile the print version in order to recreate the configuration files for *lwarpmk*:

Enter ⇒ `lwarpmk print`

3. Finally, recompile the HTML version with the new settings:

Enter ⇒ `lwarpmk html`

Placed in the preamble before `\begin{document}`:

<code>\HTMLFirstPageTop</code> Default: <code><empty></code>	\HTMLFirstPageTop: <code>{\langle contents \rangle}</code> A user-definable custom action applied to the top of the home page. Useful for logos, etc. <code>\LinkNext</code> may be used to link to the next web page. Defaults empty. Ignored in print output.
<code>\HTMLFirstPageBottom</code> Default: <code><empty></code>	\HTMLFirstPageBottom: <code>{\langle contents \rangle}</code> A user-definable custom action applied to the bottom of the home page. Useful for logos, etc. <code>\LinkNext</code> may be used to link to the next web page. Defaults empty. Ignored in print output.
<code>\linkhomename</code> Default: <code>Home</code>	\linkhomename: Name of the link to the home page. Paragraphs are allowed. Redefine with <code>\renewcommand</code> .
<code>\linkpreviousname</code> Default: <code>Previous</code>	\linkpreviousname: Name of the link to the previous page. Paragraphs are allowed. Redefine with <code>\renewcommand</code> .
<code>\linknextname</code> Default: <code>Next</code>	\linknextname: Name of the link to the next page. Paragraphs are allowed. Redefine with <code>\renewcommand</code> .
Ctrl <code>tocdepth</code>	tocdepth: Sectioning depth of the table of contents. See section 16 for a list of L ^A T _E X stack depths.
Ctrl <code>SideTOCDepth</code> Default: <code>1</code> <code>sideroc</code>	SideTOCDepth: Sectioning depth of the sideroc. Defaults to 1, causing the sideroc to show sections but not subsections. Each subpage of the website has its own small table of contents on the side (the “sideroc”). Its depth is set by <code>SideTOCDepth</code> . This sideroc is only shown if the browser display is wide enough. When using a narrow web browser window, “responsive web design” is used to show the sideroc at the top of the page, as well as a link back to Home at the top and bottom.

It is recommended to set:

```
SideTOCDepth = FileDepth
```

Table 8: HTML settings

Macro/Cntr/Bool	Loc*	Description
<code>\linkhomename</code>	P	Name of the link to the homepage.
<code>\linkpreviousname</code>	P	Name of the link to the previous page.
<code>\linknextname</code>	P	Name of the link to the next page.
<code>SideTOCDepth</code>	P	Sectioning depth of the sideroc.
<code>\sidetocname</code>	P	Name of the sideroc.
<code>FileDepth</code>	P	Sectioning depth of the file splits.
<code>CombineHigherDepths</code>	P	Combine higher section levels.
<code>FileSectionNames</code>	P	Use section names for file names, else use numbers.
<code>\FilenameLimit</code>	P	Maximum length of the generated filenames.
<code>FootnoteDepth</code>	P	Sectioning depth of footnotes.
<code>\abstractname</code>	P	The name of the abstract.
<code>\ImageAltText</code>	PD	<code>\includegraphics</code> and other images' alt tag.
<code>\ThisAltText {{text}}</code>	PD	Assigns an alt/title tag for the next image or link.
<code>\MathImageAltText</code>	PD	The SVG math image <code>lateximage</code> alt tag.
<code>\PackageDiagramAltText</code>	PD	The suffix for a package's <code>lateximage</code> alt tags.
<code>\AltTextOpen</code>	PD	Start an HTML alt tag.
<code>\AltTextClose</code>	PD	End an HTML alt tag.
<code>\CSSFilename</code>	PS	The CSS for the following files.
<code>\MathJaxFilename</code>	PS	The MathJax script for the following files.
<code>\HTMLLanguage</code>	PS	The HTML lang tag.
<code>\HTMLTitle</code>	PS	The homepage's <title>, overriding <code>\title</code> .
<code>\HTMLTitleBeforeSection</code>	PS	Set subpage <title>s to <code>\HTMLTitle - sectionname</code>
<code>\HTMLTitleAfterSection</code>	PS	Set subpage <title>s to <code>sectionname - \HTMLTitle</code>
<code>\HTMLAuthor</code>	PS	The HTML author meta tag, overriding <code>\author</code> .
<code>\HTMLDescription</code>	PS	The HTML description meta tag.
<code>\HTMLFirstPageTop</code>	P	Heading for the home page.
<code>\HTMLFirstPageBottom</code>	P	Footer for the home page.
<code>\HTMLPageTop</code>	PS	Heading for the other pages.
<code>\HTMLPageBottom</code>	PS	Footer for the other pages.
<code>\IndexPageSeparator</code>	P	Index page list separator.
<code>\IndexRangeSeparator</code>	P	Index page range separator.
<code>FixSmallCaps</code>	P	Set true if small caps rendered as all caps.
<code>HTMLDebugComments</code>	P	Boolean to generate HTML comments.

* **P**: Preamble, **D**: Anywhere in the document. **S**: Before a section.

or

$$\text{SideTOCDepth} = \text{FileDepth} + 1$$

If $\text{SideTOCDepth} < \text{FileDepth}$, web pages will be inaccessible via the sideroc.

 **inaccessible pages**

`\sidedtocname`
Default: Contents

\sidedtocname: Name of the sideroc. Paragraphs are allowed. Redefine with `\renewcommand`.

Ctrl `FileDepth`
Default: -5

FileDepth: Sectioning depth of file splits. Defaults to -5, causing the entire HTML website to be one single file.

- To place the entire file into one HTML page, use:
`\setcounter{FileDepth}{-5}`
- To split the HTML file at `\section` depth, use:
`\setcounter{FileDepth}{1}`
- To ensure that the HTML pages/files are accessible:
Place a `\tableofcontents` somewhere before the first section break (therefore in the “home page”), and set
`tocdepth >= FileDepth`



Bool `CombineHigherDepths`
Default: true

CombineHigherDepths: Combine a higher section with its first lower subsections, down to the `FileDepth`. Defaults to true. Set to false to simulate the concept of a chapter opening on its own page, for example.

The file splits are controlled by the counter `FileDepth` and the boolean `CombineHigherDepths`. Setting `FileDepth` to 0 splits the file at chapters, 1 at sections, etc. `CombineHigherDepths` controls whether to combine pages at levels higher than the chosen `FileDepth`, such as in this tutorial where the page which opens the chapter also contains the first section. Be careful to set `tocdepth` and `SideTOCDepth` to allow access to each page of the website. Set `tocdepth` and `SideTOCDepth` to be greater than or equal to `FileDepth`.

 **Inaccessible pages!**

 **Lost in an old page!**

When making changes to the file structure, it is possible to end up with the web browser pointing to an old file which is no longer in use. When this occurs, changes to the web site will not appear in the browser, even if reloading the page, because that page is no longer in use. It is best to return to the home page, clean the files (`lwarpmk cleanall`), change `FileDepth` and/or `CombineHigherDepths`, then finally recompile and navigate to the desired page using the new file structure.

Bool `FileSectionNames`
Default: true

FileSectionNames: If true, web page filenames are derived from a sanitized version of the section names. If false, web pages are numbered. Either way, the `HTMLFilename` option is used as a prefix. See section 7.6.1 for examples of naming and numbering HTML files. The user must ensure that filenames are unique after being sanitized. For example, `math` in the section name is removed before creating the filename, so the rest of the filename must be sufficiently unique to avoid name collisions.

 **Unique filename!**

`\FilenameLimit`
Default: 80

\FilenameLimit: The maximum length of the filenames generated by `lwarp`. “.html” is added to this length. Redefine with `\renewcommand`.

Ctrl `FootnoteDepth`
Default: 3

FootnoteDepth: Determines where to place pending footnotes. 3 places foot-

notes before each break down to the `\subsubsection` level. 1 places footnotes before each `\section` break. Any pending footnotes are also placed at the bottom of each page before each file break.

Bool	<code>FixSmallCaps</code> Default: <code>false</code>	FixSmallCaps: Set true if SMALL CAPS are rendering in all caps (“SMALL CAPS”). May be required for some fonts (erewhon, utopia, fbb, et al.), and packages such as embrac.
Bool	<code>HTMLDebugComments</code> Default: <code>false</code>	HTMLDebugComments: Set true to generate HTML comments, such as which section or <code><div></code> is being opened or closed.
	<code>\abstractname</code> Default: <code>Abstract</code>	\abstractname: The name of the abstract. This may also be over-written by the babel package. Defaults to “Abstract”. Redefine with <code>\renewcommand</code> .
	<code>\IndexPageSeparator</code> Default: <code>“ , ”</code>	\IndexPageSeparator: Index page list separator. Adjust to match index style file. If using <code>gindex</code> , this is set automatically to <code>gindex’s \indexpagesep</code> .
	<code>\IndexRangeSeparator</code> Default: <code>“--”</code>	\IndexRangeSeparator: Index page range separator. Adjust to match index style file. If using <code>gindex</code> , this is set automatically to <code>gindex’s \indexrangesep</code> .

Placed before `\begin{document}`, or before any sectioning command which causes a file break:

`\CSSFilename`
Default: `lwarp.css`

\CSSFilename: `{\filename.css}` Sets the css file to use for the following files. May be changed before each each sectioning command which would cause a file split.

The css styles of the web pages are set by the `\CSSFilename` command. If `\CSSFilename` is not used, a default plain style is used to mimic printed L^AT_EX output. `lwarp_sagebrush.css` is a semi-fancy colored style as shown in this tutorial. Change it to `lwarp_formal.css` for a more formal look, or comment out the `\CSSFilename` command to see the default. `\CSSFilename` may be used before each file break to set the css for individual pages of the website.

`\MathJaxFilename`
Default: `lwarp_mathjax.txt`

\MathJaxFilename: `{\filename}` Sets the MathJax script file to use for the following files. May be changed before each each sectioning command which would cause a file split.

The MathJax script file is copied into the head of each HTML file. This may be used to point to a local repository, add extensions, or change the script somewhere in the middle of the document. `\MathJaxFilename` may be used before each file break to set the script file for individual pages of the website.

`\HTMLLanguage`
Default: `en-US`

\HTMLLanguage: `{\langauge}` The HTML file’s HTML lang meta tag. Defaults to en-US.

`\HTMLTitle`
Default: `\thetitle`

\HTMLTitle: `{\title}` Overrides `\title` for the HTML header’s meta title. Defaults to `\thetitle`, which is set by `\title`, or empty otherwise. Unlike the author, `\thetitle` is set by `\title` even if not using the titling package.

`\HTMLTitleBeforeSection`
Default: `\HTMLTitleBeforeSection`

\HTMLTitleBeforeSection: Sets subpage `<title>` tags to show the website title followed by the section name.

<code>\HTMLTitleAfterSection</code>	\HTMLTitleAfterSection: Sets subpage <code><title></code> tags to show the section name followed by the website title.
<code>custom <title></code>	To customize subpage <code><title></code> s, redefine <code>\theHTMLTitleSection</code> , which defaults to: <pre> \def\theHTMLTitleSection{% \theHTMLTitle\theHTMLTitleSeparator\theHTMLSection% } </pre>
<code>\HTMLAuthor</code> Default: <code>\theauthor</code>	\HTMLAuthor: <code>{\langle author \rangle}</code> The HTML header's meta author. Defaults to <code>\theauthor</code> , which is set by <code>\author</code> if using the <code>titling</code> package, but is empty otherwise. There are several ways to represent the author and affiliations, especially if using the <code>authblk</code> package, most of which do not result in a sensible <code>\theauthor</code> , so <code>\HTMLAuthor</code> is useful to create a list of authors without their affiliations.
<code>\HTMLDescription</code> Default: <code><empty></code>	\HTMLDescription: <code>{\langle description \rangle}</code> Sets the HTML description tag for the following files. May be changed before each each sectioning command which would cause a file split.
<code>\HTMLPageTop</code> Default: <code><empty></code>	\HTMLPageTop: <code>{\langle contents \rangle}</code> A user-definable custom action applied to the top of pages other than the home page. Useful for logos, etc. Defaults empty. <code>\LinkHome</code> may be used to place a link back to the homepage, as well as <code>\LinkPrevious</code> and <code>\LinkNext</code> . Ignored in print output.
<code>\HTMLPageBottom</code> Default: <code><empty></code>	\HTMLPageBottom: <code>{\langle contents \rangle}</code> A user-definable custom action applied to the bottom of pages other than the home page. Useful for authors, copyright notices, contact information, etc. Defaults empty. <code>\LinkHome</code> may be used to place a link back to the homepage, as well as <code>\LinkPrevious</code> and <code>\LinkNext</code> . Ignored in print output.
<code>\LinkHome</code>	\LinkHome: Creates a link to the home page. Usually used in <code>\HTMLPageTop</code> and related.
<code>\LinkPrevious</code>	\LinkPrevious: Creates a link to the previous HTML page, unless already at the home page. Usually used in <code>\HTMLPageTop</code> and related.
<code>\LinkNext</code>	\LinkNext: Creates a link to the next HTML page, unless already at the end. Usually used in <code>\HTMLPageTop</code> and related.

Placed in the home page before the first sectioning command which causes a file break:

<code>\tableofcontents</code> △ TOC on the homepage!	\tableofcontents: Used to place a table of contents on the home page. This command must be used before the first file split, so that a way is available to navigate to other files from the homepage. Links to each chapter/section are provided, as selected by <code>tocdepth</code> .
---	--

Placed in the document wherever necessary:

<code>\ImageAltText</code> Default: <code>image</code>	\ImageAltText: Redefine with <code>\renewcommand</code> . <code>\includegraphics</code> and other images are assigned an HTML alt tag according to <code>\ImageAltText</code> along
---	--

with `\AltTextOpen` and `\AltTextClose`. This text is visible in the browser if images are not loaded, and appears when the text is copied and pasted. The default is “image”, and it may be changed according to the document’s language. This may be set in the preamble, or changed as necessary inside the document, where it will affect the following `\includegraphics` and other images.

`\ThisAltText` **\ThisAltText:** `{\langle text \rangle}` `\ThisAltText` can be used to assign an HTML alt text attribute to the next image generated by a `lateximage`, `picture`, `tikzpicture`, or any other similar environment which generates an image, or the next SVG math expression. This tag is cleared after use. The tag is also cleared after each MATHJAX expression, in case the user changes between SVG math and MATHJAX.

`\ThisAltText` also may be used to add an HTML title to a reference or hyperlink, such as a `\ref`, `\cref`, `\href`, `\url`, `\hyperref`, or `\hyperlink`. In each case, the alternative text is cleared after use.

`\MathImageAltText`
Default: math image **\MathImageAltText:** Redefine with `\renewcommand`. When creating an SVG math image, its HTML alt tag may be set to the math expression, which may be hashed for image reuse. In the case of `\ensuremath` or after `\inlinemathother`, where the contents require a unique image for each instance of the same expression, the alt tag is set to `\MathImageAltText`, along with `\AltTextOpen` and `\AltTextClose`, and the image is not reused.

This alt expression is visible in the browser if images are not loaded, and appears when the text is copied and pasted. The default is “math image”, and it may be changed according to the document’s language. This may be set in the preamble, or changed as necessary inside the document, where it will affect the following SVG math images.

`\PackageDiagramAltText`
Default: diagram **\PackageDiagramAltText:** Redefine with `\renewcommand`. For many packages, the output is placed inside a `lateximage` with an HTML alt tag set to the package name followed by `\PackageDiagramAltText`. For example:



(-xy- diagram)

This expression is visible in the browser if images are not loaded, and appears when the text is copied and pasted. The default is “diagram”, and may it be changed according to the document’s language. This may be set in the preamble, or changed as necessary inside the document, where it will affect the following package diagrams.

`\AltTextOpen` **\AltTextOpen:** Redefine with `\renewcommand`.

Default: (**\AltTextClose:** Redefine with `\renewcommand`. HTML alt text is enclosed by the macros `\AltTextOpen` and `\AltTextClose`, which default to an opening and closing parenthesis.
Default:)

Env warpprint **warpprint:** An environment which is only used while generating print output. Place inside anything which does not apply to HTML and which may cause problems with `lwarp`. If `lwarp` knows about and emulates or supports a package then its related macros, lengths, counters, etc. probably won’t have to be placed inside a `warpprint` environment, but unknown packages may cause problems which may be isolated from `lwarp` using this environment.

		<i>Do not place anything else on the same line as \end{warpprint}. Also do not nest warpprint inside itself.</i>
Env	warpHTML	warpHTML: An environment which is only included while generating HTML output. This is useful for website logos and other items which have no purpose in printed output.
		<i>Do not place anything else on the same line as \end{warpHTML}. Also do not nest warpHTML inside itself.</i>
\warpprintonly		\warpprintonly: $\{\langle contents \rangle\}$ A macro version of the warpprint environment.
\warpHTMLonly		\warpHTMLonly: $\{\langle contents \rangle\}$ A macro version of the warpHTML environment.

7.6.1 Example HTML file naming

Examples of ways to name or number HTML files:

Numbered HTML nodes:

Example: Homepage index.html, and node-1, node-2.¹³

```
\usepackage[
  HomeHTMLFilename=index,
  HTMLFilename={node-}
]{lwarp}
\boolfalse{FileSectionNames}
```

Named HTML sections, no prefix:

Example: index.html, and About.html, Products.html

```
\usepackage[
  HomeHTMLFilename=index,
  HTMLFilename={}
]{lwarp}
\booltrue{FileSectionNames}
```

Named HTML sections, with prefix:

Example: Homepage mywebsite.html, and additional pages such as mywebsite-About.html, mywebsite-Products, etc.

```
\usepackage[
  HomeHTMLFilename=mywebsite,
  HTMLFilename={mywebsite-}
]{lwarp}
\booltrue{FileSectionNames}
```

¹³See `\SetHTMLFileNumber` to number in groups by chapter, for example.

7.7 Customizing the css

`\CSSFilename` $\{ \langle filename \rangle \}$
 Default: `lwarp.css`

`\CSSFilename` may be used to choose which `.css` file is used to display each page of the web site. Use `\CSSFilename` before `\begin{document}` to assign the style of the home page. If different parts of the website should have different styles, call `\CSSFilename` again before each section heading which creates a new file. This may be changed numerous times throughout the file, resulting in different HTML pages having different css files assigned:

```
...
\CSSFilename{myCSS.css}
\chapter{Another Chapter}
...
```

The styles provided by `lwarp` include:


lwarp.css: A default style if `\CSSFilename` is not used. This style is comparable to a plain L^AT_EX document. To set this style, you may use `\CSSFilename{lwarp.css}`, or no `\CSSFilename` call at all.

lwarp_formal.css: A formal style with a serif fonts and a traditional look.

lwarp_sagebrush.css: A style with muted colors, gradient backgrounds, additional borders, and rounded corners.

To see each style in use, change the `\CSSFilename` entry in the tutorial, `lwarpmk.html` again, and then reload the tutorial webpage.

Custom css A customized style may also be created. For each new project a file called `sample_project.css` is generated. This may be renamed to `<project>.css` then used by assigning `\CSSFilename{<project>.css}`.

 **Rename it!** Note that `sample_project.css` is overwritten whenever `lwarp` is loaded in print mode. It is therefore important to rename the file to something like `<project>.css` before using it, so that your own changes are not overwritten.

`<project>.css` has an entry which loads `lwarp.css`, and this entry may be changed to load `lwarp_formal.css` or `lwarp_sagebrush.css` if desired. Additional changes to the css may be made by making entries later in the `<project>.css` file.

File `lwarp.css`
 File `project.css`
 File `sample_project.css`

It is best to make a local project-specific css file such as `project.css`, containing only things which are different from `lwarp.css`. The file `project.css` should refer to `lwarp.css` as follows:

```
/* ( --- Start of project.css --- ) */
/* ( --- A sample project-specific CSS file for lwarp --- ) */

/* Uncomment one of the following: */
@import url("lwarp.css") ;
```

```

/* @import url("lwarp_formal.css") ; */
/* @import url("lwarp_sagebrush.css") ; */

/* Project-specific CSS setting follow here. */
/* . . . */

/* ( --- End of project.css --- ) */

```

Finally use `\CSSFilename{<project>.css}` in the document to activate the custom CSS.

7.8 Assigning css classes and styles

HTML CSS classes and styles may be assigned to fragments of the document.

Env BlockClass [*<style>*] {*<class>*}

An entire block of text, including paragraphs, may be assigned a CSS class and optional CSS style using the BlockClass environment. The result is placed inside a `<div>`. A BlockClass may nest other BlockClasses or \InlineClasses.

\InlineClass ((*wp CSS style*) [*web CSS style*]) {*<css class>*} {*<text>*}

A section of text without paragraphs may be assigned a CSS class and optional CSS style using the \InlineClass macro. The result is placed inside a ``. \InlineClass may be nested, but per the HTML standard it must not contain BlockClass, nor may it contain a paragraph, nor several other objects such as HTML figures. \InlineClass also accepts a second optional parameter, enclosed inside parentheses, which assigns the style while generating output for a word processor, while ignoring the web style.

Nullified versions of BlockClass and \InlineClass are provided for the print version, so they may be used in the document without placing them inside `warpHTML` or `\warpHTMLonly`.

7.9 Selecting the operating system

Prog Unix	lwarp tries to detect which operating system is being used. UNIX / MAC OS / LINUX is the default (collectively referred to as "UNIX" in the configuration files), and MS-WINDOWS is supported as well.
Prog Mac OS	
Prog Linux	
Prog MS-Windows	If MS-WINDOWS is not correctly detected, use the lwarp option OSWindows.
Prog Windows	When detected or specified, the operating-system path separator used by lwarp is modified, and the boolean usingOSWindows is set true. This boolean may be tested by the user for later use.
Opt OSWindows	

7.10 Selecting actions for print, HTML, or MATHJAX output


The following environments and macros are used to select actions which only apply to either traditional L^AT_EX print-formatted PDF generation, or to HTML generation, or to HTML with MATHJAX.


For most of built-in L^AT_EX and many additional packages there is user-level source code support or emulation, so no special handling will be required. For those cases which lwarp does not handle by itself, the following environments and macros may be used to isolate sections of code for print-only or HTML-only.

These environments are also useful for creating a special version of the titlepage for print and another for HTML.

Env `warpHTML` Anything which is to be done only for HTML5 output is surrounded by a `warpHTML` environment:


```
\begin{warpHTML}
... something to be done only during \HTML\ generation
\end{warpHTML}
```


 `\end{warpHTML}` Do *not* place anything else on the same line as `\end{warpHTML}`. The exact phrase is used to mark the end of the environment. Do not nest `warpHTML` inside itself.

 **nesting** `warpMathJax` may be used inside `warpHTML`.

Env `warpprint` Anything which is to be done only for print output is surrounded by a `warpprint` environment:


```
\begin{warpprint}
... something to be done only during traditional \PDF\ generation
\end{warpprint}
```


 `\end{warpprint}` As above, do not place anything else on the line with `\end{warpprint}`. Do not nest `warpprint` inside itself.

 **nesting**

Env `warpall` Anything which is to be done for any output may be surrounded by a `warpall` environment. Doing so is optional.

```
\begin{warpall}
... something to be done during print \PDF\ or \HTML\ output
\end{warpall}
```

 `\end{warpall}` As above, do not place anything else on the line with `\end{warpall}`. Do not nest `warpall` inside itself.

 **nesting**

Macros are also provided for print-only or HTML-only code:

`\warpprintonly` $\{\langle actions \rangle\}$

Performs the given actions only when print output is being generated.

`\warpHTMLonly` $\{\langle actions \rangle\}$

Performs the given actions only when HTML output is being generated.

Env `warpMathJax` Anything which is to be done only while using HTML output with MATHJAX is surrounded by a `warpMathJax` environment. Usually, this is `\CustomizeMathJax`, used to add emulation macros. `\end{warpMathJax}` must appear on its own line. Do not nest `warpMathJax` inside itself. `warpMathJax` may be used inside `warpHTML`.

⚠ `\end{warpMathJax}`
 ⚠ nesting

7.11 Commands to be placed into the warpprint environment

Certain print-related commands should always be placed inside a `warpprint` environment, or may need other special handling. These are unrelated to HTML output, but are hard to isolate automatically. For example:

- Paragraph formatting: `\parindent` `\parskip`
- Manual page positions such as the `textpos` package, which is emulated but only in a limited way.
- Anything changing the page counter. `lwarp` requires that the page counter not be adjusted during HTML output.

Some packages require additional setup commands. Where these packages are emulated for HTML, setup commands may work for the emulated HTML output as well as for print output. See the details for each package in this document for more information.

Also see section 13: [Troubleshooting](#).

7.12 Title page

In the preamble, place an additional block of code to set the following:

```
\title{Document Title} % One line only
\author{Author One\affiliation{Affiliation One} \and
  Author Two\affiliation{Affiliation Two} }
\date{Optional date}
```

The title is used in the meta tags in the HTML files, unless overridden by `\HTMLTitle`, and the rest are used in `\maketitle`. To use a `\subtitle` or `\published` field, see section 67.8.

`\maketitle` Use `\maketitle` just after the `\begin{document}`, as this will establish the title of the homepage. Optionally, use a `titlepage` environment instead.

- Env `titlepage` The `titlepage` environment may be used to hold a custom title page. The `titlepage` will be set in a `<div>` class `titlepage`, and `\printtitle`, etc. may be used inside this environment.
- Env `titlingpage` Another form of custom title page, where `\maketitle` is allowed, and additional information may be included as well.
- `\title` `{\langle title \rangle}`
- △ **HTML corrupted** Avoid newlines in the `\title`; these will interfere with the file break and css detection.
 △ **newlines** Use a `\subtitle` command instead (section 67.8). The title will appear in the document `\maketitle` as a heading `<h1>`. The HTML meta title tag will also have this title, unless `\HTMLtitle` is used to set the meta title to something else instead.
- `\author` `{\langle author \rangle}`
- In `\author`, `\protect` may be needed before some formatting commands. In HTML, the author will appear in a `<div>` of class `author` in the `\maketitle`. If the `titling` package is used, the author will also appear in a HTML meta tag, but `\HTMLauthor` may be necessary to create a plain list of names if `\author` had affiliations added. `\affiliation` is a new addition to `lwarp`.
- `\date` `{\langle date \rangle}`
- `\date` works as expected. In HTML, this will appear in a `<div>` class `titledate`.
- `\thanks` `{\langle text \rangle}`
- `\thanks` are allowed in the `titlepage` fields, and will be rendered as HTML notes at the bottom of the title page.

7.13 HTML page meta descriptions

- `\HTMLDescription` `{\langle A description of the web page. \rangle}`
 Default: (none)
- limitations** Each page of HTML output should have its own HTML meta description, which usually shows up in web search results, is limited to around 150 characters in length, and should not include the ASCII double quote character (`"`).
- placement** Use `\HTMLDescription` just before `\begin{document}` to set the description of the home page, and also just before each sectioning command such as `\chapter` or `\section` where a new file will be generated, depending on `FileDepth`. For example, if `FileDepth` is 1, use `\HTMLDescription` just before each `\section` command, and that description will be placed inside the HTML page for that `\section`. The same description will be used for all following HTML files as well, until reset by a new `\HTMLDescription`. It is best to use a unique description for each HTML file.
- disabling** To disable the generation of HTML description meta tags, use:

```
\HTMLDescription{}
```

7.14 HTML homepage meta title

`\HTMLTitle` $\{\langle title \rangle\}$

Default: `\HTMLtitle{\thetitle}`

Sets the contents of the web page `<meta name="title">` element. May be set empty to cancel the meta title tag.

See section 7.6 for `\HTMLTitleBeforeSection` and `\HTMLTitleAfterSection`, used to set the title for HTML subpages.

7.15 HTML page meta author

`\HTMLAuthor` $\{\langle author \rangle\}$

Default: `\HTMLAuthor{\theauthor}`

Sets the contents of the web page `<meta name="author">` element. May be set empty to cancel the meta author tag.

`\author` may be used to create a list of authors and their affiliations, in several formats if using `authblk`, and these may not successfully parse properly into a sensible list for `\theauthor`. `\HTMLAuthor` may be used to set the meta tag to a simple list of names.

8 Special cases and limitations


Some commonly-used L^AT_EX expressions should be modified as follows to allow for a smooth conversion to both HTML and print-formatted outputs.

Need help?

See the [General Index](#) for “how-to”, and the [Troubleshooting Index](#) if something doesn’t work. A [Troubleshooting](#) section is also available. The [Index of Objects](#) contains automated entries for each package, macro, environment, counter, boolean, and other objects; individually and also sorted by category.

8.1 Things to avoid

In the document, avoid the following:

 **options with braces** **Package options:** Package options may cause problems with `lwarp`, especially if they include curly braces.

If selecting options with braces in `\usepackage` does not work:

```
\usepackage[font={it,small}]{caption}% does not work
```

... try instead selecting the package options before loading `lwarp`:

```
\PassOptionsToPackage{font={it,small}}{caption}
```

```
...
```

```
\usepackage{lwarp}
```

```
...
```

```
\usepackage{caption}
```

... or try setting package options after the package has been loaded:

```
\usepackage{caption}
```

```
\captionsetup{font={it,small}}
```

page counter: Do not adjust the page counter. If doing so is required for the print version, place the adjustment inside a `warpprint` environment.

Custom math environment macros: Do not use expressions such as `\beq` as a replacement for `\begin{equation}`.

Custom macros in section, figure, table names: Custom macros which appear in sectioning commands or float captions then appear in the `.toc`, `.lof`, and `.lot` lists, and should be made robust using `\newrobustcmd` or `\robustify` from `etoolbox`, `xparse`, etc.

When setting `FileSectionNames` to `true` to name the HTML files from the section names, the file names are created from sanitized versions of the chapter or section names, but the section names must be plain text or something which expands into plain text. Robust macros will not work at the sectioning level which is used for file names, but a robust macro or other complicated name may be used for the mandatory argument of `\chapter`, `\section`, etc., if a plain-text version is also included in the optional argument:

```
\chapter[Plain Name]{\ARobustMacro{Fancy Name}}
```

8.1.1 Invalid HTML

Additionally, some objects are valid \LaTeX , but invalid HTML. An example is a tabular inside `\textbf`, since HTML does not allow a table inside a span. `lwarp` will create the table, and the browser may support it, but the result is technically invalid.

8.2 Formatting

8.2.1 Text formatting

- △ `\bfseries`, etc. `\textbf`, etc. are supported, but `\bfseries`, etc. work only in some situations.
- △ **HTML special chars** `&`, `<`, and `>` have special meanings in HTML. If `\&`, `\textless`, and `\textgreater` are used, proper HTML entities will be used, but there may be HTML parsing problems if these special characters occur unescaped in program listings or other verbatim text.
 - program listings For program listings, the `listings` package is supported, and its `literate` option is used to convert `&`, `<`, and `>` to proper HTML entities.
 - verbatim The various `verbatim`-related environments do not convert `&`, `<`, and `>`, so care must be taken to avoid accidentally including valid HTML code inside these environments. Adding a space on either side may be sufficient.

8.2.2 Small caps

- `Bool` `FixSmallCaps` Some fonts, such as `erewhon`, `utopia`, or `fbf`, and some packages such as `embrac`, copy/paste “SMALL CAPS” as all caps (“SMALL CAPS”), which `lwarp` then reads as all caps, so the text is printed in all caps. If small caps are being rendered as all caps, set:

```
\booltrue{FixSmallCaps}
```

- △ **CJK fonts** Some CJK fonts may not work if `FixSmallCaps` is set true.

8.2.3 Horizontal and vertical space and rules

- `\hspace` `\hspace` is converted to an inline HTML span of the given width, except that `0` width is ignored, a width of `.16667em` is converted to an HTML thin breakable space (`U+2009`), and a `\fill` is converted to a `\quad`.
- `\vspace` `\vspace` is ignored for HTML.
 - `\,` `~` and `\,` are converted to HTML entities.
- `\kern` `\kern` and `\hskip` are entered into the HTML PDF output as-is, then interpreted by `\hskip` `pdftotext`, and thus usually appear as a single space.
- `\rule` `\rule` is converted to an HTML rule of the same dimensions, of the currently selected


text color.

`\hrule` Both `\hrule` and `\vrule` are ignored for HTML. To create a horizontal dividing rule across the page, use `\hrulefill` in its own paragraph.

`\hrulefill` `\hrulefill` usually creates a one-inch rule, similar to a “fill in the blank”. If it is used at the start of a new paragraph, it creates a `<div>` with a thin horizontal border across the page, as would often be done with `\hrule`.

8.2.4 Text alignment

Use the environments `center`, `flushright`, `flushleft` instead of the macros `\centering`, `\raggedright`, `\raggedleft`.

 **figure & table alignment** `\centering`, etc. are honored in a figure or table if they are the first command inside the float:


```
\begin{table*}
\centering
\caption{A Table}
. . .
```

8.2.5 Accents

Native \LaTeX accents such as `\`` will work, but many more kinds of accents are available when using Unicode-aware $X_{\text{L}}\LaTeX$ and $\text{Lua}\LaTeX$. If using accents in section names which will become file names, it is recommended to use the \LaTeX accents such as `\`` and `\v` instead of Unicode accents. The \LaTeX accents will have the accents stripped when creating the filenames, whereas the Unicode accents will appear in the file names, which may cause issues with some operating systems.

8.2.6 textcomp package

Pkg `textcomp` Some `textcomp` symbols do not have Unicode equivalents, and thus are not supported.

 **missing symbols** Many `textcomp` symbols are not supported by many system/ browser fonts. In the CSS try referencing fonts which are more complete, but expect to see gaps in coverage.

8.2.7 Superscripts and other non-math uses of math mode

Use `x` instead of $\text{\$}^{\text{\$}}\text{\$}$

8.2.8 Empty `\item` followed by a new line of text or a nested list:

[lists](#) Use a trailing backslash: `\item[label] \`

8.2.9 Filenames and URLs in lists or footnotes

filename underscore Escape underscores in the filenames:


```
\item[\href{file\_name.pdf}{text}]
```

8.2.10 relsize package

Pkg relsize For HTML, only the inline macros are supported: `\textlarger`, `\textsmaller`, and `\textscale`. Each becomes an inline span of a modified font-size.

`\relsize`, `\larger`, `\smaller`, and `\relscale` are ignored.

While creating SVG math for HTML, the original definitions are temporarily restored, and so should work as expected.

 **not small** The HTML browser's setting for minimum font size may limit how small the output will be displayed.

8.3 Boxes and minipages


8.3.1 Marginpars

`\marginpar` [*left*] [*right*] `\marginpar` may contain paragraphs, but in order to remain inline with the surrounding text `lwarp` nullifies block-related macros inside the `\marginpar`. Paragraph breaks are converted to `
` tags.

`\marginparBlock` [*left*] [*right*] To include block-related macros, use `\marginparBlock`, which takes the same arguments but creates a `<div>` instead of a ``. A line break will occur in the text where the `\marginBlock` occurs.


8.3.2 Save Boxes

 **HTML corrupted**

 **boxes** TeX boxes are placed inline and do not allow line breaks, so boxes with long contents may overflow the line during HTML conversion. `lwarp` uses methods which help avoid this problem.

 **minipage, \parbox** `\savebox` and related do not (yet) support `minipage` or `\parbox`.


8.3.3 Minipages


 **inline** A line of text with an inline `minipage` or `\parbox` will have the `minipage` or `\parbox` placed onto its own line, because a paragraph is a block element and cannot be made inline-block.

placement `minipages` and `\parboxes` will be placed side-by-side in HTML unless you place a

`\newline` between them.


side-by-side Side-by-side minipages may be separated by `\quad`, `\qquad`, `\enskip`, `\hspace`, `\hfill`, or a `\rule`. When inside a `center` environment, the result is similar in print and HTML. Paragraph tags are suppressed between side-by-side minipages and these spacing commands, but not at the start or end of the paragraph.


 **minipage in a span** There is limited support for minipages inside an HTML ``. An HTML `<div>` cannot appear inside a ``. While in a ``, minipages, and `\parboxes`, and any enclosed lists have limited HTML tags, resulting in an “inline” format, without markup except for HTML breaks. Use `\newline` or `\par` for an HTML break.


 **minipage size** When using `minipage`, `\parbox`, and `fminipage`, a virtual 6 × 9 inch text area is used for `\linewidth`, `\textwidth`, and `\textheight`, both for sizing the minipage, and also for its contents.

if width is `\linewidth` If a minipage or `\parbox` is assigned a width of exactly `\linewidth`, in HTML it is automatically given no HTML width, thus allowed to fill the line as needed, similar to how it appears in print output.

full-width if HTML A new macro `\minipagefullwidth` requests that, during HTML output, the next single minipage or `\parbox` be generated without an HTML width attribute, allowing it to be the full width of the display rather than the declared print-output width. This may be useful where the printed version’s width makes no sense in HTML.

 **tabular, multicols** Inside a `tabular` or `multicols` environment, where the width depends on the browser window, `\minipagefullwidth` is effectively used by default for every minipage or `\parbox` inside the environment. `\UseMinipageWidths` may be used to tell `lwarp` to honor the specified widths of all following minipages and `\parboxes` until the end of the local scope, and `\IgnoreMinipageWidths` may be used to tell `lwarp` to ignore the specified widths.

 **multicol** Inside a `multicols`, `\linewidth` is divided by the specified number of columns.

 **text alignment** Nested minipages adopt their parent’s text alignment in HTML, whereas in regular L^AT_EX PDF output they do not. Use a `flushleft` or similar environment in the child minipage to force a text alignment.

8.3.4 Side-by-side minipages

Place side-by-side minipages inside a `center` environment, with horizontal space between them, such as `\quad`, `\qquad`, `\hspace`, or `\hfill`. The result is similar in print and HTML. Do not use space commands at the start or end of the line.

8.3.5 Framed minipages and other environments

`\fbox` can only be used around inline `` items during HTML output, but HTML cannot place a block element such as a `<div>` for a minipage or a list inside of a ``. Several options are provided for framing an object, depending on which kind of object and which packages are loaded:

`\fbox`
`\fboxBlock`
 Env `fminipage`

For a framed object, options include:

To remove the frame in HTML output: Place the `\fbox` command and its closing brace inside `\warpprint` environments. This will nullify the frame for HTML output.

For inline text:

To frame the contents inline with some formatting losses in HTML: This is the default action of `\fbox` when enclosing a `minipage`. During HTML output, `\fbox` nullifies the HTML tags for `minipage`, `\parbox`, and lists. The contents are included as inline text inside the `\fbox`'s `` of class `framebox`. For lists, line breaks are converted to HTML breaks. The result is a plain-text inline version of the contents, framed inline with the surrounding text, but lacking any extra HTML markup.

For inline `minipage` and lists:

To frame the contents on their own line with improved formatting in HTML: A new command `\fboxBlock` is included, intended to be a direct replacement for `\fbox` for cases where the `\fbox` surrounds a `minipage`, table, or list. For print output, this behaves as `\fbox`. For HTML output, the contents are placed inside an HTML `<div>` with the class `framed`, resulting in the contents being placed on their own line with a frame surrounding them. The contents preserve their HTML formatting, so lists and `minipages` look nicer, and valid HTML is created for a `tabular`. While an `\fbox` containing a `tabular` is valid L^AT_EX code, the result in HTML is problematic since a table is a `<div>` not a ``, so use `\fboxBlock` around a `tabular`, or else place the `tabular` inside a `minipage`, or use `fminipage`, described next. Also see below regarding the “Misplaced alignment tab character &.” error.

For display `tabular`, `minipages`, and lists:

To create a framed `minipage` in both print and HTML: A new environment `fminipage` is included. For print output, this is identical to `minipage`, except that it is also framed. For HTML output, this forms a `<div>` of class `framed`, the contents preserve their HTML formatting, and valid HTML is created for a `tabular`. Also see section 87 for a new environment `fcolorminipage`. Also see below regarding the “Misplaced alignment tab character &.” error.

colored boxes and frames:

To create colored frames and boxes: See section 634 for `xcolor`'s `\colorbox` and `\fcolorbox`, and `lwarp`'s additional `\colorboxBlock` and `\fcolorboxBlock`.

⚠ Misplaced alignment
tab character &

To frame tables or verbatim environments: Place the contents inside a `fminipage`, or perhaps a `\fboxBlock` for a `tabular`. Also, if using `\fboxblock` with `tabular`, you will have to use `\StartDefiningTabulars` before the start of the macro which uses `\fboxBlock` and the `tabular`, and `\StopDefiningTabulars` afterwards. Also see the `lwarp` documentation for the `fancybox` package.

To frame equations: See section 248 for the `fancybox` package.

For fancy framed `minipages`: See packages `boxedminipage`, `shadow`, `fancybox`, `framed`, `mdframed`.

Custom environments: Use a custom environment to create a sidebar, containing a `BlockClass` environment with custom CSS formatting, and `\warpprintonly{\hrule}` command:

```
\begin{BlockClass}{frameminipage}% ignored in print output
% use \CSS\ to format div class framedminipage
```

```

\warpprintonly{\hrule} % only appears in print output
Contents
\warpprintonly{\hrule} % only appears in print output
\end{BlockClass}

```

8.3.6 fancybox package

Pkg fancybox
framed equation example

fancybox's documentation has an example FramedEqn environment which combines math, \Sbox, a minipage, and an \fbox. This combination requires that the entire environment be enclosed inside a lateximage, which is done by adding \lateximage at the very start of FramedEqn's beginning code, and \endlateximage at the very end of the ending code. Unfortunately, the HTML alt attribute is not used here.

```

\newenvironmentFramedEqn
{
\lateximage% NEW
\setlength{\fboxsep}{15pt}
... }{...
\[\fbox{\TheSbox}\]
\endlateximage% NEW
}

```

framing alternatives

\fbox works with fancybox. Also see lwarp's \fboxBlock macro and fminipage environment for alternatives to \fbox for framing environments.

framed table example

The fancybox documentation's example of a framed table using an \fbox containing a tabular does not work with lwarp, but the FramedTable environment does work if \fbox is replaced by \fboxBlock. This method does lose some HTML formatting. A better method is to enclose the table's contents inside a fminipage environment. The caption may be placed either inside or outside the fminipage:

```

\begin{table}
\begin{fminipage}{\linewidth}
\begin{tabular}{lr}
...
\end{tabular}
\end{fminipage}
\end{table}

```

⚠ framed verbatim

lwarp does not support the verbatim environment inside a span, box, or fancybox's \Sbox, but a verbatim may be placed inside a fminipage. The fancybox documentation's example FramedVerb may be defined as:

```

\newenvironment{FramedVerb}[1] % width
{
  \VerbatimEnvironment
  \fminipage{#1}
  \beginVerbatim
}{
  \endVerbatim
  \endfminipage
}

```

framed `\VerbBox` fancybox's `\VerbBox` may be used inside `\fbox`.

indented alignment `LVerbatim`, `\LVerbatimInput`, and `\LUseVerbatim` indent with horizontal space which may not line up exactly with what *pdftotext* detects. Some lines may be off slightly in their left edge.

8.3.7 mdframed package

Pkg `mdframed` Most basic functionality is supported, including frame background colors and single-border colors and thickness, title and subtitle background colors and borders and thickness, border radius, and shadow. CSS classes are created for `mdframed` environments and frame titles.

△ loading When used, `lwarp` loads `mdframed` in HTML with `framemethod=none`.

font For title font, use

```
frametitlefont=\textbf,
```

instead of

```
frametitlefont=\bfseries,
```

where `\textbf` must appear just before the comma and will receive the following text as its argument (since the text happens to be between braces in the `mdframed` source). Since `lwarp` does not support `\bfseries` and friends, only one font selection may be made at a time.

theoremtitlefont `theoremtitlefont` is not supported, since the following text is not in braces in the `mdframed` source.

ignored options `userdefinedwidth` and `align` are currently ignored.

css classes Environments created or encapsulated by `mdframed` are enclosed in a `<div>` of class `mdframed`, and also class `md<environmentname>` for new environments.

Frame titles are placed in a `<div>` of class `[mdframedtitle]`. Subtitles are in a `<div>` of class `[mdframedsubtitle]`, and likewise for subsubtitles.

8.3.8 tcolorbox package

Pkg `tcolorbox` `tcolorbox` is emulated for HTML and MATHJAX, and supported as-is inside a `lateximage`

or `svg math`.

What has been tested to work (at least partly) includes:

- `tcolorbox`, `\tcbbox`.
- Title, subtitle.
- Upper, lower parts.
- Colors and title fonts.
- Floating objects.
- Some layered box features.
- Counters, labels, references.
- `listings`, `listingsutf8`.
- theorems: Theorems are supported. `math`, `ams equation`, etc. are not supported. Use a `tcolorbox` with regular math inside it. `\tcbboxmath` and `\tcbhighmath` are supported in `svg math`, and emulated in `MATHJAX`.
- Fitting features: `\tcbboxfit` becomes `\tcbbox` in `HTML`.
- Footnote numbering does not match the printed output.
- MathJax emulation is provided for common macros.

⚠ **math**

⚠ **footnotes**

⚠ **undefined references** If using `cleveref`, it may be necessary to name theorems such as:

```
\crefname{tcb@cnt@mytheo}{my theorem}{my theorems}
```

8.4 Section names

If using named `HTML` files, by selecting `\booltrue{FileSectionNames}`, the generated filenames may be simplified by using `\FilenameSimplify` and `\FilenameNullify`:

```
\FilenameSimplify {<text>}
```

To remove common short words from the automatically-generated filenames, replacing each with a single hyphen “-”, use `\FilenameSimplify`:

```
\FilenameSimplify*{-in-}
\FilenameSimplify*{A-}
```

The first example removes the word “in” in the middle of a filename, and the second example removes “A” at the start of the filename. The star forces the arguments to be detokenized, which is required for a plain-text comparison. (The unstarred form is used for a token-sensitive comparison, which is seldom required by the user.) After simplification, repeated hyphen characters will be further simplified to a single hyphen “-”. Finally, single hyphens at the start or end of the filename are removed.

```
\FilenameNullify {<macros>}
```

⚠ **macros in section names** Macro names may appear in the automatically-generated file names. To remove these, create *non-robust* nullified versions of the macros, ensuring that each line ends with a percent character % as shown below. These are placed inside `\FilenameNullify`, which adds them to the list of macros which are nullfied during filename generation. Low-level macros such as `\begingroup` will cause problems when nullfied. Many macros such as `\textbf` are already nullfied. `lwarp` also already nullifies built-in symbol and

`textcomp` macros, including if defined by `xunicode`, but not all `xunicode` macros. See the definition of `\LWR@nullfonts` for a complete list.

```
\FilenameNullify{%
  \renewcommand*{\macroname}[1]{#1}%
  \renewcommand*{\anothermacro}{}%
}
```

⚠ **duplicate filename** Avoid duplicate file names. Section names at levels which result in HTML file splits must be unique. `lwarp` will generate an error if a duplicate HTML filename is generated. Use the optional TOC caption entry parameter for formatting. Remember to `\protect` L^AT_EX commands which appear in section names and TOC captions.

⚠ **math in section names** If using named HTML files, in section names use paren math `\(x+y\)` instead of dollar math `$x+y$`. (Dollar math works, but appears in the filename.) Or, use a short name for the TOC entry without the math, or use `\texorpdfstring` from the `hyperref` package:

```
\section{Some math \texorpdfstring{$1+2=3$}{three}}
```

8.5 Cross-references

labels Labels with special characters may be a problem. It is best to stick with alpha-numeric, hyphen, underscore, and perhaps the colon (if not French).

⚠ **label characters**

\nameref `\nameref` refers to the most recently-used section where the `\label` was defined. If no section has been defined before the `\label`, the link will be empty. Index entries also use `\nameref` and have the same limitation.

⚠ **empty link**

8.5.1 Page references

⚠ **L^AT_EX page numbers** The printed page does not translate to the HTML page, so `\pageref` references are converted to parentheses containing `\pagerefPageFor`, which defaults to “see”, followed by a hyperlink to the appropriate object.

Ex:

```
\ref{sec:name} on page \pageref{sec:name}
```

in HTML becomes:

```
“Sec. 1.23 on page (see sec. 1.23)”.
```

`\pagerefPageFor` may be redefined to “page for”, empty, etc. See page 511.

8.5.2 `cleveref` and `varioref` packages

Pkg `cleveref` `cleveref` and `varioref` are supported, but printed page numbers do not map to HTML, so a section name or a text phrase are used for `\pageref` and `\cpagerefrange`. This phrase includes `\cpagerefFor`, which defaults to “for”.

Pkg `varioref`

⚠ **cleveref page numbers**

Ex:

```
\cpageref{tab:first,tab:second}
in html becomes:
“pages for table 4.1 and for table 4.2”
```

See `\cpagerefFor` at page 741 to redefine the message which is printed for page number references.

- ⚠ **varioref types** `cleveref` changes the behavior of `varioref` in that the reference type is automatically printed if `cleveref` is loaded. `lwarp` requires `cleveref`, so the HTML version will always automatically print the reference types even if the print mode does not. The simplest way to make them match is to require the `cleveref` package for the document.

8.5.3 Hyperlinks, `hyperref`, and `url`

`lwarp` emulates `hyperref`, including the creation of active hyperlinks, but does not require that `hyperref` be loaded by the document.

- ⚠ **comments between arguments** Do not place a comment with a `%` character between arguments for `\hyperref`, etc., as it is neutralized for inclusion in HTML URLs.

`lwarp` can also load `url`, but `url` should not be used at the same time as `hyperref`, since they both define the `\url` command. `lwarp` does not (yet) attempt to convert `url` links into hyperlinks during HTML output, nor does the print version of `url` create hyperlinks.

- ⚠ **backref** When generating HTML, `lwarp`'s emulation of `hyperref` does not automatically load `backref`, so `backref` must be loaded explicitly.

8.5.4 Footnotes, endnotes, and page notes

`lwarp` uses native \LaTeX footnote code, although with its own `\box` to avoid the \LaTeX output routine. The usual functions mostly work as-is.

- footnote numbering** To have footnote numbers reset each time footnotes are printed:

```
\setcounter{footnoteReset}{1}
```

For `bigfoot`, `manyfoot`, or `perpage`:

```
\MakePerPage{footnoteX}
— or —
\MakeSortedPerPage{footnoteX}
```

The footnotes are reset when they are printed, according to section level as set by `FootnoteDepth`, which is not necessarily by HTML page. This is recommended for `\alph`, `\Alph`, or `\fnsymbol` footnotes, due to the limited number of symbols which are available.

- ⚠ **MathJax, \footnotemark** If using `MATHJAX`, after each math expression with a `\footnotemark`, adjust the footnote counter by the number of `\footnotemarks`:

```
\[ (math expression with two instances of \footnotemark) \]
\warphTMLOnly{\addtocounter{footnote}{2}}
```

Similarly for endnotes, but *not* sidenotes.

Also for MATHJAX, \footnotename is used for a \footnotemark if the actual footnote number is not known. To redefine it, provide it before loading lwarp:


```
\providecommand{\footnotename}{something}
\usepackage{lwarp}
```

Similar for sidenotes. For endnotes:

```
\def\endnotename{something}% \def allows name to start with "end"
```

For the pagenote package, there is no \pagenotename to define, since there is no \pagenotemark command.

footmisc The footmisc stable option is emulated by lwarp.

 **sectioning commands** When using footnotes in sectioning commands, to generate consistent results between print and HTML, use the footmisc package with the stable option, provide a short toc entry, and \protect the \footnote:

```
\usepackage[stable]{footmisc}
...
\subsection[Subsection Name]
{Subsection Name\protect\footnote{A footnote.}}
```

memoir with footmisc If using memoir class, with which lwarp preloads footmisc, the stable option must be declared before lwarp is loaded:





memoir

```
\PassOptionsToPackage{stable}{footmisc}
\usepackage{lwarp}
...
```

Do not use a starred sectioning command. As an alternative, it may be possible to adjust \secnumdepth instead.

fancybox, fancyvrb

 **\VerbatimFootnotes** If using fancybox or fancyvrb with \VerbatimFootnotes, and using footnotes in a sectioning command or display math, use \footnotemark and \footnotetext:


 **sectioning or displaymath**

```
\subsection[Subsection Name]
{Subsection Name\protect\footnotemark}
\footnotetext{A footnote with \verb+verbtim+.}
```

and likewise for equations or display math.

At present there is a bug such that paragraph closing tags are not present in footnotes when \VerbatimFootnotes are selected. The browser usually compensates.

pfnote

 **pfnote numbers** While emulating pfnote, lwarp is not able to reset HTML footnote numbers per page number to match the printed version, as HTML has no concept of page numbers. lwarp therefore uses continuous footnote numbering even for pfnote.

bigfoot, manyfoot

Verbatim footnotes are not yet supported.

 **verbatim**

If using the `bigfoot` package, and possibly also `manyfoot`, problems may occur with counter allocation because `lwarp` uses many counters, and there is a difference in how counters numbered 256 and up are handled in `pdfLATEX`. With `bigfoot` this has been known to show up as an error related to one footnote insert being forbidden inside another. Another problem showed up as an input stack error, and which of these problems occurred depended on how many counters were allocated.

As a possible solution, try creating several new counters before defining `bigfoot` or `manyfoot` footnotes, hoping to shift the problematic counter above the 256 threshold. It may instead be necessary to use `XYLATEX` or `LuaLATEX` instead of `pdfLATEX`.

8.5.5 `xr`, `xr-hyper`, and `xcite` packages

See section 5.17.

8.6 Front and back matter

8.6.1 Custom classes with multiple authors and affiliations

Some classes allow multiple authors and affiliations. Often it is possible to emulate these using a standard class along with `authblk`:

```
%\documentclass{customclass} % for print document
\documentclass{article} % for html document

\usepackage{lwarp}
\begin{warpHTML}
\usepackage{authblk}
\let\affiliation\affil % maybe required
\end{warpHTML}
```

8.6.2 Starred chapters and sections

HTML page and TOC

The following describes `\ForceHTMLPage` and `\ForceHTMLTOC`, which may be used for endnotes, glossaries, `tocbibind`, bibliographies, and the index. See the following sections where applicable. Continue here if interested in the reason for adding these commands to `lwarp`.

Some packages use `\chapter*` or `\section*` to introduce reference material such as notes or lists, often to be placed in the back matter of a book. These starred sections are placed inline instead of on their own HTML pages, and they are not given TOC entries.

`lwarp` provides a method to cause a starred section to be on its own HTML page, subject to `FileDepth`, and also a method to cause the starred section to have its own TOC entry during HTML output.

`\ForceHTMLPage` To place a starred section on its own HTML page, use `\ForceHTMLPage` just before the

`\chapter*` or `\section*`. `lwarp` will create a new page for the starred sectional unit.

A starred sectional unit does not have a TOC entry unless one is placed manually. The typical method using `\phantomsection` and `\addcontentsline` works for inline text but fails when the new starred section is given its own webpage after the TOC entry is created, or when creating an EPUB where the TOC entry will point to the page before the starred section. If the starred section has its own HTML page but no correct TOC entry pointing to that page, the page will be inaccessible unless some other link is created.

`\ForceHTMLTOC` To automatically force the HTML version of the document to have a TOC entry for a starred section, use `\ForceHTMLTOC` just before the `\chapter*` or `\section*`, and place `\phantomsection` and `\addcontentsline` inside a `warpprint` environment.

For print output, `\ForceHTMLTOC` and `\ForceHTMLPage` have no effect.

8.6.3 abstract package

Pkg abstract If using the number option with file splits, be sure to place the table of contents before the abstract. The number option causes a section break which may cause a file split, which would put a table of contents out of the home page if it is after the abstract.

⚠ inaccessible HTML page
⚠ missing TOC

8.6.4 titling and authblk

Pkg titling `lwarp` supports the native L^AT_EX titling commands, and also supports the packages `authblk` and `titling`. If both are used, `authblk` should be loaded before `titling`.

Pkg authblk

package support

If using the `titling` package, additional titlepage fields for `\published` and `\subtitle` may be added by using `\AddSubtitlePublished` in the preamble. See section 67.8.

⚠ load order

`\published` and `\subtitle`

8.6.5 tocloft package

Opt [tocloft] titles If using `tocloft` with `tocbibind`, `anonchap`, `fncychap`, or other packages which change chapter title formatting, load `tocloft` with its `titles` option, which tells `tocloft` to use standard L^AT_EX commands to create the titles, allowing other packages to work with it.

Pkg tocloft

Pkg tocloft

⚠ tocloft & other packages


8.6.6 appendix package

Pkg appendix During HTML conversion, the option `toc` without the option `page` results in a TOC link to whichever section was before the `appendices` environment. It is recommended to use both `toc` and `also page` at the same time.

⚠ incorrect TOC link

8.6.7 pagenote package

Pkg pagenote `pagenote` works as-is, but the `page` option is disabled.

 **labels** Note that labels in page notes do not appear as expected, even in the print version.

8.6.8 endnotes package

Pkg endnotes To place the endnotes in the TOC, use:
 table of contents

```
\usepackage{endnotes}
\appto\enoteheading{\addcontentsline{toc}{section}{\notesname}}
\renewcommand*{\notesname}{Endnotes} % optional
```


HTML page To additionally have the endnotes on their own HTML page, if FileDepth allows:

```
\ForceHTMLPage
\theendnotes
```

 **\endnotemark numbering** If using MATHJAX, see section 8.5.4 regarding the use of \endnotemark and \endnotetext.

8.6.9 BibTeX

\etalchar Displays a superscript “+” to indicate “and others”.

 **Modify *.bib** When enough authors are cited for a source, BibTeX may use the \etalchar command to display a math superscript with a + character to indicate “and others”. Without modification, this will result in an “Improper \prevdepth” error. At present, lwarp requires that \etalchar be replaced by a text superscript. To do so, add to the start of the .bib file the following:

```
@PREAMBLE{"\let\etalchar\relax \newcommand{\etalchar}[1]{\textsuperscript{#1}}"}


```

8.6.10 xcite package

See section 5.17.

8.6.11 gloss package

Pkg gloss To process the HTML glossary:

 **compiling** `bibtex <projectname>_html.gls`

8.6.12 glossaries package

Pkg glossaries
processing glossaries

Opt GlossaryCmd

Default: `makeglossaries`

Opt [lwarpmk] `printglossary`

Opt [lwarpmk] `htmlglossary`

lwarpmk has the commands `lwarpmk printglossary` and `lwarpmk htmlglossary`, which process the glossaries created by the glossaries package using that package's *makeglossaries* program.

The shell command to execute is set by the `lwarp` option `GlossaryCmd`, which defaults to `makeglossaries`. The print or HTML glossary filename is appended to this command.

⚠ **makeglossaries not found**

In some situations it may be required to modify the default command, such as to add the `perl` command in front:

```
\usepackage[
  GlossaryCmd={perl makeglossaries},
] {lwarp}
```

xindy language

To set the language to use for processing glossaries with *xindy*:

```
\usepackage[
  GlossaryCmd={makeglossaries -L english},
] {lwarp}
```

Other options for *makeglossaries* may be set as well.

placement and toc options

The glossaries may be placed in a numbered or unnumbered section, given a TOC entry, and placed inline or on their own HTML page:

Numbered section, on its own HTML page:

```
\usepackage[xindy,toc,numberedsection=nolabel]{glossaries}
...
\printglossaries
```

Unnumbered section, inline with the current HTML page:

```
\usepackage[xindy,toc]{glossaries}
...
\printglossaries
```

Unnumbered section, on its own HTML page:

```
\usepackage[xindy,toc]{glossaries}
...
\ForceHTMLPage
\printglossaries
```

⚠ **glossary style**

The default `style=item` option for *glossaries* conflicts with *lwarp*, so the style is forced to `index` instead.

⚠ **number list**

The page number list in the printed form would become `\namerefs` in HTML, which could become a very long string if many items are referenced. For now, the number list is simply turned off.

print/HTML versions

The print and HTML versions of the glossary differ in their internal page numbers. Separate commands for generating print and HTML glossaries are used, even though the page number is currently ignored.

8.6.13 nomencl package

Pkg nomencl To process the HTML nomenclature:

```
makeindex <project>_html.nlo -s nomencl.ist -o <project>_html.nls
```

8.6.14 Indexing overview

There are many ways to process indexes for a L^AT_EX document, including native L^AT_EX capabilities, a number of packages and classes, the possible availability of shell escape and *latexmk*, and the need to process print and HTML versions. *lwarp* attempts to provide easy recompilation of indexes along with the rest of the document, but the various indexing options must be set correctly. Numerous examples are given below. Some differ in minor details, so the important parts are highlighted in red, and options are in green.

Once set up properly, the entire document may be recompiled with **lwarpmk print** and **lwarpmk html**. In some cases, it will also be necessary to compile the indexes with **lwarpmk printindex** and **lwarpmk htmlindex**. A recompile may then be forced with **lwarpmk print1** and **lwarpmk html1**.

[manual processing](#) The user may continue to process indexes manually or by shell script without the use of *lwarpmk*, but adjustments will be required to process HTML indexes as well. In general, *.idx and *.ind files will be accompanied by *_html.idx and *_html.ind files.

[custom index style](#) If using a custom indexing style file, see sections [8.6.20](#) to [8.6.22](#).

[link appearance](#) To control how the index links appear in the HTML output, see the IndexRef option in section [7.5](#), page [108](#).

[source code](#) See section [77](#) for *lwarp*'s core index and glossary code, section [326](#) for index, section [538](#) for splitidx, section [325](#) for imakeidx, section [589](#) for tocbibind, and section [654.17](#) for memoir's indexing patches.

8.6.15 Indexing with makeidx, makeindex, xindy, xindex, gindex

[lwarpmk processing](#) The following allow the user to process indexes automatically, or using *lwarpmk*'s commands:

```
Enter ⇒ lwarpmk printindex
```

```
Enter ⇒ lwarpmk htmlindex
```

Prog makeindex **For a single index using *makeindex*:**

```
\usepackage[makeindex,latexmk] {lwarp}
```

The usual .idx and .ind files will be used, along with the new lwarp.ist style file. When creating the HTML index, "_html" is automatically appended to each of the names.

lwarpmk will use *latexmk* if specified, in which case *latexmk* will create the index automatically. Otherwise, use

Enter ⇒ **lwarpmk printindex**

Enter ⇒ **lwarpmk htmlindex**

to compile the indexes.

To use a custom configuration file, see section [8.6.20](#).

Prog xindy **For a single index using *xindy*:**

```
\usepackage[
  xindy,
  xindyLanguage=english,           <optional>
  xindyCodepage=utf8,             <optional>
  latexmk                           <optional>
]{lwarp}
```

The usual `.idx` and `.ind` files will be used, along with the new `lwarp.xdy` style file.

lwarpmk will use *latexmk* if specified, in which case *latexmk* will create the index automatically. Otherwise, use

Enter ⇒ **lwarpmk printindex**

Enter ⇒ **lwarpmk htmlindex**

to compile the indexes.

To use a custom configuration file, see section [8.6.21](#).

Prog xindex **For a single index using *xindex*:**

```
\usepackage[
  xindex,
  latexmk                           <optional>
]{lwarp}
```

The usual `.idx` and `.ind` files will be used.

lwarpmk will use *latexmk* if specified, in which case *latexmk* will create the index automatically. Otherwise, use

Enter ⇒ **lwarpmk printindex**

Enter ⇒ **lwarpmk htmlindex**

to compile the indexes.

To use a custom configuration file, see section [8.6.22](#).

Pkg gindex **For a single index using gindex:**

```
\usepackage[
  makeindex,
  makeindexStyle=gindex.ist,
  . . . or . . .
  makeindexStyle=gindexh.ist,
  latexmk
]{lwarp} <optional>
```

The usual .idx and .ind files will be used.

lwarpmk will use *latexmk* if specified, in which case *latexmk* will create the index automatically. Otherwise, use

```
Enter ⇒ lwarpmk printindex
```

```
Enter ⇒ lwarpmk htmlindex
```

to compile the indexes.

To use a custom configuration file, copy `gindex.ist` to a new file, modify, then specify it with `MakeindexStyle` as above. *lwarp* will automatically adapt to *gindex*'s `\indexpagessep` and `\indexrangesep` settings.

8.6.16 Indexing with index

Prog index

lwarp is told how to use *makeindex* using the `PrintIndexCmd` and `HTMLIndexCmd` options. The file `lwarp.ist` is specified, which generates index letter heads for print output and also allows special HTML formatting for HTML output.

For multiple indexes using *makeindex* and *index*:

(Assuming that the second index has file extensions .sist and .sind)

```
\usepackage[
  makeindex, latexmk,
  PrintIndexCmd={
    makeindex -s lwarp.ist <projectname>.idx ;
    makeindex -s lwarp.ist
      -o <projectname>.sind <projectname>.sidx
  },
  HTMLIndexCmd={
    makeindex -s lwarp.ist <projectname>_html.idx ;
    makeindex -s lwarp.ist
      -o <projectname>_html.sind <projectname>_html.sidx
  }
]{lwarp}
\usepackage{index}
. . .
\makeindex
\newindex{secondname}{sidx}{sind}{Second Index}
```

⚠ WINDOWS

For WINDOWS, replace the two “;” characters with “&”.

When creating the HTML index, “_html” is automatically appended to the index filenames.

Use

Enter ⇒ **lwarpmk printindex**

Enter ⇒ **lwarpmk htmlindex**

to compile the indexes.


If the `latexmk` option is selected for `lwarp`, `latexmk` will compile the document but will *not* compile the indexes. **lwarpmk printindex** and **lwarpmk htmlindex** will still be required.

8.6.17 Indexing with `splitidx`

Prog `splitidx`

`lwarp` is told how to use *splitindex* using the `PrintIndexCmd` and `HTMLIndexCmd` options. The file `lwarp.ist` is specified, which generates index letter heads for print output and also allows special HTML formatting for HTML output.

If the `latexmk` option is selected for `lwarp`, `latexmk` will compile the document but will *not* compile the indexes. **lwarpmk printindex** and **lwarpmk htmlindex** will still be required.

 **`\thepage`** When using `\AtWriteToIndex` or `\AtNextWriteToIndex`, the user must not refer to `\thepage` during HTML output, as the concept of a page number is meaningless. Instead, do

```
\addtocounter{LWR@autoindex}{1}
\LWR@new@label{LWRindex-\arabic{LWR@autoindex}}
```

where the `\index`-like action occurs, and then refer to `\arabic{LWR@autoindex}` instead of `\thepage` where the reference should occur.

See section 654.17 in the `lwarp-patch-memoir` package for the `\@@wrsindexhyp` macro as an example.

For multiple indexes using *makeindex* and *splitidx*:

```

\usepackage[
  makeindex, latexmk,
  PrintIndexCmd={
    splitindex <projectname> -- -s lwarp.ist
  },
  HTMLIndexCmd={
    splitindex <projectname>_html -- -s lwarp.ist
  }
]{lwarp}
\usepackage{splitidx}
...
\makeindex
\newindex[Second Index]{secondname}

```

When creating the HTML index, “_html” is automatically appended to each of the names.

Use

Enter ⇒ **lwarpmk printindex**

Enter ⇒ **lwarpmk htmlindex**

to compile the indexes.

For multiple indexes using *xindy* and *splitidx*:

```

\usepackage[
  xindy, latexmk,
  PrintIndexCmd={
    splitindex -m xindy <projectname> -- -M lwarp.xdy
    -L english -C utf8 <optional>
  },
  HTMLIndexCmd={
    splitindex -m xindy <projectname>_html -- -M lwarp.xdy
    -L english -C utf8 <optional>
  }
]{lwarp}
\usepackage{splitidx}
...
\makeindex
\newindex[Second Index]{secondname}

```

When creating the HTML index, “_html” is automatically appended to each of the names.

Use

Enter ⇒ **lwarpmk printindex**

Enter ⇒ **lwarpmk htmlindex**

to compile the indexes.

8.6.18 Indexing with imakeidx

Prog imakeidx

Due to the number of methods which may be used to process multiple indexes, the options for style file and *xindy* language and codepage must be specified in one of several different ways. These are described in detail later in this section, but are summarized here.

If shell escape is used, *imakeidx* will automatically compile the indexes by itself. Options specifying a custom style file and *xindy* language and codepage must be specified for each `\makeindex` command using its `options=` option, which must include *lwarp*'s special `lwarp.ist` or `lwarp.xdy` file, or a file based on them. If using a custom indexing style file, see sections 8.6.20 to 8.6.22.

The `splitindex` option is also available if shell escape is used, in which case the `splitidx` package and *splitindex* program will also be used.

If shell escape is not possible, *latexmk* may be used to automatically compile the indexes. The style, language, and codepage options are specified with *lwarp*'s `makeindexStyle`, `xindyStyle`, `xindyLanguage`, and `xindyCodepage` options. These are passed to *latexmk* by *lwarpmk*'s `lwarpmk printindex` and `lwarpmk htmlindex` commands.

Where shell escape and *latexmk* are not possible, *lwarpmk* may be used to manually compile the indexes. *lwarp*'s `PrintIndexCmd` and `HTMLIndexCmd` options are used.

For a single or multiple indexes using *makeindex* and *imakeidx*:

The index style `lwarp.ist` is automatically used for HTML output. This file turns on letter headings, so it may be desirable to specify it as an option, in which case it will also be used for print output, which will help match the print and HTML output.

```
\usepackage[makeindex,latexmk] {lwarp}
\usepackage[makeindex]{imakeidx}
...
\makeindex[options={-s lwarp.ist}]
\makeindex[name=secondname,options={-s lwarp.ist}]
```

imakeidx will automatically compile the indexes. Shell escape is not required while using *makeindex*. *latexmk* may be specified, and if so it will be used for `lwarpmk print` and `lwarpmk html`, but *imakeidx* will actually create the indexes.

For a single or multiple indexes using *makeindex* and *splitindex* with *imakeidx*:

The index style `lwarp.ist` is automatically used for HTML output. This file turns on letter headings, so it may be desirable to specify it as an option, in which case it will also be used for print output, which will help match the print and HTML output.


```

\usepackage[makeindex,latexmk] {lwarp}
\usepackage[makeindex,splitindex]{imakeidx}
. . .
\makeindex[options={-s lwarp.ist}]
\makeindex[name=secondname,options={-s lwarp.ist}]

```

⚠ enable shell escape

Shell escape is required while using *splitindex*. For the first compile, use

```
Enter ⇒ pdflatex --shell-escape projectname.tex
```

```
Enter ⇒ pdflatex --enable-write18 projectname.tex (MiKTeX)
```

or similar with *xelatex* or *lualatex*. *lwarp* will remember that shell escape was used.

imakeidx will automatically execute *splitindex*, and will also use *makeindex* to compile the indexes.

latexmk may be specified, and if so it will be used for *lwarpmk print* and *lwarpmk html*, but *imakeidx* will actually create the indexes.

For multiple indexes using *xindy* and *imakeidx*, using shell escape:

Options may be given to *imakeidx*'s *\makeindex* command. The style file *lwarp.xdy* is automatically used for HTML output, and is not necessary for print output since the output will be similar. If language or codepage must be set, they should be specified as options for *\makeindex*, since *imakeidx* will process the indexes.

```

\usepackage[xindy,latexmk] {lwarp}
\usepackage[xindy,splitindex]{imakeidx}
. . .
\makeindex[
  options={ -M lwarp.xdy -L english -c utf8 }
]
\makeindex[
  name=secondname,
  options={ -M lwarp.xdy -L english -c utf8 }
]

```

⚠ enable shell escape

For the first compile, use

```
Enter ⇒ pdflatex --shell-escape projectname.tex
```

```
Enter ⇒ pdflatex --enable-write18 projectname.tex (MiKTeX)
```

or similar with *xelatex* or *lualatex*. *lwarp* will remember that shell escape was used.

imakeidx will automatically execute *splitindex* if selected, and will also use *xindy* to compile the indexes.

If selected, *latexmk* will automatically recompile the entire document as necessary.

For indexes using *xindy* and *imakeidx*, without shell escape, but *with latexmk*:

lwarp's options are used, and are passed to *latexmk*.

```

\usepackage[
  xindy,
  xindyLanguage=english,           <optional>
  xindyCodepage=utf8,             <optional>
  latexmk,
]{lwarp}
\usepackage[xindy]{imakeidx}
...
\makeindex
\makeindex[name=secondname]

```

latexmk will create the indexes automatically when `lwarpmk print` and `lwarpmk html` are executed.

For indexes using *xindy* and *imakeidx*, without shell escape, and *without latexmk*:

lwarpmk must be told how to create the indexes:

```

\usepackage[
  xindy,
  PrintIndexCmd={
    xindy -M lwarp.xdy -L english -C utf8
    <projectname>.idx ;
    xindy -M lwarp.xdy -L english -C utf8
    secondname.idx
  },
  HTMLIndexCmd={
    xindy -M lwarp.xdy -L english -C utf8
    <projectname>_html.idx ;
    xindy -M lwarp.xdy -L english -C utf8
    secondname_html.idx
  }
]{lwarp}
\usepackage[xindy]{imakeidx}
...
\makeindex
\makeindex[name=secondname]

```

⚠ WINDOWS

For WINDOWS, replace the two “;” characters with “&”.

<projectname> is the \jobname: if compiling “name.tex”, use the filenames name.idx and name_html.idx.

Use

```
Enter ⇒ lwarpmk printindex
```

```
Enter ⇒ lwarpmk htmlindex
```

to compile the indexes.

For multiple indexes using *xindex* and *imakeidx*, using shell escape:

xindex, *makeindex*, *imakeidx*, and *splitindex* can all work together:

```
\usepackage[%
  xindex,
  xindexConfig=-imakeidx,
  latexmk
]{lwarp}
\usepackage[makeindex,splitindex]{imakeidx}
...
\makeindex[%
  options={ -s lwarp.ist} }
]
\makeindex[
  name=secondname,
  options={ -s lwarp.ist} }
]
```

⚠ enable shell escape

For the first compile, use:

Enter ⇒ **pdflatex --shell-escape projectname.tex**

Enter ⇒ **pdflatex --enable-write18 projectname.tex (MiKTeX)**

or similar with *xelatex* or *lualatex*. *lwarp* will remember if shell escape was used.

xindex will use *imakeidx*, and *imakeidx* will automatically execute *splitindex* if selected.

If selected, *latexmk* will automatically recompile the entire document as necessary.

8.6.19 Indexes with memoir**For a single index with memoir and *makeindex*:**

```
\documentclass{memoir}
\usepackage[makeindex,latexmk]{lwarp}
...
\makeindex
```

The usual *.idx* and *.ind* files will be used, along with the *lwarp.ist* style file.

lwarpmk will use *latexmk* if specified, in which case *latexmk* will create the index automatically. Otherwise, use

Enter ⇒ **lwarpmk printindex**

Enter ⇒ **lwarpmk htmlindex**

to compile the indexes.

For multiple indexes with memoir and makeindex, using latexmk:

lwarp's options are used, and are passed to *latexmk*.

```
\documentclass{memoir}
\usepackage[makeindex,latexmk]{lwarp}
...
\makeindex
\makeindex[secondname]
```

lwarpmk will use *latexmk* to create the indexes automatically when the user executes `lwarpmk print` and `lwarpmk html`.

For multiple indexes with memoir and makeindex, without latexmk:

lwarpmk must be told how to create the indexes:

```
\documentclass{memoir}
\usepackage[
  makeindex,
  PrintIndexCmd={
    makeindex -s lwarp.ist <projectname>.idx ;
    makeindex -s lwarp.ist secondname.idx
  },
  HTMLIndexCmd={
    makeindex -s lwarp.ist <projectname>_html.idx ;
    makeindex -s lwarp.ist secondname_html.idx
  }
]{lwarp}
...
\makeindex
\makeindex[secondname]
```

⚠ WINDOWS

For WINDOWS, replace the two “;” characters with “&”.

<projectname> is the \jobname: if compiling “name.tex”, use the filenames name.idx and name_html.idx.

Use

```
Enter ⇒ lwarpmk printindex
```

```
Enter ⇒ lwarpmk htmlindex
```

to compile the indexes.

For a single index with memoir and xindy:

```

\documentclass{memoir}
\usepackage[
  xindy,
  xindyLanguage=english,           <optional>
  xindyCodepage=utf8,             <optional>
  latexmk                          <optional>
]{lwarp}
...
\xindyindex
\makeindex

```

The usual .idx and .ind files will be used, along with the lwarp.xdy style file.

lwarpmk will use *latexmk* if specified, in which case *latexmk* will create the index automatically. Otherwise, use

Enter ⇒ **lwarpmk printindex**

Enter ⇒ **lwarpmk htmlindex**

to compile the indexes.

For multiple indexes with memoir and xindy, using latexmk:

lwarp's options are used, and are passed to *latexmk*.

```

\documentclass{memoir}
\usepackage[
  xindy,
  xindyLanguage=english,           <optional>
  xindyCodepage=utf8,             <optional>
  latexmk
]{lwarp}
...
\xindyindex
\makeindex
\makeindex[secondname]

```

lwarpmk will use *latexmk* to create the indexes automatically.

For multiple indexes with memoir and *xindy*, without latexmk:

lwarpmk must be told how to create the indexes:

```
\documentclass{memoir}
\usepackage[
  xindy,
  PrintIndexCmd={
    xindy -M lwarp.xdy -L english -C utf8
    <projectname>.idx ;
    xindy -M lwarp.xdy -L english -C utf8
    secondname.idx
  },
  HTMLIndexCmd={
    xindy -M lwarp.xdy -L english -C utf8
    <projectname>_html.idx ;
    xindy -M lwarp.xdy -L english -C utf8
    secondname_html.idx
  }
]{lwarp}
...
\xindyindex
\makeindex
\makeindex[secondname]
```

⚠ WINDOWS

For *WINDOWS*, replace the four “;” characters with “&”.

<projectname> is the \jobname: if compiling “name.tex”, use the filenames name.idx and name_html.idx.

Use

Enter ⇒ **lwarpmk printindex**

Enter ⇒ **lwarpmk htmlindex**

to compile the indexes.

8.6.20 Using a custom *makeindex* style file

Prog	makeindex	When using <i>makeindex</i> , <i>lwarpmk</i> uses the file <code>lwarp.ist</code> to process the index. This file
File	<code>lwarp.ist</code>	is over-written by <i>lwarp</i> whenever a print version of the document is processed.

To use a custom *makeindex* style file:

1. Copy `lwarp.ist` to a new filename such as `projectname.ist`
2. Make changes to `projectname.ist`. Keep the lines which refer to `\hyperindexref`. These lines creates the hyperlinks for the HTML index. During print output `\hyperindexref` becomes a null function.
3. If changing

```
delim_n -and- delim_r
```

in `projectname.ist`, then in the document preamble redefine

```
\IndexPageSeparator -and- \IndexRangeSeparator
```

to match.

Opt makeindexStyle

4. In the document source use the `makeindexStyle` option for `lwarp`:

```
\usepackage[
  ... other options ...
  makeindex,
  makeindexStyle=projectname.ist,
]{lwarp}
```

Likewise, refer to the custom style file if using `\PrintIndexCmd`, `\HTMLIndexCmd`, or `\LatexmkIndexCmd`.

5. Recompile the print version, which causes `lwarp` to rewrite the `lwarpmk.conf` configuration file. This tells `lwarpmk` to use the custom `projectname.ist` file instead of `lwarp.ist`.

8.6.21 Using a custom *xindy* style file

Prog xindy
File lwarp.xdy

When using *xindy*, `lwarpmk` uses the file `lwarp.xdy` to process the index. This file is over-written by `lwarp` whenever a print version of the document is processed.

To use a custom *xindy* style file:

1. Copy `lwarp.xdy` to a new filename such as `projectname.xdy`
2. Make changes to `projectname.xdy`.

Keep the lines which refer to `\hyperindexref`:

```
(define-attributes (("hyperindexref"))
(markup-locref :open "\hyperindexref{" :close "}")
...
(markup-locref :open "\textit{\hyperindexref{" :close "}}" :attr "textit")
```

These lines create the hyperlinks for the HTML index. During print output `\hyperindexref` becomes a null function.

To create custom styles, refer to the lines for `\textbf` and `\textit`.

3. If changing any of

```
markup-locref-list :sep
markup-locclass-list :open
markup-locclass-list :sep
markup-crossref-layer-list :sep
markup-range :sep
```

in `projectname.xdy`, then in the document preamble redefine

```
\IndexPageSeparator -and- \IndexRangeSeparator
```

to match.

- Opt `xindyStyle` 4. In the document source use the `xindyStyle` option for `lwarp`:
- ```
\usepackage[
 ... other options ...
 xindy,
 xindyStyle=projectname.xdy,
]{lwarp}
```
- Likewise, refer to the custom style file if using `\PrintIndexCmd`, `\HTMLIndexCmd`, or `\LatexmkIndexCmd`.
5. Recompile the print version, which causes `lwarp` to rewrite the `lwarpmk.conf` configuration file. This tells `lwarpmk` to use the custom `projectname.xdy` file instead of `lwarp.xdy`.

### 8.6.22 Using a custom *xindex* style file

Prog `xindex` To use a custom *xindex* style file:

#### filename

1. Copy `xindex-cfg.lua` to a new filename such as `xindex-projectname.lua`. The filename must start with `xindex-` and end with `.lua`.
2. Make changes to `xindex-projectname.lua`.

3. If changing

```
itemPageDelimiter -and- rangeSymbol
```


in `xindex-projectname.lua`, then in the document preamble redefine

```
\IndexPageSeparator -and- \IndexRangeSeparator
```


to match.

- Opt `xindexConfig` 4. In the document source use the `xindexConfig` option for `lwarp`:
- ```
\usepackage[
  ... other options ...
  xindex,
  xindexConfig=projectname, % (without xindex- or .lua)
]{lwarp}
```
- Likewise, refer to the custom style file if using `\PrintIndexCmd`, `\HTMLIndexCmd`, or `\LatexmkIndexCmd`.
5. Recompile the print version, which causes `lwarp` to rewrite the `lwarpmk.conf` configuration file. This tells `lwarpmk` to use the custom `xindex-projectname.lua` file instead of the default `xindex-cfg.lua`.

8.6.23 Additional indexing limitations

 *xindy* with `hyperref` *xindy* and `hyperref` may not work well together for print output with “see”, “see also”, reference ranges, or stylized index references. It may be necessary to turn off hyper-referencing for indexes:


```
\usepackage[hyperindex=false]{hyperref}
```

 **empty index** If an HTML index is empty, it may be necessary to add the following before `lwarp` is loaded:

```
\usepackage{morewrites}
\morewritessetup{allocate=10}
. . .
\usepackage{lwarp}
```

makeindex custom display styles When using *makeindex*, custom display styles are possible:

```
\begin{warpprint}
\newcommand{\notesstyle}[1]{#1nn}
\end{warpprint}

\begin{warpHTML}
\makeatletter
\newcommand{\notesstyle}[1]{\LWR@doindexentry{#1} notes }
\makeatother
\end{warpHTML}
. . .
A sentence.\index{key|notesstyle}
```

xindy custom display styles For custom styles with *xindy*, see `lwarp.xdy` for `\textbf` and `\textit` as examples.

8.6.24 Index positions, `roc`, `tocbibind`

placement and `roc` options An index may be placed inline with other HTML text, or on its own HTML page:

Pkg `makeidx` **Inline, with a manual `roc` entry:**

A commonly-used method to introduce an index in a \LaTeX document:

```
\cleardoublepage
\phantomsection
\addcontentsline{toc}{section}{\indexname}% or chapter
\printindex
```

Pkg `makeidx` **On its own HTML page, with a manual `roc` entry:**

```
\begin{warpprint}
\cleardoublepage
\phantomsection
\addcontentsline{toc}{section}{\indexname}% or chapter
\end{warpprint}
\ForceHTMLPage
\ForceHTMLTOC
\printindex
```

Pkg `tocbibind` **Inline, with an automatic `roc` entry:**

The `tocbibind` package may be used to automatically place an entry in the `roc`.

```

\usepackage[nottoc]{tocbibind}
. . .
\cleardoublepage
\phantomsection % to fix print-version index link
\printindex

```

Pkg `tocbibind` **On its own HTML page, with an automatic toc entry:**

```

\usepackage[nottoc]{tocbibind}
. . .
\cleardoublepage
\phantomsection % to fix print-version index link
\ForceHTMLPage
\printindex

```

Opt [`tocbibind`] `numindex` Use the `tocbibind numindex` option to generate a numbered index. Without this option, the index heading has no number.

[numbered index section](#)

Other packages, such as `imakeidx`, may also have options for including the index in the Table of Contents.


Pkg `tocloft`

If using `tocloft` with `tocbibind`, `anonchap`, `fncychap`, or other packages which change chapter title formatting, load `tocloft` with its `titles` option, which tells `tocloft` to use standard L^AT_EX commands to create the titles, allowing other packages to work with it.

 [tocloft & other packages](#)

8.7 Math

8.7.1 Math in section names

 [math in section names](#) If using named HTML files, in section names use paren math `\(x+y\)` instead of dollar math `$x+y$`. (Dollar math works, but appears in the filename.) Or, use a short name for the toc entry without the math, or use `\texorpdfstring` from the `hyperref` package:

```

\section{Some math \texorpdfstring{$1+2=3$}{three}}

```

8.7.2 Rendering tradeoffs

[Math rendering](#) Math may be rendered as SVG graphics or using the MATHJAX JavaScript display engine.

[svg files](#) Rendering math as images creates a new SVG file for each expression, except that an MD5 hash is used to combine identical duplicates of the same inline math expression into a single file, which must be converted to SVG only once. Display math is still handled as individual files, since it may contain labels or references which are likely to change.

[svg inline](#) The SVG images are currently stored separately, but they could be encoded in-line directly into the HTML document. This may reduce the number of files and potentially speed loading the images, but slows the display of the rest of the document before the images are loaded.

- PNG files** Others L^AT_EX-to-HTML converters have used PNG files, sometimes pre-scaled for print resolution but displayed on-screen at a scaled down size. This allows high-quality print output at the expense of larger files, but SVG files are the preferred approach for scalable graphics.
- MathML** Conversion to MathML might be a better approach, among other things allowing a more compact representation of math than SVG drawings. Problems with MathML include limited browser support and some issues with the fine control of the appearance of the result. Also see section 10 regarding EPUB output with MATHJAX.

8.7.3 SVG option

- SVG math option** For SVG math, math is rendered as usual by L^AT_EX into the initial PDF file using the current font¹⁴, then is captured from the PDF and converted to SVG graphics via a number of utility programs. The SVG format is a scalable-vector web format, so math may be typeset by L^AT_EX with its fine control and precision, then displayed or printed at any size, depending on (sometimes broken) browser support. An HTML alt attribute carries the L^AT_EX code which generated the math, allowing copy/paste of the L^AT_EX math expression into other documents.

- SVG image font size** For the lateximage environment, the size of the math and text used in the SVG image may be adjusted by setting \LateximageFontSizeName to a font size name — *without the backslash*, which defaults to:

```
\renewcommand{\LateximageFontSizeName}{normalsize}
```

For inline SVG math, font size is instead controlled by \LateximageFontScale, which defaults to:

```
\newcommand*{\LateximageFontScale}{.75}
```

- SVG math copy/paste** For SVG math, text copy/paste from the HTML <alt> tags lists the equation number or tag for single equations, along with the L^AT_EX code for the math expression. For \mathcal{AMS} environments with multiple numbers in the same environment, only the first and last is copy/pasted, as a range. No tags are listed inside a starred \mathcal{AMS} environment, although the \tag macro will still appear inside the L^AT_EX math expression.

- ⚠ **SVG math size, baseline** SVG math sizing and baselines are improved if the graphics or graphicx package is loaded. An almost-invisible marker is placed at either end of the image to assist in cropping and computing the baseline. A warning is issued at the end of the compile if graphics or graphicx are not used.

- ⚠ **SVG math in T_EX boxes** SVG math does not work inside T_EX boxes, since a \newpage is required before and after each image.

8.7.4 MATHJAX option

- MATHJAX math option** The MATHJAX (mathjax.org) L^AT_EX-math to HTML converter may be used to display math.

Prog MathJax

¹⁴See section 639 regarding fonts and fractions.

When MATHJAX is enabled, math is rendered twice:

1. As regular L^AT_EX PDF output placed inside an HTML comment, allowing equation numbering and cross referencing to be almost entirely under the control of L^AT_EX, and
2. As detokenized printed L^AT_EX commands placed directly into the HTML output for interpretation by the MATHJAX display scripts. An additional script is used to pre-set the equation number format and value according to the current L^AT_EX values, and the MATHJAX equation numbering system is ignored in favor of the L^AT_EX internal system, seamlessly integrating with the rest of the HTML output, including any math appearing in non-MATHJAX SVG output.

8.7.5 Customizing MATHJAX

equation numbering lwarp detects and adjusts MATHJAX equation numbering format for article and book style equations as well as `amsmath \numberwithin` for chapters, sections, and subsections. Custom equation number formats may be set as follows, for example:

```
\renewcommand*{\theequation}{\Alph{section}.\arabic{equation}}
\AtBeginDocument{
  \renewcommand*{\theMathJaxsection}{\Alph{section}.}
}
```

△ subequation The `amsmath` `subequations` environment is supported, but only with `\alpha` subequation numbering.

global customizations MATHJAX does not have preexisting support every possible math function. Additional MATHJAX function definitions may be defined in the preamble. These will be declared at the start of each HTML page, and thus will have a global effect across all HTML pages.

Examples:

```
\begin{warpMathJax}
\CustomizeMathJax{
  \newcommand{\expval}[1]{\langle#1\rangle}
  \newcommand{\abs}[1]{\lvert#1\rvert}
}
\CustomizeMathJax{\newcommand{\arcsinh}{\text{arcsinh}}}
\CustomizeMathJax{\newcommand{\arccosh}{\text{arccosh}}}
\CustomizeMathJax{\newcommand{\NN}{\mathbb{N}}}
\end{warpMathJax}
```

△ slow compilation To avoid a slowdown in compile speed, use the `warpMathJax` environment to prevent its contents from being processed in print or SVG math output. Also, place each new definition inside its own `\CustomizeMathJax`. A warning to this effect is issued if an overly-long definition is attempted.

lwarp already provides MATHJAX customizations for some packages.

siunitx When using `siunitx`, a similar process may be used to add custom units:

```

\begin{warpMathJax}
\CustomizeMathJax{\newcommand{\myunit}{\mathrm{WXYZ}}}}
\CustomizeMathJax{\newcommand{\umyunit}{\mathrm{\micro\myunit}}}}
\end{warpMathJax}

```

advanced control For more advanced control over dynamically creating custom definitions, see as an example the `lwarp` definition for `\DeclarePairedDelimiterX`, in section 378, [mathtools](#).

local customizations For customizations local to the current HTML page only, macros may be defined as follows:

```

\begin{warpMathJax}
\(\ \newcommand{\macroname}{. . . } \)
\(\ \newcommand{\anothername}{. . . } \)
\end{warpMathJax}

```

To maintain compile speed, use the `warpMathJax` environment, and use a separate math environment for each definition.

`\ifstar` For MATHJAX, use `\ifstar` instead of `\@ifstar`:

```

\CustomizeMathJax{
  \def\myname{
    \ifstar\starredaction\unstarredaction
    % (Do not place anything after!)
  } }

```

`\ifnextchar` For MATHJAX, use `\ifnextchar` instead of `\@ifnextchar`:

```

\CustomizeMathJax{\def\myname{\ifnextchar X \found\notfound}}

```

“X” may be a single ASCII character, or a hex number inside braces, ex:

```

\CustomizeMathJax{\def\myname{\ifnextchar{0x7B}\found\notfound}}

```

Use “(” or “{0x28}” for a left parenthesis, “{0x7B}” for a left brace, “{0x7D}” for a right brace, or “{0x5C}” for a backslash.

8.7.6 MATHJAX limitations

MATHJAX limitations Limitations when using MATHJAX include:

Prog MathJax



`\multicolumn`, `multirow`

- MATHJAX does not support `\multicolumn` or `multirow`. These may be used in text tabulars or SVG math, but in MATHJAX math arrays they are emulated. `\multicolumn` only fills a single cell, resulting in a short row. `\multirow` simply prints its text on the first line.



footnotes


- Footnotes are emulated when used inside a MATHJAX expression. For an equation with a single footnote, the correct footnote number is used. For non-equations, `\footnotename` is used instead, since the actual number cannot be tracked. See section 8.5.4 regarding the use of footnotes with MATHJAX.



references

- Inside a MATHJAX expression, references to equations work within the same HTML web page, but do not work when referring to an equation in a different

HTML web page. Outside of a MATHJAX expression, in the text body, references work as expected.

- [lateximage](#)
 - Math appearing inside a lateximage, and therefore also inside a Tikz or picture environment, is rendered as SVG math even if MATHJAX is used in the rest of the document.
- [siunitx](#)
 - For siunitx, see [siunitx package](#), section 8.7.12.
- [physics](#)
 - For physics, see [physics package](#), section 8.7.14.
- [tabbing](#)
 - A tabbing environment is emulated using an HTML <pre>. While MATHJAX is enabled inside tabbing, the browser may not correctly render the horizontal alignment of the math and text following after on the same line.
- [\text](#)
 - MATHJAX includes the *textmacros* extension, which supports various macros which are commonly used inside \text, such as \textbf and text accents. Lwarp supports this extension.
-  [other macros and packages](#)
 - Many other math-related macros and packages are not directly supported by MATHJAX, including \ensuremath and occasionally-used macros such as \relax. While using MATHJAX, lwarp provides emulation for many of these macros, as well as for footnotes and emulation for dozens of packages (see table 2). In many cases these emulations simply ignore the package in a source-compatible way. Others produce a result which represents the meaning, even if they don't look exact. Look up each package in this document for a description of the limitations of each.

8.7.7 Catcode changes

- [preamble macros with math](#) The math shift character \$ is not set for HTML output until after the preamble. Macros defined in the preamble which contain \$ must be enclosed between \StartDefiningMath and \StopDefiningMath to temporarily change to the HTML meaning of \$:

```
\StartDefiningMath
\newcommand{. . .}
\StopDefiningMath
```

As an alternative, use \ (and \) instead of \$, in which case \StartDefiningMath and \StopDefiningMath are not necessary.

If a package defines macros using \$, it may be necessary to use \StartDefiningMath and \StopDefiningMath before and after loading the package.

8.7.8 Complicated inline math objects

- [\inlinemathnormal](#)
 - An inline math expression is usually converted to a reusable hashed svg math image, or a MathJax expression. The hash or expression depends on the contents of the math expression. In most cases this math expression is static, such as $x+1$, so the image can be reused for multiples instances of the same expression. In some cases, the math expression includes a counter or other object which may change between uses.
- [\inlinemathother](#)
- [changing contents](#)
- [complicated alt tag](#)
 - Another problem is complicated contents which do not expand well in an alt tag. Yet

MATHJAX limitations another problem is math packages which are only partially emulated in MATHJAX. The macro `\inlinemathother` may be used before a sequence of dynamic or complicated math expressions, and `\inlinemathnormal` after. Doing so tells `lwarp` to use unhashed SVG math images for those particular expressions, even if MathJax is otherwise in use. See section 43.

8.7.9 Complicated display math objects

`\displaymathnormal` By default, or when selecting `\displaymathnormal`, MATHJAX math display environments print their contents as text into HTML for MATHJAX to interpret, and SVG display math environments render their contents as SVG images and use their contents as the `alt` tag of HTML output. To do so, the contents are loaded into a macro for reuse. In some cases, such as complicated `Tikz` pictures, compilation will fail.

`\displaymathother` When selecting `\displaymathother`, it is assumed that the contents are more complicated than “pure” math. An example is an elaborate `Tikz` picture, which will not render in MATHJAX and will not make sense as an HTML `alt` tag. In this mode, MATHJAX is turned off, math display environments become SVG images, even if MATHJAX is selected, and the HTML `alt` tags become simple messages. The contents are internally processed as an environment instead of a macro argument, so complicated objects such as `Tikz` pictures are more likely to compile successfully.

8.7.10 ntheorem package

Pkg `ntheorem`

⚠ Font control

This conversion is not total. Font control is via CSS, and the custom L^AT_EX font settings are ignored.

⚠ `\cref` reference format undefined

If the print version does not use `cleveref`, place all `\theoremstyle` and `\newtheorem` declarations in the preamble inside `\AtBeginDocument`.¹⁵ For some theorems, it may also be required to add inside `\AtBeginDocument` something such as:

```
\AtBeginDocument{ % if not using cleveref package
  \theoremstyle{definition}
  \newtheorem{dtheorem}{Definition}
  . . .
  \usepackage{etoolbox} % for \ifdef
  \ifdef{\cref}{
    \crefname{Proof}{Proof}{Proofs}
  }{}
```

⚠ Equation numbering

`ntheorem` has a bug with equation numbering in \mathcal{AMS} environments when the option `thref` is used. `lwarp` does not share this bug, so equations with `\split`, etc, are numbered correctly with `lwarp`'s HTML output, but not with the print output. It is recommended to use `cleveref` instead of `ntheorem`'s `thref` option.

¹⁵`lwarp` uses `cleveref` for the HTML conversion, and loads `cleveref` `\AtEndPreamble`, just before `\AtBeginDocument`.

8.7.11 mathtools package

- Pkg `mathtools` `showonlyrefs` is disabled, as it conflicts with `cleveref`, which is used by `lwarp`. Equation numbers may not match the print version.
- ⚠ **equation numbering**
- ⚠ **italic correction** `mathic` is not emulated for HTML.
- ⚠ **MATHJAX** If using `MATHJAX`:

- `mathtools disallowspaces` does not work for `MATHJAX`. Protect brackets which are not optional arguments, such as:


```
\begin{gathered}{}
[p]=1 . . .
\end{gathered}
```
- `showonlyrefs` does not work in `MATHJAX`, and will result in a difference in equation numbering compared to the print version.
- Due to `MATHJAX` limitations, the following do not render well: `\overbracket`, `\underbracket`, `\overbrace`, `\underbrace`, `rcases`, `drcases`, `\Aboxed`, and `\ArrowBetweenLines`.
- For the new cases-like environments, `\text` must be used to set the normal roman font if desired.
- `alignat` in `MATHJAX` requires math mode, but in `LATEX` it doesn't. It may be required to use `warpHTML` and `warpprint` to isolate a version for each mode.
- `\DeclarePairedDelimiter` and related must be in the preamble before `\begin{document}`.

8.7.12 siunitx package


- Pkg `siunitx` `fractions` Due to `pdftotext` limitations, fraction output is replaced by symbol output for `per-mode` and `quotient-mode`.
- ⚠ **math mode required** Some units will require that the expression be placed inside math mode.
- ⚠ **tabular** Tabular `S` columns are rendered as simple `c` columns, and tabular `s` columns are not supported. These may be replaced by `c` columns with each cell contained in `\num` or `\si`.
- ⚠ **MathJax** For math mode with `svg` display, the original `siunitx` code is used while generating the `svg` image. For text mode, `lwarp` uses an emulation which provides a very effective HTML interpretation of `siunitx`. For math expressions while using `MATHJAX`, a limited emulation is used. Most functions work reasonably well, but many options cannot be emulated. `siunitx` macros with more than one optional value cannot absorb the second optional value, and complicated parsing such as for `\ang` is not supported. The result usually looks fine, and otherwise is enough to get the meaning across.


`lwarp`'s `MATHJAX` emulation for `siunitx` is meant to be a stop-gap measure until an extension is included in `MATHJAX`. As of this writing, the third-party `siunitx` extension for

MATHJAX is not currently hosted at any public CDN, thus siunitx is not usable with this extension unless a local copy of this extension is created first. See `\MathJaxFilename` to select a custom MathJax script, but lwarp's emulation would have to be disabled as well.

Document modifications required for MATHJAX:

`custom units` • Custom units may be added with `\CustomizeMathJax`. See the `lwarp-siunitx` code for examples.

 `unit spacing` • Units work better using `~` between units instead of using periods.

 `\square, \cubic` • To square or cube compound units, enclose the following compound units in braces:

```
\cubic{\centi\meter}
```

Single units do not require braces.

Also see [MATHJAX option](#), section 8.7.4.

8.7.13 units and nicefrac packages

`Pkg units` `units` and `nicefrac` work with lwarp, but MATHJAX does not have an extension for `units` or `nicefrac`. These packages do work with lwarp's option `svgmath`.

`Pkg nicefrac`

8.7.14 physics package

`Pkg physics` `physics` works as-is for HTML with SVG math.

For MATHJAX, the MATHJAX v3 `physics` extension is used.

8.8 Graphics

`Pkg graphics` Avoid using the `\includegraphics scale` option. Change:

`Pkg graphicx` `\includegraphics[scale=<xx>]{ . . . }`

 `scale`

to:

```
\includegraphics[width=<yy>\linewidth]{ . . . }
```

`\includegraphics file formats` For `\includegraphics` with `.pdf` or `.eps` files, the user must provide a `.pdf` or `.eps` image file for use in print mode, and also a `.svg`, `.png`, or `.jpg` version of the same image for use in HTML.

```
\includegraphics{filename} % print:.pdf/.eps HTML:.svg, etc.
```

For print output, lwarp will automatically choose the `.pdf` or `.eps` format if available, or some other format otherwise. For HTML, one of the other formats is used instead.

If a .pdf or .eps image is referred to with its file extension, the extension will be changed to .svg for HTML:

```
\includegraphics{filename.pdf} % uses .svg in html
\includegraphics{filename.eps} % uses .svg in html
```

Prog pdftocairo To convert a PDF image to SVG, use the utility *pdftocairo*:

PDF to SVG

Enter ⇒ **pdftocairo -svg filename.pdf**

Prog lwarpmk pdftosvg For a large number of images, use *lwarpmk*:

Enter ⇒ **lwarpmk pdftosvg *.pdf** (or a list of filenames)

Prog lwarpmk epstopdf For EPS images converted to PDF using the package *epstopdf*, use

Prog epstopdf
epstopdf package

Enter ⇒ **lwarpmk pdftosvg *.PDF**

to convert to SVG images.

DVI latex When using DVI *latex*, it is necessary to convert EPS to PDF and then to SVG:

Enter ⇒ **lwarpmk epstopdf *.eps** (or a list of filenames)

Enter ⇒ **lwarpmk pdftosvg *.pdf** (or a list of filenames)

PNG and JPG For PNG or JPG while using *pdf_latex*, *lualatex*, or *xelatex*, the same file may be used in both print or HTML versions, and may be used with a file extension, but will also be used without the file extension if it is the only file of its base name.

GIF GIF files may be used for HTML, but another format must also be provided for print output.

file extension priorities If a file extension is not used, for HTML the file extension priorities are: SVG, GIF, PNG, then JPG.

△ graphics vs. graphicx If using the older *graphics* syntax, use both optional arguments for `\includegraphics`. A single optional parameter is interpreted as the newer *graphicx* syntax. Note that viewports are not supported by *lwarp*—the entire image will be shown.

△ viewport

△ viewport
units

For `\includegraphics`, avoid px and % units for width and height, or enclose them inside `warpHTML` environments. For font-proportional image sizes, use ex or em. For fixed-sized images, use cm, mm, in, pt, or pc. Use the keys `width=.5\linewidth`, or similar for `\textwidth` or `\textheight` to give fixed-sized images proportional to a 6 by 9 inch text area. Do not use the `scale` option, since it is not well supported by HTML browsers.


options `\includegraphics` accepts width and height, origin, rotate and scale, plus new class and alt keys.

HTML class With HTML output, `\includegraphics` accepts an optional `class=xyz` keyval combination, and if this is given then the HTML output will include that class for the image. The class is ignored for print output.


HTML alt tags Likewise, the `\includegraphics` alt key adds an HTML alt tag to an image, and is

ignored for print output. If not assigned, each image is given an alt tag according to `\ImageAltText`.

`\rotatebox` `\rotatebox` accepts the optional origin key.

 **browser support** `\rotatebox`, `\scalebox`, and `\reflectbox` depend on modern browser support. The CSS3 standard declares that when an object is transformed the whitespace which they occupied is preserved, unlike L^AT_EX, so expect some ugly results for scaling and rotating.


8.8.1 tikz package

 **displaymath and matrices** Pkg `tikz` If using display math with `tikzpicture` or `\tikz`, along with matrices with the `&` character, the document must be modified as follows:

```
\usepackage{tikz}
\tikzset{every picture/.style={ampersand replacement=\&}}
```

and each instance of `&` in the `tikz` expression must be replaced with `\&`.

8.8.2 grffile package

 **matching PDF and SVG** Pkg `grffile` `grffile` is supported as-is. File types known to the browser are displayed, and unknown file types are given a link. Each PDF image for print mode should be accompanied by an SVG, PNG, or JPG version for HTML.

8.8.3 color package

Pkg `color` `color` is superseded by `xcolor`, and `lwarp` requires several of the features of `xcolor`. When `color` is requested, `xcolor` is loaded as well.

8.8.4 xcolor package

Pkg `xcolor` `\colorboxBlock` and `\fcolorboxBlock` are provided for increased HTML compatibility, and they are identical to `\colorbox` and `\fcolorbox` in print mode. In HTML mode they place their contents into a `<div>` instead of a ``. These `<div>`s are set to `display: inline-block` so adjacent `\colorboxBlock`s appear side-by-side in HTML, although text is placed before or after each.


Print-mode definitions for `\colorboxBlock` and `\fcolorboxBlock` are created by `lwarp`'s core if `xcolor` is loaded.

background: none `\colorbox` and `\fcolorboxBlock` allow a background color of `none`, in which case only the frame is drawn, which can be useful for HTML.

color support Color definitions, models, and mixing are fully supported without any changes required.

- colored tables** `\rowcolors` is supported, except that the optional argument is ignored so far.
- colored text and boxes** `\textcolor`, `\colorbox`, and `\fcolorbox` are supported.
- `\color` and `\pagecolor`** `\color` and `\pagecolor` are ignored. Use `css` or `\textcolor` where possible.


8.8.5 epstopdf package

- Pkg epstopdf** Images with an `.eps` extension will be converted to `.pdf`. The HTML output uses the `.svg` version, so use
-  **convert to .svg**


Enter ⇒ `lwarpmk pdftosvg <listofPDFfiles>`

to generate `.svg` versions.

8.8.6 pstricks package


- Pkg pstricks** All `pstricks` content should be contained inside a `pspicture` environment.
-  **use pspicture**


8.8.7 pdftricks package

- Pkg pdftricks** The `pdftricks` image files `<jobname>-fig*.pdf` must be converted to `.svg`, or else a missing file error will occur. The image files must also be converted again whenever they change. To convert the images:
-  **convert image files**


Enter ⇒ `lwarpmk pdftosvg <jobname>-fig*.pdf`

8.8.8 psfrag package

- Pkg psfrag** The `psfrags` environment is modified to use `lateximage` to encapsulate the image. Always use a `psfrags` environment to contain any local `\psfrag` macros and the associated `\includegraphics` or `\epsfig` calls. Outside of a `psfrags` environment, `psfrags` adjustments will not be seen by `lwarp`.
-  **use psfrags**

-  **Tip:** Use a mono-spaced font for the tags in the EPS file.

8.8.9 pstool package

- Pkg pstool** `\graphicspath` is ignored, and the file directory must be stated.
-  **path and filename** The filename must not have a file extension.

Use

Enter ⇒ `lwarpmk html`

followed by

Enter ⇒ **lwarpmk limages**

8.8.10 asymptote package

Pkg asymptote To compile:


```
pdflatex project.tex
asy project-*.asy
pdflatex project.tex

lwarpmk print
asy project-*.asy
lwarpmk print1
lwarpmk print1

lwarpmk html
asy project_html-*.asy
lwarpmk html1
lwarpmk html1
lwarpmk limages
```

8.8.11 overpic package

Pkg overpic The macros `\overpicfontsize` and `\overpicfontskip` are used during HTML generation. These are sent to `\fontsize` to adjust the font size for scaling differences between the print and HTML versions of the document. Renew these macros before using the `overpic` and `Overpic` environments.

 **scaling**

8.8.12 Multimedia packages

Pkg multimedia The packages `multimedia`, `movie15`, and `media9` are supported.

Pkg movie15 HTML5 `<audio>` and `<video>` objects are created for `.mp3` and `.mp4` files.

Pkg media9 HTML5 `<embed>` objects are created for `http` and `ftp` links.

`\href` links are created for other media types. (Unfortunately, there is not much overlap between the file types supported for print output and the file types supported by HTML5.)

For `media9`, a multimedia object is inserted for each `addressource=`, as well as each `flashvars source=` and `src=`. This may result in duplicate objects.

Undesired objects may be nullified by placing them inside `\warpprintonly` or the `warpprint` environment.

Each HTML multimedia object includes the poster text, except for `<embed>` objects. For `movie15`, the `text` option is supported to specify the poster text.

The `width`, `height`, and `totalheight` options are supported. The HTML object is scaled according to the display width, correctly compensating for either tall or wide viewports.

Other options are ignored.

`media9 \addmediapath` is supported. It is assumed that the same path structure will exist for the HTML document.

HTML5 media controls are always specified for each `<audio>` and `<video>` object.

`media9` slideshows are not supported.

`\hyperlinkmovie`, `\movieref`, and `\mediabutton` are not supported.

3D objects are not supported.

If using a YOUTUBE™ video, use an “embedded” URL with `.../embed/...` instead of `.../v/...`

8.9 Tabbing

The tabbing environment works, except that `svg math` and `lateximages` do not yet work inside the environment.


 **math in tabbing** If math is used inside tabbing, place tabbing inside a `lateximage` environment, which will render the entire environment as a single `svg` image.

8.10 Tabular

8.10.1 tabular environment

Tabular mostly works as expected, but pay special attention to the following, especially if working with environments, macros inside tabulars, multirows, `siunitx S` columns, or the packages `multirow`, `longtable`, `supertabular`, or `xtab`.

Defining macros and environments:

 **Misplaced alignment tab character &**

- When defining environments or macros which include `tabular` and instances of the `&` character, it may be necessary to make `&` active before the environment or macro is defined, then restore `&` to its default catcode after, using the following commands. These are ignored in print mode.

```
\StartDefiningTabulars
```

```
<define macros or environments using tabular and & here>
```

```
\StopDefiningTabulars
```

 **floatrow**

This includes before and after defining any macro which used `\ttabbox` from `floatrow`.

⚠ tabular inside another environment

- When creating a new environment which contains a tabular environment, lwarp's emulation of the tabular does not automatically resume when the containing environment ends, resulting in corrupted HTML rows. To fix this, use `\ResumeTabular` as follows. This is ignored in print mode.

```

\StartDefiningTabulars % (& is used in a definition)
\newenvironment{outerenvironment}
{
  \tabular{cc}
  left & right \\
}
{
  \TabularMacro\ResumeTabular
  left & right \\
  \endtabular
}
\StopDefiningTabulars

```

For developers:

- To automate the use of `\StartDefiningTabulars` and `\EndDefiningTabulars`, these macros may be embedded inside an HTML environment definition to automatically change the catcode of `&` before absorbing the arguments. Another environment may be embedded as well.

```

% Does the work after the catcode has been changed:
\newcommand*\LWR@HTML@subsomenam}[2]{%
  . . .
  \otherenvironmentname [<args>] {<args>} % for example
}
% Change catcode before absorbing arguments:
\newcommand*\LWR@HTML@somenam{%
  \StartDefiningTabulars
  \LWR@HTML@subsomenam
}
% Change catcode again at the end:
\newcommand*\LWR@HTML@endsomenam}{%
  . . .
  \endotherenvironmentname % for example
  \StopDefiningTabulars
}
% Combine with the existing print definition:
\LWR@formattedenv{somenam}

```

Cell contents:

⚠ macro in a table

- Using a custom macro inside a tabular data cell may result in an extra HTML data cell tag, corrupting the HTML table. To avoid this, use `\TabularMacro` just before the macro. This is ignored in print mode.

```
\TabularMacro\somemacro & more row contents \\
```

Column specifiers:

@ and !

- Only one each of `@` and `!` is used at each column, and they are used in that order.

\multirow

- In `\multirow` cells, the print version may have extra instances of `<`, `>`, `@`,

and ! cells on the second and later rows in the `\multirow` which do not appear in the HTML version.

⚠ `\newcolumntype`

- `\newcolumntype` is ignored; unknown column types are set to l.

Rules:

vertical rules

width and trim

combined rules

- Doubled `\hlines`, `\midrules`, and vertical rules are supported.
- Vertical rules next to either side of an @ or ! column are displayed on both sides of the column.
- Width options are honored. Trim options are converted to rounded top corners. Trim corners are not rounded with @ or ! columns, and full-width rules ignore trim. When given an optional width, each cell is styled to create the custom border. Without an optional width, the entire row is given a class to assign the standard border.
- If you wish to use `\cmidrule` followed by `\bottomrule`, it may be necessary to use:
`\cmidrule{2-3} \\\[-2ex]`
`\bottomrule`
 The optional `-2ex` is ignored in HTML, but improves the visual formatting in the print output.

⚠ `\warpprintonly`

⚠ Misplaced `\noalign`

- For `\toprule` and `\bottomrule`, when combined with a `warpprint` or `warpHTML` environment, if a “Misplaced `\noalign`” error occurs, change
`This & That \endhead`
 to
`\warpprintonly{This & That \endhead}`
 and likewise with the other `\end` headings. Keep the `\endfirsthead` row unchanged, as it is still relevant to HTML output.

Other:

longtable headings

⚠ S columns

- `tabularx` ignores the width, but X columns do produce paragraph columns or multicolumns.
- For `longtable`, place headings and footings which do not apply to HTML inside `\warpprintonly{}`.
- For S columns (from the `siunitx` package), while producing print output, anything non-numeric must be placed inside `{ }` braces, including commands such as `\multirow`. While producing HTML output, though, anything placed inside braces is not seen by `lwarp`'s tabular handling algorithm. To resolve this problem, make a copy of the row, with one version for print output, containing the extra braces, and another version for HTML output, without the extra braces, such as:
`\warpprintonly{1 & 2 & {\multirow{2}{2cm}{Text}} & 3 \\\}`
`\warpHTMLonly{1 & 2 & \multirow{2}{2cm}{Text} & 3 \\\}`

⚠ `tabular` inside a ``

- In `LATEX`, a `tabular` may be placed inside a `minipage`, but in HTML a `<table>` may not be inside a ``. If this situation is detected, a warning is printed instructing the user to isolate the `` using `\warpprintonly` or the `warpprint` environment.

8.10.2 multirow package

vposn

- Note that recent versions of `multirow` include a new optional `vposn` argument.

multirow cells

- For `multirow`, insert `\mrowcell` into any empty multi-row cells. This will be a null function for the print output, and is a placeholder for parsing the table for HTML output. An error is generated if this is missed.

```
... & \multirow{2}{.5in}{text} & ...
... & \mrowcell & ...
```

colored cells

- The `multirow` documentation regarding colored cells recommends using a negative number of rows. This will not work with `lwarp`, so `\warpprintonly` and `\warpHTMLonly` must be used to make versions for print and HTML.

with `\multicolumn`

- See section 405.2 for `\multicolumnrow`.

⚠ `\multicolumn & \multirow`

`lwarp` does not support directly combining `\multicolumn` and `\multirow`. Use `\multicolumnrow` instead. To create a 2 column, 3 row cell:

```
\multicolumnrow{2}{c}[c]{3}[0]{1in}[0pt]{Text}
```

The two arguments for `\multicolumn` come first, followed by the five arguments for `\multirow`, many of which are optional, followed by the contents.

⚠ skipped cells

As per `\multirow`, skipped cells to the right of the `\multicolumnrow` statement are not included in the source code on the same line. On the following lines, `\mcolrowcell` must be used for each cell of each column and each row to be skipped. An error is generated if this is missed.

⚠ empty cells

```
... & \multicolumnrow{2}{c}[c]{3}[0]{1in}[0pt]{Text} & ...
... & \mcolrowcell & \mcolrowcell & ...
... & \mcolrowcell & \mcolrowcell & ...
```

⚠ `MathJax`

- `MATHJAX` does not support `multirow`, so it is emulated to only print its text on the first row. `\multirow` works as expected in text tabulars or `svg math`.

8.10.3 longtable package

Pkg `longtable`

Use one of either `\endhead` or `\endfirsthead` for both print and HTML, and use a `\warpprintonly` macro to disable the other head phrase, and also the `\endfoot` and `\endfirstfoot` phrases. (See section 8.10.4 if using `threeparttablex`.)

```

\begin{longtable}{ [column specifiers] }
[ . . . ] \endfirsthead % or \endhead, for print and HTML
\warpprintonly{ % not used in HTML
[ . . . ] \endhead % or \endfirsthead
[ . . . ] \endfoot
[ <lastfoot macros> ] \endlastfoot
}
. . . table contents . . .
\warppHTMLonly{
[ <lastfoot macros> ] % HTML last footer, without \endfoot
% or \endlastfoot.
}
\end{longtable}

```

⚠ **Misplaced \noalign** Use the `\warpprintonly` macro instead of the `\warpprint` environment. Doing so helps avoid “Misplaced \noalign.” when using `\begin{\warpprint}`.

⚠ **\kill** `\kill` is ignored, place a `\kill` line inside

```
\begin{\warpprint} . . . \end{\warpprint}
```

or place it inside `\warpprintonly`.

⚠ **lateximage** `longtable` is not supported inside a `lateximage`.

8.10.4 threeparttablex package

Pkg `threeparttablex` `threeparttablex` is used with `longtable` and `booktabs` as follows:

```

\begin{longtable}{ [column specifiers] }
[ . . . ] \endfirsthead % or \endhead, for print and HTML
\warpprintonly{ % not used in HTML
[ . . . ] \endhead % or \endfirsthead
[ . . . ] \endfoot
\bottomrule \insertTableNotes \endlastfoot
}
. . . table contents . . .
\warppHTMLonly{ % HTML last footer
\bottomrule
\UseMinipageWidths % optional
\insertTableNotes
\endlastfoot
}
\end{longtable}

```

table width The table notes are created using a `\multicolumn`. By default the width is not specified to the browser, so long table notes can cause the table to be spread out horizontally. For HTML output, `lwarp` guesses the width of the table depending on the number of columns, then restricts its guess to a min/max range. To use this guess for the width of the table notes, use `\UseMinipageWidths` before `\insertTableNotes`. The width is then specified, and in many cases the result is an improvement in overall table layout.

8.10.5 supertabular and xtab packages

Pkg supertabular For `\tablefirsthead`, etc., enclose them as follows:

⚠ Misplaced alignment
tab character &

```
Pkg xtab
\StartDefiningTabulars
\tablefirsthead
...
\StopDefiningTabulars
```

See section 8.10.1.

⚠ lateximage supertabular and xtab are not supported inside a lateximage.

8.10.6 colortbl package

Pkg colortbl Only use `\rowcolor` and `\cellcolor` at the start of a row, in that order.

⚠ row/cell color colortbl ignores the overhang arguments.

8.10.7 ctable package

⚠ Misplaced alignment
tab character & Use `\StartDefiningTabulars` before one or more `\ctables`, and `\StopDefiningTabulars` after. These change the meaning of the ampersand `&` character.

8.10.8 bigdelim package

⚠ use \mrowcell Pkg bigdelim `\ldelim` and `\rdelim` use `\multirow`, so `\mrowcell` must be used in the proper number of empty cells in the same column below `\ldelim` or `\rdelim`, but not in cells which are above or below the delimiter:


```
\begin{tabular}{lll}
<empty> & a & b \\
\ldelim{\}{3}{.25in}[left ] & c & d \\
\mrowcell & e & f \\
\mrowcell & g & h \\
<empty> & i & j \\
\end{tabular}
```

```
<-> a b
left { c d
      e f
      g h
<-> i j
```

For MATHJAX, limited emulation is provided which merely prints the delimiter and optional text in the first row.

8.11 Floats

8.11.1 Float contents alignment

 **figure & table alignment** `\centering`, etc. are honored in a figure or table if they are the first command inside the float:

```
\begin{table*}
\centering
\caption{A Table}
...
```

8.11.2 float, trivfloat, and/or algorithmicx together

Pkg float If using `\newfloat`, `trivfloat`, and/or `algorithmicx` together, see section 600.1.

Pkg trivfloat

Pkg algorithmicx

 **package conflicts**

Pkg caption

Pkg subcaption

8.11.3 caption and subcaption packages

Package options may cause problems with `lwarp`, especially if they include curly braces.

If selecting options with braces in `\usepackage` does not work:


```
\usepackage[font={it,small}]{caption}% does not work
```

... try instead selecting the package options before loading `lwarp`:

```
\PassOptionsToPackage{font={it,small}}{caption}
...
\usepackage{lwarp}
...
\usepackage{caption}
```

... or try setting package options after the package has been loaded:

```
\usepackage{caption}
\captionsetup{font={it,small}}
```

 **numbering** To ensure proper float numbering, set caption positions such as:

```
\captionsetup[figure]{position=bottom}
\captionsetup[subfigure]{position=bottom}
\captionsetup[table]{position=top}
\captionsetup[subtable]{position=top}
```

Similarly for `longtable`. These positions depend on where the user places the `\caption` command inside each float.

8.11.4 subfig package

Pkg subfig

⚠ **table numbering** To have correct sub table numbers:

```
\usepackage{caption}
\captionsetup[table]{position=top}
```

⚠ **lof/lotdepth** At present, the package options for lofdepth and lotdepth are not working. These counters must be set separately after the package has been loaded.

⚠ **horizontal spacing** In the document source, use `\hfill` and `\hspace*` between subfigures to spread them apart horizontally. The use of other forms of whitespace may cause paragraph tags to be generated, resulting in subfigures appearing on the following lines instead of all on a single line.

8.11.5 floatrow package

Pkg floatrow

⚠ **Misplaced alignment
tab character &
subfig package**

Use `\StartDefiningTabulars` and `\StopDefiningTabulars` before and after defining macros using `\ttabbox` with a tabular inside. See section 8.10.1.

When combined with the subfig package, while inside a subfloatrow `\ffigbox` and `\ttabbox` must have the caption in the first of the two of the mandatory arguments.

⚠ **\FBwidth, \FBheight**

The emulation of floatrow does not support `\FBwidth` or `\FBheight`. These values are pre-set to `.3\linewidth` and `2in`. Possible solutions include:

- Use fixed lengths. lwarp will scale the HTML lengths appropriately.
- Use `warpprint` and `warpHTML` environments to select appropriate values for each case.
- Inside a `warpHTML` environment, manually change `\FBwidth` or `\FBheight` before the `\ffigbox` or `\ttabbox`. Use `\FBwidth` or `\FBheight` normally afterwards; it will be used as expected in print output, and will use your custom-selected value in HTML output. This custom value will be used repeatedly, until it is manually changed to a new value.

8.11.6 keyfloat package

Pkg keyfloat

⚠ **keywrap**

If placing a `\keyfig[H]` inside a `keywrap`, use an absolute width for `\keyfig`, instead of `lw`-proportional widths. (The `[H]` option forces the use of a minipage, which internally adjusts for a virtual 6-inch wide minipage, which then corrupts the `lw` option.)

8.12 KOMA-SCRIPT classes

Cls komascript

Many features are ignored during the HTML conversion. The goal is source-level compatibility.

`\captionformat`, `\figureformat`, and `\tableformat` are not yet emulated.

⚠ **Not fully tested!** [Please send bug reports!](#)

Some features have not yet been tested. Please contact the author with any bug reports.

8.13 MEMOIR class

`\cls memoir` **captions** `lwarp` uses `caption`, which causes a warning from `memoir`. This is normal. Adjust captions via `caption`, instead of `memoir`.

⚠ **options clash** While emulating `memoir`, `lwarp` pre-loads a number of packages (section 654.1). This can cause an options clash when the user's document later loads the same packages with options. To fix this problem, specify the options before loading `lwarp`:

```
\documentclass{memoir}
...
\PassOptionsToPackage{options_list}{package_name}
...
\usepackage{lwarp}
...
\usepackage{package_name}
```

⚠ **version numbers** `memoir` emulates a number of packages, and declares a version date for each which often does not match the date of the corresponding freestanding package. This can cause warnings about incorrect version numbers. Since `lwarp` is intended to support the freestanding packages, which are often newer than the date declared by `memoir`, it is hoped that `memoir` will update and change its emulated version numbers to match.

`\label{bookmark}{tag}` `\label` accepts an optional (bookmark) argument, but this is ignored in HTML.

⚠ **comment** The `comment` environment is from the `comment` package, and thus requires that the `\begin` and `\end` each be on its own line:

```
\begin{comment}
This is a comment.
\end{comment}
```

`\newcomment` Comments defined with `\newcomment` use `memoir`'s definitions, and behave as expected, where the `\begin` and `\end` do have to each be on its own line.

⚠ **verbatim footnotes** `\verbfootnote` is not supported.

⚠ **\newfootnoteseries** `\newfootnoteseries`, etc. are not supported.

⚠ **page notes** `lwarp` loads `pagenote` to perform `memoir`'s `pagenote` functions, but there are minor differences in `\pagenotesubhead` and related macros.

page notes with cleveref To add support for `pagenotes` with `cleveref`, add:

```
\crefname{pagenote}{page note}{page notes}
\Crefname{pagenote}{Page note}{Page notes}
```

page note \nameref Note that for print mode, `\nameref` print the section name where the page notes are

declared in the text, but for HTML it prints the name where the page notes are printed.

- ⚠ **poems** Poem numbering is not supported.
- ⚠ **verbatim** The verbatim environment does not yet support the memoir enhancements. It is currently recommended to load and use `fancyvrb` instead.
- ⚠ **glossaries** The memoir glossary system is not yet supported by *lwarpmk*. The `glossaries` package may be used instead, but does require the glossary entries be changed from the memoir syntax to the `glossaries` syntax.
- ⚠ **framewithtitle, titledframe** The custom frame commands in the memoir manual may be emulated by placing the original definitions in the preamble inside `warpprint` environments, and then providing an HTML equivalent:

```

\begin{warpHTML}
\newcommand{\FrameTitle}[2]{%
  \textbf{#2}
}

\newenvironment{framewithtitle}[2][\FrameFirst@Lab\ (cont.)]{%
  \begin{fminipage}{\linewidth}
  \textbf{#2}
  \begin{minipage}{\linewidth}
  }
{\end{minipage}\end{fminipage}}

\newcommand{\TitleFrame}[2]{%
  \par
  \textbf{#1}\par
  \fboxBlock{#2}
}

\newenvironment{titledframe}[2][\FrameFirst@Lab\ (cont.)]{%
  \par
  \textbf{#2}
  \begin{fminipage}{\linewidth}
  }
{\end{fminipage}}
\end{warpHTML}

```

8.14 International languages

- ⚠ **section and file names** If using *pdf_latex* with the setting `\booltrue{FileSectionNames}`, non-ASCII text in section names can result in corrupted HTML file names. *pdf_latex* may be used if setting `\boolfalse{FileSectionNames}`, in which case HTML file numbers will be generated.

For correct HTML file names, use *xel_latex*, *lual_latex*, or dedicated document classes / engines.

(As of this writing, this warning is only relevant to the `kotex` package.)

8.15 Miscellaneous packages

8.15.1 verse and memoir

Pkg `verse` When using `verse` or `memoir`, always place a `\\` after each line.

Cls `memoir`
`\attrib` The documentation for the `verse` and `memoir` packages suggest defining an `\attrib` command, which may already exist in current documents, but it will only work for print output. `lwarp` provides `\attribution`, which works for both print and HTML output. To combine the two so that `\attrib` is used for print and `\attribution` is used for HTML:

```
\begin{warpHTML}
\let\attrib\attribution
\end{warpHTML}
```

Len `\vleftskip` These lengths are used by `verse` and `memoir` to control the left margin, and they may already be set by the user for print output. New lengths `\HTMLvleftskip` and `\HTMLleftmargini` are provided to control the margins in HTML output. These new lengths may be set by the user before any `verse` environment, and persist until they are manually changed again. One reason to change `\HTMLleftmargini` is if there is a wide `\flagverse` in use, such as the word “Chorus”, in which case the value of `\HTMLleftmargini` should be set to a wide enough length to contain “Chorus”. The default is wide enough for a stanza number.

Len `\vleftmargini`

Len `\HTMLvleftskip`

Len `\HTMLleftmargini`

⚠ **spacing** Horizontal spacing relies on *pdftotext*'s ability to discern the layout (`-layout` option) of the text in the HTML-tagged PDF output. For some settings of `\HTMLleftmargini` or `\HTMLvleftskip` the horizontal alignment may not work out exactly, in which case a label may be shifted by one space. During translation to HTML, the stanza numbers are kept out of the left margin, which would have caused *pdftotext* to shift everything over.

⚠ **verse margin**

8.15.2 newclude package

Pkg `newclude` `newclude` modifies `\label` in a non-adaptive way, so `newclude` must be loaded before `lwarp` is loaded:

⚠ **loading**

```
\documentclass{article}
... <font setup>
\usepackage{newclude}
\usepackage[warpHTML]{lwarp}
...
```

8.15.3 babel package

Pkg `babel` When French is used, the caption separator is changed to a dash. To restore it to a colon, the following may be placed before `lwarp` is loaded:

⚠ **\CaptionSeparator**

```
\renewcommand*{\CaptionSeparator}{:~}
```


punctuation spaces Also when French is used, `lwarp` creates fixed-width space around punctuation by patching `\FBcolonspace`, `\FBthinspace`, `\FBguillspace`, `\FBmedkern`, `\FBthickkern`, `\FBtextellipsis`, and the tilde. If the user's document also changes these parameters, the user's changes should be placed inside a `warpprint` environment so that the user's changes do not affect the HTML output.

⚠ **customized spacing**

8.15.4 polyglossia package

Pkg `polyglossia` `lwarp` uses `cleveref`, which has some limitations when using `polyglossia`, possibly resulting in the error

```
! Undefined control sequence. . . . \@begindocumenthook
```

To test compatibility, add

```
\usepackage{cleveref}
```

near the end of the preamble (as the last package to be loaded), and try to compile the print version. It may be necessary to set

```
\setdefaultlanguage{english}
```

or some other language supported by `cleveref`, then select other languages using `\setotherlanguages`.

Once the print version works with `cleveref` and `polyglossia`, the HTML version should work as well using `lwarp`.

8.15.5 todonotes and luatodonotes packages

Pkg `todonotes` The documentation for `todonotes` and `luatodonotes` have an example with a `todo` inside a caption. If this example does not work it will be necessary to move the `todo` outside of the caption.
Pkg `luatodonotes`

8.15.6 fixme


Pkg `fixme` External layouts (`\fxloadlayouts`) are not supported.

⚠ **external layouts**

User control is provided for setting the HTML styling of the “faces”. The defaults are as follows, and may be changed in the preamble after `fixme` is loaded:

```
\def\FXFaceInlineHTMLStyle{font-weight:bold}
\def\FXFaceEnvHTMLStyle{font-weight:bold}
\def\FXFaceSignatureHTMLStyle{font-style:italic}
\def\FXFaceTargetHTMLStyle{font-style:italic}
```

8.15.7 acro package


 **formats** Define acronymn formats using `\textbf` instead of `\bfseries` etc.

8.15.8 chemfig package

If using `\polymerdelim` to add delimiters to a `\chemfig`, wrap both inside a single `lateximage`:

```
\begin{lateximage}[-chemfig-~\PackageDiagramAltText]
\chemfig{. . . }
\polymerdelim[. . . ]{. . . }
\end{lateximage}
```

8.15.9 chemformula package

 **chemformula with MATHJAX** `chemformula` works best without `MATHJAX`. If `MATHJAX` is used, `\displaymathother` must be used before `array`, and then `\displaymathnormal` may be used after. (The `chemformula` package adapts to `array`, but does not know about `MATHJAX`, and `MATHJAX` does not know about `chemformula`.)

While using `MATHJAX`, `\displaymathother` may also be used for other forms of display and inline math which contain `chemformula` expressions.

8.15.10 mhchem package

See section 386.

8.15.11 xparse package

Pkg `xparse` To remove from the log any warnings about redeclaring objects, place the following before `lwarp` is loaded:

```
\usepackage[log-declarations=false]{xparse}
```

8.15.12 kotex package

Pkg `kotex` See section 8.14 regarding `pdflatex` and Korean section names.

 **Korean section names**

9 Compiling using custom shell commands

`lwarp` and `lwarpmk` try to make it easy to process print and HTML compilation tasks in most situations. Depending on the operating system, command-line options, T_EX engine, and `lwarp` options, the commands `lwarpmk print` and `lwarpmk html` are automatically set up to correctly recompile the project. These actions may be overridden using `lwarp` options, thus allowing the use of packages such as `perltex` and `pythontex`.

9.1 Command options


Opt `PrintLatexCmd` The `lwarp` options `PrintLatexCmd` and `HTMLLatexCmd` are used to set customized commands to be executed by `lwarpmk print` and `lwarpmk html`.
 Opt `HTMLLatexCmd`

PrintLatexCmd should be set to shell commands which take `project.tex` and generate `project.pdf`.

HTMLLatexCmd should be set to take `project_html.tex` and generate `project_html.pdf`. `lwarpmk` will then take `project_html.pdf` and automatically convert it and generate `project.html`.

9.2 Literal character macros

The `lwarp` package options are parsed by T_EX, and so some characters require the use of a special macro to represent them. See table 9. `\LWRopquote` and `\LWRopseq` may be used to increase operating-system portability. `\jobname` must have `_html` appended for processing HTML. `\space` may be necessary between other macros.

 **macro not found** To use these macros, either `kvoptions-patch` must be loaded before `lwarp`:

```
\usepackage{kvoptions-patch}
\usepackage[
  PrintLatexCmd={ ... } ,
  HTMLLatexCmd={ ... }
]{lwarp}
```

Table 9: Literal character macros

Character	Macro	Comment
%	\LWRpercent	
\$	\LWRdollar	
&	\LWRamp	
%	\LWRhash	
\	\LWRbackslash	
' or "	\LWRopquote	Depends on the operating system.
& or &&	\LWRopseq	Depends on the operating system.
(space)	\space	Forces an extra space.
(jobname)	\jobname	Without file extension.

or `\lwarpssetup` must be used to set `PrintLatexCmd` and `HTMLLatexCmd`:

```

\usepackage[...]{lwarp}
\lwarpssetup{
  PrintLatexCmd=
  {
    latex tm \LWRopseq
    dvips -o tm-pics.ps tm.dvi \LWRopseq
    ps2pdf tm-pics.ps \LWRopseq
    pdflatex tm.tex
  } ,
  HTMLLatexCmd=
  {
    latex tm_html \LWRopseq
    dvips -o tm_html-pics.ps tm_html.dvi \LWRopseq
    ps2pdf tm_html-pics.ps \LWRopseq
    pdflatex tm_html.tex
  }
}

```

9.3 *latexmk*

Prog `latexmk` If *latexmk* is used for a project, it may be easiest to continue using it.

latexmk project.tex would create `project.pdf` as normal.

latexmk project_html.tex would create `project_html.pdf`, then

lwarpmk pdftohtml project_html.pdf would take `project_html.pdf` and convert it to `project.html`.

Pkg `sagetex` *latexmk* may simplify the use of packages such as `sagetex`.

9.4 `perltex` package

Pkg `perltex` The `lwarp` package option settings to use `perltex` would be similar to:

```
\usepackage[
  . . .
  PrintLatexCmd={perltex -latex=pdflatex project.tex} ,
  HTMLLatexCmd={perltex -latex=pdflatex project_html.tex} ,
  . . .
]{lwarp}
```

⚠ “impure” math Place `perltex` math expressions between `\displaymathother` and `\displaymathnormal`, or `\inlinemathother` and `\inlinemathnormal`. See section 8.7.9.

9.5 `pythontex` package

Pkg `pythontex` An example using `pythontex`:

```
\usepackage[
  . . .
  PrintLatexCmd={
    pdflatex project.tex \LWRopseq
    pythontex project \LWRopseq
    pdflatex project.tex
  } ,
  HTMLLatexCmd={
    pdflatex project_html.tex \LWRopseq
    pythontex project_html \LWRopseq
    pdflatex project_html.tex
  } ,
  . . .
]{lwarp}
```

Another possibility is to use *latexmk*, placing the `latexmk . . .` commands in the `PrintLatexCmd` and `HTMLLatexCmd` options. While using these options, the `lwarp` option `latexmk` would not be used.

⚠ “impure” math No attempt has yet been made to make `pythontex` robust with HTML output. Some math objects must be surrounded by `\displaymathother ... \displaymathnormal`, or `\inlinemathother ... \inlinemathnormal`. Displays of code may have to be enclosed

⚠ HTML look-alike inside a `lateximage` environment to prevent `<`, `>` and similar from being interpreted by the browser as HTML entities.

9.6 Other packages

Pkg `sympytex` Other packages such as `sympytex` and `rterface` would be set up similar to `pythontex`,

Pkg `rterface`


and the same warnings would apply.

9.7 *make* program

Prog `make` To use `lwarp` with the *make* program, have the makefile take `project.tex` and generate the print version `project.pdf`, as normal. `\usepackage{lwarp}` must be used, and it generates `lwarpmk.conf` when the print version is created.

To generate HTML, first have `project_html.tex` be compiled to generate `project_html.pdf`. This must be in PDF format. Finally, have `project_html.pdf` be converted to HTML using `lwarpmk pdftohtml project_html.pdf`, and convert SVG math with `lwarpmk limages`.

9.8 UTF-8 locale

 **UTF-8 locale** *lwarpmk* uses the *texlua* program, which sets the “locale” to “C”, including for external operating-system calls such as when executing `lwarpmk html`. In some cases, an external program called from the user’s document may require the use of a UTF-8 “locale”. For UNIX-related operating systems, it may be required to use `lwarp`’s custom compilation options to add a locale change:

```
\usepackage{lwarp}[
  PrintLatexCmd={
    env LC_CTYPE=en_US.UTF-8
    xelatex -shell-escape project.tex
  }
  HTMLLatexCmd={
    env LC_CTYPE=en_US.UTF-8
    xelatex -shell-escape project_html.tex
  }
]
```

Pkg `ditaa` The only example seen so far where this is required is the `ditaa` package, where the locale change allows the use of UTF-8 with Xe^LA^TE^X and `ditaa`. To use Lua^AT^EX instead, the locale change would have to be made inside the `ditaa` package where it calls the *ditaa* program.

10 EPUB conversion

lwarp does not produce EPUB documents, but it may be told to modify its HTML output to greatly assist in the conversion. An external program may then be used to finish the conversion to EPUB.

<meta> author To assign the author's name for regular lwarp HTML files, and also for the EPUB, use `\HTMLAuthor {<name>}`. This assigns the name to the `<meta>` author element. It may be set empty, and it defaults to `\theauthor`.

A special boolean is provided to simplify the process of converting lwarp HTML output to EPUB:

	FormatEPUB
Bool	FormatEPUB
Default: false	FormatEPUB changes HTML output for easy EPUB conversion via an external program. Removes per-file headers, footers, and nav. Adds footnotes per chapter/section.

To help convert lwarp HTML output to EPUB, add

```
\booltrue{FormatEPUB}
```

to the project's source preamble after `\usepackage{lwarp}`. The EPUB version of the document cannot co-exist with the regular HTML version, so

```
Enter ⇒ lwarpmk cleanall
```

```
Enter ⇒ lwarpmk html
```

```
Enter ⇒ lwarpmk limages
```

to recompile with the FormatEPUB boolean turned on. Several changes are then made to the HTML output:

- Headers, footers, and navigation are removed at file splits.
- Any accumulated footnotes are printed at the bottom of each section.

The resulting files will be ready to be loaded into an EPUB conversion program, such as the open-source program *Calibre* (<https://calibre-ebook.com/>).

search order

The EPUB conversion program must know what order the files are included. For lwarp projects, set the EPUB conversion software to do a breadth-first search of the files. For *Calibre*, this option is found in

Preferences → Plugins → File type plugins → HTML to Zip

encoding

Check the box **Add linked files in breadth first order**. Set the document encoding as `utf-8`, which is what lwarp generates for HTML, even if the original printed document uses some other encoding.

⚠ section breaks

The EPUB-conversion program must also know where the section breaks are located. For a list of `lwarp`'s section headings, see table 11. For example, an `article` class document would break at `\section`, which is mapped to HTML heading level `<h4>`, whereas a `book` class document would break at `\chapter`, which is HTML heading level `<h3>`. For *Calibre*, this option is found in

Preferences → Conversion (Common Options) → Structure Detection → Detect chapters at (XPath expression)

Select the “magic wand” to the right of this entry box, and set the first entry

Match HTML tags with tag name:

to “h4”. (Or “h3” for document classes with `\chapters`.) The `Detect chapters at` field should then show

`//h:h4` — or — `//h:h3`

This option is also available on the main tool bar at the `Convert books` button.

Once these settings have been made, the `lwarp`-generated HTML files may be loaded by *Calibre*, and then converted to an EPUB.

MATHJAX support

MATHJAX may be used in EPUB documents. Some e-readers include MATHJAX, but any given reader may or may not have a recent version, and may or may not include extensions such as support for `siunitx`.

`lwarp` adds some modifications to MathML to support equations numbered by chapter. These modifications may not be compatible with the e-reader's version of MATHJAX, so `lwarp` requests that a known version be loaded instead. In some cases chapter numbering of equations still doesn't work.

Until math support in EPUB documents is improved, it is recommended to use SVG images instead of MATHJAX, especially for equations numbered by chapter, or where `siunitx` support is important.

11 Word-processor conversion

lwarp may be told to modify its HTML output to make it easier to import the HTML document into a word processor. At the time of this writing, it seems that LIBREOffice works best at preserving table layout, but it still has some limitations, such as an inability to automatically assign figure and table frames and captions according to user-selected HTML classes. lwarp provides some assistance in locating these frame boundaries, as shown below.

11.1 Activating word-processor conversion

A special boolean is provided to simplify the process of converting lwarp HTML output to EPUB:

	FormatWP
Bool	FormatWP
Default: false	Changes HTML output for easier conversion by a word processor. Removes headers and nav, prints footnotes per section, and also forces single-file output and turns off HTML debug comments. Additionally, honors the booleans WPMarkFloats, WPMarkMinipages, WPMarkTOC, and WPMarkLOFT.

To help modify lwarp HTML output for easier import to a word processor, add

```
\booltrue{FormatWP}
```

formatting adjustments

to the project's source preamble after lwarp is loaded. The following changes are then made to the HTML output:

- If using a class without chapters, \section and lower are shifted up in level for the HTML heading tags. The CSS has not been changed, so the section heading formats will not match the normal HTML output, but when imported to *LibreOffice Writer* the higher section headings will import as **Heading 1** for the title, **Heading 2** for \section, etc.
- Headers, footers, and navigation are removed at file splits.
- Any accumulated footnotes are printed at the bottom of each section.
- Forces single-file output.
- Turns off HTML debugging comments. These are comments appearing inside the HTML code, marking the opening/closing of sections and <div>s, but they are no longer useful when the document has been imported into a word processor.
- An additional <div> with an id encapsulates each float and minipage, which on import into *LibreOffice Writer* causes a thin frame to appear around the text block for each.
- Float captions are given an explicit italic formatting.

- Tabular rule borders are made explicit for *LibreOffice Writer*. LIBREOffice displays a light border around each cell while editing, even those which have no border when printed, and lwarp also uses a light border for thin rules, so it will be best to judge the results using the print preview instead of while editing in LIBREOffice.
- `\includegraphics` and `svg` math width and height are made explicit for LIBREOffice.
- `\hspace` is approximated by a number of `\quads`, and rules are approximated by a number of underscores.
- Explicit HTML styles are given to:
 - `\textsc`, etc.
 - `\underline`, `soul` and `ulem` markup.
 - `center`, `flushleft`, `flushright`.
 - `\marginpar`, `keyfloat`, `sidenotes`, `floatflt`, and `wrapfig`.
 - `fancybox` `\shadowbox`, etc.
 - The L^AT_EX and T_EX logos.

- Honors several booleans:

WPMarkFloats: Marks the begin and end of floats.

WPMarkMinipages: Marks the begin and end of minipages.

WPMarkTOC: Marks the location of the Table of Contents.

WPMarkLOFT: Marks the locations of the List of Figures/Tables.

WPMarkMath: Prints L^AT_EX math instead of using images.

WPTitleHeading: Adjusts title and section headings.

Several of these may be used to add markers to the HTML text which help determine where to adjust the word processor document after import.

11.2 Additional modifications

WPMarkFloats

Bool WPMarkFloats
Default: false

Adds

```
=== begin table ===
...
=== end ===
```

or

```
=== begin figure ===
...
=== end ===
```

around floats while formatting for word processors. This helps identify boundaries of floats to be manually converted to word-processor frames and captions.

WPMarkMinipages

Bool WPMarkMinipages
 Default: false

Adds

```
=== begin minipage ===
...
=== end minipage ===
```

around minipages while formatting for word processors. This helps identify boundaries of minipages to be manually converted to word-processor frames.

WPMarkTOC

Bool WPMarkTOC
 Default: true

While formatting for word processors, adds

```
=== table of contents ===
```

where the Table of Contents would have been. This helps identify where to insert the actual TOC.

If set false, the actual TOC is printed instead.

WPMarkLOFT

Bool WPMarkLOFT
 Default: false

While formatting for word processors, adds

```
=== list of figures === and/or
=== list of tables ===
```

where each of these lists would have been. This helps identify where to insert the actual lists.

If set false, the actual lists are printed instead.

WPMarkMath

[siunitx](#)
 Bool WPMarkMath
 Default: false
 Prog TeXMaths

While formatting for word processors, prints math as \LaTeX code instead of creating SVG images or MATHJAX. This is useful for cut/paste into the *LibreOffice Writer TeXMaths* extension.

When using the `siunitx` package, enter

```
\usepackage{siunitx}
```

in the *TeXMaths* preamble. Equation numbering is problematic for \mathcal{AMS} math environments.

Table 10: Section HTML headings for word-processor conversion

Section	HTML headings*			
	With \chapter		Without \chapter	
	WPTitleHeading true	WPTitleHeading false	WPTitleHeading true	WPTitleHeading false
Title	<h1>	plain	<h1>	plain
\book	<div>	<div>	<div>	<div>
\part	<h2>	<h1>	<h2>	<h1>
\chapter	<h3>	<h2>	—	—
\section	<h4>	<h3>	<h3>	<h2>
\subsection	<h5>	<h4>	<h4>	<h3>
\paragraph	<h6>	<h5>	<h5>	<h4>
\subparagraph		<h6>	<h6>	<h5>

* For default depths when not FormatWP, see table 11 on page 204.

WPTitleHeading

Bool WPTitleHeading
Default: false
section headings

While formatting for word processors, true sets the document title to <h1>, which is expected for HTML documents, but also causes the lower-level section headings to start at **Heading 2** when imported into LIBREOffice. Set to false to cause the title to be plain text, and the section headings to begin at **Heading 1**.

See table 10 on page 188.

11.3 Recommendations

TOC, LOE, LOT For use with *LibreOffice Writer*, it is recommended to:

1. Set `\booltrue{FormatWP}`
2. Set `\booltrue{WPMarkTOC}` and `\boolfalse{WPMarkLOFT}`
3. Use `lwarp` to generate the HTML document.
4. Copy/paste from the HTML document into an empty *LibreOffice Writer* document.
5. Manually insert a LIBREOffice TOC in the LIBREOffice document.
6. Manually add frames around each float, adding a caption which is cut/pasted from each float's simulated caption.
7. Manually create cross references.

This process yields a document with an actual LIBREOffice Table of Contents, but a simulated List of Figures and List of Tables.

siunitx For siunitx, remember to adjust the preamble as mentioned above.

LO view border options LIBREOffice has options in the **View** menu to turn on/off the display of thin borders around table cells and text objects.

11.4 Limitations

Floats and captions are not explicitly converted to LIBREOffice floats with their own captions. Floats are surrounded by a thin frame in the LIBREOffice editor, and may be marked with `WPMarkFloats`, but are not given a proper LIBREOffice object frame. Captions are given an explicit italic formatting, but not a proper LIBREOffice paragraph style.

Cross references are not actual LIBREOffice linked cross references.

The List of Figures and List of Tables are not linked. The pasted pseudo LOF and LOT match the numbering of the L^AT_EX and HTML versions.

Equation numbering is not automatic, but the equation numbers in SVG math will match the L^AT_EX and HTML output. SVG math is recommended when using the \mathcal{AMS} environments, which may have multiple numbered equations per object.


As of when last checked, LIBREOffice ignores the following:

- Minipage alignment.
- Tabular cell vertical alignment.
- Image rotation and scaling.
- Rounded border corners, which are also used by:
 - `\textcircled`
 - `booktabs trim`
- `\hspace` and `rules`, also used by `algorithmic`.
- Coloring of text decorations, used by `soul` and `ulem`.
- Overline text decoration, used by `romanbar`.

LIBREOffice also has limitations with frames and backgrounds:

- Multiple lines in an object are framed individually instead of as a whole.
- Nested frames are not handled correctly.
- Images inside boxes are not framed correctly.
- Spans with background colors and frames are not displayed correctly.

12 Modifying lwarp

- locating something** To quickly find the source for a package in `lwarp.dtx`, search for `*packagename`, such as `*siunitx`.
- Likewise, to quickly find the source for a file in `lwarp.dtx`, search for `*filename`, such as `*lwarp.css`.
- Purely text-based packages probably will work as-is when generating HTML.
- Look to existing code for ideas on how to expand into new code.
- image of TeX output** An environment may be converted to a `lateximage` then displayed with an image of the resulting L^AT_EX output. See section 91 for an example of the `picture` environment.
- css classes** To create a custom HTML block or inline CSS class, see section 51.9.
- print/HTML macros** To create print and HTML versions of the same macro or environment, see section 35.
-  **TeX boxes** Any TeX boxes must be undone, as SVG math or `lateximages` require `\newpage`, which will not work in a TeX box.

12.1 Creating a development system

The following creates a local development system for `lwarp` on a TeXLive system in a UNIX-like environment. Doing so allows anything requesting `lwarp` to use the development version instead of whichever version is installed in TeXLive.

Create a development directory:

Place into this directory `lwarp.dtx` and `lwarp.ins`.

To create `lwarp.sty`, execute

```
Enter ⇒ pdflatex lwarp.ins
```

which creates `lwarp.sty` and several hundred additional `lwarp-*.sty` files for the various packages which are supported.

To create the initial documentation `lwarp.pdf`, execute

```
Enter ⇒ pdflatex lwarp.dtx
```

To make the development files visible to other projects:

Create the directory

```
/usr/local/texlive/texmf-local/tex/latex/local/lwarp
```

Inside this directory, create the file `update`, containing:

```
rm lwarp-*.sty
ln -s /path_to_dev_directory/lwarp*.sty .
ln -s /path_to_dev_directory/lwarp_baseline_marker.png .
ln -s /path_to_dev_directory/lwarp_baseline_marker.eps .
mktexlsr
```

Run `./update` now, and whenever a new `lwarp-*` package is added.

To make the development version of *lwarpmk* visible to other projects:

```
cd /opt
ln -s /usr/local/texlive/texmf-local/bin/x86_64-linux texbin_local
cd texbin_local
ln -s ../../scripts/lwarp/lwarpmk.lua lwarpmk
cd /usr/local/texlive/texmf-local/scripts/
mkdir lwarp
cd lwarp
ln -s /path_to_dev_directory/lwarpmk.lua lwarpmk
```

Verify that the correct version is found with

Enter \Rightarrow **which lwarpmk**

To make the local versions visible to the shell:

Paths must be set by the shell startup, such as in `.bashrc` and `.cshrc`:

In `.bashrc`:

```
PATH=/opt/texbin_local:/opt/texbin:$PATH
```

In `.cshrc`:

```
setenv PATH ${HOME}/bin:/opt/texbin_local:/opt/texbin:${PATH}
```

To fully compile the lwarp documentation and indexes:

```
pdflatex lwarp.ins
pdflatex lwarp.dtx
pdflatex lwarp.dtx <if necessary>
makeindex -s gglo.ist -o lwarp.gls lwarp.glo <indexes>
splitindex lwarp.idx - -s gind.ist
pdflatex lwarp.dtx
pdflatex lwarp.dtx <if necessary>
makeindex -s gglo.ist -o lwarp.gls lwarp.glo <indexes>
splitindex lwarp.idx - -s gind.ist <again>
pdflatex lwarp.dtx
pdflatex lwarp.dtx <if necessary>
```

(The second round of index processing is required to fully resolve the final Index of Indexes.)

To make it easier to update the documentation after a minor change, it is useful to create a command script called `make_index`, containing:

```
makeindex -s gglo.ist -o lwarp.gls lwarp.glo
splitindex lwarp.idx -- -s gind.ist
```

 **references**

Note that Index of Indexes and the cross-references to the indexes may not be correct until the above has been accomplished.

12.2 Modifying a package for lwarp

If a class loads additional packages, it will be required to modify the class for `lwarp`, since `lwarp` must be loaded before most other packages.

To work with `lwarp`, a class must first set up anything which replicates the functions of the basic \LaTeX classes, load any required fonts, then load `lwarp`, then finally load and adjust any other required packages.

When creating HTML, `lwarp` redefines the `\usepackage` and `\RequirePackage` macros such that it first looks to see if a `lwarp- \langle packagename \rangle .sty` version exists. If so, the `lwarp` version is used instead. This modular system allows users to create their own versions of packages for `lwarp` to use for HTML, simply by creating a new package with a `lwarp-` prefix. If placed in the local directory along with the source code, it will be seen by that project alone. If placed alongside the other `lwarp-` packages where \TeX can see it, then the user's new package will be seen by any documents using `lwarp`. (Remember `mktexlsr` or `texhash`.)

An `lwarp- \langle packagename \rangle .sty` package is only used during HTML generation. Its purpose is to pretend to be the original package, while modify anything necessary to create a successful HTML conversion. For many packages it is sufficient to simply provide nullified macros, lengths, counters, etc. for anything which the original package does, while passing the raw text on to be typeset. See the pre-existing `lwarp-` packages for examples.

Anything the user might expect of the original package must be replaced or emulated by the new `lwarp-` package, including package options, user-adjustable counters, lengths, and booleans, and conditional behaviors. In many of these packages, most of the new definitions have a “local” prefix according to the package name, and `@` characters inside the name, which hides these names from the user. In most cases these macros will not need to be emulated for HTML output. Only the “user-facing” macros need to be nullified or emulated.

Each `lwarp-*` package should first call either of:

```
\LWR@ProvidesPackageDrop
```

— *or* —

```
\LWR@ProvidesPackagePass
```

If “Drop”ped, the original print-version package is ignored, and only the `lwarp-` version is used. Use this where the original print version is useless for HTML. If “Pass”ed, the original package is loaded first, with the user-supplied options, then the `lwarp-` version continues loading as well. See section 432 ([ntheorem](#)) for an example of selectively disabling user options for a package. Use this when HTML output only requires some modifications of the original package. For a case where the original package is usable without changes, there is no need to create a `lwarp-` version.

12.2.1 Adding a package to the lwarp.dtx file

When adding a package to `lwarp.dtx` for permanent including in `lwarp`, provide the `lwarp-<packagename>` code in `lwarp.dtx`, add its entry into `lwarp.ins`, and also remember to add

```
\LWR@loadafter{<packagename>}
```

to `lwarp.dtx` in section 20.1. This causes `lwarp` to stop with an error if `packagename` is loaded before `lwarp`. Finally, add an entry in table 2, **Supported packages and features**, and also the Updates section.

12.3 Modifying a class for lwarp

If a class loads additional packages, it will be required to modify the class for `lwarp`, since `lwarp` must be loaded before most other packages.

To work with `lwarp`, a class must first set up anything which replicates the functions of the basic \LaTeX classes, load any required fonts, then load `lwarp`, then finally load and adjust any other required packages.

12.4 Testing lwarp

When changes have been made, test the print output before testing the HTML. The print output compiles faster, and any errors in the printed version will be easier to figure out than the HTML version.

Remember that the configuration files are only rewritten when compiling the printed version of the document.

When changing the source to *lwarpmk* or a css file in `lwarp.dtx`:

1. Change the source in `lwarp.dtx`.
2. `pdflatex lwarp.ins`
3. `pdflatex lwarp.dtx`
4. If modifying *lwarpmk* the new version should now be active.
5. If modifying css files:
 - (a) For the document, `lwarpmk print` to update the css files in the project.
 - (b) Reload the HTML document to see the effect of the new css files.

Sometimes it is worth checking the `<project>_html.pdf` file, which is the PDF containing HTML tags. Also, `<project>_html.html` has the text conversion of these tags, before the file is split into individual HTML files.

It is also worth checking the browser's tools for verifying the correctness of HTML and css code.

12.5 Modifying *lwarpmk*

Prog `lwarpmk` In most installations, `lwarpmk.lua` is an executable file located somewhere the operating system knows about, and it is called by typing **lwarpmk** into a terminal.
File `lwarpmk.lua`

A project-local copy of `lwarpmk.lua` may be generated, modified, and then used to compile documents:

1. Add the `lwarpmk` option to the `lwarp` package.
2. Recompile the printed version of the document. The `lwarpmk` option causes `lwarp` to create a local copy of `lwarpmk.lua`
3. The `lwarpmk` option may now be removed from the `lwarp` package.
4. Copy and rename `lwarpmk.lua` to a new file such as `mymake.lua`.
5. Modify `mymake.lua` as desired.
6. If necessary, make `mymake.lua` executable.
7. Use `mymake.lua` instead of `lwarpmk.lua`.

13 Troubleshooting

13.1 lwarp package error conditions and warnings

lwarp tests for a number of error conditions and prints appropriate warnings. The following is a summary of these conditions.

13.1.1 Configuration file `lwarpmk.conf`

File does not exist: The configuration file must exist for `lwarpmk`.

Incorrect Unix /Windows selection: The operating system which was detected by `lwarp`. So far only Unix and Windows are supported.

Incorrect delimiter characters. Older versions of `lwarpmk` used a different delimiter.

Source name is set to lwarp: `lwarp` has recently been recompiled in this directory, which overwrote the project's configuration files. This also occurs if `lwarpmk` is executed in `lwarp`'s source directory.

Incorrect operating system: The configuration file was set for a different operating system, perhaps due to sharing in a collaborative project.

Outdated configuration files: `lwarp` has been updated since this project was last compiled. If there appears to be a valid print command in the file, `lwarpmk` displays this to instruct the user how to recompile the print version, which then updates the configuration files.

The designated source file does not exist: For whatever reason...

Unknown engine: `lwarp` cannot determine which engine is being used. Supported are DVI \LaTeX , PDF \LaTeX , Xe \LaTeX , Lua \LaTeX , and up \LaTeX .

13.1.2 Image generation with `lwarpmk limages`

“Wait a moment for the images to complete before reloading page.”:

Images are generated by background tasks. If the document is reloaded before these tasks are complete, some images may not yet be generated. `lwarpmk` tries to wait for background tasks to complete before exiting.

HTML version does not exist: Images are extracted from the HTML version, which must be compiled before images are generated.

***-images.txt does not exist:** This file tells which images to extract from the HTML file. If the file does not exist, it may be that no `svg math` or `lateximages` were used. If so, `lwarpmk limages` is not necessary.

Cross references are not correct: The document must have up-to-date cross references to locate the images to extract. A number of conditions may cause incorrect cross references.

“WARNING: Images will be incorrect.”: An image reference was not found. Recompile.

lwarpmk epstopdf * or lwarpmk pdftosvg *: Errors if filenames are not found.

13.1.3 Default bitmapped font

lwarp requires the use of a vector font. If lwarp detects that the document uses the default COMPUTER MODERN font, and the cm-super package is not installed, it is assumed that the font is bitmapped. An error is generated, along with the recommendation to install cm-super or use lmodern.

13.1.4 Packages

Loaded before lwarp: Some packages and classes must be loaded before lwarp. These include input and font encoding, morewrites and newclude, and a number of CJK-related packages and classes.

Loaded after lwarp: Most packages which are modified by lwarp must be loaded after lwarp.

Loaded never: Some packages do not work with lwarp. An error is generated, along with a list of alternatives to consider.

Specific packages: Some packages enforce a specific load order vs. certain other packages.

Patching error: lwarp tries to patch some packages using xpatch. If the original package has been updated more recently than lwarp, a patch may not work. It may be necessary to use an older version of the package until lwarp is updated.

longtable: lwarp's longtable package issues detailed error messages regarding the use of the table headers and footers.

polyglossia: If used, an informative message is printed to instruct the user to be sure to set a language, without which an error will occur.

babel or polyglossia: An informative message is printed to note that not all languages are supported by cleveref.

13.1.5 Compiling

SideTOCDepth < FileDepth: A warning is displayed if these counters are set such that the sideroc will not be able to access all pages of the website.

Filenames: lwarp may generate file names from section names. While doing so, the filenames are simplified, and special characters and math are removed. If this process generates a duplicate filename, an error is generated, describing the filename and which section name generated it. A warning is issued if dollar-delimited math is used. Parenthesis-delimited math is recommended instead.

- △ **HTML corrupted** **Multirow:** When `\multirow` or `\multicolrow` are used, `\mrowcell` or `\mcolrowcell` must be placed in the appropriate cells to avoid corrupted HTML output.
- (width,height) missing a comma:** `\makebox` and `\framebox` can accept a parenthesis-delimited width and height, which must be separated by a comma.
- “Load graphicx or graphics for improved SVG math baselines.”:** SVG math sizing and baselines are improved if either of these packages are used.
- “Load graphicx or graphics for improved XeTeX logo.”:** If these packages are loaded, the Xe_{La}TeX logo can use the reversed “E”.
- “It is recommended to use [width=xx\linewidth] instead of [scale=yy]”:** Browser support of `scale` does not have the same effect as in L^AT_EX.

13.2 Using the lwarp package

The following address problems which may occur, and possible solutions to each.

Also see:

Section 7.11: [Commands to be placed into the warpprint environment](#)

Section 8: [Special cases and limitations](#)

- △ **HTML corrupted** **Text is not converting correctly / corrupted HTML tags:**
- Font-related UTF-8 information must be embedded in the PDF file. See section 7.4 regarding bitmapped vs. vector fonts.
 - See section 8.2.1 regarding HTML entities and the characters `&`, `<`, and `>`.

- △ **dotlessj** **Dotless j (`\j`):** See section 7.4 regarding `cmap`, `mmap`.

Undefined HTML settings:

- See the warning regarding the placement of the HTML settings at section 7.6.

Tabular problems: See section 8.10.1.

Obscure error messages:

Print first: Be sure that a print version of the document compiles and that your document’s L^AT_EX code is correct, before attempting to generate an HTML version.

`\end{warpHTML}`, `\end{warpprint}`, `\end{warpall}`, `\end{warpMathJax}`:
Each of these must be without any other characters on the same line.

“Runaway argument? File ended while scanning use of `\next`:

Don’t use `warpHTML`, `warpprint`, `warpall`, or `warpMathJax` inside itself.

Options clash: If using `memoir`, see section 8.13.

“Missing `\begin{document}`.”: Some packages require that their options be specified before `lwarp` is loaded, or via the package’s setup macro, especially if these options include the use of braces. See section 8.1.

△ `warpHTML`, `warpprint`,
`warpMathJax`, `warpall`

“No room for a new \write.”: Before `\usepackage{lwarp}`, add:

```
\usepackage{morewrites}
\morewritessetup{allocate=10}
```

“! TeX capacity exceeded, sorry [text input levels=15].”: Packages were nested too many levels deep. Locate the file `texmf.cnf` for your distribution, and add the line

```
max_in_open = 30
```

“Missing \$ inserted.”: If using a filename or URL in a footnote or `\item`, escape underscores with `_.`

“Label(s) may have changed. Rerun to get cross-references right.”:

This warning may repeat endlessly if a math expression is used in a caption. Simple math expressions such as $X=1$ may be replaced with

```
\textit{X}\,=\,1
```

“Temporary page! LaTeX was unable to guess the total number of pages ...”: Harmless. Recompile the document one more time.

“Leaders not followed by proper glue”:

This can be caused by a missing `l@<floatype>` or `l@<sectiontype>` definition. See `lwarp`'s definitions for examples.

“Improper \prevdepth”: `lateximages` and `svg` math require `\newpage`, which cannot work inside `TeX` boxes or `\ensuremath`. Anything using `\newsavebox`, `\newbox`, `lrbox`, `\savebox`, `\hbox`, `\vbox`, `\usebox`, `\sbox`, etc., must be modified to work without box commands.

If you find something using `\ensuremath`, have it temporarily set:

```
\LetLtxMacro\@ensuredmath\LWR@origensuredmath
```

inside a group first.

As a stop-gap measure, you may wish to try incrementing the counter `LWR@texboxdepth` before the problematic macro, and then decrementing it after. Doing so tells `lwarp` to avoid using a `\newpage` inside the macro, which may avoid this error.

Also, custom macros which appear inside a section, figure, or table name should be made robust since they appear inside the `.toc`, `.lof`, or `.lot` files. Use `\newrobustcmd` or `\robustify` from `etoolbox`, `xparse`, etc.

If using `BibTeX`, see section 8.6.9.

“! Undefined control sequence. . . . \@begindocumenthook”: See section 8.15.4 if using `polyglossia`.

“\begin{equation} ended by \end{document}”: Do not use custom macros such as `\beq` and `\eeq` to replace

```
\begin{equation}
. . .
\end{equation}
```

“Misplaced \omit”: If using `\LWR@formatted` to define new macros for print and HTML modes, see section 35 regarding `\LWR@expandableformatted`.

`LWR@texboxdepth`

⚠ macros in section, table,
figure names

⚠ BibTeX

⚠ polyglossia

⚠ custom macros for
environments

⚠ `\LWR@formatted`

“Token not allowed in a PDF string”: This `hyperref` warning appears while creating the print-mode document, not HTML. A low-level macro is being used in a section name which appears in the PDF bookmarks. `hyperref` removes this macro from the bookmark, and warns of doing so. To avoid this warning, use `\pdfstringdefDisableCommands` in the preamble to define simplified replacement macros for each, or use `\texorpdfstring` in the `\section` or related macro to declare what to use for the TEX text, v.s. the PDF bookmark. See the `hyperref` manual.

⚠ quote character

“Command `\textquoteright` invalid in math mode”: This can occur when the document source has math containing the slanted quote `'` character, instead of using the upright quote `'` character.

⚠ “impure” math objects

Complicated objects inside math: Some objects, such as `Tikz`, may not compile in `lwarp`’s normal math emulation. Insert

```
\displaymathother — or — \inlinemathother
```

before the math, and then

```
\displaymathnormal — or — \inlinemathnormal
```

when displaying “normal” math. See section 8.7.9.

Slow compilation of math objects: Complicated math objects can also cause problems with `alt` tags, resulting in very slow compilation, large `alt` tags, and possible crashes. Use `\inlinemathother ... \inlinemathnormal` or `\displaymathother ... \displaymathnormal` around the math expression.

⚠ MATHJAX

Incorrect MATHJAX: Some objects do not convert to MATHJAX. Use `\displaymathother` before these objects, then `\displaymathnormal` to return to “normal” display math. See section 8.7.9.

Missing sections: See section 7.6 regarding the `FileDepth` and `SideTOCDepth` counters, and the use of `\tableofcontents` in the home page.

Misnumbered footnotes from section headings: See section 8.5.4.

Missing HTML files:

- See the warning regarding changes to the HTML settings at section 7.6.
- Ensure that the filenames are unique after math and short words are removed. See `FileSectionNames` at section 7.6.

Missing / incorrect cross-references:

- Use `lwarpmk` again followed by `lwarpmk html` or `lwarpmk print` to compile the document one more time.
- Labels with special characters may be a problem. It is best to stick with alpha-numeric, hyphen, underscore, and perhaps the colon (if not French). `\nameref` refers to the most recently-used section where the `\label` was defined. If no section has been defined before the `\label`, the link will be empty. Index entries also use `\nameref` and have the same limitation.
- `cleveref` and `varioref` are supported, but printed page numbers do not map to HTML, so a section name or a text phrase are used for `\cpageref` and `\cpagerefrange`. This phrase includes `\cpagerefFor`, which defaults to “for”.

labels

⚠ label characters

`\nameref`

⚠ empty link

⚠ cleveref page numbers

Ex:
`\cpageref{tab:first,tab:second}`
 in html becomes:
 “pages **for table 4.1** and **for table 4.2**”
 See `\cpagerefFor` at page 741 to redefine the message which is printed for page number references.

BibTeX errors with `\etalchar`: See section 8.6.9.

Malformed URLs: Do not use the % character between arguments of `\hyperref`, etc., as this character is among those which is neutralized for inclusion in HTML URLs.

Em-dashes or En-dashes in listing captions and titles:

Use Xe_{La}TeX or Lua_{La}TeX.

Floats out of sequence:

Mixed “Here” and floating: Floats [H]ere and regular floats may become out of order. `\clearpage` if necessary.

Caption setup: With `\captionsetup` set the positions for the captions above or below to match their use in the source code.

Images are appearing in strange places:

- Enter `lwarpmk limages` to refresh the `lateximage` images.

SVG images:

△ adding/removing

When a math expression, picture, or `Tikz` environment is added or removed, the svg images must be re-created by entering `lwarpmk limages` to maintain the proper image-file associations. Inline svg math may be hashed and thus not need to be recreated, but display math and objects such as `Tikz` may move to new image numbers when the document is changed.

recompile first

Before attempting to create the svg image files, `lwarpmk` verifies that the HTML version of the document exists and has correct internal image references.¹⁶ If it is necessary to recompile the document’s HTML version one more time, `lwarpmk` usually will inform the user with an error message, but there are some conditions which cannot be detected, so the user should watch for the `LaTeX` recompile warnings.

△ HTML instead of images

If HTML appears where an svg image should be, recompile the document one more time to get the page numbers back in sync, then remake the images one more time.

△ page counter

Incorrect svg images will also occur if the document changes the page counter:

```
\setcounter{page}{<value>}
```

The page counter must *not* be adjusted by the user.

△ Lots of files!

Expressing math as svg images has the advantage of representing the math exactly as `LaTeX` would, but has the disadvantage of requiring an individual file for each math expression. For inline math, and some other objects, `lwarp` uses an MD5 hash on its `LaTeX` source to combine multiple instances of identical inline expressions into a single image file, but display math and other environments such as `picture` and `Tikz` require one image file each. For a document with a large amount of math, see section 5.5 to use `MATHJAX` instead.

¹⁶This becomes important when dealing with a document containing thousands of images.

Plain-looking document:

- The document's CSS stylesheet may not be available, or may be linked incorrectly. Verify any `\CSSFile` statements point to a valid CSS file.

△ HTML corrupted**Broken fragments of HTML:**

- Check the PDF file used to create HTML to see if the tags overflowed the margin. (This is why such large page size and margins are used.)

Changes do not seem to be taking effect:

- Be sure to `lwarpmk clean`, recompile, then start by reloading the home page. You may have been looking at an older version of the document. If you changed a section name, you may have been looking at the file for the old name.
- See the warning regarding changes to the HTML settings at section 7.6.
- Verify that the proper CSS is actually being used.
- The browser may compensate for some subtle changes, such as automatically generating ligatures, reflowing text, etc.

Un-matched conditional compiles:

- Verify the proper `begin/end` of `warpprint`, `warpHTML`, and `warpall` environments.

13.2.1 Debug tracing output

`\tracinglwarp` When `\tracinglwarp` is used, `lwarp` will add extra tracing messages to the `.log` file. The last several messages may help track down errors.

Place `\tracinglwarp` just after `\usepackage{lwarp}` to activate tracing.

13.3 Compiling the `lwarp.dtx` file

lwarp_tutorial.tex: Copy or link `lwarp_tutorial.txt` from the TDS doc directory to the source directory, or wherever you wish to compile the documentation. This file is included verbatim in the documentation, but is in the doc directory so that it may be found by `texdoc` and copied by the user.

Illogical error messages caused by an out-of-sync `lwarp.sty` file:

1. Delete the `lwarp.sty` file.
2. Enter `pdflatex lwarp.ins` to generate a new `lwarp.sty` file.
3. Enter `pdflatex lwarp.dtx` to recompile the `lwarp.pdf` documentation.

Un-nested environments:

Be sure to properly nest:

- `\begin{macrocode}` and `\end{macrocode}`
- `\begin{macro}` and `\end{macro}`
- `\begin{environment}` and `\end{environment}`

14 Trademarks

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File 1 **lwarp.sty**

15 Implementation

This package is perhaps best described as a large collection of smaller individual technical challenges, in many cases solved through a number of ~~erude-hacks~~ clever tricks. Reference sources are given for many of the solutions, and a quick internet search will provide additional possibilities.

Judgement calls were made, and are often commented. Improvements are possible. The author is open to ideas and suggestions.

Packages were patched for re-use where they provided significant functionality. Examples include `xcolor` with its color models and conversion to HTML color output, and `siunitx` which provides many number and unit-formatting options, almost all of which are available in pure-text form, and thus easily used by *pdftotext*.

Packages were emulated where their primary purpose was visual formatting which is not relevant to HTML output. For example, packages related to sectioning are already patched by numerous other packages, creating a difficult number of combinations to try to support, and yet in HTML output all of the formatting is thrown away, so these packages are merely emulated.

Packages with graphical output are allowed as-is, but must be nested inside a `lateximage` environment to preserve the graphics.

Testing has primarily been done with the Iceweasel/Firefox browser.

Table 11: Section depths and HTML headings

Section	\LaTeX depth	HTML headings *
Title of the entire website		<code><h1></code>
(none)	-5	new for this package
book	-2	<code><div class = "book"></code>
part	-1	<code><h2></code>
chapter	0	<code><h3></code>
section	1	<code><h4></code>
subsection	2	<code><h5></code>
subsubsection	3	<code><h6></code>
paragraph	4	<code></code>
subparagraph	5	<code></code>
listitem	7	new for this package, used for list items

* If FormatWP is true, section headings may be adjusted, depending on WPTitleHeading. See table 10 on page 188.

16 Section depths and HTML headings

Stacks are created to track depth inside the \LaTeX document structure. This depth is translated to HTML headings as shown in table 11. “Depth” here is not depth in the traditional computer-science stack-usage sense, but rather a representation of the nesting depth inside the \LaTeX document structure.

When starting a new section, the program first must close out any existing sections and lists of a deeper level to keep the HTML tags nested correctly.

Support for the memoir package will require the addition of a book level, which may push the HTML headings down a step, and also cause subsubsection to become a `<div>` due to a limit of six HTML headings.

It is possible to use HTML5 `<section>` and `<h1>` for all levels, but this may not be well-recognized by older browsers.

Fixed levels for parts and chapters allow the CSS to remain fixed as well.

17 Source code

This is where the documented source code for `lwarp` begins, continuing through the following sections all the way to the change log and index at the end of this document.


The following sections document the actual implementation of the `lwarp` package.

line numbers The small numbers at the left end of a line refer to line numbers in the `lwarp.sty` file.

subjects Blue-colored tags in the left margin aid in quickly identifying the subject of each paragraph.

objects Black-colored tags in the left margin are used to identify programming objects such as files, packages, environments, booleans, and counters. Items without a tag are

index entries command macros. Each of these also appears in the index as individual entries, and are also listed together under “files”, “packages”, “environments”, “booleans”, and “counters”.

 **warnings** Special warnings are marked with a warning icon.

for HTML output: Green-colored tags in the left margin show which sections of source code apply to the generation of HTML, print, or both forms of output.
for PRINT output:
for HTML & PRINT:

18 Detecting the T_EX engine — *pdf_latex*, *lua_latex*, *xel_latex*

See: <http://tex.stackexchange.com/a/47579>.

Detects X_lT_EX and Lua_LT_EX:

```

1 \RequirePackage{iftex}[2019/11/07]
2 \RequirePackage{ifpdf}
3 \RequirePackage{ifptex}
4
5 \newif\ifxetexorluatex
6
7 \ifXeTeX
8   \xetexorluatextrue
9 \else
10  \ifLuaTeX
11    \xetexorluatextrue
12  \else
13    \xetexorluatexfalse
14  \fi
15 \fi

```

19 Early package requirements

Pkg etoolbox Provides \ifbool and other functions.

Pkg xpatch Patches macros with optional arguments.

```

16 \RequirePackage{etoolbox}[2011/01/03]% v2.6 for \BeforeBeginEnvironment, etc.
17 \RequirePackage{xpatch}

```

Pkg ifplatform Provides \ifwindows to try to automatically detect WINDOWS OS.

```

18 \RequirePackage{ifplatform}% sense op-system platform

```

Pkg letltxmacro

```

19 \RequirePackage{letltxmacro}

```

20 Package load order

Several packages must never be used with `lwarp`, others should only be loaded before `lwarp`, and others should only be loaded after. The `lwarp` core checks most of these cases. In some `lwarp-*` packages, `\LWR@loadbefore` is used to trigger an error if they are loaded after `lwarp`, while additional code provides necessary patches for when they are loaded before.

Packages which must be loaded after `lwarp` are enforced by a large number of `\LWR@loadafter` statements, below. Some packages are emulated by `memoir`, and so these are tested by `\LWR@notmemoirloadafter`, which does not cause an error if `memoir` is used.

`\LWR@checkloadfilename` is used to check each filename to see if it must never be loaded, or must always be loaded before `lwarp`.

20.1 Tests of package load order

`\LWR@loadafter` $\langle\textit{packagename}\rangle$ Error if this package was loaded before `lwarp`.

```

20 \newcommand*\LWR@loadafter}[1]{%
21 \@ifpackageloaded{#1}
22 {
23   \PackageError{lwarp}
24     {%
25       Package #1,\MessageBreak
26       or one which uses #1,\MessageBreak
27       must be loaded after Lwarp.\MessageBreak
28       Enter 'H' for possible solutions%
29     }
30   {%
31     Move “\protect\usepackage{#1}” after
32     “\protect\usepackage{lwarp}”.\MessageBreak
33     Package #1 may also be loaded by something else,\MessageBreak
34     which must also be moved after Lwarp.%
35   }
36 }
37 {\relax}
38 }

```

`\LWR@notmemoirloadafter` $\langle\textit{packagename}\rangle$ Error if not `memoir` class and this package was loaded before `lwarp`.

`memoir` emulates many packages, and pretends that they have already been loaded.

```

39 \@ifclassloaded{memoir}
40 {\newcommand*\LWR@notmemoirloadafter}[1]{}
41 {\LetLtxMacro\LWR@notmemoirloadafter\LWR@loadafter}

```

`\LWR@notltjloadafter` $\langle\textit{packagename}\rangle$ Error if not a `ltjs*` class and this package was loaded before `lwarp`.

```

42 \LetLtxMacro\LWR@notltjloadafter\LWR@loadafter
43
44 \@ifclassloaded{ltjarticle}{\renewcommand*\LWR@notltjloadafter}[1]{}{}}
45 \@ifclassloaded{ltjbook}{\renewcommand*\LWR@notltjloadafter}[1]{}{}}
46 \@ifclassloaded{ltjreport}{\renewcommand*\LWR@notltjloadafter}[1]{}{}}
47 \@ifclassloaded{ltjsarticle}{\renewcommand*\LWR@notltjloadafter}[1]{}{}}
48 \@ifclassloaded{ltjsbook}{\renewcommand*\LWR@notltjloadafter}[1]{}{}}
49 \@ifclassloaded{ltjsreport}{\renewcommand*\LWR@notltjloadafter}[1]{}{}}

```

```

50 \@ifclassloaded{ltjspf}{\renewcommand*\LWR@notltjloadafter}[1]{}{}
51 \@ifclassloaded{ltjskiyou}{\renewcommand*\LWR@notltjloadafter}[1]{}{}
52 \@ifclassloaded{ltjtarticle}{\renewcommand*\LWR@notltjloadafter}[1]{}{}
53 \@ifclassloaded{ltjtbook}{\renewcommand*\LWR@notltjloadafter}[1]{}{}
54 \@ifclassloaded{ltjtreport}{\renewcommand*\LWR@notltjloadafter}[1]{}{}

```

`\LWR@loadbefore` $\langle\textit{packagename}\rangle$ Error if this package is loaded after lwarp.

```

55 \newcommand*\LWR@loadbefore}[1]{%
56 \@ifpackageloaded{#1}
57 {\relax}
58 {
59   \PackageError{lwarp}
60   {%
61     Package #1 must be loaded before lwarp.\MessageBreak
62     Enter 'H' for possible solutions%
63   }
64   {Move “\protect\usepackage{#1}” before “\protect\usepackage{lwarp}”’.}
65 }
66 }

```

`\LWR@checkloadbefore` $\langle\textit{thispackagename}\rangle$ $\langle\textit{packagename}\rangle$

If package names match, error if it is loaded after lwarp.

```

67 \newcommand*\LWR@checkloadbefore}[2]{%
68   \edef\LWR@tempone{#1}%
69   \ifdefstring{\LWR@tempone}{#2}{%
70     \LWR@loadbefore{#1}%
71   }{}%
72 }

```

`\LWR@loadnever` $\langle\textit{badpackagename}\rangle$ $\langle\textit{replacementpkgnames}\rangle$

The first packages is not supported, so tell the user to use the second instead.

```

73 \newcommand*\LWR@loadnever}[2]{%
74 \PackageError{lwarp}
75 {%
76   Package #1 is not supported\MessageBreak
77   by lwarp's HTML conversion.\MessageBreak
78   Package(s)\MessageBreak
79   \space\space#2\MessageBreak
80   may be useful instead%
81 }
82 {%
83   Package #1 might conflict with lwarp in some way,\MessageBreak
84   or is superceded by another package.\MessageBreak
85   For a possible alternative, see package(s) #2.
86 }
87 }

```

`\LWR@checkloadnever` $\langle\textit{thispackagename}\rangle$ $\langle\textit{badpackagename}\rangle$ $\langle\textit{replacementpkgnames}\rangle$

If this package name is the bad packagename, suggest the replacements instead.

```
88 \newcommand*{\LWR@checkloadnever}[3]{%
89   \edef\LWR@tempone{#1}%
90   \ifdefstring{\LWR@tempone}{#2}{%
91     \LWR@loadnever{#2}{#3}%
92   }{}%
93 }
```

`\LWR@earlyloadnever` $\{\langle badpackagename \rangle\} \{\langle replacementpkgname \rangle\}$

The first package is not supported, so tell the user to use the second instead. This version checks immediately for packages which may have been loaded before lwarp.

```
94 \newcommand*{\LWR@earlyloadnever}[2]{%
95   \@ifpackageloaded{#1}{%
96     \LWR@loadnever{#1}{#2}%
97   }{}%
98 }
```

`\LWR@earlyclassloadnever` $\{\langle badclassname \rangle\} \{\langle replacementclassname \rangle\}$

The first class is not supported, so tell the user to use the second instead. This version checks immediately for classes which may have been loaded before lwarp.

```
99 \newcommand*{\LWR@earlyclassloadnever}[2]{%
100 \@ifclassloaded{#1}{%
101   \PackageError{lwarp}
102   {%
103     Class #1 is not supported\MessageBreak
104     by lwarp's HTML conversion.\MessageBreak
105     Class(es) #2 may be useful instead
106   }
107   {%
108     Class #1 might conflict with lwarp in some way,\MessageBreak
109     or is superceded by another class.\MessageBreak
110     For a possible alternative, see class(es) #2.
111   }
112 }{\relax}%
113 }
```

20.2 Error for disallowed packages and classes loaded before lwarp

```
114 \LWR@earlyclassloadnever{jarticle}{ujarticle}
115 \LWR@earlyclassloadnever{jbook}{ujbook}
116 \LWR@earlyclassloadnever{jreport}{ujreport}
117 \LWR@earlyclassloadnever{tarticle}{utarticle}
118 \LWR@earlyclassloadnever{tbook}{utbook}
119 \LWR@earlyclassloadnever{treport}{utreport}
120 \LWR@earlyloadnever{ae}{cm-super, lmodern}
121 \LWR@earlyloadnever{aecompl}{cm-super, lmodern}
122 \LWR@earlyloadnever{aecc}{cm-super, lmodern}
```

```

123 \LWR@earlyloadnever{alg}{algorithm2e, algorithmicx}
124 \LWR@earlyloadnever{algorithmic}{algorithm2e, algorithmicx}
125 \LWR@earlyloadnever{bitfield}{bytefield}
126 \LWR@earlyloadnever{caption2}{caption}
127 % \LWR@earlyloadnever{ccaption}{caption}% might be preloaded by memoir
128 \LWR@earlyloadnever{colortab}{colortbl}
129 \LWR@earlyloadnever{csvtools}{datatool}
130 \LWR@earlyloadnever{doublespace}{setspace}
131 \LWR@earlyloadnever{epsf}{graphicx}
132 \LWR@earlyloadnever{fancyheadings}{fancyhdr}
133 \LWR@earlyloadnever{fncylab}{cleveref}
134 \LWR@earlyloadnever{formula}{siunitx}
135 \LWR@earlyloadnever{glossary}{glossaries}
136 \LWR@earlyloadnever{hyper}{hyperref}
137 \LWR@earlyloadnever{libgreek}{libertinustlmath, newtx}
138 \LWR@earlyloadnever{newthm}{ntheorem}
139 \LWR@earlyloadnever{pdfcprot}{microtype}
140 \LWR@earlyloadnever{picins}{floatflt, wrapfig}
141 \LWR@earlyloadnever{rplain}{fancyhdr}
142 \LWR@earlyloadnever{si}{siunitx}
143 \LWR@earlyloadnever{sistyle}{siunitx}
144 \LWR@earlyloadnever{slashbox}{diagbox}
145 \LWR@earlyloadnever{statex}{statex2}
146 \LWR@earlyloadnever{t1enc}{fontenc, inputenc, inputenx}
147 \LWR@earlyloadnever{ucs}{inputenc, inputencx}
148 \LWR@earlyloadnever{wasysym}{textcomp, amssymb, amsfonts, mnsymbol, fdsymbol}

```

The older CJK and CJKutf8 only work with xeCJK:

```

149 \@ifpackageloaded{xeCJK}{}{
150   \LWR@earlyloadnever{CJK}{ctex, xeCJK}
151   \LWR@earlyloadnever{CJKutf8}{ctex, xeCJK}
152 }

```

bxckatype is based on CJK:

```

153 \LWR@earlyloadnever{bxckatype}{upLaTeX, bxjsarticle, uarticle, utarticle}

```

hangul is not in TeXLive, and is not tested:

```

154 \LWR@earlyloadnever{hangul}{kotex, xetexko, luatexko}

```

20.3 Enforcing package loading after lwarp

Packages which should only be loaded after lwarp are tested here to trip an error of they have already been loaded.

The following packages must be loaded after lwarp:

```

155 \LWR@loadafter{2in1}
156 \LWR@loadafter{2up}
157 \LWR@loadafter{a4}
158 \LWR@loadafter{a4wide}
159 \LWR@loadafter{a5comb}

```

```
160 \LWR@notmemoirloadafter{abstract}
161 \LWR@loadafter{academicons}
162 \LWR@loadafter{accents}
163 \LWR@loadafter{accessibility}
164 \LWR@loadafter{accsupp}
165 \LWR@loadafter{acro}
166 \LWR@loadafter{acronym}
167 \LWR@loadafter{adjmulticol}
168 \LWR@loadafter{addlines}
169 \LWR@loadafter{afterpage}
170 \LWR@loadafter{algorithm2e}
171 \LWR@loadafter{algorithmicx}
172 \LWR@loadafter{alltt}
173 % \LWR@loadafter{amsmath}% may be preloaded
174 % \LWR@loadafter{amsthm}% may be preloaded
175 \LWR@loadafter{anonchop}
176 \LWR@loadafter{anysize}
177 \LWR@notmemoirloadafter{appendix}
178 \LWR@loadafter{ar}
179 \LWR@loadafter{arabicfront}
180 \LWR@notmemoirloadafter{array}
181 \LWR@loadafter{arydshln}
182 \LWR@loadafter{asymptote}
183 % \LWR@loadafter{atbegshi}% now in LaTeX core, also used by morewrites
184 \LWR@loadafter{attachfile}
185 \LWR@loadafter{attachfile2}
186 \LWR@loadafter{authblk}
187 \LWR@loadafter{authoraftertitle}% Supported as-is, but must be loaded after.
188 \LWR@loadafter{autobreak}
189 \LWR@loadafter{autonum}
190 \LWR@loadafter{awesomebox}
191 \LWR@loadafter{axessibility}
192 \LWR@loadafter{axodraw2}
193 \LWR@loadafter{backnaur}
194 \LWR@loadafter{backref}
195 \LWR@loadafter{balance}
196 \LWR@loadafter{bbding}
197 \LWR@loadafter{bigdelim}
198 \LWR@loadafter{bigfoot}
199 \LWR@loadafter{bigstrut}
200 \LWR@loadafter{bitpattern}
201 \LWR@loadafter{blowup}
202 \LWR@loadafter{bm}
203 \LWR@loadafter{booklet}
204 \LWR@loadafter{bookmark}
205 \LWR@notmemoirloadafter{booktabs}
206 \LWR@loadafter{bophook}
207 \LWR@loadafter{bounddvi}
208 \LWR@loadafter{boxedminipage}
209 \LWR@loadafter{boxedminipage2e}
210 \LWR@loadafter{braket}
211 \LWR@loadafter{breakurl}
212 \LWR@loadafter{breqn}
213 \LWR@loadafter{bsheaders}
214 \LWR@loadafter{bussproofs}
```

215 \LWR@loadafter{bypapersize}
216 \LWR@loadafter{bytefield}
217 \LWR@loadafter{cancel}
218 \LWR@loadafter{canoniclayout}
219 \LWR@loadafter{caption}
220 \LWR@loadafter{caption2}
221 \LWR@loadafter{caption3}
222 \LWR@loadafter{cases}
223 % catoptions is supported by the lwarp core
224 % \LWR@loadafter{ccaption}% may be preloaded by memoir
225 % \LWR@loadafter{centernot}% may be preloaded by newtx
226 \LWR@loadafter{changebar}
227 \LWR@loadafter{changelayout}
228 \LWR@notmemoirloadafter{changepage}
229 \LWR@loadafter{changes}
230 \LWR@loadafter{chappg}
231 \LWR@loadafter{chapterbib}
232 \LWR@loadafter{chemfig}
233 \LWR@loadafter{chemformula}
234 \LWR@loadafter{chemgreek}
235 \LWR@loadafter{chemmacros}
236 \LWR@loadafter{chemnum}
237 \LWR@loadafter{chkfloat}
238 \LWR@notmemoirloadafter{chnpage}
239 \LWR@loadafter{cite}
240 \LWR@loadafter{citeref}
241 \LWR@loadafter{cleveref}
242 % cmbright may be preloaded
243 \LWR@loadafter{cmdtrack}
244 \LWR@loadafter{colonequals}
245 \LWR@loadafter{color}
246 \LWR@loadafter{colortbl}
247 \LWR@loadafter{continue}
248 \LWR@loadafter{copyrightbox}
249 \LWR@notmemoirloadafter{crop}
250 % ctex must be loaded before lwarp
251 \LWR@loadafter{ctable}
252 \LWR@loadafter{cuted}
253 \LWR@loadafter{cutwin}
254 \LWR@loadafter{dblfloatfix}
255 \LWR@loadafter{dblfnote}
256 \LWR@notmemoirloadafter{dcolumn}
257 \LWR@loadafter{decimal}
258 \LWR@loadafter{diagbox}
259 \LWR@loadafter{dingbat}
260 \LWR@loadafter{DotArrow}
261 \LWR@loadafter{dotlessi}
262 \LWR@loadafter{dprogress}
263 \LWR@loadafter{draftcopy}
264 \LWR@loadafter{draftfigure}
265 \LWR@loadafter{draftwatermark}
266 \LWR@loadafter{drftcite}
267 \LWR@loadafter{easy-todo}
268 \LWR@loadafter{ebook}
269 \LWR@loadafter{econometrics}

```
270 \LWR@loadafter{ed}
271 \LWR@loadafter{ellipsis}
272 \LWR@loadafter{embrac}
273 \LWR@loadafter{emptypage}
274 \LWR@loadafter{endfloat}
275 \LWR@loadafter{endheads}
276 \LWR@loadafter{endnotes}
277 \LWR@loadafter{engtlc}
278 \LWR@notmemoirloadafter{enumerate}
279 \LWR@loadafter{enumitem}
280 \LWR@notmemoirloadafter{epigraph}
281 \LWR@loadafter{epsfig}
282 \LWR@loadafter{epstopdf}
283 \LWR@loadafter{epstopdf-base}
284 \LWR@loadafter{eqlist}
285 \LWR@loadafter{eqparbox}
286 \LWR@loadafter{errata}
287 \LWR@loadafter{eso-pic}
288 \LWR@loadafter{esvect}
289 \LWR@loadafter{etoc}
290 \LWR@loadafter{eurosym}
291 \LWR@loadafter{everypage}
292 % \LWR@loadafter{everyshi}% now in LaTeX core
293 \LWR@loadafter{extrarrows}
294 \LWR@loadafter{extramarks}
295 \LWR@loadafter{fancybox}
296 \LWR@loadafter{fancyhdr}
297 \LWR@loadafter{fancyref}
298 \LWR@loadafter{fancytabs}
299 \LWR@loadafter{fancyvrb}
300 \LWR@loadafter{fbox}
301 \LWR@loadafter{fewerfloatpages}
302 \LWR@loadafter{figcaps}
303 \LWR@loadafter{figsize}
304 \LWR@loadafter{fitbox}
305 \LWR@loadafter{fix2col}
306 \LWR@loadafter{fixmath}
307 \LWR@loadafter{fixme}
308 \LWR@loadafter{fixmetodonotes}
309 \LWR@loadafter{flafter}
310 \LWR@loadafter{flippdf}
311 \LWR@loadafter{float}
312 \LWR@loadafter{floatflt}
313 \LWR@loadafter{floatpag}
314 \LWR@loadafter{floatrow}
315 \LWR@loadafter{fltrace}
316 \LWR@loadafter{flushend}
317 \LWR@loadafter{fnbreak}
318 \LWR@loadafter{fncychap}
319 \LWR@loadafter{fnlineno}
320 \LWR@loadafter{fnpara}
321 \LWR@loadafter{fnpos}
322 \LWR@loadafter{fontawesome}
323 \LWR@loadafter{fontawesome5}
324 % fontenc must be loaded before lwarp
```

```
325 % fontspec must be loaded before lwarp
326 \LWR@loadafter{footmisc}
327 \LWR@loadafter{footnote}
328 \LWR@loadafter{footnotebackref}
329 \LWR@loadafter{footnotehyper}
330 \LWR@loadafter{footnoterange}
331 \LWR@loadafter{footnpag}
332 \LWR@loadafter{foreign}
333 \LWR@loadafter{forest}
334 \LWR@loadafter{fouridx}
335 % fourier may be loaded before lwarp
336 \LWR@loadafter{framed}
337 \LWR@loadafter{ftcap}
338 \LWR@loadafter{ftnright}
339 \LWR@loadafter{fullminipage}
340 \LWR@loadafter{fullpage}
341 \LWR@loadafter{fullwidth}
342 \LWR@loadafter{fvextra}
343 \LWR@loadafter{fwlw}
344 \LWR@loadafter{gensymb}
345 \LWR@loadafter{gentombow}
346 % geometry is always loaded by lwarp, and lwarp-geometry is AtBeginDocument
347 \LWR@loadafter{ghsystem}
348 \LWR@loadafter{gindex}
349 \LWR@loadafter{glossaries}
350 \LWR@loadafter{gmeometric}
351 % \LWR@loadafter{graphics}% pre-loaded by xunicode
352 % \LWR@loadafter{graphicx}% pre-loaded by xunicode
353 \LWR@loadafter{gloss}
354 \LWR@loadafter{glossary}
355 \LWR@loadafter{grffile}
356 \LWR@loadafter{grid}
357 \LWR@loadafter{grid-system}
358 \LWR@loadafter{gridset}
359 \LWR@loadafter{hang}
360 \LWR@loadafter{hanging}
361 \LWR@loadafter{hepunits}
362 \LWR@loadafter{hhline}
363 \LWR@loadafter{hhtensor}
364 \LWR@loadafter{hybmssec}
365 \LWR@loadafter{hypcap}
366 \LWR@loadafter{hypdestopt}
367 \LWR@loadafter{hypernat}
368 \LWR@loadafter{hyperref}
369 \LWR@loadafter{hyperxmp}
370 \LWR@loadafter{hyphenat}
371 \LWR@loadafter{idxlayout}
372 \LWR@loadafter{ifoddpag}
373 \LWR@loadafter{imakeidx}
374 \LWR@notmemoirloadafter{index}
375 % inputenc must be loaded before lwarp
376 % inputenx must be loaded before lwarp
377 % inputtrc may be loaded before lwarp
378 \LWR@loadafter{intopdf}
379 \LWR@loadafter{jurabib}
```

```
380 \LWR@loadafter{karnaugh-map}
381 \LWR@loadafter{keyfloat}
382 \LWR@loadafter{keystroke}
383 % kpfonts may be loaded before lwarp
384 % kpfonts-otf may be loaded before lwarp
385 \LWR@loadafter{layaureo}
386 \LWR@loadafter{layout}
387 \LWR@loadafter{layouts}
388 \LWR@loadafter{leading}
389 \LWR@loadafter{leftidx}
390 \LWR@loadafter{letterspace}
391 \LWR@loadafter{lettrine}
392 % libertinustlmath may be loaded before lwarp
393 \LWR@loadafter{lineno}
394 \LWR@loadafter{lips}
395 \LWR@loadafter{listings}
396 \LWR@loadafter{listliketab}
397 \LWR@loadafter{longtable}
398 \LWR@loadafter{lscap}
399 \LWR@loadafter{ltablex}
400 \LWR@loadafter{ltcaption}
401 \LWR@loadafter{ltxgrid}
402 \LWR@loadafter{ltxtable}
403 \LWR@loadafter{lua-check-hyphen}
404 \LWR@loadafter{lua-visual-debug}
405 \LWR@loadafter{luacolor}
406 \LWR@loadafter{luamplib}
407 \LWR@loadafter{luatodonotes}
408 \LWR@loadafter{lyluatex}
409 \LWR@loadafter{magaz}
410 \LWR@notmemoirloadafter{makeidx}
411 \LWR@loadafter{manyfoot}
412 \LWR@loadafter{marginfit}
413 \LWR@loadafter{marginfix}
414 \LWR@loadafter{marginnote}
415 \LWR@loadafter{marvosym}
416 % mathalpha may be loaded before lwarp
417 \LWR@loadafter{mathastext}
418 \LWR@loadafter{mathcomp}
419 \LWR@loadafter{mathdesign}
420 \LWR@loadafter{mathdots}
421 \LWR@loadafter{mathfixs}
422 \LWR@loadafter{mathpazo}
423 \LWR@loadafter{mathptmx}
424 \LWR@loadafter{mathspec}
425 \LWR@loadafter{mathtools}
426 \LWR@loadafter{mcaption}
427 \LWR@loadafter{mdframed}
428 \LWR@loadafter{media9}
429 \LWR@loadafter{memhfixc}
430 \LWR@loadafter{menukeys}
431 \LWR@loadafter{metalogo}
432 \LWR@loadafter{metalogoX}
433 \LWR@loadafter{mhchem}
434 \LWR@loadafter{microtype}
```

```
435 \LWR@loadafter{midfloat}
436 \LWR@loadafter{midpage}
437 \LWR@loadafter{minibox}
438 \LWR@loadafter{minitoc}
439 \LWR@loadafter{minted}
440 \LWR@loadafter{mismatch}
441 \LWR@loadafter{mletright}
442 % morefloats must be allowed early for print mode
443 \LWR@notmemoirloadafter{moreverb}
444 % morewrites must be loaded before lwarp
445 \LWR@notmemoirloadafter{movie15}
446 \LWR@notmemoirloadafter{mparhack}
447 \LWR@loadafter{multibib}
448 \LWR@loadafter{multicap}
449 %\LWR@loadafter{multicol}% loaded by ltxdoc
450 \LWR@loadafter{multicolrule}
451 \LWR@loadafter{multimedia}
452 \LWR@loadafter{multiobjective}
453 \LWR@loadafter{multirow}
454 \LWR@loadafter{multitoc}
455 \LWR@loadafter{musicography}
456 \LWR@loadafter{nameauth}
457 \LWR@loadafter{nameref}
458 \LWR@loadafter{natbib}
459 \LWR@notmemoirloadafter{nccfancyhdr}
460 \LWR@loadafter{nccfoots}
461 \LWR@loadafter{nccmath}
462 \LWR@notmemoirloadafter{needspace}
463 % newclude must be loaded before lwarp
464 % newpxmath may be preloaded
465 % newtxmath may be loaded before lwarp
466 % newtxsf may be loaded before lwarp
467 % newunicodechar must be loaded before lwarp
468 \LWR@notmemoirloadafter{nextpage}
469 \LWR@loadafter{nicefrac}
470 \LWR@loadafter{niceframe}
471 \LWR@loadafter{nicematrix}
472 \LWR@loadafter{noitcrul}
473 \LWR@loadafter{no!breaks}
474 \LWR@loadafter{nomenc!}
475 \LWR@loadafter{nonfloat}
476 \LWR@loadafter{nonumonpart}
477 \LWR@loadafter{nopageno}
478 \LWR@loadafter{notes}
479 \LWR@loadafter{notespages}
480 \LWR@loadafter{nowidow}
481 \LWR@loadafter{ntheorem}
482 \LWR@loadafter{octave}
483 \LWR@loadafter{overpic}
484 \LWR@loadafter{pagegrid}
485 \LWR@notmemoirloadafter{pagenote}
486 \LWR@loadafter{pagesel}
487 \LWR@loadafter{paralist}
488 \LWR@loadafter{parallel}
489 \LWR@loadafter{parcolumns}
```



```
490 \LWR@loadafter{parnotes}
491 \LWR@notmemoirloadafter{parskip}
492 \LWR@loadafter{pbox}
493 \LWR@loadafter{pdfcol}
494 \LWR@loadafter{pdfcolfoot}
495 \LWR@loadafter{pdfcolmk}
496 \LWR@loadafter{pdfcolparallel}
497 \LWR@loadafter{pdfcolparcolumns}
498 \LWR@loadafter{pdfcomment}
499 \LWR@loadafter{pdfcrypt}
500 \LWR@loadafter{pdfscape}
501 \LWR@loadafter{pdfmarginpar}
502 \LWR@loadafter{pdfpages}
503 \LWR@loadafter{pdfprivacy}
504 \LWR@loadafter{pdfrender}
505 \LWR@loadafter{pdfsync}
506 \LWR@loadafter{pdftricks}
507 \LWR@loadafter{pdfx}
508 \LWR@loadafter{perpage}
509 \LWR@loadafter{pfnote}
510 \LWR@loadafter{phfqit}
511 \LWR@loadafter{physics}
512 \LWR@loadafter{physunits}
513 \LWR@loadafter{picinpar}
514 \LWR@loadafter{pifont}
515 \LWR@loadafter{placeins}
516 \LWR@loadafter{plarray}
517 \LWR@loadafter{plarydshln}
518 \LWR@loadafter{plextarray}
519 \LWR@loadafter{plextarydshln}
520 \LWR@loadafter{plcolortbl}
521 \LWR@loadafter{plextdelarray}
522 \LWR@loadafter{plimsoll}
523 \LWR@loadafter{prelim2e}
524 \LWR@loadafter{prettyref}
525 \LWR@loadafter{preview}
526 \LWR@loadafter{psfrag}
527 \LWR@loadafter{psfragx}
528 \LWR@loadafter{pst-eps}
529 \LWR@loadafter{pstool}
530 \LWR@loadafter{pstricks}
531 % \LWR@loadafter{pxatbegshi}% may be used by morewrites
532 \LWR@loadafter{pxeveryshi}
533 % \LWR@loadafter{pxfonts}% may be loaded before lwarp
534 \LWR@loadafter{pxftnright}
535 \LWR@loadafter{pxjahyper}
536 \LWR@loadafter{quotchap}
537 \LWR@loadafter{quoting}
538 \LWR@loadafter{ragged2e}
539 \LWR@loadafter{realscripts}
540 \LWR@loadafter{refcheck}
541 \LWR@loadafter{register}
542 \LWR@loadafter{relnsize}
543 \LWR@loadafter{repeatindex}
544 \LWR@loadafter{resizgather}
```

```
545 \LWR@loadafter{returntogrid}
546 \LWR@loadafter{rmathbr}
547 \LWR@loadafter{rmpage}
548 \LWR@loadafter{romanbar}
549 \LWR@loadafter{romanbarpagenumber}
550 \LWR@loadafter{rotating}
551 \LWR@loadafter{rotfloat}
552 \LWR@loadafter{rviewport}
553 \LWR@loadafter{savetrees}
554 % scalefnt is loaded by babel-french
555 \LWR@loadafter{scalereel}
556 \LWR@loadafter{schemata}
557 \LWR@loadafter{scrextend}
558 \LWR@loadafter{scrhack}
559 \LWR@loadafter{scrlayer}
560 \LWR@loadafter{scrlayer-notecolumn}
561 \LWR@loadafter{scrlayer-scrpage}
562 \LWR@loadafter{scrpage2}
563 \LWR@loadafter{section}
564 \LWR@loadafter{sectionbreak}
565 \LWR@loadafter{sectsty}
566 \LWR@loadafter{selectp}
567 \LWR@loadafter{semantic-markup}
568 \LWR@notmemoirloadafter{setspace}
569 \LWR@loadafter{shadow}
570 \LWR@loadafter{shapepar}
571 \LWR@notmemoirloadafter{showidx}
572 \LWR@loadafter{showkeys}
573 \LWR@loadafter{showtags}
574 \LWR@loadafter{shuffle}
575 \LWR@loadafter{sidecap}
576 \LWR@loadafter{sidenotes}
577 \LWR@loadafter{simplebnf}
578 \LWR@loadafter{SIunits}
579 \LWR@loadafter{siunitx}
580 \LWR@loadafter{slantsc}
581 \LWR@loadafter{slashed}
582 \LWR@loadafter{soul}
583 \LWR@loadafter{soulpos}
584 \LWR@loadafter{soulutf8}
585 \LWR@loadafter{splitbib}
586 \LWR@loadafter{splitidx}
587 \LWR@loadafter{srcltx}
588 \LWR@loadafter{srctex}
589 \LWR@loadafter{stabular}
590 \LWR@loadafter{stackengine}
591 \LWR@loadafter{stackrel}
592 \LWR@loadafter{statex2}
593 \LWR@loadafter{statistics}
594 \LWR@loadafter{statmath}
595 \LWR@loadafter{steinmetz}
596 \LWR@notltjloadafter{stfloats}
597 \LWR@loadafter{struktex}
598 \LWR@loadafter{subcaption}
599 \LWR@loadafter{subfig}
```

```
600 \LWR@loadafter{subfigure}
601 \LWR@loadafter{subsupscripts}
602 \LWR@loadafter{supertabular}
603 \LWR@loadafter{svg}
604 \LWR@loadafter{swfigure}
605 \LWR@loadafter{syntonly}
606 \LWR@loadafter{tlinc}
607 \LWR@loadafter{tabfigures}
608 \LWR@loadafter{tabls}
609 \LWR@loadafter{tablefootnote}
610 \LWR@notmemoirloadafter{tabularx}
611 \LWR@loadafter{tabulary}
612 \LWR@loadafter{tagpdf}
613 \LWR@loadafter{tascmac}
614 \LWR@loadafter{tcolorbox}
615 \LWR@loadafter{termcal}
616 \LWR@loadafter{textarea}
617 % \LWR@loadafter{textcomp}% maybe before lwarp with font packages
618 \LWR@loadafter{textfit}
619 \LWR@loadafter{textpos}
620 \LWR@loadafter{theorem}
621 \LWR@loadafter{thinsp}
622 \LWR@loadafter{thm-listof}
623 \LWR@loadafter{thm-restate}
624 \LWR@loadafter{thmbox}
625 \LWR@loadafter{thmtools}
626 \LWR@loadafter{threadcol}
627 \LWR@loadafter{threeparttable}
628 \LWR@loadafter{threeparttablex}
629 \LWR@loadafter{thumb}
630 \LWR@loadafter{thumbs}
631 \LWR@loadafter{tikz}
632 \LWR@loadafter{titleps}
633 \LWR@loadafter{titlesec}
634 \LWR@loadafter{titletoc}
635 \LWR@notmemoirloadafter{titling}
636 % \LWR@loadafter{tocbasic}% preloaded by koma-script classes
637 \LWR@notmemoirloadafter{tocbibind}
638 \LWR@loadafter{tocdata}
639 \LWR@loadafter{tocenter}
640 \LWR@notmemoirloadafter{tocloft}
641 \LWR@loadafter{tocstyle}
642 \LWR@loadafter{todo}
643 \LWR@loadafter{todonotes}
644 \LWR@loadafter{topcapt}
645 \LWR@loadafter{tram}
646 \LWR@loadafter{transparent}
647 \LWR@loadafter{trimclip}
648 \LWR@loadafter{trivfloat}
649 \LWR@loadafter{truncate}
650 \LWR@loadafter{turnthepage}
651 \LWR@loadafter{twoup}
652 % \LWR@loadafter{txfonts}% may be loaded before lwarp
653 % txgreek may be loaded before lwarp
```

```

654 % \LWR@loadafter{typearea}% preloaded by koma-script classes
655 \LWR@loadafter{typicons}
656 % \LWR@loadafter{ulem}% preloaded by ctexart and related classes
657 \LWR@loadafter{umoline}
658 \LWR@loadafter{underscore}
659 % unicode-math may be loaded before lwarp
660 \LWR@loadafter{units}
661 \LWR@loadafter{unitsdef}
662 \LWR@loadafter{upgreek}
663 \LWR@loadafter{upref}
664 \LWR@loadafter{url}
665 \LWR@loadafter{ushort}
666 \LWR@loadafter{uspace}
667 \LWR@loadafter{varioref}
668 \LWR@notmemoirloadafter{verse}
669 \LWR@loadafter{versonotes}
670 \LWR@loadafter{vertbars}
671 \LWR@loadafter{vmargin}
672 \LWR@loadafter{vowel}
673 \LWR@loadafter{vpe}
674 \LWR@loadafter{vwcol}
675 \LWR@loadafter{wallpaper}
676 \LWR@loadafter{watermark}
677 \LWR@loadafter{widetable}
678 \LWR@loadafter{widows-and-orphans}
679 \LWR@loadafter{witharrows}
680 \LWR@loadafter{wrapfig}
681 \LWR@loadafter{xbmks}
682 \LWR@loadafter{xcolor}
683 \LWR@loadafter{xexchangebar}
684 \LWR@loadafter{xellipsis}
685 % xetexko-vertical must be loaded before lwarp
686 \LWR@loadafter{xfakebold}
687 \LWR@loadafter{xfrac}
688 \LWR@loadafter{xltabular}
689 \LWR@loadafter{xltextra}
690 \LWR@loadafter{xmpinl}
691 \LWR@loadafter{xpiano}
692 \LWR@loadafter{xpinyin}
693 \LWR@loadafter{xr}
694 \LWR@loadafter{xr-hyper}
695 \LWR@loadafter{xtab}
696 % xunicode must be loaded before lwarp
697 \LWR@loadafter{xurl}
698 \LWR@loadafter{xy}
699 \LWR@loadafter{zwpageLayout}

```

21 MD5 hashing

The MD5 hash is used for lateximage filenames for svg math.

```

700 \newcommand{\LWR@mdfive}[1]{%
701   \PackageError{lwarp}

```

```

702     {No MD5 macro was found}
703     {%
704         Lwarp must find the macros \protect\pdfmdfivesum\space
705         or \protect\mdfivesum.%
706     }
707 }

```

The default for pdf \LaTeX , dvi \LaTeX , up \LaTeX , etc:

```
708 \let\LWR@mdfive\pdfmdfivesum
```

For Lua \LaTeX :

```

709 \ifLuaTeX
710 \RequirePackage{pdftexcmds}
711 \let\LWR@mdfive\pdf@mdfivesum
712 \fi

```

For X \LaTeX :

```

713 \ifXeTeX
714 \@ifundefined{pdfmfivesum}{}
715     {\let\LWR@mdfive\pdfmdfivesum}
716 \@ifundefined{mdfivesum}{}
717     {\let\LWR@mdfive\mdfivesum}
718 \fi

```

22 pdf \LaTeX T1 and UTF-8 encoding

When using pdf \LaTeX , lwarp requires T1 font encoding, and recommends UTF-8 input encoding.

If some other input encoding is already defined, lwarp will try to use it instead, and hope for the best.

X \LaTeX and Lua \LaTeX are both UTF-8 by nature.

`\LWR@pdfencoding` Sets T1, and also utf8 if not already set.

```

719 \newcommand*{\LWR@pdfencoding}{%
720     \RequirePackage[T1]{fontenc}
721
722     \ifpackageloaded{inputenc}{%
723         \ifpackageloaded{inputenx}{%
724             \RequirePackage[utf8]{inputenc}
725         }
726     }
727 }

728 \ifPDFTeX% pdf\latex or dvi\latex
729     \LWR@pdfencoding

```

```

730 \fi
731
732 \ifpTeX
733   \LWR@pdfencoding
734 \fi

```

23 Unicode input characters

for HTML & PRINT: If using *pdflatex*, convert a minimal set of Unicode characters. Additional characters may be defined by the user, as needed.

A commonly-used multiply symbol is declared to be `\texttimes`.

The first arguments of `\newunicodechar` below are text ligatures in the source code, even though they are not printed in the following listing.

```

735 \ifpTeX
736 \else
737 \RequirePackage{newunicodechar}
738
739 \newunicodechar{x}{\texttimes}
740
741 \ifPDFTeX% pdflatex or dvi latex
742 \newunicodechar{ff}{ff}% Here, the first arguments are ligatures.
743 \newunicodechar{fi}{fi}
744 \newunicodechar{fl}{fl}
745 \newunicodechar{ffi}{ffi}
746 \newunicodechar{ffl}{ffl}
747 \newunicodechar{-}{---}
748 \newunicodechar{-}{--}
749 \fi
750
751 \fi

```

24 Avoid a bitmapped font

If DVI or PDF L^AT_EX, and if the default Computer Modern is the selected font family, ensure that `cm-super` or `lmodern` is used to provide a vector font.

```

752 \ifxetexorluatex
753 \else
754   \ifdefstring{\@family}{cmr}{
755     \IfFileExists{type1ec.sty}% found in cm-super
756     {}
757     {% cm-super not installed
758       \IfFileExists{lmodern.sty}{
759         \PackageInfo{lwarp}{cm-super not installed, loading lmodern}
760         \RequirePackage{lmodern}
761       }{
762         \PackageError{lwarp}

```

```

763         {%
764         Lwarp requires a vector font.\MessageBreak
765         Install and load cm-super, lmodern, or another\MessageBreak
766         Type-1 vector font before loading lwarp.\MessageBreak
767         Enter 'H' for possible solutions%
768         }
769         {%
770         Install cm-super or lmodern.\MessageBreak
771         If lmodern, load it before lwarp:\MessageBreak
772         \space\space\protect\usepackage{lmodern}\MessageBreak
773         \space\space\protect\usepackage{lwarp}%
774         }
775     }
776     }% cm-super not installed
777 }{}% f@family
778 \fi

```

25 Upright quotes

In PDFTEX, preserve upright quotes in verbatim text. `upquote` also loads `textcomp`.

```

779 \ifPDFTeX
780 \RequirePackage{upquote}
781 \fi
782
783 \ifpTeX
784 \RequirePackage{upquote}
785 \fi

```

26 Miscellaneous tools

26.1 Variables

```

786 \newlength{\LWR@templengthone}
787 \newlength{\LWR@templengthtwo}
788 \newlength{\LWR@templengththree}
789 \newcounter{LWR@tempcountone}

```

26.2 Lengths and units

`\LWR@providelength` `{\lengthname}` Provides the length if it isn't defined yet.

Used to provide source compatibility for lengths which will be ignored, but might or might not be already provided by other packages.

```

790 \newcommand*\LWR@providelength[1]{%
791     \ifdeflength{#1}{\newlength{#1}}%
792 }

```

`\LWR@convertto` $\langle dest\ unit\rangle$ $\langle length\rangle$

Prints a length in the given units, without printing the unit itself.

```
793 \newcommand*\LWR@convertto}[2]{\strip@pt\dimexpr #2*65536/\number\dimexpr 1#1}
```

`\LWR@printpercentlength` $\langle smaller\rangle$ $\langle larger\rangle$

Prints a percent ratio of the two lengths.

```
794 \newcommand*\LWR@printpercentlength}[2]{%
795   \setcounter{LWR@tempcountone}{100*\ratio{#1}{#2}}%
796   \arabic{LWR@tempcountone}%
797 }
```

26.3 Counters

`\defaddtocounter` $\langle name\rangle$ $\langle value\rangle$

Locally add to a counter.

```
798 \providecommand*\defaddtocounter}[2]{%
799   \defcounter{#1}{\value{#1}+#2}%
800 }
```

26.4 Patching

`\LWR@patcherror` $\langle packagename\rangle$ $\langle macroname\rangle$

Prints an error if could not patch a macro.

```
801 \newcommand*\LWR@patcherror}[2]{%
802   \PackageError{lwarp}%
803     {%
804       Unable to patch package #1,\MessageBreak
805       macro \LWRbackslash #2.\MessageBreak
806       Lwarp or #1 may need to be updated%
807     }%
808     {Please contact the maintainer of the Lwarp package.}%
809 }
```

26.5 Chinese text isolation

`\LWR@isolate` $\langle text\rangle$ Isolates Chinese characters from the surrounding text. This is required to avoid extra spaces on either side of the Chinese characters, especially when written to a file.

```
810 \newcommand{\LWR@isolate}[1]{#1}%
```



```

811
812 \@ifpackageloaded{ctexpatch}{
813   \renewcommand{\LWR@isolate}[1]{\null#1\null}%
814 }{}
815
816 \@ifpackageloaded{xeCJK}{
817   \renewcommand{\LWR@isolate}[1]{\null#1\null}%
818 }{}

```

`\LWR@disablepinyin` Disable xpinyin during file, sideroc, and footnote generation. Set by xpinyin.

```
819 \newcommand*{\LWR@disablepinyin}{}

```

26.6 Inserting vertical space

`\LWR@forceemptyline` Extra vertical space in the HTML output. Use after `\LWR@stoppars`.

```

820 \newcommand*{\LWR@forceemptyline}{%
821   \LWR@origrule{0pt}{1\baselineskip}%
822   \LWR@originewline%
823 }

```

26.7 Argument selection

`\LWR@firstoffour` $\{\langle first \rangle\} \{\langle second \rangle\} \{\langle third \rangle\} \{\langle fourth \rangle\}$

`\LWR@secondoffour` $\{\langle first \rangle\} \{\langle second \rangle\} \{\langle third \rangle\} \{\langle fourth \rangle\}$

`\LWR@thirdoffour` $\{\langle first \rangle\} \{\langle second \rangle\} \{\langle third \rangle\} \{\langle fourth \rangle\}$

`\LWR@fourthoffour` $\{\langle first \rangle\} \{\langle second \rangle\} \{\langle third \rangle\} \{\langle fourth \rangle\}$

Expands to the *n*th of the four arguments. Used for extra cross referencing.

```

824 \long\def\LWR@firstoffour#1#2#3#4{#1}
825 \long\def\LWR@secondoffour#1#2#3#4{#2}
826 \long\def\LWR@thirdoffour#1#2#3#4{#3}
827 \long\def\LWR@fourthoffour#1#2#3#4{#4}

```

26.8 Inside boxes

Greater than zero if currently inside a T_EX box, thus should not use `\LWR@originewpage`. See section [13.2](#).

```

828 \newcounter{LWR@texboxdepth}
829 \setcounter{LWR@texboxdepth}{0}

```

`\LWR@maybe@orignewpage` Only do `\LWR@orignewpage` if not inside a T_EX box.

```
830 \newcommand*{\LWR@maybe@orignewpage}{%
831   \LWR@traceinfo{\LWR@maybe@orignewpage}%
832   \ifnumgreater{\value{\LWR@textboxdepth}}{0}
833     {}%
834     {\LWR@orignewpage}%
835   \LWR@traceinfo{\LWR@maybe@orignewpage done}%
836 }
```

26.9 Global boxes

`\LWR@gsavebox` $\{\langle\textit{macroname}\rangle\}$ $\{\langle\textit{contents}\rangle\}$

From <https://tex.stackexchange.com/questions/288702/savebox-forgets-its-content-across-columns-inside-align>

```
837 \DeclareRobustCommand\LWR@gsavebox[1]{%
838   \@ifnextchar(%
839     {\LWR@@gsavepicbox#1}{\@ifnextchar[{\LWR@@gsavebox#1}{\LWR@gsbox#1}}}%
840   \long\def\LWR@gsbox#1#2{\global\setbox#1\hbox{%
841     \color@setgroup#2\color@endgroup}}
842   \def\LWR@@gsavebox#1[#2]{%
843     \@ifnextchar [{{\LWR@@igsavebox#1[#2]}{\LWR@@igsavebox#1[#2][c]}}
844     \long\def\LWR@@igsavebox#1[#2][#3]#4{%
845       \LWR@gsbox#1{\@imakebox[#2][#3]{#4}}
846     \def\LWR@@gsavepicbox#1(#2,#3){%
847       \@ifnextchar[%
848         {\LWR@@igsavepicbox#1(#2,#3)}{\LWR@@igsavepicbox#1(#2,#3)[]}}
849     \long\def\LWR@@igsavepicbox#1(#2,#3)[#4]#5{%
850       \LWR@gsbox#1{\@imakepicbox(#2,#3)[#4]{#5}}}
```

Env `LWR@glrbox` $\{\langle\textit{macroname}\rangle\}$

```
851 \def\LWR@glrbox#1{%
852   \edef\reserved@a{%
853     \endgroup
854     \global\setbox#1\hbox{%
855       \begingroup\aftergroup}%
856     \def\noexpand\@currentenv{\@currentenv}%
857     \def\noexpand\@currentline{\on@line}}%
858   \reserved@a
859   \@endpfalse
860   \color@setgroup
861   \ignorespaces}
862 \let\LWR@endglrbox\LWR@endlrbox
```

26.10 Converting a macro name to a cs name

`\macrotoaname` $\{\langle\textit{macro name with backslash}\rangle\}$

Results in the macro name without the leading backslash.

Ref: <https://tex.stackexchange.com/questions/42318/removing-a-backslash-from-a-character-sequence>

```
863 \newcommand*{\macroctocname}[1]{%
864   \ifcat\relax\noexpand#1%
865     \expandafter\expandafter\expandafter\@gobble\expandafter\string
866   \fi
867   #1%
868 }
```

26.11 Title case

\LWRtexttitlecase

```
869 \ExplSyntaxOn
870 \newcommand*{\LWRtexttitlecase}[1]{%
871   \text_titlecase:n{#1}%
872 }
873 \ExplSyntaxOff
```

26.12 LetLtxMacros

\LWR@LetLtxMacros {<newcsname>} {<oldcsname>}

\LetLtxMacro with cs names.

```
874 \newcommand*{\LWR@LetLtxMacros}[2]{%
875   \expandafter\LetLtxMacro\csname #1\expandafter\endcsname%
876   \csname#2\endcsname%
877 }
```

26.13 Absorbing a star

\LWR@absorbstar {<csname>}

Modifies a macro to absorb a star. Used for cleveref, since hyperref is emulated, so the starred macros are not created by cleveref.

```
878 \newcommand*{\LWR@absorbstar}[1]{%
879   \LWR@LetLtxMacros{\LWR@origins@#1}{#1}%
880   \csdef{#1}{\@ifstar{\csuse{\LWR@origins@#1}}{\csuse{\LWR@origins@#1}}}
881   \expandafter\robustify\csname #1\endcsname
882 }
```

27 Operating-System portability

Prog	Unix	lwarp tries to detect which operating system is being used. UNIX / MAC OS / LINUX is the default (collectively referred to as “UNIX” in the configuration files), and MS-WINDOWS is supported as well.
Prog	Mac OS	
Prog	Linux	
Prog	MS-Windows	If MS-WINDOWS is not correctly detected, use the lwarp option OSWindows.
Prog	Windows	When detected or specified, the operating-system path separator used by lwarp is modified, and the boolean usingOSWindows is set true. This boolean may be tested by the user for later use.
Opt	OSWindows	

27.1 Literal characters

Literal characters to be used in PrintLatexCmd and HTMLLatexCmd. These are defined without @ to easily allow their inclusion in the user’s document.

The literal % character:

```
883 \let\LWRpercent\@percentchar
```

The literal \$ character:

```
884 \catcode'\$=12
885 \def\LWRdollar{\$}
886 \catcode'\$=3
```

The literal & character:

```
887 \catcode'\&=12
888 \def\LWRamp{&}
889 \catcode'\&=4
```

The literal \ character. The ampersand is temporarily set to the escape character during the definition of the backslash macro.

```
890 \catcode'\&=0
891 &catcode'\=12
892 \def&LWRbackslash{\}
893 &catcode'\=0
894 \catcode'\&=4
```

The literal { character. The ampersand is temporarily set to the begin group character during the definition of the leftbrace macro.

```
895 \catcode'\&=1
896 \catcode'\{=12
897 \def\LWRleftbrace&{\}
898 \catcode'\{=1
899 \catcode'\&=4
```

The literal } character. The ampersand is temporarily set to the end group character during the definition of the leftbrace macro.

```
900 \catcode'\&=2
901 \catcode'\}=12
902 \def\LWRrightbrace{ }&
903 \catcode'\}=2
904 \catcode'\&=4
```

The literal # character:

```
905 \catcode'\#=12
906 \def\LWRhash{#}
907 \catcode'\#=6
```

`\LWRopquote` The operating system's quote mark, UNIX default. For WINDOWS, see `\LWR@setOSWindows`, below.

```
908 \def\LWRopquote{' }
```

`\LWRopseq` The operating system's sequential execution command, UNIX default. For WINDOWS, see `\LWR@setOSWindows`, below.

```
909 \def\LWRopseq{\space\LWRamp\LWRamp\space\space}
```

27.2 Common portability code

`Bool usingOSWindows` Set if the `OSWindows` option is used, or if `WINDOWS` is automatically detected.

```
910 \newbool{usingOSWindows}
911 \boolfalse{usingOSWindows}
```

27.3 UNIX, LINUX, and MAC OS

`\OSPathSymbol` Symbol used to separate directories in a path.

```
912 \newcommand*{\OSPathSymbol}{/}
```

27.4 MS-WINDOWS

For MS-WINDOWS:

`\LWR@setOSWindows` Set defaults for the MS-WINDOWS operating system. `lwarp` attempts to auto-detect the operating system, and the `OSWindows` option may also be used to force MS-WINDOWS compatibility.

```

913 \newcommand*{\LWR@setOSWindows}
914 {
915 \booltrue{usingOSWindows}
916 \renewcommand*{\OSPathSymbol}{\@backslashchar}
917 \def\LWRopquote{"}
918 \def\LWRopseq{\space\LWRamp\space\space}
919 }

```

Test for windows during compile. The user may also specify OSWindows package option in case this test fails.

```

920 \ifwindows
921 \LWR@setOSWindows
922 \fi

```

28 Package options

Pkg `kvoptions` Allows key/value package options.

```

923 \RequirePackage{kvoptions}
924 \SetupKeyvalOptions{family=LWR,prefix=LWR@}

```

`\lwarppsetup` A user interface to set the keys:

```

925 \newcommand{\lwarppsetup}[1]{\setkeys{LWR}{#1}}

```

Bool `warpingprint`

Bool `warpingHTML`

Bool `mathjax`

Bool `LWR@origmathjax`

Set to true/false depending on the package option selections for print/HTML/EPUB output and mathsvg/mathjax.

`LWR@origmathjax` remembers the original setting to be restored by `\displaymathnormal`.

```

926 \newbool{warpingprint}
927 \newbool{warpingHTML}
928 \newbool{mathjax}
929 \newbool{LWR@origmathjax}

```

defaults The default is print output, and svg math if the user chose HTML output.

```

930 \booltrue{warpingprint}%
931 \boolfalse{warpingHTML}%
932 \boolfalse{mathjax}%

```

Opt `warpprint` If the `warpprint` option is given, boolean `warpingprint` is true and boolean `warpingHTML` is false, and may be used for `\ifbool` tests.

```

933 \DeclareVoidOption{warpprint}{%
934   \PackageInfo{lwarp}{Using option 'warpprint'}

```

```

935 \booltrue{warpingprint}%
936 \boolfalse{warpingHTML}%
937 }

```

Opt warpHTML Anything in the warpHTML environment will be generated for HTML output only.

Opt warpHTML If the warpHTML option is given, boolean warpingHTML is true and boolean warpingprint is false, and may be used for \ifbool tests.

```

938 \DeclareVoidOption{warpHTML}{%
939 \PackageInfo{lwarp}{Using option 'warpHTML'}%
940 \booltrue{warpingHTML}%
941 \boolfalse{warpingprint}%
942 }

```

Opt mathsvg Option mathsvg selects SVG math display: If the mathsvg option is given, boolean mathjax is false, and may be used for \ifbool tests.

```

943 \DeclareVoidOption{mathsvg}{%
944 \PackageInfo{lwarp}{Using option 'mathsvg'}
945 \boolfalse{mathjax}%
946 \boolfalse{LWR@origmathjax}%
947 }

```

Opt mathjax Option mathjax selects MATHJAX math display: If the mathjax option is given, boolean mathjax is true, may be used for \ifbool tests.

```

948 \DeclareVoidOption{mathjax}{%
949 \PackageInfo{lwarp}{Using option 'mathjax'}
950 \booltrue{mathjax}%
951 \booltrue{LWR@origmathjax}%
952 }

```

Opt BaseJobname Option BaseJobname sets the \BaseJobname for this document.

Default: \jobname

This is the \jobname of the printed version, even if currently compiling the HTML version. I.e. this is the \jobname without _html appended. This is used to set \HomeHTMLFilename if the user did not provide one.

```

953 \DeclareStringOption[\jobname]{BaseJobname}

```

Opt ImagesDirectory Option ImagesDirectory sets the name of the directory to use for the lateximage images.

Default: \jobname-images

```

954 \DeclareStringOption[\BaseJobname-images]{ImagesDirectory}

```

Opt ImagesName Option ImagesName sets the prefix to use for the lateximage images.

Default: image-

```

955 \DeclareStringOption[image-]{ImagesName}

```

- Opt `makeindexStyle` Selects a custom `.ist` file. A customized file should be based on `lwarp.ist`. See section 8.6.20.
 Default: `lwarp.ist`
- ```
956 \DeclareStringOption[lwarp.ist]{makeindexStyle}
```
- Opt `xindyStyle` Selects a custom `.xdy` file. A customized file should be based on `lwarp.xdy`. See section 8.6.21.  
 Default: `lwarp.xdy`
- ```
957 \DeclareStringOption[lwarp.xdy]{xindyStyle}
```
- Opt `xindyLanguage` Sets the *xindy* language to be assigned in *lwarpmk*'s configuration files. This is then used by *lwarpmk* while processing the index and glossary.
 Default: `english`
- ```
958 \DeclareStringOption[english]{xindyLanguage}
```
- Opt `xindyCodepage` Sets the *xindy* codepage to be assigned in *lwarpmk*'s configuration files. This is then used by *lwarpmk* while processing the index.  
 Default: `utf8`
- ```
959 \DeclareStringOption[utf8]{xindyCodepage}
```
- Opt `xindexConfig` Selects a custom `xindex-*.lua` file. A customized file should be based on `xindex-cfg.lua`. See section 8.6.22.
 Default: `<empty>`
- ```
960 \DeclareStringOption[]{xindexConfig}
```
- Opt `pdftotextEnc` The option `pdftotextEnc` sets the encoding used by *pdftotext*. This is passed to *pdftotext* using its `-enc` option, and is used when converting L<sup>A</sup>T<sub>E</sub>X PDF output with HTML tags into a plain-text file with HTML tags.  
 Default: `UTF-8`
- ```
961 \DeclareStringOption[UTF-8]{pdftotextEnc}
```
- Opt `lwarpmk` Tells *lwarp* to generate a local copy of *lwarpmk* called `lwarpmk.lua`. Useful for archiving for future use. This file may be made executable and acts just like *lwarpmk*.
- If `lwarpmk` option, creates a local copy of `lwarpmk.lua`:
- ```
962 \newbool{LWR@creatinglwarpmk}
963 \boolfalse{LWR@creatinglwarpmk}
964
965 \DeclareVoidOption{lwarpmk}{
966 \PackageInfo{lwarp}{Using option 'lwarpmk'}
967 \booltrue{LWR@creatinglwarpmk}
968 }
```
- Opt `OSWindows` Tells *lwarp* to use MS-WINDOWS compatibility. Auto-detection of the operating system is attempted, and this option is only necessary if the auto-detection fails. See the automatically-generated `lwarpmk.conf` file to find out whether the operating system was detected correctly.
- ```
969 \DeclareVoidOption{OSWindows}{
```



```

970 \PackageInfo{lwarp}{Using option 'OSWindows'}
971 \LWR@setOSWindows
972 }

```

Opt HomeHTMLFilename The filename of the homepage. The default is the jobname. This option is stored into `\LWR@HomeHTMLFilename`, and later transferred into `\HomeHTMLFilename` for internal use.

```
973 \DeclareStringOption[]{HomeHTMLFilename}
```

Opt HTMLFilename The filename prefix of web pages after the homepage. The default is empty, no prefix. This option is stored into `\LWR@HTMLFilename`, and later transferred into `\HTMLFilename` for internal use.

```
974 \DeclareStringOption[]{HTMLFilename}
```

Opt PrintLatexCmd The shell commands to use to compile the print document.
Default: `<automatic>`

```
975 \DeclareStringOption[]{PrintLatexCmd}
```

Opt HTMLLatexCmd The shell commands to use to compile the HTML document.
Default: `<automatic>`

```
976 \DeclareStringOption[]{HTMLLatexCmd}
```

Opt PrintIndexCmd The shell commands to use to compile the print indexes.
Default: `<empty>`

```
977 \DeclareStringOption[]{PrintIndexCmd}
```

Opt HTMLIndexCmd The shell commands to use to compile the HTML indexes.
Default: `<empty>`

```
978 \DeclareStringOption[]{HTMLIndexCmd}
```

Opt LatexmkIndexCmd The shell commands to be used by *latexmk* to compile the print indexes. Unlike `PrintIndexCmd` and `HTMLIndexCmd`, `LatexmkIndexCmd` does not include the filename, which will be provided by *latexmk*.

```
979 \DeclareStringOption[]{LatexmkIndexCmd}
```

Opt makeindex Tells *lwarp* to use *makeindex* for index generation. When `lwarpmk.conf` and `*.lwarpmkconf` are generated, `PrintIndexCmd` and `HTMLIndexCmd` will be set for *makeindex* with a single index file.

```
980 \DeclareBoolOption[false]{makeindex}
```

Opt xindy Tells *lwarp* to use *xindy* for index generation. When `lwarpmk.conf` and `*.lwarpmkconf` are generated, `PrintIndexCmd` and `HTMLIndexCmd` will be set for *xindy* with a single index file.

```
981 \DeclareBoolOption[false]{xindy}
```

Opt `xindex` Tells `lwarp` to use `xindex` for index generation. When `lwarpmk.conf` and `*.lwarpmkconf` are generated, `PrintIndexCmd` and `HTMLIndexCmd` will be set for `xindex` with a single index file.

```
982 \DeclareBoolOption[false]{xindex}
```

Opt `IndexRef` Tells `lwarp` how to display the index entries in HTML output. See section 7.5.
Default: `cref`

```
983 \DeclareStringOption[cref]{IndexRef}
```

Opt `GlossaryCmd` The shell command to use to compile the glossary. The print or HTML version of the glossary filename will be appended to this command.
Default: `makeglossaries`

```
984 \DeclareStringOption[makeglossaries]{GlossaryCmd}
```

Opt `latexmk` Option `latexmk` tells `lwarpmk` to use `latexmk` when compiling documents.

```
985 \DeclareBoolOption[false]{latexmk}
```

Opt `dvips` Option `dvips` tells `lwarpmk` to use `dvips` when compiling DVI `latex` documents.

```
986 \DeclareBoolOption[false]{dvips}
```

Opt `dvipdfm` Option `dvipdfm` tells `lwarpmk` to use `dvipdfm` when compiling DVI `latex` documents.

```
987 \DeclareBoolOption[false]{dvipdfm}
```

Opt `dvipdfmx` Option `dvipdfmx` tells `lwarpmk` to use `dvipdfmx` when compiling DVI `latex` documents.

```
988 \DeclareBoolOption[false]{dvipdfmx}
```

Execute options Execute the package options, with the defaults which have been set just above:

```
989 \ProcessKeyvalOptions*\relax
```

28.1 Additional options support

Assign the `\BaseJobname` if the user hasn't provided one:

```
990 \providecommand*\BaseJobname{\LWR@BaseJobname}
```

Defaults unless already over-ridden by the user:

```
991 \ifcsemtyp{LWR@HomeHTMLFilename}{
992   \newcommand*\HomeHTMLFilename{\BaseJobname}
993 }{
994   \csedef{HomeHTMLFilename}{\LWR@HomeHTMLFilename}
995 }
996
997 \csedef{HTMLFilename}{\LWR@HTMLFilename}
```

Special handling for underscores in labels and filenames.

`\LWR@sanitized` The sanitized version of what was given to `\LWR@sanitize`. Characters are set to their detokenized versions. Required for underscores in labels and filenames.

```
998 \newcommand*{\LWR@sanitized}{}
```

`\LWR@sanitize` $\langle text \rangle$

Sanitizes the text and returns the result in `\LWR@sanitized`.

```
999 \newcommand*{\LWR@sanitize}[1]{%
1000 \edef\LWR@sanitized{#1}%
1001 \edef\LWR@sanitized{\detokenize\expandafter{\LWR@sanitized}}%
1002 }
```

Sanitize some string options to neutralize underscores.

```
1003 \LWR@sanitize{\LWR@BaseJobname}
1004 \edef\LWR@BaseJobname{\LWR@sanitized}
1005
1006 \LWR@sanitize{\LWR@ImagesDirectory}
1007 \edef\LWR@ImagesDirectory{\LWR@sanitized}
1008
1009 \LWR@sanitize{\LWR@ImagesName}
1010 \edef\LWR@ImagesName{\LWR@sanitized}
```

`\LWR@PrintIndexCmd` and `\LWR@HTMLIndexCmd` are tested to see if they are empty. If so, they are set to a reasonable defaults for a single index using *makeindex*, then possibly set to defaults for *xindy* if the `lwarp xindy` option was selected, then likewise for *xindex* if the `xindex` option was selected.

```
1011 \ifdefempty{\LWR@PrintIndexCmd}{
1012   \renewcommand{\LWR@PrintIndexCmd}{%
1013     makeindex -s \LWR@makeindexStyle \space \jobname.idx%
1014   }
1015   \ifbool{\LWR@xindy}{
1016     \renewcommand{\LWR@PrintIndexCmd}{%
1017       xindy
1018       -M \LWR@xindyStyle \space
1019       -L \LWR@xindyLanguage \space
1020       -C \LWR@xindyCodepage \space
1021       \jobname.idx%
1022     }
1023   }{}
1024   \ifbool{\LWR@xindex}{
1025     \ifdefvoid{\LWR@xindexConfig}{
1026       \renewcommand{\LWR@PrintIndexCmd}{%
1027         xindex
1028         \jobname.idx%
1029       }
1030     }{
1031       \renewcommand{\LWR@PrintIndexCmd}{%
```

```

1032         xindex
1033         -c \LWR@indexConfig \space
1034         \jobname.idx%
1035     }
1036 }
1037 }{}
1038 }{}
1039
1040 \ifdefempty{\LWR@HTMLIndexCmd}{
1041     \renewcommand{\LWR@HTMLIndexCmd}{%
1042         makeindex -s \LWR@makeindexStyle \space \jobname_html.idx%
1043     }
1044     \ifbool{LWR@xindy}{
1045         \renewcommand{\LWR@HTMLIndexCmd}{%
1046             xindy
1047             -M \LWR@xindyStyle \space
1048             -L \LWR@xindyLanguage \space
1049             -C \LWR@xindyCodepage \space
1050             \jobname_html.idx%
1051         }
1052     }{}
1053     \ifbool{LWR@index}{
1054         \ifdefvoid{\LWR@indexConfig}{
1055             \renewcommand{\LWR@HTMLIndexCmd}{%
1056                 xindex
1057                 \jobname_html.idx%
1058             }
1059         }{
1060             \renewcommand{\LWR@HTMLIndexCmd}{%
1061                 xindex
1062                 -c \LWR@indexConfig \space
1063                 \jobname_html.idx%
1064             }
1065         }
1066     }{}
1067 }{}
1068
1069 \ifdefempty{\LWR@LatexmkIndexCmd}{
1070     \renewcommand{\LWR@LatexmkIndexCmd}{%
1071         makeindex -s \LWR@makeindexStyle%
1072     }
1073     \ifbool{LWR@xindy}{
1074         \renewcommand{\LWR@LatexmkIndexCmd}{%
1075             xindy
1076             -M \LWR@xindyStyle \space
1077             -L \LWR@xindyLanguage \space
1078             -C \LWR@xindyCodepage%
1079         }
1080     }{}
1081     \ifbool{LWR@index}{
1082         \ifdefvoid{\LWR@indexConfig}{
1083             \renewcommand{\LWR@LatexmkIndexCmd}{%
1084                 xindex
1085             }
1086         }{

```

```

1087     \renewcommand{\LWR@LatexmkIndexCmd}{%
1088         xindex
1089         -c \LWR@xindexConfig
1090     }
1091 }
1092 }{}
1093 }{}

```

28.2 Conditional compilation

`\warpprintonly` {<*contents*>}

Only process the contents if producing printed output.

```
1094 \newcommand{\warpprintonly}[1]{\ifbool{warpingprint}{#1}{} }
```

`\warpHTMLonly` {<*contents*>}

Only process the contents if producing HTML output.

```
1095 \newcommand{\warpHTMLonly}[1]{\ifbool{warpingHTML}{#1}{} }
```

`\pkg comment` Provides conditional code blocks.

Attempts to use `versions` or `verbatim` fail in some cases, and do not provide much of a speed benefit even when they do work.

```
1096 \RequirePackage{comment}
```

`\LWR@includecomment` {<*env name*>} {<*partial filename*>}

`\LWR@excludecomment` {<*env name*>} {<*partial filename*>}

Use many `comment` cut files to avoid collision in case the user uses the `comment` package. Each filename is “comment_#2.cut”. Based on the `comment` package.

```

1097 \def\LWR@includecomment
1098 #1#2{\message{Lwarp: Including comment '#1'}%
1099     \csarg\def{After#1Comment}{%
1100         \CloseAndInputCutFile%
1101         \csundef{\LWR@#1commentused}%
1102     }
1103     \csarg\def{#1}{%
1104         \endgroup
1105         \ifcsdef{\LWR@#1commentused}{
1106             \PackageError{lwarp}%
1107                 {Nested #1 environment}%
1108             {%
1109                 Environment #1 cannot be nested.\MessageBreak
1110                 This can happen when a package is loaded

```

```

1111             from inside a\MessageBreak
1112             #1 environment.%
1113         }%
1114     }{\relax}
1115     \csdef{LWR@#1commentused}{}
1116     \message{Including '#1' comment.}%
1117     \def\CommentCutFile{comment_#2.cut}
1118     \SetUpCutFile
1119     \ProcessComment{#1}
1120 }%
1121 \CommentEndDef{#1}
1122 }
1123
1124 \def\LWR@excludecomment
1125 #1#2{\message{Lwarp: Excluding comment '#1'}%
1126   \csarg\def{#1}{
1127     \endgroup
1128     \message{Excluding '#1' comment.}%
1129     \begingroup
1130     \def\CommentCutFile{comment_#2.cut}
1131     \def\ProcessCutFile{}%
1132     \def\ThisComment####1{}%
1133     \ProcessComment{#1}
1134   }%
1135   \csarg\def{After#1Comment}{\CloseAndInputCutFile \endgroup}
1136   \CommentEndDef{#1}}

```

Env `warpall` Anything in the `warpall` environment will be generated for print or HTML outputs.

```
1137 \LWR@includecomment{warpall}{all}
```

Env `warpHTML` For HTML output:

```

1138 \ifbool{warpingHTML}
1139   {\LWR@includecomment{warpHTML}{html}}
1140   {\LWR@excludecomment{warpHTML}{html}}

```

Env `warpprint` Anything in the `warpprint` environment will be generated for print output only.

```

1141 \ifbool{warpingprint}
1142   {\LWR@includecomment{warpprint}{print}}
1143   {\LWR@excludecomment{warpprint}{print}}

```

Env `warpMathJax` Only if `MATHJAX` is being used along with HTML.

```

1144 \begin{warpprint}
1145 \LWR@excludecomment{warpMathJax}{mathjax}
1146 \end{warpprint}
1147
1148 \begin{warpHTML}
1149 \ifbool{mathjax}
1150   {\LWR@includecomment{warpMathJax}{mathjax}}

```

```

1151   {\LWR@excludecomment{warpMathJax}{mathjax}}
1152 \end{warpHTML}

```

Env LWRcreatelwarpmk Optionally generate a local copy of *lwarpmk*. Default to no.

```

1153 \ifbool{LWR@creatinglwarpmk}
1154   {\LWR@includecomment{LWRcreatelwarpmk}{lwarpmk}}
1155   {\LWR@excludecomment{LWRcreatelwarpmk}{lwarpmk}}

```

29 Required packages

These packages are automatically loaded by *lwarp* when generating HTML output. Some of them are also automatically loaded when generating print output, but some are not.

for HTML output: 1156 \begin{warpHTML}

Pkg fontspec Load fontspec if necessary:

```

1157 \ifxetexorluatex
1158 \@ifpackageloaded{fontspec}{\{
1159   \usepackage[no-math]{fontspec}
1160 \}

```

The monospaced font is used for HTML tags, so turn off its TeX ligatures and common ligatures:

```

1161 \defaultfontfeatures[\rmfamily]{Ligatures={NoCommon,TeX}}
1162 \defaultfontfeatures[\sffamily]{Ligatures={NoCommon,TeX}}
1163 \defaultfontfeatures[\ttfamily]{Ligatures=NoCommon}
1164 \else

```

pdf_latex only: Only pre-loaded if *pdf_latex* is being used.

Pkg microtype

ligatures Older browsers don't display ligatures. Turn off letter ligatures, keeping \LaTeX dash and quote ligatures, which may fail on older browsers but at least won't corrupt written words.

```

1165 \RequirePackage {microtype}
1166
1167 \microtypesetup{
1168   protrusion=false,
1169   expansion=false,
1170   tracking=false,
1171   kerning=false,
1172   spacing=false}
1173 % \begin{macrocode}
1174 %
1175 % Disable ligatures for typewriter fonts.

```

```

1176 % The comma was causing issues with \brand{MathJax} and \cs{,} followed by a comma.
1177 % Ligatures for f, q, t, etc used to be disabled for non-typewriter fonts, but
1178 % are now allowed.
1179 % \changes{v0.89}{2020/08/01}{Disable typewriter ligatures.}
1180 % ^^A \DisableLigatures[,{,},f,q,t,T,Q]{encoding = *,family = *}% previous
1181 % \begin{macrocode}
1182 \DisableLigatures{encoding = *,family = tt*}

1183 \fi

1184 \end{warpHTML}

```

Pkg geometry Tactics to avoid unwanted page breaks and margin overflow:

- Uses a very long and wide page to minimize page breaks and margin overflow.
- Uses a scriptsize font.
- Uses extra space at the margin to avoid HTML tag overflow off the page.
- Forces a new PDF page before some environments.
- Forces line break between major pieces of long tags.

for HTML output: 1185 \begin{warpHTML}

If geometry has not yet been loaded, use the preexisting page and text sizes to be preserved for later reuse. These will be replaced by lwarp \AtBeginDocument with a very large page size to reduce HTML tag overflow off the page.

```

1186 \@ifpackageloaded{geometry}
1187 {}{
1188   \RequirePackage[
1189     reset,
1190     paperwidth=\paperwidth,
1191     paperheight=\paperheight,
1192     textwidth=\textwidth,
1193     textheight=\textheight,
1194     left=\oddsidemargin,
1195     top=\topmargin,
1196     marginparsep=\marginparsep,
1197     marginparwidth=\marginparwidth,
1198   ]{geometry}
1199 }

```

Remember the original definitions for later reuse. If the geometry package is loaded by the user, lwarp-geometry will nullify the user-level originals.

```

1200 \LetLtxMacro\LWR@origgeometry\geometry
1201 \LetLtxMacro\LWR@orignewgeometry\newgeometry
1202 \LetLtxMacro\LWR@origrestoregeometry\restoregeometry
1203 \LetLtxMacro\LWR@origsavegeometry\savegeometry
1204 \LetLtxMacro\LWR@origloadgeometry\loadgeometry

```


Bool
LWR@allowanothergeometry
geometry may be loaded by the user before `lwarp`, after `lwarp`, or not at all. If before `lwarp`, it will have already been loaded by now and its page layout has already been saved. If **geometry** is loaded after `lwarp`, its layout will be set at that time and the user macros nullified. `\AtEndPreamble` this layout will be saved. If the user never loads **geometry**, `lwarp-geometry` will be loaded `\AtBeginDocument`, but it should not change the page layout set here. This is controlled by the boolean `LWR@allowanothergeometry`. Geometry may be adjusted throughout the preamble until `\AtEndPreamble`, when this boolean is set false.

```

1205 \newbool{LWR@allowanothergeometry}
1206 \booltrue{LWR@allowanothergeometry}
  
```

Use `\AtEndPreamble` to avoid class and option conflict by changing settings after other packages load, instead of using `geometry` package options:

```
1207 \AtEndPreamble{
```

Whatever geometry choices the user has made in the preamble, either before or after `lwarp` was loaded, are now saved for possible temporary reuse, such as by `lyluatex`.

See the `lwarp-geometry` section for what happens if `geometry` is loaded after `lwarp`.

```
1208 \LWR@origsavegeometry{LWR@usergeometry}
```

The user's paper size is saved for later reuse, such as by the `pdfpages` or `parallel` packages.

```

1209 \newlength{\LWR@userspaperwidth}
1210 \setlength{\LWR@userspaperwidth}{\paperwidth}
1211
1212 \newlength{\LWR@userspaperheight}
1213 \setlength{\LWR@userspaperheight}{\paperheight}
1214
1215 \newlength{\LWR@usersmarginparwidth}
1216 \setlength{\LWR@usersmarginparwidth}{\marginparwidth}
1217
1218 \newlength{\LWR@userstextwidth}
1219 \setlength{\LWR@userstextwidth}{\textwidth}
1220
1221 \newlength{\LWR@userstextheight}
1222 \setlength{\LWR@userstextwidth}{\textheight}
  
```

For `lwarp`, use a very large page and margins to help avoid letting HTML tags run off the edge:

```

1223 \LWR@origgeometry{
1224   reset,
1225   paperheight=190in,
1226   paperwidth=20in,
1227   left=2in,
1228   right=6in,
1229   top=1in,
1230   bottom=1in,
1231   heightrounded,%
  
```

1232 }

The `lwarp` page geometry is saved for future restore:

```
1233 \LWR@origsavegeometry{LWR@lwarpgeometry}
```

No longer adjust the page layout when `lwarp-geometry` is loaded `\AtBeginDocument`:

```
1234 \boolfalse{LWR@allowanothergeometry}%
```

`ltsjbook` and other classes can print vertically, and require these to be reset by `lwarp`:

```
1235 \setlength{\textheight}{0.8\paperheight}
```

```
1236 \setlength{\textwidth}{0.7\paperwidth}
```

```
1237
```

```
1238 \@twosidefalse
```

```
1239 \@mparswitchfalse
```

```
1240 }% \AtEndPreamble
```

```
1241
```

```
1242 \end{warpHTML}
```

for HTML & PRINT: 1243 \begin{warpall}

Pkg xparse

L^AT_EX3 command argument parsing

```
1244 \RequirePackage{xparse}
```

Pkg calc

```
1245 \RequirePackage{calc}
```

```
1246 \end{warpall}
```

for HTML output: 1247 \begin{warpHTML}

Pkg expl3

L^AT_EX3 programming

```
1248 \RequirePackage{expl3}
```

Pkg gettitlestring

Used to emulate `\nameref`.

```
1249 \RequirePackage{gettitlestring}
```

Pkg everyhook

`everyhook` is used to patch paragraph handling.

```

1250 \@ifundefined{bxjs@everypar}{}{\let\everypar\bxjs@everypar}
1251
1252 \RequirePackage{everyhook}
1253 \end{warpHTML}

```

for HTML & PRINT: 1254 \begin{warpall}

Pkg filecontents

Used to write helper files while creating the print version.

Recent versions of L^AT_EX (as of Fall 2019) now include the functionality of the filecontents package, but with a new optional argument used to specify whether to force the overwriting of an existing file. If an older L^AT_EX kernel is used, the original filecontents package is used, but it is patched to throw away the new optional argument.

```

1255 \@ifundefined{filec@ntents@opt}{% older kernel, discard optional args
1256
1257     \RequirePackage{filecontents}
1258
1259     \LetLtxMacro\LWR@orig@filec@ntents\filec@ntents
1260
1261     \@ifpackagelater{filecontents}{2011/10/08}
1262     {

```

For a newer version of the filecontents package, simply discard the optional argument.

```

1263         \renewcommand*{\filec@ntents}[1][\LWR@orig@filec@ntents]
1264     }
1265     {% patch older package for morewrites

```

For an older version of filecontents, discard the optional argument, and also patch to work with morewrites, per <https://tex.stackexchange.com/questions/312830/does-morewrites-not-support-filecontents-and-can-i-write-body-of-environment-us/312910>

```

1266         \newwrite\fcwrite
1267         \renewcommand*{\filec@ntents}[1][\LWR@orig@filec@ntents]{%
1268             \def\chardef##1\write{\let\reserved@c\fcwrite}%
1269             \LWR@orig@filec@ntents%
1270         }
1271     }
1272
1273 }% older kernel
1274 {% newer kernel

```

For a newer kernel with a filecontents environment which accepts the optional overwrite argument, use the environment as-is.

```

1275 }% newer kernel, filecontents env accepts optional args, do not load package
1276 \end{warpall}

```

for HTML output: 1277 \begin{warpHTML}

Pkg xifthen

1278 \RequirePackage{xifthen}

Pkg verbatim

1279 \RequirePackage{verbatim}

Pkg refcount

Provides \setcounterref, \setcounterpageref, etc.

1280 \RequirePackage{refcount}

Pkg newfloat

1281 \RequirePackage{newfloat}

1282 \end{warpHTML}

for HTML & PRINT: 1283 \begin{warpall}

Pkg xstring There was a short-term bug in xstring regarding \IfInteger which affected lwarp's index generation. The updated version is requested here.

 index

1284 \RequirePackage{xstring}[2019/02/01]

Pkg environ Used to encapsulate math environments for re-use in HTML <alt> text.

1285 \RequirePackage{environ}

1286 \end{warpall}

for HTML output: 1287 \begin{warpHTML}

Pkg printlen Used to convert lengths for image width/height options.

1288 \RequirePackage{printlen}

\LWR@printlength $\{\langle length \rangle\}$

Prints a length using a locally-controlled unit and space. Rounding is used unless the length is small.

1289 \newrobustcmd*\LWR@printlength[1]{%

1290 \begingroup%

1291 \uselengthunit{PT}%

1292 \renewcommand*\unitspace}{}%

1293 \ifdimless{#1}{10pt}{%

```

1294     \printlength{#1}%
1295   }{%
1296     \rndprintlength{#1}%
1297   }%
1298   \endgroup%
1299 }

```

```
1300 \end{warpHTML}
```

for PRINT output: 1301 \begin{warpprint}

Pkg varwidth Used for print-mode lateximage.

```
1302 \RequirePackage{varwidth}
```

```
1303 \end{warpprint}
```

30 Loading packages

for HTML & PRINT: 1304 \begin{warppall}

Remember the original \RequirePackage:

```
1305 \LetLtxMacro\LWR@origRequirePackage\RequirePackage
```

```
1306 \LetLtxMacro\LWR@origRequirePackageWithOptions\RequirePackageWithOptions
```

\LWR@requirepackagenames Stores the list of required package names.

```
1307 \newcommand*\LWR@requirepackagenames{}
```

\LWR@parsedrequirepackagenames Stores the parsed list of required package names after spaces are removed and lwarp- is prepended.

```
1308 \newcommand*\LWR@parsedrequirepackagenames{}
```

\LWR@nullifycomment Remove the preexisting comment environment. Certain packages define it for their own use.

```
1309 \newcommand*\LWR@nullifycomment}{%
```

```
1310   \PackageInfo{lwarp}%
```

```
1311     {Nullifying the comment environment before loading \LWR@strresulttwo,}%
```

```
1312   \let\comment\relax%
```

```
1313   \let\endcomment\relax%
```

```
1314 }
```

\LWR@findword [*1: separator*] [*2: list*] [*3: index*] [*4: destination*]

Note that argument 4 is passed directly to \StrBetween.

```

1315 \newcommand*\LWR@findword[3][,]{%
1316   \StrBetween[#3,\numexpr#3+1]{#1#2#1}{#1}{#1}%
1317 }

```

`\LWR@checkloadfilename` $\{ \langle filename \rangle \}$ Checks if this filename should be loaded after `lwarp`, or never at all.

The following should never be loaded:

```

1318 \newcommand*\LWR@checkloadfilename[1]{%
1319 \LWR@checkloadnever{#1}{ae}{cm-super, lmodern}
1320 \LWR@checkloadnever{#1}{aecc}{cm-super, lmodern}
1321 \LWR@checkloadnever{#1}{aecompl}{cm-super, lmodern}
1322 \LWR@checkloadnever{#1}{alg}{algorithm2e, algorithmicx}
1323 \LWR@checkloadnever{#1}{algorithmic}{algorithm2e, algorithmicx}
1324 \LWR@checkloadnever{#1}{bitfield}{bytefield}
1325 \LWR@checkloadnever{#1}{caption2}{caption}
1326 \LWR@checkloadnever{#1}{ccaption}{caption}% might be preloaded by memoir
1327 \LWR@checkloadnever{#1}{colortab}{colortbl}
1328 \LWR@checkloadnever{#1}{csvtools}{datatool}
1329 \LWR@checkloadnever{#1}{doublespace}{setspace}
1330 \LWR@checkloadnever{#1}{epsf}{graphicx}
1331 \LWR@checkloadnever{#1}{fancyheadings}{fancyhdr}
1332 \LWR@checkloadnever{#1}{fncylab}{cleveref}
1333 \LWR@checkloadnever{#1}{formula}{siunitx}
1334 \LWR@checkloadnever{#1}{glossary}{glossaries}
1335 \LWR@checkloadnever{#1}{hyper}{hyperref}
1336 \LWR@checkloadnever{#1}{libgreek}{libertinust1math, newtx}
1337 \LWR@checkloadnever{#1}{newthm}{ntheorem}
1338 \LWR@checkloadnever{#1}{pdfcprot}{microtype}
1339 \LWR@checkloadnever{#1}{picins}{floatflt, wrapfig}
1340 \LWR@checkloadnever{#1}{rplain}{fancyhdr}
1341 \LWR@checkloadnever{#1}{si}{siunitx}
1342 \LWR@checkloadnever{#1}{sistyle}{siunitx}
1343 \LWR@checkloadnever{#1}{slashbox}{diagbox}
1344 \LWR@checkloadnever{#1}{statex}{statex2}
1345 \LWR@checkloadnever{#1}{tlenc}{fontenc, inputenc, inputenx}
1346 \LWR@checkloadnever{#1}{ucs}{inputenc, inputencx}
1347 \LWR@checkloadnever{#1}{wasysym}{textcomp, amssymb, amsfonts, mnsymbol, fdsymbol}
1348 \LWR@checkloadnever{#1}{bxcjkjatyp}{upLaTeX, bxjsarticle, uarticle, utarticle}
1349 \LWR@checkloadnever{#1}{hangul}{kotex, xetexko, luatexko}

```

The following should only be loaded before `lwarp`:

```

1350 \LWR@checkloadbefore{#1}{ctex}
1351 \LWR@checkloadbefore{#1}{fontspec}
1352 \LWR@checkloadbefore{#1}{inputenc}
1353 \LWR@checkloadbefore{#1}{inputenx}
1354 \LWR@checkloadbefore{#1}{nfssect-cfr}
1355 \LWR@checkloadbefore{#1}{fontaxes}
1356 \LWR@checkloadbefore{#1}{kotex}
1357 \LWR@checkloadbefore{#1}{luatexja}
1358 \LWR@checkloadbefore{#1}{luatexja-fontspec}
1359 \LWR@checkloadbefore{#1}{luatexko}
1360 \LWR@checkloadbefore{#1}{morewrites}

```

```

1361 \LWR@checkloadbefore{#1}{newclude}
1362 \LWR@checkloadbefore{#1}{newunicodechar}
1363 \LWR@checkloadbefore{#1}{plex}
1364 \LWR@checkloadbefore{#1}{xeCJK}
1365 \LWR@checkloadbefore{#1}{xetexko}
1366 \LWR@checkloadbefore{#1}{zsjatype}
1367 }

```

`\LWR@lookforpackagename` {*index*}

If HTML, and if this is an lwarp-supported package name, re-direct it to the lwarp version by renaming it lwarp- followed by the original name.

Looks index deep into the list of package names, `\LWR@requirepackagenames`, and builds `\LWR@parsedrequirepackagenames` which is the modified list of names.

```
1368 \newcommand*{\LWR@lookforpackagename}[1]{%
```

Find the index'th package name from the list:

```
1369 \LWR@findword{\LWR@requirepackagenames}{#1}[\LWR@strresult]%
```

Remove blanks. The original name with blanks is in `LWR@strresult` and the final name with no blanks goes into `LWR@strresulttwo`.

```
1370 \StrSubstitute[100]{\LWR@strresult}{ }{ }\LWR@strresulttwo}%
```

See if the package name was found:

```
1371 \IfStrEq{\LWR@strresulttwo}{}%
```

```
1372 {}% no filename
```

```
1373 {% yes filename was found
```

Possible adjustments before loading the package. Maybe nullify the comment environment if the new package will be redefining it for a new purpose.

```
1374 \ifdefstring{\LWR@strresulttwo}{easyReview}{\LWR@nullifycomment}{}%
```

```
1375 \ifdefstring{\LWR@strresulttwo}{changes}{\LWR@nullifycomment}{}%
```

If HTML, check if the package should be loaded before lwarp, or never at all:

```
1376 \ifbool{warpingHTML}{\LWR@checkloadfilename{\LWR@strresulttwo}}{%
```

If HTML, and if found, and if an lwarp-equivalent name exists, use lwarp-* instead.

```
1377 \ifboolexpr{
```

```
1378 bool{warpingHTML} and
```

```
1379 test{\IfFileExists{lwarp-\LWR@strresulttwo.sty}}
```

```
1380 }%
```

```
1381 {% lwarp-* file found
```

```
1382 \ifdefvoid{\LWR@parsedrequirepackagenames}{%
```

```
1383 \edef\LWR@parsedrequirepackagenames{lwarp-\LWR@strresulttwo}%
```

```
1384 }{%
```

```

1385         \edef\LWR@parsedrequirepackagenames{%
1386             \LWR@parsedrequirepackagenames,lwarp-\LWR@strresulttwo%
1387         }%
1388     }%
1389 }%
1390 {%

```

Otherwise, use the current package name.

```

1391     \ifdefvoid{\LWR@parsedrequirepackagenames}{%
1392         \edef\LWR@parsedrequirepackagenames{\LWR@strresulttwo}%
1393     }{%
1394         \edef\LWR@parsedrequirepackagenames{%
1395             \LWR@parsedrequirepackagenames,\LWR@strresulttwo%
1396         }%
1397     }%
1398 }% no lwarp-* file
1399 }% yes filename
1400 }

```

`\RequirePackage` [*<1: options>*] [*<2: package names>*] [*<3: version>*]

For each of many package names in a comma-separated list, if an lwarp version of a package exists, select it instead of the L^AT_EX version.

```
1401 \RenewDocumentCommand{\RequirePackage}{o m o}{%
```

Redirect up to twenty names:¹⁷

```

1402 \renewcommand*{\LWR@requirepackagenames}{#2}%
1403 \renewcommand*{\LWR@parsedrequirepackagenames}{}%
1404 \LWR@lookforpackagename{1}%
1405 \LWR@lookforpackagename{2}%
1406 \LWR@lookforpackagename{3}%
1407 \LWR@lookforpackagename{4}%
1408 \LWR@lookforpackagename{5}%
1409 \LWR@lookforpackagename{6}%
1410 \LWR@lookforpackagename{7}%
1411 \LWR@lookforpackagename{8}%
1412 \LWR@lookforpackagename{9}%
1413 \LWR@lookforpackagename{10}%
1414 \LWR@lookforpackagename{11}%
1415 \LWR@lookforpackagename{12}%
1416 \LWR@lookforpackagename{13}%
1417 \LWR@lookforpackagename{14}%
1418 \LWR@lookforpackagename{15}%
1419 \LWR@lookforpackagename{16}%
1420 \LWR@lookforpackagename{17}%
1421 \LWR@lookforpackagename{18}%
1422 \LWR@lookforpackagename{19}%
1423 \LWR@lookforpackagename{20}%

```

¹⁷This was originally nine names, but then I came across a package which used twelve...

\RequirePackage depending on the options and version:

```

1424 \IfValueTF{#1}%
1425 {% options given
1426     \IfValueTF{#3}% version given?
1427         {\LWR@origRequirePackage[#1]{\LWR@parsedrequirepackagenames}[#3]}%
1428         {\LWR@origRequirePackage[#1]{\LWR@parsedrequirepackagenames}}%
1429 }%
1430 {% no options given
1431     \IfValueTF{#3}% version given?
1432         {\LWR@origRequirePackage{\LWR@parsedrequirepackagenames}[#3]}%
1433         {\LWR@origRequirePackage{\LWR@parsedrequirepackagenames}}%
1434 }%
1435 }
1436 \LetLtxMacro\usepackage\RequirePackage
1437 \@onlypreamble\RequirePackage
1438 \@onlypreamble\usepackage

1439 \end{warpall}

```

for HTML output: 1440 \begin{warpHTML}

\LWR@ProvidesPackagePass {<pkgname>} [<version>]

Uses the original package, including options.

```

1441 \NewDocumentCommand{\LWR@ProvidesPackagePass}{m o}{
1442     \PackageInfo{lwarp}{%
1443         Using package ‘#1’,\MessageBreak
1444         and adding lwarp modifications, including options,\MessageBreak%
1445     }%
1446     \IfValueTF{#2}%
1447         {\ProvidesPackage{lwarp-#1}[#2]}%
1448         {\ProvidesPackage{lwarp-#1}}%
1449     \DeclareOption*{%
1450         \PassOptionsToPackage{\CurrentOption}{#1}%
1451     }%
1452     \ProcessOptions\relax%

```

If using `catoptions`, an error occurs if a package is loaded with an option then loaded again with no options. `lwarp` does this if a package is preloaded then later patched. To avoid an error while using `catoptions`, if a package has already been loaded, it is loaded again with its original options.

```

1453     \@ifpackageloaded{#1}{%
1454         \edef\LWR@tempone{\csuse{opt@#1.sty}}%
1455         \IfValueTF{#2}%
1456             {%
1457                 \expandafter\LWR@origRequirePackage%
1458                 \expandafter[\LWR@tempone]{#1}[#2]%
1459             }%
1460             {%
1461                 \expandafter\LWR@origRequirePackage%
1462                 \expandafter[\LWR@tempone]{#1}%

```

```

1463         }%
1464     }{%
1465         \IfValueTF{#2}%
1466             {\LWR@origRequirePackage{#1}[#2]}%
1467             {\LWR@origRequirePackage{#1}}%
1468     }%

```

In some cases, the following seems to be required to avoid an “unknown option” error, such as when loading xcolor with options.

```

1469     \DeclareOption*{%
1470         \ProcessOptions\relax%
1471 }

```

`\LWR@ProvidesPackageDropA` `{<name>} {<date or -NoValue->}`

Declares the package. Factored for reuse.

```

1472 \newcommand*\LWR@ProvidesPackageDropA[2]{%
1473     \PackageInfo{lwarp}{%
1474         Replacing package ‘#1’ with the lwarp version,\MessageBreak
1475         and discarding options,%
1476     }%
1477     \IfValueTF{#2}
1478         {\ProvidesPackage{lwarp-#1}[#2]}
1479         {\ProvidesPackage{lwarp-#1}}
1480 }

```

`\LWR@ProvidesPackageDropB` Nullifies then processes the options.

Seems to be required when options contain curly braces, which were causing “Missing \begin{document}”.

```

1481 \newcommand*\LWR@ProvidesPackageDropB{%
1482 % \ProcessOptions\relax% original LaTeX code
1483 \let\ds@\empty%         from the original \ProcessOptions
1484 \edef\@curroptions{}%   lwarp modification to \ProcessOptions
1485 \@processoptions\relax% from the original \ProcessOptions
1486 }

```

`\LWR@ProvidesPackageDrop` `{<pkgname>} [<version>]`

Ignores the original package and uses lwarp’s version instead. Drops/discards all options.

```

1487 \NewDocumentCommand{\LWR@ProvidesPackageDrop}{m o}{

```

Declare the package:

```

1488 \LWR@ProvidesPackageDropA{#1}{#2}

```

Ignore all options:

```
1489 \DeclareOption*{}
```

Process the options:

```
1490 \LWR@ProvidesPackageDropB
```

```
1491 }
```

```
1492 \end{warpHTML}
```

31 File handles

Defines file handles for writes.

for HTML & PRINT: 1493 \begin{warpall}

\LWR@quickfile For quick temporary use only. This is reused in several places.

```
1494 \newwrite\LWR@quickfile%
```

```
1495 \end{warpall}
```

for HTML output: 1496 \begin{warpHTML}

\LWR@lateximagesfile For <project>-images.txt:

```
1497 \newwrite\LWR@lateximagesfile
```

```
1498 \end{warpHTML}
```

32 Include a file

During HTML output, `\include{<filename>}` causes the following to occur:

1. lwarp creates `<filename>_html_inc.tex` whose contents are:


```
\input <filename>.tex
```
2. `<filename>_html_inc.tex` is then `\included` instead of `<filename>.tex`.
3. `<filename>_html_inc.aux` is automatically generated and used by L^AT_EX.

for HTML output: 1499 \begin{warpHTML}

`\@include` `{\filename}` Modified to load `_html_inc` files.

(Below, `\clearpage` caused missing text, and was changed to `\newpage`.)

```

1500 \def\@include#1 {%
1501 \immediate\openout\LWR@quickfile #1_html_inc.tex% lwarp
1502 \immediate\write\LWR@quickfile{\string\input{#1.tex}}% lwarp
1503 \immediate\closeout\LWR@quickfile% lwarp
1504 \LWR@maybe@orignewpage% changed from clearpage
1505 \if@filesw
1506   \immediate\write\@mainaux{\string\@input{#1_html_inc.aux}}% changed
1507 \fi
1508 \@tempswatrue
1509 \if@partsw
1510   \@tempswafalse
1511   \edef\reserved@b{#1}%
1512   \@for\reserved@a:=\@partlist\do
1513     {\ifx\reserved@a\reserved@b\@tempswatrue\fi}%
1514 \fi
1515 \if@tempswa
1516   \let\@auxout\@partaux
1517   \if@filesw
1518     \immediate\openout\@partaux #1_html_inc.aux % changed
1519     \immediate\write\@partaux{\relax}%
1520   \fi
1521   \@input{#1_html_inc.tex}% changed
1522   \LWR@maybe@orignewpage% changed from clearpage
1523   \@writeckpt{#1}%
1524   \if@filesw
1525     \immediate\closeout\@partaux
1526   \fi
1527 \else
1528   \deadcycles\z@
1529   \@nameuse{cp@#1}%
1530 \fi
1531 \let\@auxout\@mainaux%
1532 }

1533 \end{warpHTML}

```

33 Copying a file

for HTML output: `1534 \begin{warpHTML}`

`\LWR@copyfile` `{\source filename}` `{\destination filename}`

Used to copy the `.toc` file to `.sidetoc` to re-print the TOC in the sideroc navigation pane.

```

1535 \newwrite\LWR@copyoutfile % open the file to write to
1536 \newread\LWR@copyinfile % open the file to read from
1537

```

```

1538 \newcommand*{\LWR@copyfile}[2]{%
1539     \LWR@traceinfo{\LWR@copyfile: copying #1 to #2}
1540
1541     \immediate\openout\LWR@copyoutfile=#2
1542     \openin\LWR@copyinfile=#1
1543     \begingroup\endlinechar=-1
1544     \makeatletter
1545
1546     \LWR@traceinfo{\LWR@copyfile: about to loop}
1547
1548     \loop\unless\ifeof\LWR@copyinfile
1549         \LWR@traceinfo{\LWR@copyfile: one line}
1550         \read\LWR@copyinfile to\LWR@fileline % Read one line and store it into \LWR@fileline
1551 %     \LWR@fileline\par % print the content into the pdf
1552 % print the content:
1553         \immediate\write\LWR@copyoutfile{\unexpanded\expandafter{\LWR@fileline}}%
1554     \repeat
1555     \immediate\closeout\LWR@copyoutfile
1556     \LWR@traceinfo{\LWR@copyfile: done}
1557     \endgroup
1558 }

1559 \end{warpHTML}

```

34 Debugging messages

HTML comments To have the HTML output include additional HTML comments, such as which `<div>` is closing, use

```
\booltrue{HTMLDebugComments}
```

debugging information To have debug information written to the log, use

```
\tracinglwarp
```

for HTML & PRINT: 1560 \begin{warpall}

Bool `LWR@tracinglwarp` True if tracing is turned on.

```
1561 \newbool{LWR@tracinglwarp}
```

`\tracinglwarp` Turns on the debug tracing messages.

```
1562 \newcommand{\tracinglwarp}{\booltrue{LWR@tracinglwarp}}
```

`\LWR@traceinfo` `{\langle text \rangle}` If tracing is turned on, writes the text to the `.log` file.

```

1563 \newcommand{\LWR@traceinfo}[1]{%
1564     \ifbool{LWR@tracinglwarp}%
1565     {%
1566         \typeout{*** lwarp: #1}%

```

```

1567 }%
1568 {}%
1569 }

```

Bool HTMLDebugComments Add comments in HTML about closing <div>s, sections, etc.
 Default: false

```

1570 \newbool{HTMLDebugComments}
1571 \boolfalse{HTMLDebugComments}

```

If `\tracinglwarp`, show where preamble hooks occur:

```

1572 \AfterEndPreamble{
1573 \LWR@traceinfo{AfterEndPreamble}
1574 }
1575
1576 \AtBeginDocument{
1577 \LWR@traceinfo{AtBeginDocument}
1578 }

1579 \end{warpall}

```

35 Defining print and HTML versions of macros and environments

The following refers to defining objects inside `lwarp`, and is not for the user's document.

Many macros and environments must be provided as both print and HTML versions.

While generating the print version of a document, the original macros as defined by `LATEX` and its packages are used as-is.

While generating the HTML version of a document, the original macro or environment is redefined to call a new HTML version or a copy of the original print version. The new HTML versions of macros and environments are used most of the time. Copies of the print versions are used inside a `lateximage` environment, which draws and remembers an image of the printed output, and also several other places.

The general structure for providing print and HTML versions of a macro or environment is as follows:

For a preexisting macro, not defined with `xparse`: An HTML version is provided with a special name, inside a `warpHTML` environment, then `\LWR@formatted` is used to redefine and patch various macros:

```

\begin{warpHTML}
\newcommand{\LWR@HTML@name}{...}% may also use xparse

\LWR@formatted{name}
\end{warpHTML}

```

`\LWR@formatted{name}` copies the original print version, then redefines `\name` to use either the print or HTML version depending on which mode `lwarp` is using. `xparse` may be used to define the new HTML version, even if the original did not use `xparse`. `expl3` syntax may be used as well.

For a preexisting environment, not defined with `xparse`: The process is similar. Note the use of `\LWR@formattedenv` instead of `\LWR@formatted`.

```

\begin{warpHTML}
\newenvironment{\LWR@HTML@name}{...}% may also use xparse

\LWR@formattedenv{name}
\end{warpHTML}

```

If the original used `xparse`: A copy must be made using a new name:

```

\begin{warpHTML}
\NewDocumentCommand{\LWR@print@name}{..}{..}% copy the original

\NewDocumentCommand{\LWR@HTML@name}{..}{..}% or use \newcommand

\LWR@formatted{name}
\end{warpHTML}

```

Similar for an environment, using `\LWR@formattedenv`. (`\LWR@formatted` and `\LWR@formattedenv` use `\LetLtxMacro` to copy the original print definition, which may not work with macros and environments created by `xparse`, so the print version must be manually recreated in the `lwarp` source.)

For a new macro or environment, not using `xparse` for the print version:

```

\begin{warpaLL}
\newcommand{\name}{...}% NOT xparse!
\end{warpaLL}

\begin{warpHTML}
\newcommand{\LWR@HTML@name}{...}% may use xparse for HTML

\LWR@formatted{name}
\end{warpHTML}

```

Similar for an environment. The plain `\name` or environment name is used for the printed version, and is placed inside `warpaLL`. `xparse` may be used for the `\LWR@HTML@<name>` version. `expl3` syntax may be used for the print and HTML versions.

For a new macro or environment, using `xparse`: It is possible to use `xparse` for an entirely new macro or environment by defining the `\LWR@print@<name>` version with `xparse`, along with `\name` defined without `xparse` to refer directly to the `\LWR@print` version:

```

\begin{warpall}
\NewDocumentCommand{\LWR@print@name}{...} {...}% -or-
\NewDocumentEnvironment{\LWR@print@name}{...} {...} {...}

% Simply a call to \LWR@print@name:
\newcommand{\name}{\LWR@print@name}% -or-
\newenvironment{name}{\LWR@print@name}{\endLWR@print@name}
\end{warpall}

\begin{warpHTML}
\NewDocumentCommand{\LWR@HTML@name}{...} {...}% -or-
\NewDocumentEnvironment{\LWR@HTML@name}{...} {...} {...}

\LWR@formatted{name}% -or-
\LWR@formattedenv{name}
\end{warpHTML}

```

In general, `\LWR@formatted` or `\LWR@formattedenv` are placed inside a `warpHTML` environment, and while producing an HTML document they do the following:

- Macros are modified:
 1. The pre-existing print version `\name` is saved as `\LWR@print@<name>`, unless `\LWR@print@<name>` is already defined.
 2. The original `\name` is redefined to call either the print or HTML version depending on which format is in use at the moment, as set by `\LWR@formatting`, which is defined as either “print” or “HTML”.
- When `lwarp` is producing a print document, the original definitions are used, as well as any new definitions defined in `warpall` above.
- When `lwarp` is generating HTML output, `\LWR@formatting` is set to “HTML”, and `\name` is directed to `\LWR@HTML@<name>`.
- When `lwarp` is generating HTML output but enters a `lateximage` environment, or for some other reason needs to draw images using the original print definitions, `\LWR@formatting` is changed to “print” and `\name` is then redirected to `\LWR@print@<name>`, which was the original `\name`.

Since arguments are not handled by the new `\name`, any star and other arguments are processed by the print or HTML version.

Expandable versions are also provided as well. These usually are necessary for anything which could appear inside a `tabular`, without which a “Misplaced `\omit`” error may occur.

```

\LWR@expandableformatted
\LWR@expandableformattedenv

```



Misplaced `\omit` error

(Older versions of `lwarp` used `\LetLtxMacro` for everything, but this could fail when using macros defined by `xparse`. This older system is still in use for many definitions.)

for HTML output: 1580 `\begin{warpHTML}`

`\LWR@formatting` Remembers if selected print/HTML formatting.

Used while `\LWR@restoreorigformatting`, such as in an `lateximage`. May be set to either “print” or “HTML”.

1581 `\newcommand*{\LWR@formatting}{HTML}`

`\LWR@formatted@checkname` $\langle name \rangle$

```
1582 \newcommand*{\LWR@formatted@checkname}[1]{%
1583   \ifcsundef{LWR@HTML@#1}{%
1584     \PackageError{lwarp}
1585     {%
1586       \protect\LWR@HTML@#1 is not defined%
1587     }
1588     {Perhaps it is misspelled.}
1589   }\relax}%
1590 }
```

`\LWR@formatted@checkendname` $\langle name \rangle$

```
1591 \newcommand*{\LWR@formatted@checkendname}[1]{%
1592   \ifcsundef{endLWR@HTML@#1}{%
1593     \PackageError{lwarp}
1594     {%
1595       \protect\endLWR@HTML@#1 is not defined%
1596     }
1597     {Perhaps it is misspelled.}
1598   }\relax}%
1599 }
```

`\LWR@formatted` $\langle macroname \rangle$ No backslash in the macro name.

If not yet defined, defines `\LWR@print@<name>` as the original print-mode `\<name>`. Also redefines `\<name>` to use `\LWR@<format>@<name>`, where `<format>` is set by `\LWR@formatting`, and is print or HTML.

```
1600 \newcommand*{\LWR@formatted}[1]{%
1601   \LWR@formatted@checkname{#1}%
1602   \ifcsundef{LWR@print@#1}{%
1603     \expandafter\LetLtxMacro\csname LWR@print@#1\expandafter\endcsname%
1604     \csname#1\endcsname%
1605   }{%
1606     \ifcsundef{#1}{%
1607       \expandafter\newrobustcmd\csname #1\endcsname{%
1608         \@nameuse{LWR@\LWR@formatting @#1}%
1609       }%

```

```

1610   }{%
1611     \expandafter\renewrobustcmd\csname #1\endcsname{%
1612       \@nameuse{LWR@LWR@formatting @#1}%
1613     }%
1614   }%
1615 }

```

`\LWR@expandableformatted` $\{\langle\textit{macroname}\rangle\}$ No backslash in the macro name.

An expandable version of `\LWR@formatted`.

```

1616 \newcommand*{\LWR@expandableformatted}[1]{%
1617   \LWR@formatted@checkname{#1}%
1618   \ifcsundef{LWR@print@#1}{%
1619     \expandafter\LetLtxMacro\csname LWR@print@#1\expandafter\endcsname%
1620     \csname#1\endcsname%
1621   }{%
1622   \ifcsundef{#1}{%
1623     \expandafter\newcommand\csname #1\endcsname{%
1624       \@nameuse{LWR@LWR@formatting @#1}%
1625     }%
1626   }{%
1627     \expandafter\renewcommand\csname #1\endcsname{%
1628       \@nameuse{LWR@LWR@formatting @#1}%
1629     }%
1630   }%
1631 }

```

`\LWR@formattedenv` $\{\langle\textit{environmentname}\rangle\}$

If not yet defined, defines the environment `LWR@print@<name>` as the original print-mode `<name>`. Also redefines the environment `<name>` to use environment `LWR@<format>@<name>`, where `<format>` is set by `\LWR@formatting`, and is `print` or `HTML`.

```

1632 \newcommand*{\LWR@formattedenv}[1]{%
1633   \LWR@formatted@checkname{#1}%
1634   \LWR@formatted@checkendname{#1}%
1635   \ifcsundef{LWR@print@#1}{%
1636     \expandafter\LetLtxMacro\csname LWR@print@#1\expandafter\endcsname%
1637     \csname#1\endcsname%
1638     \csletcs{endLWR@print@#1}{end#1}%
1639   }{%
1640   \DeclareDocumentEnvironment{#1}{%
1641     {%
1642       \@nameuse{LWR@LWR@formatting @#1}%
1643     }%
1644     {%
1645       \@nameuse{endLWR@LWR@formatting @#1}%
1646     }%
1647 }

```

`\LWR@expandableformattedenv` $\{\langle\textit{environmentname}\rangle\}$

An expandable version of LWR@formattedenv.

```

1648 \newcommand*{\LWR@expandableformattedenv}[1]{%
1649   \LWR@formatted@checkname{#1}%
1650   \LWR@formatted@checkendname{#1}%
1651   \ifcsundef\LWR@print@#1{%
1652     \expandafter\LetLtxMacro\csname LWR@print@#1\expandafter\endcsname%
1653     \csname#1\endcsname%
1654     \csletcs{endLWR@print@#1}{end#1}%
1655   }{%
1656   \DeclareExpandableDocumentEnvironment{#1}{%
1657     {%
1658       \@nameuse{LWR@\LWR@formatting @#1}%
1659     }%
1660     {%
1661       \@nameuse{endLWR@\LWR@formatting @#1}%
1662     }%
1663   }

1664 \end{warpHTML}

```

36 HTML-conversion output modifications

These booleans modify the HTML output in various ways to improve conversion to EPUB or word processor imports.

for HTML & PRINT: 1665 \begin{warpall}

36.1 User-level controls

Bool `FormatEPUB` Changes HTML output for easy EPUB conversion via an external program. Removes per-file headers, footers, and nav. Adds footnotes per chapter/section.
Default: `false`

```

1666 \newbool{FormatEPUB}
1667 \boolfalse{FormatEPUB}

```

Bool `FormatWP` Changes HTML output for easier conversion by a word processor. Removes headers and nav, prints footnotes per section, and also forces single-file output and turns off HTML debug comments.
Default: `false`

```

1668 \newbool{FormatWP}
1669 \boolfalse{FormatWP}

```

Bool `WPMarkFloats` Adds
Default: `false`

```

=== begin table ===
. . .
=== end ===

or

```

```

=== begin figure ===
. . .
=== end ===

```

around floats while formatting for word processors. This helps identify boundaries of floats to be manually converted to word-processor frames and captions.¹⁸

```

1670 \newbool{WPMarkFloats}
1671 \boolfalse{WPMarkFloats}

```

Bool WPMarkMinipages Adds

Default: false

```

=== begin minipage ===
. . .
=== end minipage ===

```

around minipages while formatting for word processors. This helps identify boundaries of minipages to be manually converted to word-processor frames.

```

1672 \newbool{WPMarkMinipages}
1673 \boolfalse{WPMarkMinipages}

```

Bool WPMarkTOC While formatting for word processors, adds

Default: true

```

=== table of contents ===

```

where the Table of Contents would have been. This helps identify where to insert the actual TOC.

If set false, the actual TOC is printed instead.

```

1674 \newbool{WPMarkTOC}
1675 \booltrue{WPMarkTOC}

```

Bool WPMarkLOFT While formatting for word processors, adds

Default: false

```

=== list of figures === and/or
=== list of tables ===

```

where each of these lists would have been. This helps identify where to insert the actual lists.

If set false, the actual lists are printed instead.

```

1676 \newbool{WPMarkLOFT}
1677 \boolfalse{WPMarkLOFT}

```

Bool WPMarkMath While formatting for word processors, prints math as \LaTeX code instead of creating SVG images or MATHJAX . This is useful for cut/paste into the *LibreOffice Writer TeXMaths* extension.

¹⁸Perhaps some day word processors will have HTML import options for identifying `<figure>` and caption tags for figures and tables.

```
1678 \newbool{WPMarkMath}
1679 \boolfalse{WPMarkMath}
```

Bool WPTitleHeading While formatting for word processors, true sets the document title to <h1>, which is expected for HTML documents, but also causes the lower-level section headings to start at **Heading 2** when imported into LIBREOffice. Set to false to cause the title to be plain text, and the section headings to begin at **Heading 1**.

Default: false

See table 10 on page 188.

```
1680 \newbool{WPTitleHeading}
1681 \boolfalse{WPTitleHeading}
```

```
1682 \end{warpall}
```

36.2 Heading adjustments

If formatting the HTML for a word processor, adjust heading levels.

If WPTitleHeading is true, adjust so that part is **Heading 1**.

If WPTitleHeading is false, use <h1> for the title, and set part to **Heading 2**.

for HTML output: 1683 \begin{warpHTML}

```
1684 \AtBeginDocument{
1685 \ifbool{FormatWP}{
1686 \@ifundefined{chapter}{
1687 \ifbool{WPTitleHeading}{% part and section starting at h2
1688 \renewcommand*\LWR@tagtitle}{h1}
1689 \renewcommand*\LWR@tagtitleend}{/h1}
1690 \renewcommand*\LWR@tagpart}{h2}
1691 \renewcommand*\LWR@tagpartend}{/h2}
1692 \renewcommand*\LWR@tagsection}{h3}
1693 \renewcommand*\LWR@tagsectionend}{/h3}
1694 \renewcommand*\LWR@tagsubsection}{h4}
1695 \renewcommand*\LWR@tagsubsectionend}{/h4}
1696 \renewcommand*\LWR@tagsubsubsection}{h5}
1697 \renewcommand*\LWR@tagsubsubsectionend}{/h5}
1698 \renewcommand*\LWR@tagparagraph}{h6}
1699 \renewcommand*\LWR@tagparagraphend}{/h6}
1700 \renewcommand*\LWR@tagsubparagraph}{span class="subparagraph"}
1701 \renewcommand*\LWR@tagsubparagraphend}{/span}
1702 }% WPTitleHeading
1703 {% not WPTitleHeading, part and section starting at h1
1704 \renewcommand*\LWR@tagtitle}{div class="title"}
1705 \renewcommand*\LWR@tagtitleend}{/div}
1706 \renewcommand*\LWR@tagpart}{h1}
1707 \renewcommand*\LWR@tagpartend}{/h1}
1708 \renewcommand*\LWR@tagsection}{h2}
1709 \renewcommand*\LWR@tagsectionend}{/h2}
1710 \renewcommand*\LWR@tagsubsection}{h3}
1711 \renewcommand*\LWR@tagsubsectionend}{/h3}
```

```

1712 \renewcommand*\LWR@tagssubsubsection}{h4}
1713 \renewcommand*\LWR@tagssubsubsectionend}{/h4}
1714 \renewcommand*\LWR@tagparagraph}{h5}
1715 \renewcommand*\LWR@tagparagraphend}{/h5}
1716 \renewcommand*\LWR@tagsubparagraph}{h6}
1717 \renewcommand*\LWR@tagsubparagraphend}{/h6}
1718 }% not WPTitleHeading
1719 }% chapter undefined
1720 {% chapter defined
1721 \ifbool{WPTitleHeading}{
1722 {% not WPTitleHeading, part and chapter starting at h1
1723 \renewcommand*\LWR@tagtitle}{div class="title"}
1724 \renewcommand*\LWR@tagtitleend}{/div}
1725 \renewcommand*\LWR@tagpart}{h1}
1726 \renewcommand*\LWR@tagpartend}{/h1}
1727 \renewcommand*\LWR@tagchapter}{h2}
1728 \renewcommand*\LWR@tagchapterend}{/h2}
1729 \renewcommand*\LWR@tagsection}{h3}
1730 \renewcommand*\LWR@tagsectionend}{/h3}
1731 \renewcommand*\LWR@tagsubsection}{h4}
1732 \renewcommand*\LWR@tagsubsectionend}{/h4}
1733 \renewcommand*\LWR@tagssubsubsection}{h5}
1734 \renewcommand*\LWR@tagssubsubsectionend}{/h5}
1735 \renewcommand*\LWR@tagparagraph}{h6}
1736 \renewcommand*\LWR@tagparagraphend}{/h6}
1737 \renewcommand*\LWR@tagsubparagraph}{span class="subparagraph"}
1738 \renewcommand*\LWR@tagsubparagraphend}{/span}
1739 }% not WPTitleHeading
1740 }% chapter defined
1741 }{}% FormatWP
1742 }% AtBeginDocument

1743 \end{warpHTML}

```

37 Remembering original formatting macros

for HTML output: 1744 \begin{warpHTML}

Remember original definitions of formatting commands. Will be changed to HTML commands for most uses. Will be temporarily restored to original meaning inside any lateximage environment. Also nullify unused commands.

Some packages redefine \#, which is used to generate HTML, so the original must be remembered here.

```

1745 \chardef\LWR@origpound='\#

1746 \let\LWR@origcomma\,
1747 \let\LWR@origthinspace\thinspace
1748 \let\LWR@orignegthinspace\negthinspace
1749 \let\LWR@origtilde~
1750 \let\LWR@origenskip\enskip

```

```
1751 \let\LWR@origquad\quad
1752 \let\LWR@origqquad\qquad
1753 \let\LWR@origfil\hfil
1754 \let\LWR@orighss\hss
1755 \let\LWR@origllap\llap
1756 \let\LWR@origrlap\rlap
1757 \let\LWR@origfilneg\hfilneg
1758 \let\LWR@origspace\hspace
1759
1760 \let\LWR@origrule\rule
1761
1762 \let\LWR@origmedskip\medskip
1763 \let\LWR@origbigskip\bigskip
1764
1765 \let\LWR@origtextellipsis\textellipsis

1766 \let\LWR@origvdots\vdots

1767 \let\LWR@orig@textquotedbl\textquotedbl
1768
1769 \LetLtxMacro\LWR@origttfamily\ttfamily
1770
1771 \LetLtxMacro\LWR@origem\em
1772
1773 \LetLtxMacro\LWR@orignormalfont\normalfont
1774
1775 \let\LWR@origonecolumn\onecolumn
1776
1777 \let\LWR@origsp\sp
1778 \let\LWR@origsb\sbs
1779
1780 \LetLtxMacro\LWR@origunderline\underline

1781 \let\LWR@orignewpage\newpage
1782
1783 \let\LWR@origpagestyle\pagestyle
1784 \let\LWR@origthispagestyle\thispagestyle
1785 \LetLtxMacro\LWR@origpagenumbering\pagenumbering
1786
1787 \let\LWR@orignewline\newline
1788
1789 \AtBeginDocument{% in case packages change definition
1790 \let\LWR@orig@trivlist@trivlist
1791 \let\LWR@origtrivlist\trivlist
1792 \let\LWR@origendtrivlist\endtrivlist
1793 \LetLtxMacro\LWR@origitem\item
1794 \LetLtxMacro\LWR@origitemize\itemize
1795 \LetLtxMacro\LWR@endorigitemize\enditemize
1796 \LetLtxMacro\LWR@origenumerate\enumerate
1797 \LetLtxMacro\LWR@endorigenumerate\endenumerate
1798 \LetLtxMacro\LWR@origdescription\description
1799 \LetLtxMacro\LWR@endorigdescription\enddescription
1800 \let\LWR@orig@mklab@mklab
1801 \let\LWR@origmake\make
1802 \let\LWR@orig@donoparitem\donoparitem
```

```

1803 \LetLtxMacro\LWR@orig@item\@item
1804 \let\LWR@orig@nbitem\@nbitem
1805 }
1806
1807 \let\LWR@origpar\par
1808
1809 \LetLtxMacro\LWR@origfootnote\footnote
1810 \let\LWR@orig@mpfootnotetext\@mpfootnotetext
1811
1812
1813 \AtBeginDocument{% in case packages change definition
1814 \LetLtxMacro\LWR@orighline\hline%
1815 \LetLtxMacro\LWR@origcline\cline%
1816 }

1817 \end{warpHTML}

```

38 Accents

Native \LaTeX accents such as `\`` will work, but many more kinds of accents are available when using Unicode-aware $X\LaTeX$ and $\text{Lua}\LaTeX$. If using accents in section names which will become file names, it is recommended to use the \LaTeX accents such as `\`` and `\v` instead of Unicode accents. The \LaTeX accents will have the accents stripped when creating the filenames, whereas the Unicode accents will appear in the file names, which may cause issues with some operating systems.

for HTML output: 1818 `\begin{warpHTML}`}

Without `\AtBeginDocument`, `\t` was being re-defined somewhere.

```
1819 \AtBeginDocument{
```

The following are restored for print when inside a `lateximage`.

For Unicode engines, only `\t` needs to be redefined:

```
1820 \LetLtxMacro\LWR@origtie\t
```

For $\text{pdf}\LaTeX$, additional work is required:

```

1821 \ifPDFTeX% pdflatex or dvi latex
1822 \LetLtxMacro\LWR@origgraveaccent\`
1823 \LetLtxMacro\LWR@origacuteaccent\'
1824 \LetLtxMacro\LWR@origcircumflexaccent\^
1825 \LetLtxMacro\LWR@origtildeaccent\~
1826 \LetLtxMacro\LWR@origmacronaccent\=
1827 \LetLtxMacro\LWR@origbreve\u
1828 \LetLtxMacro\LWR@origdotaccent\.
1829 \LetLtxMacro\LWR@origdiaeresisaccent\"
1830 \LetLtxMacro\LWR@origdoubleacuteaccent\H
1831 \LetLtxMacro\LWR@origcaronaccent\v

```



```

1832 \LetLtxMacro\LWR@origdotbelowaccent\d
1833 \LetLtxMacro\LWR@origcedillaaccent\c
1834 \LetLtxMacro\LWR@origmacronbelowaccent\b

```

The HTML redefinitions follow.

For pdfL^AT_EX, Unicode diacritical marks are used:

```

1835 \renewcommand*{\'}[1]{#1\HTMLUnicode{0300}}
1836 \renewcommand*{\'}[1]{#1\HTMLUnicode{0301}}
1837 \renewcommand*{\^}[1]{#1\HTMLUnicode{0302}}
1838 \renewcommand*{\~}[1]{#1\HTMLUnicode{0303}}
1839 \renewcommand*{\=}[1]{#1\HTMLUnicode{0304}}
1840 \renewcommand*{\u}[1]{#1\HTMLUnicode{0306}}
1841 \renewcommand*{\.}[1]{#1\HTMLUnicode{0307}}
1842 \renewcommand*{\"}[1]{#1\HTMLUnicode{0308}}
1843 \renewcommand*{\H}[1]{#1\HTMLUnicode{030B}}
1844 \renewcommand*{\v}[1]{#1\HTMLUnicode{030C}}
1845 \renewcommand*{\d}[1]{#1\HTMLUnicode{0323}}
1846 \renewcommand*{\c}[1]{#1\HTMLUnicode{0327}}
1847 \renewcommand*{\b}[1]{#1\HTMLUnicode{0331}}
1848 \fi

```

For all engines, a Unicode diacritical tie is used:

```

1849 \def\LWR@t#1#2{#1\HTMLUnicode{0361}#2}
1850 \renewcommand*{\t}[1]{\LWR@t#1}

```

`\LWR@restoreorigaccents` Called from `\restoreoriginalformatting` when a latex image is begun.

```

1851 \ifPDFTeX% pdflatex or dvi latex
1852 \newcommand*{\LWR@restoreorigaccents}{%
1853   \LetLtxMacro\` \LWR@origgraveaccent%
1854   \LetLtxMacro\' \LWR@origacuteaccent%
1855   \LetLtxMacro^^ \LWR@origcircumflexaccent%
1856   \LetLtxMacro\~ \LWR@origtildeaccent%
1857   \LetLtxMacro\= \LWR@origmacronaccent%
1858   \LetLtxMacro\u \LWR@origbreve%
1859   \LetLtxMacro\.\LWR@origdotaccent%
1860   \LetLtxMacro\" \LWR@origdiaeresisaccent%
1861   \LetLtxMacro\H \LWR@origdoubleacuteaccent%
1862   \LetLtxMacro\v \LWR@origcaronaccent%
1863   \LetLtxMacro\t \LWR@origtie%
1864   \LetLtxMacro\d \LWR@origdotbelowaccent%
1865   \LetLtxMacro\c \LWR@origcedillaaccent%
1866   \LetLtxMacro\b \LWR@origmacronbelowaccent%
1867 }%
1868 \else% XeLaTeX, LuaLaTeX:
1869 \newcommand*{\LWR@restoreorigaccents}{%
1870   \LetLtxMacro\t \LWR@origtie%
1871 }%
1872 \fi%
1873 }% AtBeginDocument

1874 \end{warpHTML}

```

39 Configuration files

39.1 Decide whether to generate configuration files

Configuration files are only written if processing the print version of the document, and not processing a pstool image. pstool uses an additional compile for each image using the original document's preamble, which includes lwarp, so the lwarp configuration files are turned off if -pstool is part of the \jobname.

Default to no configuration files:

```
1875 \LWR@excludecomment{LWRwriteconf}{writeconf}
```

Generate configuration files if print mode and not -pstool:

```
for PRINT output: 1876 \begin{warpprint}
1877 \fullexpandarg%
1878 \IfSubStr*{\jobname}{-pstool}
1879   {
1880     \PackageInfo{lwarp}{%
1881       Jobname with -pstool is found.\MessageBreak
1882       Not generating lwarp configuration files,%
1883     }
1884   }
1885   {
1886     \PackageInfo{lwarp}{Generating lwarp configuration files,}%
1887     \LWR@includecomment{LWRwriteconf}{writeconf}
1888   }
1889 \end{warpprint}
```

39.2 <project>_html.tex

File *_html.tex Used to allow an HTML version of the document to exist alongside the print version.

```
Config file: 1890 \begin{LWRwriteconf}
1891 \immediate\openout\LWR@quickfile=\jobname_html.tex
1892 \immediate\write\LWR@quickfile{%
1893 \detokenize{\PassOptionsToPackage}%
1894 {warpHTML,BaseJobname=\jobname}{Lwarp}%
1895 }
1896 \immediate\write\LWR@quickfile{%
1897 \detokenize{\input}\string{\jobname.tex}\string }%
1898 }
1899 \immediate\closeout\LWR@quickfile
1900 \end{LWRwriteconf}
```

39.3 lwarpmk configuration files

```
Config file: 1901 \begin{LWRwriteconf}
```

`\LWR@lwarpcnfversion` The version number of the configuration file, allowing *lwarpmk* to detect an obsolete configuration file format. Incremented by one each time the configuration file format changes. (This is NOT the same as the *lwarp* version number.)

```
1902 \newcommand*\LWR@lwarpcnfversion}{2}% also in lwarpmk.lua
```

39.3.1 Helper macros

`\LWR@shellescapecmd` The LaTeX compile option for shell escape, if used.

```
1903 \ifshellescape
1904   \def\LWR@shellescapecmd{--shell-escape }
1905 \else
1906   \def\LWR@shellescapecmd{}
1907 \fi
```

`\LWR@compilecmd` `{<engine>}{<suffix>}`

Used to form the basic compilation command for a document, adding the optional shell escape.

Engine is *pdf_latex*, etc. Suffix is empty or `_html`

```
1908 \newcommand*\LWR@compilecmd}[2]{%
1909   #1 \LWR@shellescapecmd \jobname#2%
1910 }
```

`\LWR@addcompilecmd` `{<cmd>}{<suffix>}`

Adds to the compilation command.

Cmd is *dvipdfmx*, etc. Suffix is empty or `_html`

```
1911 \newcommand*\LWR@addcompilecmd}[2]{%
1912   \LWRopseq
1913   #1 \jobname#2%
1914 }
```

`\LWR@unknownengine` Error message if not sure which L^AT_EX engine is being used.

```
1915 \newcommand*\LWR@unknownengine){%
1916   \PackageError{l warp}{%
1917     {Unknown LaTeX engine}%
1918     {%
1919       Lwarp only knows about pdflatex, dvi latex,
1920       xelatex, lualatex, and upLATEX.%
1921     }%
1922 }
```

`\LWR@latexmkvar` `{<varname>}{<value>}`

Adds a *latexmk* variable assignment.

```
1923 \newcommand*{\LWR@latexmkvar}[2]{%
1924     -e
1925     \LWRopquote%
1926     \LWRdollar #1=q/#2/%
1927     \LWRopquote
1928 }
```

`\LWR@latexmkcmd` {*⟨latexmk options⟩*}

Sets a call to *latexmk* with the given options, possibly adding `--shell-escape`, and also adding the indexing program.

```
1929 \newcommand*{\LWR@latexmkcmd}[1]{%
1930     latexmk \space \LWR@shellescapecmd \space #1 \space
1931     -recorder \space
1932     \LWR@latexmkvar{makeindex}{\LWR@LatexmkIndexCmd}%
1933 }
```

`\LWR@latexmkdvipdfm` {*⟨dvipdfm or dvipdfmx⟩*}

Adds the options settings for *dvipdfm* or *dvipdfmx*.

```
1934 \newcommand*{\LWR@latexmkdvipdfm}[1]{%
1935     -pdfdvi \space
1936     \LWR@latexmkvar{dvipdf}{%
1937         #1
1938         \@percentchar O
1939         -o \@percentchar D
1940         \@percentchar S%
1941     }
1942 }
```

`\LWR@compileuplatex` Sets compile options for upL^AT_EX with *ujarticle* or related classes.

```
1943 \newcommand*{\LWR@compileuplatex}{
1944     \def\LWR@tempprintlatexcmd{%
1945         \LWR@compilecmd{uplatex}{ }
1946         \LWR@addcompilecmd{dvipdfmx}{ }
1947     }
1948     \def\LWR@tempHTMLlatexcmd{%
1949         \LWR@compilecmd{uplatex}{_html}
1950         \LWR@addcompilecmd{dvipdfmx}{_html}
1951     }
1952 }
```

`\LWR@PrintLatexCmd` If not set by the user, the following sets the command to use to compile the source to PDF form.
`\LWR@HTMLLatexCmd`

If using *latexmk*, a complicated string is created, eventually resulting in something such as:

For *xelatex* with `--shell-escape`:

```
[[latexmk -xelatex --shell-escape -recorder
  -e '$makeindex = q/makeindex -s lwarp.ist/' <jobname>_html]]
```

For *dvipdfmx*:

```
[[latexmk -pdfdvi -e '$dvi-pdf=q/dvipdfmx %O -o %D %S/'
  -recorder
  -e '$makeindex=q/makeindex -s lwarp.ist/' <jobname>_html]]
```

For the following, temporary values are computed, but the permanent values are only set if the originals were not assigned by the user.

```
1953 \ifbool{LWR@latexmk}{
```

For *latexmk* with *pdflatex* or *lualatex*:

```
1954   \ifpdf
```

For *latexmk* with *pdflatex*:

```
1955       \ifPDFTeX
1956         \def\LWR@latexcmd{\LWR@latexmkcmd{-pdf -dvi- -ps-}}
1957       \else
```

For *latexmk* with *lualatex*:

```
1958         \ifLuaTeX
1959           \def\LWR@latexcmd{\LWR@latexmkcmd{-lualatex}}
1960         \else
1961           \LWR@unknownengine
1962         \fi
1963       \fi
1964     \else% \ifpdf
```

For *latexmk* with *xelatex* or DVI *latex*:

```
1965       \ifXeTeX
```

For *latexmk* with *xelatex*:

```
1966         \def\LWR@latexcmd{\LWR@latexmkcmd{-xelatex}}
1967       \else% \ifXeTeX
```

For *latexmk* with DVI *latex*:

```
1968       \ifbool{LWR@dvipdfm}{
```

```

1969         \def\LWR@latexcmd{%
1970             \LWR@latexmkcmd{%
1971                 \LWR@latexmkdvipdfm{dvipdfm}%
1972             }
1973         }
1974     }{
1975         \ifbool{LWR@dvipdfmx}{
1976             \def\LWR@latexcmd{%
1977                 \LWR@latexmkcmd{%
1978                     \LWR@latexmkdvipdfm{dvipdfmx}%
1979                 }
1980             }
1981         }{
1982             \def\LWR@latexcmd{\LWR@latexmkcmd{-pdfps}}
1983         }
1984     }
1985     \fi
1986     \fi% \ifpdf

```

The final assignment if *latexmk*:

```

1987     \def\LWR@tempprintlatexcmd{\LWR@latexcmd \space \jobname}
1988     \def\LWR@tempHTMLlatexcmd{\LWR@latexcmd \space \jobname_html}
1989 }% latexmk

```

Without *latexmk*, the compiling command is simply the compiler name and the optional shell escape:

```

1990 {% not latexmk
1991     \ifpdf

```

For *pdflatex* or *lualatex*:

```

1992     \ifPDFTeX

```

For *pdflatex*:

```

1993         \def\LWR@tempprintlatexcmd{\LWR@compilecmd{pdflatex}{}}
1994         \def\LWR@tempHTMLlatexcmd{\LWR@compilecmd{pdflatex}{_html}}
1995     \else
1996         \ifLuaTeX

```

For *lualatex*:

```

1997         \def\LWR@tempprintlatexcmd{\LWR@compilecmd{lualatex}{}}
1998         \def\LWR@tempHTMLlatexcmd{\LWR@compilecmd{lualatex}{_html}}
1999     \else
2000         \LWR@unknownengine
2001     \fi
2002     \fi
2003     \else% \ifpdf

```

For DVI *latex* or *xelatex*:

```
2004      \ifXeTeX
```

For *xelatex*:

```
2005          \def\LWR@tempprintlatexcmd{\LWR@compilecmd{xelatex}{}}
2006          \def\LWR@tempHTMLlatexcmd{\LWR@compilecmd{xelatex}{_html}}
2007      \else
```

For DVI *latex*. Default to *dvips*, unless told to use *dvipdfm* or *dvipdfmx*:

```
2008          \ifbool{LWR@dvipdfm}{
```

For DVI *latex* with *dvipdfm*:

```
2009          \def\LWR@tempprintlatexcmd{%
2010              \LWR@compilecmd{latex}{}
2011              \LWR@addcompilecmd{dvipdfm}{}
2012          }
2013          \def\LWR@tempHTMLlatexcmd{%
2014              \LWR@compilecmd{latex}{_html}
2015              \LWR@addcompilecmd{dvipdfm}{_html}
2016          }
2017      }{
2018          \ifbool{LWR@dvipdfmx}{
```

For DVI *latex* with *dvipdfmx*:

```
2019          \def\LWR@tempprintlatexcmd{%
2020              \LWR@compilecmd{latex}{}
2021              \LWR@addcompilecmd{dvipdfmx}{}
2022          }
2023          \def\LWR@tempHTMLlatexcmd{%
2024              \LWR@compilecmd{latex}{_html}
2025              \LWR@addcompilecmd{dvipdfmx}{_html}
2026          }
2027      }{% dvips
```

For DVI *latex* with *dvips* and *ps2pdf*:

```
2028          \def\LWR@tempprintlatexcmd{%
2029              \LWR@compilecmd{latex}{}
2030              \LWR@addcompilecmd{dvips}{}
2031              \LWR@addcompilecmd{ps2pdf}{} .ps
2032          }
2033          \def\LWR@tempHTMLlatexcmd{%
2034              \LWR@compilecmd{latex}{_html}
2035              \LWR@addcompilecmd{dvips}{_html}
2036              \LWR@addcompilecmd{ps2pdf}{_html} .ps
2037          }
2038      }
2039  }
2040  \fi% \ifXeTeX
2041  \fi% \ifpdf
2042 }% latexmk
```

For `ujarticle`, `utarticle`, and related, using up^LA^TE^X and *dvipdfmx*:

```
2043 \@ifclassloaded{ujarticle}{\LWR@compileuplatex}{}
2044 \@ifclassloaded{ujbook}{\LWR@compileuplatex}{}
2045 \@ifclassloaded{ujreport}{\LWR@compileuplatex}{}
2046 \@ifclassloaded{utarticle}{\LWR@compileuplatex}{}
2047 \@ifclassloaded{utbook}{\LWR@compileuplatex}{}
2048 \@ifclassloaded{utreport}{\LWR@compileuplatex}{}

```

Only make the setting permanent if the original was empty:

```
2049 \ifdefempty{\LWR@PrintLatexCmd}{
2050     \def\LWR@PrintLatexCmd{\LWR@tempprintlatexcmd}
2051 }{}
2052 \ifdefempty{\LWR@HTMLLatexCmd}{
2053     \def\LWR@HTMLLatexCmd{\LWR@tempHTMLlatexcmd}
2054 }{}

```

`\LWR@writeconf {filename}`

Common code for each of `lwarpmk.conf` and `<project>.lwarpmkconf`. Each entry is a variable name, the equal sign, and a quoted string inside `[[` and `]]`, which are *lua*'s long quote characters, allowing the use of single and double quotes inside.

```
2055 \newcommand{\LWR@writeconf}[1]{
2056 \ifcsdef{LWR@quickfile}{\newwrite{\LWR@quickfile}}
2057 \immediate\openout\LWR@quickfile=#1
2058 \immediate\write\LWR@quickfile{confversion = [[\LWR@lwarpcnfversion]]}
2059 \ifbool{usingOSWindows}{
2060     \immediate\write\LWR@quickfile{opsystem = [[Windows]]}
2061 }{
2062     \immediate\write\LWR@quickfile{opsystem = [[Unix]]}
2063 }
2064 \immediate\write\LWR@quickfile{sourcename = [[\jobname]]}
2065 \immediate\write\LWR@quickfile{homehtmlfilename = [[\HomeHTMLFilename]]}
2066 \immediate\write\LWR@quickfile{htmlfilename = [[HTMLFilename]]}
2067 \immediate\write\LWR@quickfile{imagesdirectory = [[\LWR@ImagesDirectory]]}
2068 \immediate\write\LWR@quickfile{imagesname = [[\LWR@ImagesName]]}
2069 \immediate\write\LWR@quickfile{latexmk = [[\ifbool{LWR@latexmk}{true}{false}]]}
2070 \immediate\write\LWR@quickfile{printlatexcmd = [[\LWR@PrintLatexCmd]]}
2071 \immediate\write\LWR@quickfile{HTMLlatexcmd = [[\LWR@HTMLLatexCmd]]}
2072 \immediate\write\LWR@quickfile{printindexcmd = [[\LWR@PrintIndexCmd]]}
2073 \immediate\write\LWR@quickfile{HTMLindexcmd = [[\LWR@HTMLIndexCmd]]}
2074 \immediate\write\LWR@quickfile{latexmkindexcmd = [[\LWR@LatexmkIndexCmd]]}
2075 \immediate\write\LWR@quickfile{glossarycmd = [[\LWR@GlossaryCmd]]}
2076 \immediate\write\LWR@quickfile{pdftotextenc = [[\LWR@pdftotextEnc]]}
2077 \immediate\closeout\LWR@quickfile
2078 }
2079
2080 \end{LWRwriteconf}

```


39.3.2 lwarpmk.conf

File `lwarpmk.conf` `lwarpmk.conf` is automatically (re-)created by the `lwarp` package when executing `pdflatex <project.tex>`, or similar for `xelatex` or `lualatex`, in print-document generation mode, which is the default unless the `warpHTML` option is given. `lwarpmk.conf` is then used by the utility `lwarpmk`.

Config file: 2081 `\begin{LWRwriteconf}`
 2082
 2083 `\AtBeginDocument{\LWR@writeconf{lwarpmk.conf}}`
 2084
 2085 `\end{LWRwriteconf}`

39.3.3 <project>.lwarpmkconf

File `project.lwarpmkconf` A project-specific configuration file for `lwarpmk`.

The `makeindex` and `xindy` options have already been handled for `lwarp.conf`.

Config file: 2086 `\begin{LWRwriteconf}`
 2087
 2088 `\AtBeginDocument{\LWR@writeconf{\jobname.lwarpmkconf}}`
 2089
 2090 `\end{LWRwriteconf}`

39.4 lwarp.css

File `lwarp.css` This is the base CSS layer used by `lwarp`.

This must be present both when compiling the project and also when distributing the HTML files.

Config file: 2091 `\begin{LWRwriteconf}`
 2092 `\begin{filecontents*}[overwrite]{lwarp.css}`
 2093 `/*`
 2094 `CSS stylesheet for the LaTeX Lwarp package`
 2095 `Copyright 2016-2020 Brian Dunn – BD Tech Concepts LLC`
 2096 `*/`
 2097
 2098
 2099 `/* a fix for older browsers: */`
 2100 `header, section, footer, aside, nav, main,`
 2101 `article, figure { display: block; }`
 2102
 2103
 2104 `A:link {color:#000080 ; text-decoration: none ; }`
 2105 `A:visited {color:#800000 ; }`
 2106 `A:hover {color:#000080 ; text-decoration: underline ;}`
 2107 `A:active {color:#800000 ; }`
 2108

```
2109 a.tocbook {display: inline-block ; margin-left: 0em ;
2110     font-weight: bold ; margin-top: 1ex ; margin-bottom: 1ex ; }
2111 a.tocpart {display: inline-block ; margin-left: 0em ;
2112     font-weight: bold ;}
2113 a.tocchapter {display: inline-block ; margin-left: 0em ;
2114     font-weight: bold ;}
2115 a.tocsection {display: inline-block ; margin-left: 1em ;
2116     text-indent: -.5em ; font-weight: bold ; }
2117 a.tocsubsection {display: inline-block ; margin-left: 2em ;
2118     text-indent: -.5em ; }
2119 a.tocsubsubsection {display: inline-block ; margin-left: 3em ;
2120     text-indent: -.5em ; }
2121 a.tocparagraph {display: inline-block ; margin-left: 4em ;
2122     text-indent: -.5em ; }
2123 a.tocsubparagraph {display: inline-block ; margin-left: 5em ;
2124     text-indent: -.5em ; }
2125 a.tocfigure {margin-left: 0em}
2126 a.tocsubfigure {margin-left: 2em}
2127 a.toctable {margin-left: 0em}
2128 a.tocsubtable {margin-left: 2em}
2129 a.toctheorem {margin-left: 0em}
2130 a.toclstlisting {margin-left: 0em}
2131
2132 body {
2133     font-family: "DejaVu Serif", "Bitstream Vera Serif",
2134         "Lucida Bright", Georgia, serif;
2135     background: #FAF7F4 ;
2136     color: black ;
2137     margin: 0em ;
2138     padding: 0em ;
2139     font-size: 100% ;
2140     line-height: 1.2 ;
2141 }
2142
2143 p {margin: 1.5ex 0em 1.5ex 0em ;}
2144 table p {margin: .5ex 0em .5ex 0em ;}
2145
2146 /* Holds a section number */
2147 span.sectionnumber { margin-right: 0em }
2148
2149 /* Inserted in front of index lines */
2150 span.indexitem {margin-left: 0em}
2151 span.indexsubitem {margin-left: 2em}
2152 span.indexsubsubitem {margin-left: 4em}
2153 div.indexheading {margin-top: 2ex ; font-weight: bold}
2154
2155 div.hidden, span.hidden { display: none ; }
2156
2157 kbd, span.texttt, p span.texttt {
2158     font-family: "DejaVu Mono", "Bitstream Vera Mono", "Lucida Console",
2159         "Nimbus Mono L", "Liberation Mono", "FreeMono", "Andale Mono",
2160         "Courier New", monospace;
2161     font-size: 100% ;
2162 }
2163
```

```
2164 pre { padding: 3pt ; }
2165
2166 span.strong, span.textbf, div.strong, div.textbf { font-weight: bold; }
2167
2168 span.textit, div.textit { font-style: italic; }
2169
2170 span.textmd, div.textmd { font-weight: normal; }
2171
2172 span.textup, div.textup {
2173     font-style: normal;
2174     font-variant: normal;
2175     font-variant-numeric: normal ;
2176 }
2177
2178 span.textsc, div.textsc {
2179     font-variant: small-caps;
2180     font-variant-numeric: oldstyle-nums ;
2181 }
2182
2183 span.textulc, div.textulc {
2184     font-variant: normal ;
2185     font-variant-numeric: normal ;
2186 }
2187
2188 span.textsl, div.textsl { font-style: oblique; }
2189
2190 span.textrm, div.textrm {
2191     font-family: "DejaVu Serif", "Bitstream Vera Serif",
2192     "Lucida Bright", Georgia, serif;
2193 }
2194
2195 span.textsf, div.textsf {
2196     font-family: "DejaVu Sans", "Bitstream Vera Sans",
2197     Geneva, Verdana, sans-serif ;
2198 }
2199
2200 /* nfssect-cfr lining figures */
2201 span.textln, div.textln {
2202     font-variant-numeric: lining-nums ;
2203 }
2204
2205 /* nfssect-cfr proportional figures */
2206 span.textp, div.textp {
2207     font-variant-numeric: proportional-nums ;
2208 }
2209
2210 /* nfssect-cfr tabular figures */
2211 span.textt, div.textt {
2212     font-variant-numeric: tabular-nums ;
2213 }
2214
2215 /* nfssect-cfr font weights */
2216 span.textdb, div.textdb {
2217     font-weight: 500 ;
2218 }
```

```
2219
2220 span.textsb, div.textsb {
2221     font-weight: 600 ;
2222 }
2223
2224 span.texteb, div.texteb {
2225     font-weight: 800 ;
2226 }
2227
2228 span.textub, div.textub {
2229     font-weight: 900 ;
2230 }
2231
2232 span.textlg, div.textlg {
2233     font-weight: 300 ;
2234 }
2235
2236 span.textel, div.textel {
2237     font-weight: 200 ;
2238 }
2239
2240 span.textul, div.textul {
2241     font-weight: 100 ;
2242 }
2243
2244
2245
2246 span.textcircled { border: 1px solid black ; border-radius: 1ex ; }
2247
2248 span.underline {
2249     text-decoration: underline ;
2250     text-decoration-skip: auto ;
2251 }
2252
2253 span.overline {
2254     text-decoration: overline ;
2255     text-decoration-skip: auto ;
2256 }
2257
2258 div.hrule { border-top: 1px solid silver }
2259
2260
2261 /* for vertical text: */
2262 div.verticalrl { writing-mode: vertical-rl }
2263 div.horizontalrb { writing-mode: horizontal-tb }
2264
2265
2266 /* for diagbox */
2267 div.diagboxtitleN { border-bottom: 1px solid gray }
2268 div.diagboxtitleS { border-top: 1px solid gray }
2269
2270 div.diagboxE {
2271     padding-left: 2em ;
2272     text-align: right ;
2273 }
```

```
2274
2275 div.diagboxW {
2276     padding-right: 2em ;
2277     text-align: left ;
2278 }
2279
2280
2281
2282 /* For realscripts */
2283 .supsubscript {
2284     display: inline-block;
2285     text-align:left ;
2286 }
2287
2288 .supsubscript sup,
2289 .supsubscript sub {
2290     position: relative;
2291     display: block;
2292     font-size: .7em;
2293     line-height: 1;
2294 }
2295
2296 .supsubscript sup {
2297     top: .3em;
2298 }
2299
2300 .supsubscript sub {
2301     top: .3em;
2302 }
2303
2304 div.attribution p {
2305     text-align: right ;
2306     font-size: 80%
2307 }
2308
2309 span.poemtitle {
2310     font-size: 120% ; font-weight: bold;
2311 }
2312
2313 pre.tabbing {
2314     font-family: "Linux Libertine Mono O", "Lucida Console",
2315                 "Droid Sans Mono", "DejaVu Mono", "Bitstream Vera Mono",
2316                 "Liberation Mono", "FreeMono", "Andale Mono",
2317                 "Nimbus Mono L", "Courier New", monospace;
2318 }
2319
2320 blockquote {
2321     display: block ;
2322     margin-left: 2em ;
2323     margin-right: 2em ;
2324 }
2325
2326 /* quotchap is for the quotchap package */
2327 div.quotchap {
2328     display: block ;
```

```
2329     font-style: oblique ;
2330     overflow-x: auto ;
2331     margin-left: 2em ;
2332     margin-right: 2em ;
2333 }
2334
2335 blockquote p, div.quotchap p {
2336     line-height: 1.5;
2337     text-align: left ;
2338     font-size: .85em ;
2339 }
2340
2341 /* qauthor is for the quotchap package */
2342 div.qauthor {
2343     display: block ;
2344     text-align: right ;
2345     margin-left: auto ;
2346     margin-right: 2em ;
2347     font-size: 80% ;
2348     font-variant: small-caps;
2349 }
2350
2351 div.qauthor p {
2352     text-align: right ;
2353 }
2354
2355 div.epigraph, div.dictum {
2356     line-height: 1.2;
2357     text-align: left ;
2358     padding: 3ex 1em 0ex 1em ;
2359 /*     margin: 3ex auto 3ex auto ; */ /* Epigraph centered */
2360     margin: 3ex 1em 3ex auto ; /* Epigraph to the right */
2361 /*     margin: 3ex 1em 3ex 1em ; */ /* Epigraph to the left */
2362     font-size: .85em ;
2363     max-width: 27em ;
2364 }
2365
2366 div.epigraphsource, div.dictumauthor {
2367     text-align:right ;
2368     margin-left:auto ;
2369 /*     max-width: 50% ; */
2370     border-top: 1px solid #A0A0A0 ;
2371     padding-bottom: 3ex ;
2372     line-height: 1.2;
2373 }
2374
2375 div.epigraph p, div.dictum p { padding: .5ex ; margin: 0ex ;}
2376 div.epigraphsource p, div.dictumauthor p { padding: .5ex 0ex 0ex 0ex ; margin: 0ex ;}
2377 div.dictumauthor { font-style:italic }
2378
2379
2380 /* copyrightbox package: */
2381 div.copyrightbox { margin: .5ex .5em }
2382 div.copyrightbox p {margin: 0px .5em ; padding: 0px}
2383 div.copyrightboxnote {text-align: left ; font-size: 60%}
```

```
2384
2385
2386 /* lettrine package: */
2387 span.lettrine { font-size: 4ex ; float: left ; }
2388 span.lettrinetext { font-variant: small-caps ; }
2389
2390 /* ulem, soul, umoline packages: */
2391 span.uline {
2392     text-decoration: underline ;
2393     text-decoration-skip: auto ;
2394 }
2395
2396 span.uuline {
2397     text-decoration: underline ;
2398     text-decoration-skip: auto ;
2399     text-decoration-style: double ;
2400 }
2401
2402 span.uwave {
2403     text-decoration: underline ;
2404     text-decoration-skip: auto ;
2405     text-decoration-style: wavy ;
2406 }
2407
2408 span.sout {
2409     text-decoration: line-through ;
2410 }
2411
2412 span.oline {
2413     text-decoration: overline ;
2414     text-decoration-skip: auto ;
2415 }
2416
2417 span.xout {
2418     text-decoration: line-through ;
2419 }
2420
2421 span.dashuline {
2422     text-decoration: underline ;
2423     text-decoration-skip: auto ;
2424     text-decoration-style: dashed ;
2425 }
2426
2427 span.dotuline {
2428     text-decoration: underline ;
2429     text-decoration-skip: auto ;
2430     text-decoration-style: dotted ;
2431 }
2432
2433 span.letterspacing { letter-spacing: .2ex ; }
2434
2435 span.capsspacing {
2436     font-variant: small-caps ;
2437     letter-spacing: .1ex ;
2438 }
```

```
2439
2440 span.highlight { background: #F8E800 ; }
2441
2442
2443 /* keystone package: */
2444 span.keystone {
2445     border-style: outset ;
2446     padding: 0pt .5em 0pt .5em ;
2447 }
2448
2449
2450 html body {
2451     margin: 0 ;
2452     line-height: 1.2;
2453 }
2454
2455
2456 body div {
2457     margin: 0ex;
2458 }
2459
2460
2461 div.book, h1, h2, h3, h4, h5, h6, span.paragraph, span.subparagraph
2462 {
2463     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
2464     "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
2465     "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
2466     "Times New Roman", serif;
2467     font-style: normal ;
2468     font-weight: bold ;
2469     text-align: left ;
2470 }
2471
2472 h1 { /* title of the entire website, used on each page */
2473     text-align: center ;
2474     font-size: 2.5em ;
2475     padding: .4ex 0em 0ex 0em ;
2476 }
2477
2478 div.book {
2479     text-align: center ;
2480     font-size: 2.325em ;
2481     padding: .4ex 0em 0ex 0em ;
2482 }
2483
2484 h2 { font-size: 2.25em }
2485 h3 { font-size: 2em }
2486 h4 { font-size: 1.75em }
2487 h5 { font-size: 1.5em }
2488 h6 { font-size: 1.25em }
2489 span.paragraph {font-size: 1em ; font-variant: normal ;
2490     margin-right: 1em ; }
2491 span.subparagraph {font-size: 1em ; font-variant: normal ;
2492     margin-right: 1em ; }
2493
```



```
2494 div.minisec {
2495     font-family: "DejaVu Sans", "Bitstream Vera Sans",
2496         Geneva, Verdana, sans-serif ;
2497     font-style: normal ;
2498     font-weight: bold ;
2499     text-align: left ;
2500 }
2501
2502 h1 {
2503     margin: 0ex 0em 0ex 0em ;
2504     line-height: 1.3;
2505     text-align: center ;
2506 }
2507
2508 h2 {
2509     margin: 1ex 0em 1ex 0em ;
2510     line-height: 1.3;
2511     text-align: center ;
2512 }
2513
2514 h3 {
2515     margin: 3ex 0em 1ex 0em ;
2516     line-height: 1.3;
2517 }
2518
2519 h4 {
2520     margin: 3ex 0em 1ex 0em ;
2521     line-height: 1.3;
2522 }
2523
2524 h5 {
2525     margin: 3ex 0em 1ex 0em ;
2526     line-height: 1.3;
2527 }
2528
2529 h6 {
2530     margin: 3ex 0em 1ex 0em ;
2531     line-height: 1.3;
2532 }
2533
2534
2535 div.titlepage {
2536     text-align: center ;
2537 }
2538
2539 .footnotes {
2540     text-align: left ;
2541     font-size: .85em ;
2542     margin: 3ex 2em 0ex 2em ;
2543     border-top: 1px solid silver ;
2544 }
2545
2546 .marginpar, .marginparblock {
2547     max-width: 50%;
2548     float: right ;
```

```
2549     clear: both ;
2550     text-align: left ;
2551     margin: 1ex 0.5em 1ex 1em ;
2552     padding: 1ex 0.5em 1ex 0.5em ;
2553     font-size: 85% ;
2554     border-top: 1px solid silver ;
2555     border-bottom: 1px solid silver ;
2556     overflow-x: auto ;
2557 }
2558
2559 .marginpar br { margin-bottom: 2ex ; }
2560
2561 div.marginblock, div.marginparblock {
2562     max-width:50%;
2563     min-width: 10em; /* room for caption */
2564     float:right;
2565     text-align:left;
2566     margin: 1ex 0.5em 1ex 1em ;
2567     padding: 1ex 0.5em 1ex 0.5em ;
2568     overflow-x: auto;
2569 }
2570
2571 div.marginblock div.minipage,
2572 div.marginparblock div.minipage {
2573     display: inline-block ;
2574     margin: 0pt auto 0pt auto ;
2575 }
2576
2577 div.marginblock div.minipage p ,
2578 div.marginparblock div.minipage p
2579     { font-size: 85%}
2580
2581 div.marginblock br ,
2582 div.marginparblock br
2583     { margin-bottom: 2ex ; }
2584
2585 div.bodycontainer {
2586     float: left ;
2587     width: 80% ;
2588 }
2589
2590 div.bodywithoutsidetoc div.bodycontainer {
2591     float: none ;
2592     width: 100% ;
2593 }
2594
2595 section.textbody div.footnotes{
2596     margin: 3ex 2em .5ex 2em ;
2597     border-bottom: 2px solid silver ;
2598 }
2599
2600 .footnoteheader {
2601     border-top: 2px solid silver ;
2602     margin-top: 3ex ;
2603     padding-top: 1ex ;
```

```
2604     font-weight: bold ;
2605 }
2606
2607 .mpfootnotes {
2608     text-align: left ;
2609     font-size: .85em ;
2610     margin-left: 1em ;
2611     border-top: 1px solid silver ;
2612 }
2613
2614 /* Remove footnote top border in the title page. */
2615 div.titlepage div.mpfootnotes {
2616     border-top: none ;
2617 }
2618
2619
2620
2621 ul, ol {
2622     margin: 1ex 1em 1ex 0em;
2623     line-height: 1.2;
2624 }
2625
2626 body dir, body menu {
2627     margin: 3ex 1em 3ex 0em;
2628     line-height: 1.2;
2629 }
2630
2631 li { margin: 0ex 0em 1ex 0em; }
2632
2633 html {
2634     margin: 0;
2635     padding: 0;
2636 }
2637
2638 .programlisting {
2639     font-family: "DejaVu Mono", "Bitstream Vera Mono", "Lucida Console",
2640         "Nimbus Mono L", "Liberation Mono", "FreeMono", "Andale Mono",
2641         "Courier New", monospace;
2642     margin: 1ex 0ex 1ex 0ex ;
2643     padding: .5ex 0pt .5ex 0pt ;
2644     overflow-x: auto;
2645 }
2646
2647 section.textbody>pre.programlisting {
2648     border-top: 1px solid silver ;
2649     border-bottom: 1px solid silver ;
2650 }
2651
2652
2653 div.displaymath {
2654     text-align: center ;
2655 }
2656
2657 div.displaymathnumbered {
2658     text-align: right ;
```

```
2659     margin-left: 5% ;
2660     margin-right: 5% ;
2661     min-width: 2.5in ;
2662 }
2663
2664 @media all and (min-width: 400px) {
2665     div.displaymathnumbered {
2666         margin-left: 10% ;
2667         margin-right: 10% ;
2668     }
2669 }
2670
2671 @media all and (min-width: 800px) {
2672     div.displaymathnumbered {
2673         margin-right: 20% ;
2674     }
2675 }
2676
2677 @media all and (min-width: 1200px) {
2678     div.displaymathnumbered {
2679         margin-right: 30% ;
2680     }
2681 }
2682
2683
2684 .inlineprogramlisting {
2685     font-family: "DejaVu Mono", "Bitstream Vera Mono", "Lucida Console",
2686         "Nimbus Mono L", "Liberation Mono", "FreeMono", "Andale Mono",
2687         "Courier New", monospace;
2688     overflow-x: auto;
2689 }
2690
2691 span.listinglabel {
2692     display: inline-block ;
2693     font-size: 70% ;
2694     width: 4em ;
2695     text-align: right ;
2696     margin-right: 2em ;
2697 }
2698
2699 div.abstract {
2700     margin: 2em 5% 2em 5% ;
2701     padding: 1ex 1em 1ex 1em ;
2702     /* font-weight: bold ; */
2703     font-size: 90% ;
2704     text-align: left ;
2705 }
2706
2707 div.abstract dl {line-height:1.5;}
2708 div.abstract dt {color:#304070;}
2709
2710 div.abstracttitle{
2711     font-family: "URW Classico", Optima, "Linux Biolinum O",
2712         "Linux Libertine O", "Liberation Serif", "Nimbus Roman No 9 L",
2713         "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
```

```
2714     font-weight:bold;
2715     font-size:1.25em;
2716     text-align: center ;
2717 }
2718
2719 span.abstractrunintitle{
2720     font-family: "URW Classico", Optima, "Linux Biolinum O",
2721         "Linux Libertine O", "Liberation Serif", "Nimbus Roman No 9 L",
2722         "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
2723     font-weight:bold;
2724 }
2725
2726
2727 .verbatim {
2728     overflow-x: auto ;
2729 }
2730
2731 .alltt {
2732     overflow-x: auto ;
2733 }
2734
2735
2736 .bverbatim {
2737     margin: 1ex 0pt 1ex 0pt ;
2738     padding: .5ex 0pt .5ex 0pt ;
2739     overflow-x: auto ;
2740 }
2741
2742 .lverbatim {
2743     margin: 1ex 0pt 1ex 0pt ;
2744     padding: .5ex 0pt .5ex 0pt ;
2745     overflow-x: auto ;
2746 }
2747
2748 .fancyvrb {
2749     font-size:.85em ;
2750     margin: 3ex 0pt 3ex 0pt
2751 }
2752
2753 .fancyvrblabel {
2754     font-size: .85em ;
2755     text-align: center ;
2756     font-weight: bold ;
2757     margin-top: 1ex ;
2758     margin-bottom: 1ex ;
2759 }
2760
2761
2762 .verse {
2763     font-family: "Linux Libertine Mono O", "Lucida Console",
2764         "Droid Sans Mono", "DejaVu Mono", "Bitstream Vera Mono",
2765         "Liberation Mono", "FreeMono", "Andale Mono",
2766         "Nimbus Mono L", "Courier New", monospace;
2767     margin-left: 1em ;
2768 }
```

```
2769
2770
2771 div.singlespace { line-height: 1.2 ; }
2772 div.onehalfspace { line-height: 1.5 ; }
2773 div.doublespace { line-height: 2 ; }
2774
2775
2776 /* Word processor format output: */
2777 div.wpfigure { border: 1px solid red ; margin: .5ex ; padding: .5ex ; }
2778 div.wptable { border: 1px solid blue ; margin: .5ex ; padding: .5ex ; }
2779 div.wpminipage { border: 1px solid green ; margin: .5ex ; padding: .5ex ;}
2780
2781
2782
2783
2784 /* Minipage environments, vertically aligned to top, center, bottom: */
2785 .minipage, .fminipage, .fcolorminipage {
2786     /* display: inline-block ; */
2787     /* Mini pages which follow each other will be tiled. */
2788     text-align:left;
2789     margin: .25em .25em .25em .25em;
2790     padding: .25em .25em .25em .25em;
2791     display: inline-flex;
2792     flex-direction: column ;
2793     overflow: auto;
2794 }
2795
2796 .inlineminipage {
2797     display: inline-block ;
2798     text-align: left
2799 }
2800
2801 /* Paragraphs in the flexbox did not collapse their margins. */
2802 /* Have not yet researched this. */
2803 .minipage p {margin: .75ex 0em .75ex 0em ;}
2804
2805 .fboxBlock .minipage, .colorbox .minipage, .colorboxBlock .minipage,
2806 .fcolorbox .minipage, .fcolorboxBlock .minipage
2807     {border: none ; background: none;}
2808
2809 .fbox, .fboxBlock { border: 1px solid black ; }
2810
2811 .fbox, .fboxBlock, .fcolorbox, .fcolorboxBlock, .colorbox, .colorboxBlock,
2812 .fminipage, .fcolorminipage
2813     {display: inline-block}
2814
2815 .shadowbox, .shabox {
2816     border: 1px solid black;
2817     box-shadow: 3px 3px 3px #808080 ;
2818     border-radius: 0px ;
2819     padding: .4ex .3em .4ex .3em ;
2820     margin: 0pt .3ex 0pt .3ex ;
2821     display: inline-block ;
2822 }
2823
```

```
2824 .doublebox {
2825     border: 3px double black;
2826     border-radius: 0px ;
2827     padding: .4ex .3em .4ex .3em ;
2828     margin: 0pt .3ex 0pt .3ex ;
2829     display: inline-block ;
2830 }
2831
2832 .ovalbox, .Ovalbox {
2833     border: 1px solid black;
2834     border-radius: 1ex ;
2835     padding: .4ex .3em .4ex .3em ;
2836     margin: 0pt .3ex 0pt .3ex ;
2837     display: inline-block ;
2838 }
2839
2840 .Ovalbox { border-width: 2px ; }
2841
2842 .framebox {
2843     border: 1px solid black;
2844     border-radius: 0px ;
2845     padding: .3ex .2em 0ex .2em ;
2846     margin: 0pt .1ex 0pt .1ex ;
2847     display: inline-block ;
2848 }
2849
2850
2851 /* mdframed, tcolorbox, shadebox packages */
2852 .mdframed, .tcolorbox, .shadebox {
2853     padding: 0ex ;
2854     margin: 2ex 0em 2ex 0em ;
2855     border: 1px solid black ;
2856 }
2857
2858 .tcolorbox {
2859     border-radius: 10pt ;
2860     margin: 2ex 1em 2ex 1em ;
2861 }
2862
2863 .mdframed p, .tcolorbox p { padding: 0ex .5em 0ex .5em ; }
2864
2865 .mdframed dl, .tcolorbox dl { padding: 1ex .5em 0ex .5em ; }
2866
2867 .mdframedtitle, .tcolorboxtitle {
2868     padding: .5ex 0pt 0pt 0pt ;
2869     border-radius: 10pt 10pt 0pt 0pt ;
2870     display: block ;
2871     margin-bottom: 1ex ;
2872     border-bottom: 1px solid silver ;
2873 }
2874
2875 .tcolorboxsubtitle .tcolorbox {
2876     margin: 2ex 0em 2ex 0em ;
2877     border-radius: 0pt ;
2878 }
```

```
2879
2880 .mdframedsubtitle {
2881     display: block ;
2882 }
2883
2884 .mdframedsubsubtitle {
2885     display: block ;
2886 }
2887
2888 .mdtheorem {
2889     padding: 0ex .5em 0ex .5em ;
2890     margin: 3ex 5% 3ex 5% ;
2891 }
2892
2893
2894 /* framed package */
2895 .framed, pre.boxedverbatim, fcolorbox {
2896     margin: 3ex 0em 3ex 0em ;
2897     border: 1px solid black;
2898     border-radius: 0px ;
2899     padding: .3ex 1em 0ex 1em ;
2900     display: block ;
2901 }
2902
2903 .shaded {
2904     margin: 3ex 0em 3ex 0em ;
2905     padding: .3ex 1em .3ex 1em ;
2906     display: block ;
2907 }
2908
2909 .snugframed {
2910     margin: 3ex 0em 3ex 0em ;
2911     border: 1px solid black;
2912     border-radius: 0px ;
2913     display: block ;
2914 }
2915
2916 .framedleftbar {
2917     margin: 3ex 0em 3ex 0em ;
2918     border-left: 3pt solid black;
2919     border-radius: 0px ;
2920     padding: .3ex .2em .3ex 1em ;
2921     display: block ;
2922 }
2923
2924 .framedtitle {
2925     margin: 0em ;
2926     padding: 0em ;
2927     font-size: 130%
2928 }
2929
2930 .framedtitle p { padding: .3em }
2931
2932
2933 /* For the niceframe package: */
```



```
2934
2935 div.niceframe, div.curlyframe, div.artdecoframe, div.generalframe {
2936     padding: 1ex ;
2937     margin: 2ex auto ;
2938     border-radius: 2ex ;
2939 }
2940
2941 div.niceframe {
2942     border: 6px groove black ;
2943 }
2944
2945 div.curlyframe {
2946     border-left: 3px dotted black ;
2947     border-right: 3px dotted black ;
2948     border-radius: 6ex ;
2949 }
2950
2951 div.artdecoframe {
2952     border-left: 10px double black ;
2953     border-right: 10px double black ;
2954     border-radius: 6ex ;
2955 }
2956
2957 div.generalframe {
2958     border: 6px groove black ;
2959 }
2960
2961
2962
2963 dl {
2964     margin: 1ex 2em 1ex 0em;
2965     line-height: 1.3;
2966 }
2967
2968 dl dt {
2969     display: block ;
2970     float:left ;
2971     font-weight: bold;
2972     padding-right: 1em ;
2973 }
2974
2975 dl dd { display: block ; }
2976
2977 dl dd:after { content: "" ; display: block ; clear: both }
2978
2979 dl dd p { margin-top: 0em; }
2980
2981 dd ul, dd ol, dd dl {
2982     clear: both ;
2983 /*     padding-top: 1ex ; */
2984 }
2985
2986
2987 nav {
2988     font-family: "URW Classico", Optima, "Linux Biolinum 0",
```

```
2989     "DejaVu Sans", "Bitstream Vera Sans",
2990     Geneva, Verdana, sans-serif ;
2991     margin-bottom: 4ex ;
2992 }
2993
2994 nav p {
2995     line-height: 1.2 ;
2996     margin-top:.5ex ;
2997     margin-bottom:.5ex;
2998     font-size: .9em ;
2999 }
3000
3001
3002
3003 img, img.hyperimage, img.borderimage {
3004     max-width: 600px;
3005     border: 1px solid silver;
3006     box-shadow: 3px 3px 3px #808080 ;
3007     padding: .5% ;
3008     margin: .5% ;
3009     background: none ;
3010 }
3011
3012 img.inlineimage{
3013     padding: 0px ;
3014     box-shadow: none ;
3015     border: none ;
3016     background: none ;
3017     margin: 0px ;
3018     display: inline-block ;
3019     border-radius: 0px ;
3020 }
3021
3022 img.logoimage{
3023     max-width: 300px ;
3024     box-shadow: 3px 3px 3px #808080 ;
3025     border: 1px solid black ;
3026     background:none ;
3027     padding:0 ;
3028     margin:.5ex ;
3029     border-radius: 10px ;
3030 }
3031
3032
3033 .section {
3034 /*
3035     To have each section float relative to each other:
3036 */
3037 /*
3038     display: block ;
3039     float: left ;
3040     position: relative ;
3041     background: white ;
3042     border: 1px solid silver ;
3043     padding: .5em ;
```

```
3044 */
3045     margin: 0ex .5em 0ex .5em ;
3046     padding: 0 ;
3047 }
3048
3049
3050 figure {
3051     margin: 5ex auto 5ex auto ;
3052     padding: 1ex 1em 1ex 1em ;
3053     overflow-x: auto ;
3054 }
3055
3056
3057 /* To automatically center images in figures: */
3058 /*
3059 figure img.inlineimage {
3060     margin: 0ex auto 0ex auto ;
3061     display: block ;
3062 }
3063 */
3064
3065 /* To automatically center minipages in figures: */
3066 /*
3067 figure div.minipage, figure div.minipage div.minipage {
3068     margin: 1ex auto 1ex auto ;
3069     display: block ;
3070 }
3071 */
3072
3073 figure figure { margin: 0pt }
3074
3075 figure div.minipage p { font-size: 85% ; }
3076
3077 figure.subfigure, figure.subtable {
3078     display: inline-block ; margin: 3ex 1em 3ex 1em ;
3079 }
3080
3081 div.figurecaption .minipage { margin:0 ; padding: 0 }
3082
3083 div.minipage figure { border: none ; box-shadow: none ; }
3084 div.minipage figure.table { margin: 0ex }
3085 div.minipage div.footnotes { margin: 1ex 2em 0ex 2em }
3086
3087 div.floatrow { text-align: center; }
3088
3089 div.floatrow figure { display: inline-block ; margin: 1ex 2% ; }
3090
3091 div.floatfoot { font-size: .85em ;
3092     border-top: 1px solid silver ; line-height: 1.2 ; }
3093
3094 div.figurecaption , .lstlistingtitle {
3095     font-size: .85em ;
3096     text-align: center ;
3097     font-weight: bold ;
3098     margin-top: 1ex ;
```

```
3099     margin-bottom: 1ex ;
3100 }
3101
3102 figure.subfigure div.figurecaption, figure.subtable div.figurecaption {
3103     border-bottom: none ; background: none ;
3104 }
3105
3106 div.nonfloatcaption {
3107     margin: 1ex auto 1ex auto ;
3108     font-size: .85em ;
3109     text-align: center ;
3110     font-weight: bold ;
3111 }
3112
3113 /* For a \RawCaption inside a minipage inside a figure's floatrow: */
3114 figure div.floatrow div.minipage div.figurecaption {
3115     border: none ;
3116     background: none ;
3117 }
3118
3119
3120 /* For packages such as float, rotfloat, and algorithm2e: */
3121
3122 figure.boxed, figure.boxruled {
3123     border: 1px solid black ;
3124 }
3125
3126 figure.ruled {
3127     border-top: 1px solid black ;
3128     border-bottom: 1px solid black ;
3129     border-left: 0px ;
3130     border-right: 0px ;
3131     border-radius: 0px ;
3132     background: none ;
3133     box-shadow: none ;
3134 }
3135
3136 figure.ruled div.figurecaption, figure.boxruled div.figurecaption {
3137     border-top: 1px solid silver ;
3138     border-bottom: 1px solid silver ;
3139 }
3140
3141
3142 table {
3143     margin: 1ex auto 1ex auto ;
3144     border-collapse: separate ;
3145     border-spacing: 0px ;
3146     line-height: 1.3 ;
3147 }
3148
3149 table > tbody > tr.hline > td {border-top: 1px solid #808080 ; margin-top: 0ex ;
3150     margin-bottom: 0ex ; } /* for \hline */
3151
3152 tr.tbrule td {border-top: 1px solid black ; margin-top: 0ex ;
3153     margin-bottom: 0ex ; } /* for \toprule, \bottomrule */
```

```
3154
3155 td {padding: .5ex .5em .5ex .5em ;}
3156
3157 table td.tdl { text-align: left ; vertical-align: middle ; }
3158 table td.tdc { text-align: center ; vertical-align: middle ; }
3159 table td.tdat { text-align: center ; vertical-align: middle ; padding: 0px ; margin: 0px ; }
3160 table td.tdbang { text-align: center ; vertical-align: middle ; }
3161 table td.tdr { text-align: right ; vertical-align: middle ; }
3162 table td.tdp { text-align: left ; vertical-align: bottom ; }
3163 table td.tdm { text-align: left ; vertical-align: middle ; }
3164 table td.tdb { text-align: left ; vertical-align: top ; }
3165 table td.tdP { text-align: center ; vertical-align: bottom ; }
3166 table td.tdM { text-align: center ; vertical-align: middle ; }
3167 table td.tdB { text-align: center ; vertical-align: top ; }
3168
3169 table td.tvertbarl { border-left: 1px solid black }
3170 table td.tvertbardouble { border-left: 4px double black }
3171 table td.tvertbarr { border-right: 1px solid black }
3172 table td.tvertbarrdouble { border-right: 4px double black }
3173
3174 table td.tvertbardash { border-left: 1px dashed black }
3175 table td.tvertbardoubledash { border-left: 2px dashed black }
3176 table td.tvertbarrdash { border-right: 1px dashed black }
3177 table td.tvertbarrdoubledash { border-right: 2px dashed black }
3178
3179
3180 /* for cmidrules: */
3181 table td.tdrule {
3182     border-top: 1px solid #A0A0A0 ;
3183 }
3184
3185 table td.tdrulel {
3186     border-top-left-radius:.5em ;
3187     border-top: 1px solid #A0A0A0 ;
3188 }
3189
3190 table td.tdruler {
3191     border-top-right-radius:.5em ;
3192     border-top: 1px solid #A0A0A0 ;
3193 }
3194
3195 table td.tdrulelr {
3196     border-top-left-radius:.5em ;
3197     border-top-right-radius:.5em ;
3198     border-top: 1px solid #A0A0A0 ;
3199 }
3200
3201
3202 /* Margins of paragraphs inside table cells: */
3203 td.tdp p , td.tdprule p , td.tdP p , td.tdPrule p { padding-top: 1ex ;
3204     padding-bottom: 1ex ; margin: 0ex ; }
3205 td.tdm p , td.tdmrule p , td.tdM p , td.tdMrule p { padding-top: 1ex ;
3206     padding-bottom: 1ex ; margin: 0ex ; }
3207 td.tdb p , td.tdbrule p , td.tdB p , td.tdBrule p { padding-top: 1ex ;
3208     padding-bottom: 1ex ; margin: 0ex ; }
```

```
3209
3210 td.tdp , td.tdprule , td.tdP , td.tdPrule
3211     { padding: 0ex .5em 0ex .5em ; }
3212 td.tdm , td.tdmrule , td.tdM , td.tdMrule
3213     { padding: 0ex .5em 0ex .5em ; }
3214 td.tdb , td.tdbrule , td.tdB , td.tdBrule
3215     { padding: 0ex .5em 0ex .5em ; }
3216
3217
3218 /* table notes: */
3219 .tnotes {
3220     margin: 0ex 5% 1ex 5% ;
3221     padding: 0.5ex 1em 0.5ex 1em;
3222     font-size:.80em;
3223     text-align: left ;
3224 }
3225
3226 .minipage .tnotes {
3227     margin: 0pt ;
3228     padding: 0pt ;
3229 }
3230
3231 .tnotes dl dt p {margin-bottom:0px;}
3232
3233 .noteitemheader {margin-right: 1em;}
3234
3235
3236 /* for colortbl and cell color */
3237 div.cellcolor {
3238     width: 100% ;
3239     padding: .5ex .5em .5ex .5em ;
3240     margin: -.5ex -.5em -.5ex -.5em ;
3241 }
3242
3243
3244 /* for lyluatex */
3245 span.lyluatex {
3246     display: inline-block ;
3247 }
3248
3249 div.lyluatex p span.lateximagesource img {
3250     display: block ;
3251     margin-top: 3ex ;
3252     margin-bottom: 3ex ;
3253 }
3254
3255
3256 /* for bigdelim */
3257 .ldelim, .rdelim { font-size: 200% }
3258
3259
3260 /* center, flushleft, flushright environments */
3261 div.center{text-align:center;}
3262 div.center table {margin-left:auto;margin-right:auto;}
3263 div.flushleft{text-align:left;}
```

```
3264 div.flushleft table {margin-left:0em ; margin-right:auto;}
3265 div.flushright{text-align:right;}
3266 div.flushright table {margin-left:auto ; margin-right: 0em ;}
3267
3268
3269 /* Fancybox */
3270 div.Btrivlist table tr td {
3271     padding: .2ex 0em ;
3272 }
3273
3274
3275 /* program listing callouts: */
3276 span.callout {
3277     font-family: "DejaVu Sans", "Bitstream Vera Sans",
3278     Geneva, Verdana, sans-serif ;
3279     border-radius: .5em;
3280     background-color:black;
3281     color:white;
3282     padding:0px .25em 0px .25em;
3283     margin: 0 ;
3284     font-weight: bold;
3285     font-size:.72em ;
3286 }
3287
3288 div.programlisting pre.verbatim span.callout{
3289     font-size: .85em ;
3290 }
3291
3292 span.verbatim {
3293     font-family: "DejaVu Mono", "Bitstream Vera Mono", "Lucida Console",
3294     "Nimbus Mono L", "Liberation Mono", "FreeMono", "Andale Mono",
3295     "Courier New", monospace;
3296 }
3297
3298
3299
3300 div.titlehead
3301 {
3302     text-align: left ;
3303     font-style: normal ;
3304     font-weight: normal ;
3305     font-style: normal ;
3306     font-size: .8em ;
3307     margin: 1ex 0em 1ex 0em ;
3308 }
3309
3310 div.subject
3311 {
3312     text-align: center ;
3313     font-style: normal ;
3314     font-weight: bold ;
3315     font-style: normal ;
3316     font-size: .8em ;
3317     margin: 1ex 0em 1ex 0em ;
3318 }
```

```
3319
3320 div.published
3321 {
3322     text-align: center ;
3323     font-variant: normal ;
3324     font-style: italic ;
3325     font-size: 1em ;
3326     margin: 1ex 0em 1ex 0em ;
3327 }
3328
3329 div.subtitle
3330 {
3331     text-align: center ;
3332     font-variant: normal ;
3333     font-style: italic ;
3334     font-size: 1.25em ;
3335     margin: 1ex 0em 1ex 0em ;
3336 }
3337
3338 div.subtitle p { margin: 1ex ; }
3339
3340 div.author
3341 {
3342     font-variant: normal ;
3343     font-style: normal ;
3344     font-size: 1em ;
3345     margin: 1ex 0em 1ex 0em ;
3346 }
3347
3348 div.oneauthor {
3349     display: inline-block ;
3350     margin: 0ex 1em 0ex 1em ;
3351 }
3352
3353 /*
3354 div.author table {
3355     margin: 1ex auto 0ex auto ;
3356     background: none ;
3357 }
3358
3359 div.author table tbody tr td { padding: .25ex ; }
3360 */
3361
3362 span.affiliation {font-size: .85em ; font-variant: small-caps; }
3363
3364 div.titledate {
3365     text-align: center ;
3366     font-size: .85em ;
3367     font-style: italic;
3368     margin: 1ex 0em 1ex 0em ;
3369 }
3370
3371
3372 nav.topnavigation{
3373     text-align: left ;
```



```
3374 padding: 0.5ex 1em 0.5ex 1em ;
3375 /* margin: 2ex 0em 3ex 0em ; */
3376 margin: 0 ;
3377 border-bottom: 1px solid silver ;
3378 border-top: 1px solid silver ;
3379 clear:both ;
3380 }
3381
3382 nav.botnavigation{
3383 text-align: left ;
3384 padding: 0.5ex 1em 0.5ex 1em ;
3385 /* margin: 3ex 0em 2ex 0em ; */
3386 margin: 0 ;
3387 border-top: 1px solid silver ;
3388 border-bottom: 1px solid silver ;
3389 clear:both ;
3390 }
3391
3392
3393 header {
3394 line-height: 1.2 ;
3395 font-size: 1em ;
3396 border-bottom: 1px solid silver ;
3397 margin: 0px ;
3398 padding: 2ex 1em 2ex 1em ;
3399 text-align:left ;
3400 }
3401
3402
3403 footer {
3404 font-size: .85em ;
3405 line-height: 1.2 ;
3406 margin-top: 1ex ;
3407 border-top: 1px solid silver ;
3408 padding: 2ex 1em 2ex 1em ;
3409 clear:both ;
3410 text-align:left ;
3411 }
3412
3413
3414 /* for \LinkHome, \LinkPrevious, and \LinkNext: */
3415 a.linkhome { font-weight:bold ; font-size: 1em ;}
3416
3417
3418 div.lateximagesource { padding: 0px ; margin: 0px ; display: none; }
3419
3420 img.lateximage{
3421 padding: 0pt ;
3422 margin: 0pt ;
3423 box-shadow: none ;
3424 border: none ;
3425 background: none ;
3426 max-width: 100% ;
3427 border-radius: 0ex ;
3428 border: none ;
```

```
3429 }
3430
3431
3432 /* The -1px right margin compensates for the 1px right border. */
3433 /* Without this -1px margin, the body container appears below instead */
3434 /* of floating to the side. */
3435 div.sidetoccontainer {
3436     font-family: "DejaVu Serif", "Bitstream Vera Serif",
3437         "Lucida Bright", Georgia, serif;
3438     float: left ;
3439     width: 20%;
3440     margin: 0pt -1px 3ex 0pt ;
3441     border-right: 1px solid silver;
3442     border-bottom: 1px solid silver;
3443     background: #FAF7F4 ;
3444     font-size:.9em ;
3445     border-radius: 0px 0px 20px 0px ;
3446 }
3447
3448 div.sidetoccontents {
3449     overflow-y: auto ;
3450     width: 100% ;
3451     text-align: left ;
3452 }
3453
3454
3455 nav.sidetoc p {line-height:1.2 ; margin: 1ex .5em 1ex .5em ;
3456     text-indent: 0 ; }
3457
3458 nav.sidetoc p a {color:black ; font-size: .7em ;}
3459
3460 div.sidetoctitle {font-size: 1.2em; font-weight:bold; text-align:center;
3461     border-bottom: 1px solid silver ; }
3462
3463 nav.sidetoc a:hover {text-decoration: underline ; }
3464
3465
3466
3467 section.textbody { margin: 0ex 1em 0ex 1em ;}
3468
3469
3470 div.multicolshheading { -webkit-column-span: all;
3471     -moz-column-span: all; column-span: all; }
3472 div.multicols { -webkit-columns: 3 380px ;
3473     -moz-columns: 3 380px ; columns: 3 380px ; }
3474 div.multicols p {margin-top: 0ex}
3475
3476
3477 /* Used for xfrac and nicefrac: */
3478 span.numerator {
3479     font-size: 60% ;
3480     vertical-align: .4em ;
3481 }
3482
3483 span.denominator {
```

```
3484     font-size: 60%
3485 }
3486
3487
3488 /* Used for algorithm2e: */
3489 div.alg2evline{
3490     margin-left: 1em ;
3491     padding-left: 1em ;
3492     border-left: 1px solid black ;
3493     border-radius: 0px 0px 0px 1ex ;
3494 }
3495
3496 div.alg2evsline{
3497     margin-left: 1em ;
3498     padding-left: 1em ;
3499     border-left: 1px solid black ;
3500 }
3501
3502 div.alg2enoline{
3503     margin-left: 1em ;
3504     padding-left: 1em ;
3505 }
3506
3507 span.alg2elinenumber{
3508     margin-right: .5em ;
3509     font-size: 50% ;
3510     color: red ;
3511 }
3512
3513
3514 /* Used for algorithmicx: */
3515 span.floatright { float: right ; }
3516
3517
3518 /* keyfloat and tocdata: */
3519 .floatnotes {
3520     margin: 0ex 5% 0ex 5% ;
3521     padding: 0ex 1em 0ex 1em ;
3522     font-size:.80em ;
3523     text-align: left ;
3524 }
3525
3526 .authorartist{
3527     display:block ;
3528     font-size:.70em ;
3529     font-style: italic;
3530 }
3531
3532 nav .authorartist{ display:inline; }
3533
3534
3535
3536 /* Native LaTeX theorems: */
3537
3538 .theoremcontents {
```

```
3539     font-style: italic; margin-top: 3ex ; margin-bottom: 3ex ;
3540 }
3541
3542 .theoremlabel {
3543     font-style: normal; font-weight: bold ; margin-right: .5em ;
3544 }
3545
3546
3547
3548 /* theorem, amsthm, and ntheorem packages */
3549
3550 span.theoremheader,
3551 span.theoremheaderplain,
3552 span.theoremheaderdefinition,
3553 span.theoremheaderbreak,
3554 span.theoremheadermarginbreak,
3555 span.theoremheaderchangebreak,
3556 span.theoremheaderchange,
3557 span.theoremheadermargin
3558 {
3559     font-style:normal ; font-weight: bold ; margin-right: 1em ;
3560 }
3561
3562 span.amsthmnameplain,
3563 span.amsthmnamedefinition,
3564 span.amsthmnumberplain,
3565 span.amsthmnumberdefinition
3566 {
3567     font-style:normal ; font-weight: bold ;
3568 }
3569
3570
3571 span.amsthmnameremark,
3572 span.amsthmnumberremark
3573 {font-style:italic ; font-weight: normal ; }
3574
3575
3576 span.amsthmnoteplain,
3577 span.amsthmnotedefinition
3578 {font-style:normal ;}
3579
3580
3581 span.theoremheaderremark,
3582 span.theoremheaderproof,
3583 span.amsthmproofname
3584 {font-style:italic ; font-weight: normal ; margin-right: 1em ; }
3585
3586 span.theoremheadersc
3587 {
3588     font-style:normal ;
3589     font-variant: small-caps ;
3590     font-weight: normal ;
3591     margin-right: 1em ;
3592 }
3593
```

```
3594 .theoremdemark {float:right}
3595
3596 div.amsthmbodyplain, div.theorembodyplain, div.theorembodynonumberplain,
3597 div.theorembodybreak, div.theorembodynonumberbreak,
3598 div.theorembodymarginbreak,
3599 div.theorembodychangebreak,
3600 div.theorembodychange,
3601 div.theorembodymargin
3602 {
3603     font-style:italic;
3604     margin-top: 3ex ; margin-bottom: 3ex ;
3605 }
3606
3607 div.theorembodydefinition, div.theorembodyremark, div.theorembodyproof,
3608 div.theorembodyplainupright, nonumberplainuprightsc,
3609 div.amsthmbodydefinition, div.amsthmbodyremark,
3610 div.amsthmproof
3611 {
3612     font-style: normal ;
3613     margin-top: 3ex ; margin-bottom: 3ex ;
3614 }
3615
3616 span.amsthmnoteremark {}
3617
3618
3619 /* thmbox */
3620
3621 .thmbox {
3622     font-style: italic; margin-top: 3ex ; margin-bottom: 3ex ;
3623     border: 1px solid gray ;
3624     padding: 1ex ;
3625 }
3626
3627 .thmboxtitle {
3628     font-style: normal; font-weight: bold ; margin-right: .5em ;
3629     border-bottom: 1px solid gray ;
3630 }
3631
3632 span.thmboxproofname, span.thmboxexamplename {
3633     font-weight: bold ;
3634 }
3635
3636 div.thmboxproof, div.thmboxexample {
3637     font-size: 0.85em ;
3638     margin: 2ex ;
3639 }
3640
3641 div.thmboxleftbar {
3642     border-left: 2px solid black ;
3643     padding-left: 1em ;
3644 }
3645
3646
3647
3648 /* For the backnaur package: */
```

```
3649 div.backnaur {
3650     display: block ;
3651     margin: 2ex 2em 2ex 2em ;
3652 }
3653
3654 div.backnaur p {
3655     margin: .25ex 0ex .25ex 0ex ;
3656 }
3657
3658 div.backnaurprod {
3659     display: inline-block ;
3660     min-width: 8em ;
3661     text-align:right ;
3662 }
3663
3664 div.backnaurdsc {
3665     display: inline-block ;
3666 }
3667
3668
3669 /* For the notes package: */
3670 div.notesimportantnote, div.noteswarningnote, div.notesinformationnote {
3671     clear: both ;
3672     margin: 2ex 2em 2ex 2em ;
3673     border: 1px solid silver ;
3674 }
3675
3676 div.notesicon {
3677     float:left ;
3678     display: inline-block ;
3679     background: gold ;
3680     padding: 0ex 1em 0ex 1em ;
3681     margin-right: 1em ;
3682     font-weight: bold ;
3683 }
3684
3685 div.notescontents { font-style: italic }
3686
3687
3688 /* nolbreaks package: */
3689 span.nolbreaks { white-space: nowrap ; }
3690
3691
3692 /*
3693 For CSS LaTeX and related logos:
3694 Based on spacing demonstrated by the metafont package.
3695
3696 The subscripts are shrunk instead of lowered below the baseline,
3697 to avoid browser rendering errors with the line height in lists, etc.
3698 */
3699
3700 .latexlogofont {
3701     font-family: "Linux Libertine O", "Nimbus Roman No 9 L",
3702                 "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
3703     font-variant: normal ;
```

```
3704 }
3705
3706 .latexlogo {
3707     font-family: "Linux Libertine O", "Nimbus Roman No 9 L",
3708         "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
3709 }
3710
3711 .latexlogosup {
3712     text-transform: uppercase;
3713     letter-spacing: .03em ;
3714     font-size: 0.7em;
3715     vertical-align: 0.25em;
3716     margin-left: -0.4em;
3717     margin-right: -0.15em;
3718 }
3719
3720 .latexlogosub {
3721     text-transform: uppercase;
3722 /* vertical-align: -0.27ex; */
3723     margin-left: -0.08em;
3724     margin-right: -0.07em;
3725 /* font-size: 1em; */
3726     font-size: .7em ;
3727 }
3728
3729 .latexlogotwoe {
3730     text-transform: none ;
3731     font-variant-numeric: oldstyle-nums ;
3732 }
3733
3734 .latexlogotwoesub {
3735     font-style:italic ;
3736 /* vertical-align: -0.27ex; */
3737     margin-left: -0.11em;
3738     margin-right: -0.1em;
3739 /* font-size: 1em; */
3740     font-size: .7em ;
3741 }
3742
3743 .xelatexlogo {
3744     font-family: "Linux Libertine O", "Nimbus Roman No 9 L",
3745         "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
3746     letter-spacing: .03em ;
3747 }
3748
3749 .xelatexlogosub {
3750 /* vertical-align: -0.27ex; */
3751     margin-left: -0.0667em;
3752     margin-right: -.05em;
3753 /* font-size: 1em; */
3754     font-size: .7em ;
3755     letter-spacing: .03em ;
3756 }
3757
3758 .amslogo {
```

```
3759     font-family: "TeXGyreChorus","URW Chancery L",
3760         "Apple Chancery","ITC Zapf Chancery","Monotype Corsiva",
3761         "Linux Libertine O", "Nimbus Roman No 9 L", "FreeSerif",
3762         "Hoefler Text", Times, "Times New Roman", serif ;
3763     font-style: italic ;
3764 }
3765
3766 .lyxlogo {
3767     font-family: "URW Classico", Optima, "Linux Biolinum O",
3768         "DejaVu Sans", "Bitstream Vera Sans", Geneva,
3769         Verdana, sans-serif ;
3770 }
3771
3772
3773 /* Only display top and bottom navigation if a small screen: */
3774 /* Hide the sidetoc if a small screen: */
3775 nav.topnavigation { display:none; }
3776 nav.botnavigation { display:none; }
3777
3778 /* Only display the sidetoc's webpage title if a small screen */
3779 span.sidetocthetitle { display: none }
3780
3781 @media screen and (max-width: 50em) {
3782     div.sidetoccontainer {
3783         float: none ;
3784         width: 100% ;
3785         padding: 0 ;
3786         border-radius: 0 ;
3787         border-bottom: 1px solid black ;
3788         border-top: 1px solid black ;
3789         box-shadow: none ;
3790     }
3791     span.sidetocthetitle { display: inline }
3792     nav.topnavigation { display:block }
3793     nav.botnavigation { display:block }
3794     div.bodycontainer { width: 100% }
3795     .marginpar {
3796         max-width: 100%;
3797         float: none;
3798         display:block ;
3799         margin: 1ex 1em 1ex 1em ;
3800     }
3801 }
3802
3803 @media print {
3804     body {
3805         font-family: "Linux Libertine O",
3806             "DejaVu Serif", "Bitstream Vera Serif",
3807             "Liberation Serif", "Nimbus Roman No 9 L",
3808             "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
3809     }
3810     div.sidetoccontainer { display:none; }
3811     nav.topnavigation { display: none; }
3812     nav.botnavigation { display: none; }
3813     div.bodycontainer { width: 100% }
```



```

3814 }
3815
3816 @media handheld {
3817     div.sidetoccontainer { display:none; }
3818     nav.topnavigation { display:block }
3819     nav.botnavigation { display:block }
3820     div.bodycontainer { width: 100% }
3821 }
3822
3823 @media projection {
3824     div.sidetoccontainer { display:none; }
3825     nav.topnavigation { display:block }
3826     nav.botnavigation { display:block }
3827     div.bodycontainer { width: 100% }
3828 }
3829 \end{filecontents*}
3830 % \end{Verbatim}% for syntax highlighting
3831 \end{LWRwriteconf}

```

39.5 lwarp_sagebrush.css

File lwarp_sagebrush.css An optional css which may be used for a semi-modern appearance.

If used, this must be present both when compiling the project and also when distributing the HTML files.

Config file:

```

3832 \begin{LWRwriteconf}
3833 \begin{filecontents*}[overwrite]{lwarp_sagebrush.css}
3834 @import url("lwarp.css") ;
3835
3836
3837 A:link {color:#105030 ; text-decoration: none ; }
3838 A:visited {color:#705030 ; text-shadow:1px 1px 2px #a0a0a0;}
3839 A:hover {color:#006000 ; text-decoration: underline ; text-shadow:0px 0px 2px #a0a0a0;}
3840 A:active {color:#00C000 ; text-shadow:1px 1px 2px #a0a0a0;}
3841
3842
3843
3844 div.book, h1, h2, h3, h4, h5, h6, span.paragraph, span.subparagraph
3845 {
3846     font-family: "URW Classico", Optima, "Linux Biolinum O",
3847         "Linux Libertine O", "Liberation Serif",
3848         "Nimbus Roman No 9 L", "FreeSerif",
3849         "Hoefler Text", Times, "Times New Roman", serif;
3850     font-variant: small-caps ;
3851     font-weight: normal ;
3852     color: #304070 ;
3853     text-shadow: 2px 2px 3px #808080;
3854 }
3855
3856 h1 { /* title of the entire website, used on each page */
3857     font-variant: small-caps ;
3858     color: #304070 ;
3859     text-shadow: 2px 2px 3px #808080;

```

```
3860     background-color: #F7F7F0 ;
3861     background-image: linear-gradient(to bottom, #F7F7F0, #C0C0C4);
3862 }
3863
3864 h1 {
3865     border-bottom: 1px solid #304070;
3866 /* border-top: 2px solid #304070; */
3867 }
3868
3869 h2 {
3870     border-bottom: 1px solid #304070;
3871 /* border-top: 2px solid #304070; */
3872     background-color: #F7F7F0 ;
3873     background-image: linear-gradient(to bottom, #F7F7F0, #DAD0C0);
3874 }
3875
3876
3877
3878 div.abstract {
3879     background: #f5f5eb ;
3880     background-image: linear-gradient(to bottom, #f5f5eb, #C8C8B8);
3881
3882     border: 1px solid silver;
3883     border-radius: 1em ;
3884 }
3885
3886 div.abstract dl {line-height:1.5;}
3887 div.abstract dt {color:#304070;}
3888
3889 div.abstracttitle{
3890     font-family: "URW Classico", Optima, "Linux Biolinum O",
3891         "Linux Libertine O", "Liberation Serif", "Nimbus Roman No 9 L",
3892         "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
3893     font-weight:bold;
3894     font-variant: small-caps ;
3895     font-size:1.5em;
3896     border-bottom: 1px solid silver ;
3897     color: #304070 ;
3898     text-align: center ;
3899     text-shadow: 1px 1px 2px #808080;
3900 }
3901
3902 span.abstracruntintitle{
3903     font-family: "URW Classico", Optima, "Linux Biolinum O",
3904         "Linux Libertine O", "Liberation Serif", "Nimbus Roman No 9 L",
3905         "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
3906     font-weight:bold;
3907 }
3908
3909
3910 div.epigraph, div.dictum {
3911     background: #f5f5eb ;
3912     background-image: linear-gradient(to bottom, #f5f5eb, #C8C8B8);
3913
3914     border: 1px solid silver ;
```

```
3915     border-radius: 1ex ;
3916     box-shadow: 3px 3px 3px #808080 ;
3917 }
3918
3919
3920 .example {
3921     background-color: #f5f5eb ;
3922     background-image: linear-gradient(to bottom, #f5f5eb, #C8C8B8);
3923
3924 }
3925
3926 div.exampletitle{
3927     font-family: "URW Classico", Optima, "Linux Biolinum O",
3928         "Linux Libertine O", "Liberation Serif", "Nimbus Roman No 9 L",
3929         "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
3930     font-weight:bold;
3931     font-variant: small-caps ;
3932     border-bottom: 1px solid silver ;
3933     color: #304070 ;
3934     text-align: center ;
3935     text-shadow: 1px 1px 2px #808080;
3936 }
3937
3938
3939 .sidebar {
3940     background-color: #f5f5eb ;
3941     background-image: linear-gradient(to bottom, #f5f5eb, #C8C8B8);
3942
3943 }
3944
3945 div.sidebartitle{
3946     font-family: "URW Classico", Optima, "Linux Biolinum O",
3947         "Linux Libertine O", "Liberation Serif", "Nimbus Roman No 9 L",
3948         "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
3949     font-weight:bold;
3950     font-variant: small-caps ;
3951     border-bottom: 1px solid silver ;
3952     color: #304070 ;
3953     text-align: center ;
3954     text-shadow: 1px 1px 2px #808080;
3955 }
3956
3957
3958 .fancyvrblabel {
3959     font-family: "URW Classico", Optima, "Linux Biolinum O",
3960         "Linux Libertine O", "Liberation Serif", "Nimbus Roman No 9 L",
3961         "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
3962     font-weight:bold;
3963     font-variant: small-caps ;
3964     font-size: 1.5em ;
3965     color: #304070 ;
3966     text-align: center ;
3967     text-shadow: 1px 1px 2px #808080;
3968 }
3969
```

```
3970 div.minipage {
3971     background-color: #eeeeee7 ;
3972     border: 1px solid silver ;
3973     border-radius: 1ex ;
3974 }
3975
3976 table div.minipage { background: none ; border: none ; }
3977
3978 div.framebox div.minipage {border:none ; background:none}
3979
3980 section.textbody > div.minipage {
3981     box-shadow: 3px 3px 3px #808080 ;
3982 }
3983
3984 div.fboxBlock div.minipage { box-shadow: none ; }
3985
3986 .framed .minipage , .framedleftbar .minipage {
3987     border: none ;
3988     background: none ;
3989     padding: 0ex ;
3990     margin: 0ex ;
3991 }
3992
3993 figure.figure .minipage, div.figurecaption .minipage { border: none; }
3994
3995 div.marginblock div.minipage ,
3996 div.marginparblock div.minipage
3997     { border: none; }
3998
3999 figure , div.marginblock {
4000     background-color: #eeeeee7 ;
4001     border: 1px solid silver ;
4002     border-radius: 1ex ;
4003     box-shadow: 3px 3px 3px #808080 ;
4004 }
4005
4006 figure figure {
4007     border: 1px solid silver ;
4008     margin: 0em ;
4009     box-shadow: none ;
4010 }
4011
4012 /*
4013 div.figurecaption {
4014     border-top: 1px solid silver ;
4015     border-bottom: 1px solid silver ;
4016     background-color: #e8e8e8 ;
4017 }
4018 */
4019
4020
4021 div.table {
4022     box-shadow: 3px 3px 3px #808080 ;
4023 }
4024
```

```
4025 /*
4026 .tnotes {
4027     background: #e8e8e8;
4028     border: 1px solid silver;
4029 }
4030 */
4031
4032
4033 nav.topnavigation{
4034     background-color: #b0b8b0 ;
4035     background-image: linear-gradient(to bottom,#e0e0e0,#b0b8b0) ;
4036 }
4037
4038 nav.botnavigation{
4039     background-color: #b0b8b0 ;
4040     background-image: linear-gradient(to top,#e0e0e0,#b0b8b0) ;
4041 }
4042
4043
4044
4045 header{
4046     background-color: #F7F7F0 ;
4047     background-image: linear-gradient(to top, #F7F7F0, #b0b8b0);
4048 }
4049
4050 footer{
4051     background-color: #F7F7F0 ;
4052     background-image: linear-gradient(to bottom, #F7F7F0, #b0b8b0);
4053 }
4054
4055
4056
4057 div.sidetoccontainer {
4058     background-color: #F7F7F0 ;
4059     background-image: linear-gradient(to bottom, #F7F7F0, #C0C0C0);
4060     box-shadow: 3px 3px 3px #808080 ;
4061 }
4062
4063 div.sidetocitle {color: #304070 ; }
4064
4065 nav.sidetoc a:hover {
4066     color:#006000 ;
4067     text-decoration: none ;
4068     text-shadow:0px 0px 2px #a0a0a0;
4069 }
4070
4071
4072 @media screen and (max-width: 45em) {
4073     div.sidetoccontainer { border-radius: 0 ; }
4074 }
4075
4076
4077 \end{filecontents*}
4078 % \end{Verbatim}% for syntax highlighting
4079 \end{LWRwriteconf}
```

39.6 lwarp_formal.css

File `lwarp_formal.css` An optional css which may be used for a more formal appearance.

If used, this must be present both when compiling the project and also when distributing the HTML files.

```
Config file: 4080 \begin{LWRwriteconf}
4081 \begin{filecontents*}[overwrite]{lwarp_formal.css}
4082 @import url("lwarp.css") ;
4083
4084
4085
4086 A:link {color:#802020 ; text-decoration:none; }
4087 A:visited {color:#802020 ; text-shadow:none ;}
4088 A:hover {color:#400000 ; text-shadow:none ;}
4089 A:active {color:#C00000 ; text-shadow:none ;}
4090
4091
4092 body {
4093     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4094         "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4095         "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4096         "Times New Roman", serif;
4097     background: #fffcf5;
4098 }
4099
4100 span.textrm {
4101     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4102         "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4103         "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4104         "Times New Roman", serif;
4105 }
4106
4107 span.textsf {
4108     font-family: "DejaVu Sans", "Bitstream Vera Sans",
4109         Geneva, Verdana, sans-serif ;
4110 }
4111
4112
4113
4114 div.book, h1, h2, h3, h4, h5, h6, span.paragraph, span.subparagraph
4115 {
4116     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4117         "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4118         "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4119         "Times New Roman", serif;
4120     color: #800000 ;
4121     text-shadow: none ;
4122 }
4123
4124 h1, h2 {
4125     background-color: #fffcf5 ;
4126     background-image: none ;
4127     border-bottom: 1px solid #808080;
```

```
4128 /*    border-top: 2px solid #808080; */
4129 }
4130
4131 div.abstracttitle {
4132     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4133         "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4134         "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4135         "Times New Roman", serif;
4136     color: black ;
4137     text-shadow: none ;
4138 }
4139
4140 span.abstracrunintitle {
4141     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4142         "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4143         "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4144         "Times New Roman", serif;
4145     color: black ;
4146     text-shadow: none ;
4147 }
4148
4149 div.abstract { font-size: 100% }
4150
4151 .sidebar {
4152     background: #fffcf5;
4153     background-image: none ;
4154     margin: 2em 5% 2em 5%;
4155     padding: 0.5em 1em;
4156     border: none ;
4157     border-top : 1px solid silver;
4158     border-bottom : 1px solid silver;
4159     font-size: 90% ;
4160 }
4161
4162 div.sidebartitle{
4163     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4164         "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4165         "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4166         "Times New Roman", serif;
4167     color: #800000 ;
4168     text-shadow: none ;
4169     border: none ;
4170 }
4171
4172 .example {
4173     background: #fffcf5;
4174     background-image: none ;
4175     margin: 2em 5% 2em 5%;
4176     padding: 0.5em 1em;
4177     border: none ;
4178     border-top : 1px solid silver;
4179     border-bottom : 1px solid silver;
4180 }
4181
4182 div.exampletitle{
```

```
4183 font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4184 "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4185 "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4186 "Times New Roman", serif;
4187 color: #800000 ;
4188 text-shadow: none ;
4189 border: none ;
4190 }
4191
4192 div.fancyvrblabel{
4193 font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4194 "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4195 "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4196 "Times New Roman", serif;
4197 color: #800000 ;
4198 text-shadow: none ;
4199 border: none ;
4200 }
4201
4202
4203
4204 figure {
4205 margin: 5ex 5% 5ex 5% ;
4206 padding: 1ex 1em 1ex 1em ;
4207 background-color: #fffcf5 ;
4208 overflow-x: auto ;
4209 border: none ;
4210 /* border-top: 1px solid silver; */
4211 /* border-bottom: 1px solid silver; */
4212 }
4213
4214
4215 div.figurecaption , .lstlisting {
4216 border: none ;
4217 /* border-top: 1px solid silver ; */
4218 /* border-bottom: 1px solid silver ; */
4219 background-color: #fffcf5 ;
4220 }
4221
4222 .tnotes {
4223 background: #fffcf5 ;
4224 border-top: 1px solid silver ;
4225 border-bottom: 1px solid silver ;
4226 }
4227
4228 .theorem {
4229 background: none ;
4230 }
4231
4232 .minipage {
4233 background-color: #fffcf5 ;
4234 border: none ;
4235 }
4236
4237 div.floatrow figure { border: none ; }
```



```

4238
4239 figure figure { border: none ; }
4240
4241
4242 nav.toc, nav.lof, nav.lot, nav.lol {
4243     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4244         "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4245         "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4246         "Times New Roman", serif;
4247 }
4248
4249 div.sidetoccontainer {
4250     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
4251         "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
4252         "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
4253         "Times New Roman", serif;
4254     background-image: linear-gradient(to bottom, #fffcf5, #C0C0C0);
4255 }
4256
4257 div.sidetoc{
4258     color: #800000 ;
4259 }
4260
4261 header{
4262     background-color: #e0e0e0 ;
4263     background-image: linear-gradient(to top, #fffcf5, #b0b0b0);
4264     text-align:center ;
4265 }
4266
4267 footer{
4268     background-color: #e0e0e0 ;
4269     background-image: linear-gradient(to bottom, #fffcf5, #b0b0b0);
4270     padding: 2ex 1em 2ex 1em ;
4271     text-align:left ;
4272 }
4273
4274 nav.botnavigation {
4275     background: #dedcd5 ;
4276     border-top: 1px solid black ;
4277 }
4278 \end{filecontents*}
4279 % \end{Verbatim}% for syntax highlighting
4280 \end{LWRwriteconf}

```

39.7 sample_project.css

File `sample_project.css` The project-specific css file. Use with `\CSSFilename`.

If used, this must be present both when compiling the project and also when distributing the HTML files.

Config file:

```

4281 \begin{LWRwriteconf}
4282 \begin{filecontents*}[overwrite]{sample_project.css}
4283 /* ( --- Start of project.css --- ) */

```

```

4284 /* ( --- A sample project-specific CSS file for lwarp --- ) */
4285
4286 /* Uncomment one of the following: */
4287 @import url("lwarp.css") ;
4288 /* @import url("lwarp_formal.css") ; */
4289 /* @import url("lwarp_sagebrush.css") ; */
4290
4291 /* Project-specific CSS setting follow here. */
4292 /* . . . */
4293
4294 /* ( --- End of project.css --- ) */
4295 \end{filecontents*}
4296 % \end{Verbatim}% for syntax highlighting
4297 \end{LWRwriteconf}

```

39.8 lwarp.ist

File `lwarp.ist` Used to modify the index for `lwarp`.

This must be present when compiling the project, but does not need to be present when distributing the resulting HTML files.

The page compositor line is for memoir's `\specialindex`.

Config file:

```

4298 \begin{LWRwriteconf}
4299 \begin{filecontents*}[overwrite]{lwarp.ist}
4300 preamble
4301 "\begin{theindex}
4302  \providecommand*\lettergroupDefault[1]{
4303  \providecommand*\lettergroup[1]{%
4304    \par\textbf{#1}\par
4305    \nopagebreak
4306  }
4307 "
4308 headings_flag 1
4309 heading_prefix "
4310 \lettergroup{"
4311 heading_suffix "}"
4312 delim_0 ", \hyperindexref{"
4313 delim_1 ", \hyperindexref{"
4314 delim_2 ", \hyperindexref{"
4315 delim_n "}, \hyperindexref{"
4316 delim_r "} -- \hyperindexref{"
4317 delim_t "}"
4318 page_compositor "."
4319 \end{filecontents*}
4320 % \end{Verbatim}% for syntax highlighting
4321 \end{LWRwriteconf}

```

39.9 lwarp.xdy

File `lwarp.xdy` Used to modify the index for `lwarp`.

This must be present when compiling the project, but does not need to be present when distributing the resulting HTML files.

See:

<https://tex.stackexchange.com/questions/80300/how-can-i-convince-hyperref-and-xindy-to-play-together-nicely>

Config file:

```

4322 \begin{LWRwriteconf}
4323 \begin{filecontents*}[overwrite]{lwarp.xdy}
4324 (require "tex/inputenc/latin.xdy")
4325 (merge-rule "\\PS *" "Postscript")
4326 (require "texindy.xdy")
4327 (require "page-ranges.xdy")
4328 (require "book-order.xdy")
4329 (define-location-class "arabic-page-numbers"
4330   ("arabic-numbers") :min-range-length 1)
4331 (require "makeindex.xdy")
4332 (define-attributes (("hyperindexref")))
4333 (markup-locref :open "\hyperindexref{" :close "}")
4334 (markup-locref :open "\hyperindexref{" :close "}" :attr "hyperpage")
4335 (markup-locref :open "\textbf{\hyperindexref{" :close "}}" :attr "textbf")
4336 (markup-locref :open "\textit{\hyperindexref{" :close "}}" :attr "textit")
4337 (define-location-class-order ("roman-page-numbers"
4338   "arabic-page-numbers"
4339   "alpha-page-numbers"
4340   "Roman-page-numbers"
4341   "Alpha-page-numbers"
4342   "see"
4343   "seealso"))
4344 \end{filecontents*}
4345 % \end{Verbatim}% for syntax highlighting
4346 \end{LWRwriteconf}

```

39.10 lwarp_one_limage.cmd

File lwarp_one_limage.cmd Used by lwarp to help make lateximages when using WINDOWS.

This must be present when compiling the project, but does not need to be present when distributing the resulting HTML files.

The arguments are each of the three fields from <project>-images.txt, and also the base name of the source file.

MiKTeX does not allow file lwarp_one_limage.cmd to be created directly by *lwarpmk*, so lwarp_one_limage.txt is created instead, then copied to lwarp_one_limage.cmd by *lwarpmk*. This occurs each time *lwarpmk* used to create lateximages.

Config file:

```

4347 \begin{LWRwriteconf}
4348 \immediate\openout\LWR@quickfile=lwarp_one_limage.txt
4349 \immediate\write\LWR@quickfile{%
4350   pdfseparate -f \LWRpercent 1 -l \LWRpercent 1 \LWRpercent 4_html.pdf %
4351   \LWR@ImagesDirectory\OSPathSymbol lateximagetemp-\LWRpercent\LWRpercent d.pdf%
4352 }
4353 \immediate\write\LWR@quickfile{%

```

```

4354 pdfcrop --hires \LWR@ImagesDirectory\OSPathSymbol lateximagetemp-\LWRpercent 1.pdf %
4355 \LWR@ImagesDirectory\OSPathSymbol\LWRpercent 3.pdf%
4356 }
4357 \immediate\write\LWR@quickfile{%
4358 pdftocairo -svg -noshrink \LWR@ImagesDirectory\OSPathSymbol\LWRpercent 3.pdf %
4359 \LWR@ImagesDirectory\OSPathSymbol\LWRpercent 3.svg%
4360 }
4361 \immediate\write\LWR@quickfile{%
4362 del \LWR@ImagesDirectory\OSPathSymbol\LWRpercent 3.pdf%
4363 }
4364 \immediate\write\LWR@quickfile{%
4365 del \LWR@ImagesDirectory\OSPathSymbol lateximagetemp-\LWRpercent 1.pdf%
4366 }
4367 \immediate\write\LWR@quickfile{exit}
4368 \immediate\closeout\LWR@quickfile
4369 \end{LWRwriteconf}

```

39.11 lwarp_mathjax.txt

(Emulates or patches code by DAVIDE P. CERVONE.)

File `lwarp_mathjax.txt` The default MathJax script used by `lwarp` when using `MATHJAX`. A recent version of MathJax is used, as served by the recommended repository. Adjustments are made to allow \LaTeX to control the equation tags and provide for starred macros.

`\MathJaxFilename` determines which script file is copied into the `HTML` pages, and defaults to `lwarp_mathjax.txt`. The script files must be present when compiling the project, but do not need to be present when distributing the resulting `HTML` files.

custom script To generate a custom script, such as to use a local repository, copy `lwarp_mathjax.txt` to a new file, make changes while keeping `lwarp`'s adjustments for equation numbering and starred macros, and use `\MathJaxFilename` to select the new filename.

Config file:

```

4370 \begin{LWRwriteconf}
4371 \begin{filecontents*}[overwrite]{lwarp_mathjax.txt}
4372 <script>
4373 // Lwarp MathJax emulation code
4374 //
4375 // Based on code by Davide P. Cervone.
4376 // Equation numbering: https://github.com/mathjax/MathJax/issues/2427
4377 // Starred and ifnextchar macros: https://github.com/mathjax/MathJax/issues/2428
4378 // \left, \right delimiters: https://github.com/mathjax/MathJax/issues/2535
4379 //
4380 // Modified by Brian Dunn to adjust equation numbering and add subequations.
4381 //
4382 // LaTeX can use \seteqnumber{subequations?}{section}{number} before each equation.
4383 // subequations? is 0 usually, 1 if inside subequations.
4384 // section is a string printed as-is, or empty.
4385 // number is auto-incremented by MathJax between equations.
4386 //
4387 MathJax = {
4388   subequations: "0",
4389   section: "",
4390   loader: {

```

```
4391   load: ['[tex]/tagformat', '[tex]/textmacros'],
4392 },
4393 startup: {
4394   ready() {
4395     // These would be replaced by import commands if you wanted to make
4396     // a proper extension.
4397     const Configuration = MathJax._.input.tex.Configuration.Configuration;
4398     const CommandMap = MathJax._.input.tex.SymbolMap.CommandMap;
4399     const Macro = MathJax._.input.tex.Symbol.Macro;
4400     const TexError = MathJax._.input.tex.TexError.default;
4401     const ParseUtil = MathJax._.input.tex.ParseUtil.default;
4402     const expandable = MathJax._.util.Options.expandable;
4403
4404     // Insert the replacement string into the TeX string, and check
4405     // that there haven't been too many macro substitutions (prevents
4406     // infinite loops).
4407     const useArgument = (parser, text) => {
4408       parser.string = ParseUtil.addArgs(parser, text, parser.string.slice(parser.i));
4409       parser.i = 0;
4410       if (++parser.macroCount > parser.configuration.options.maxMacros) {
4411         throw new TexError('MaxMacroSub1',
4412           'MathJax maximum macro substitution count exceeded; ' +
4413           'is there a recursive macro call?');
4414       }
4415     }
4416
4417     // Create the command map for \ifstar, \ifnextchar, \seteqnumber
4418     new CommandMap('ifstar-ifnextchar-seteqnumber', {
4419       ifstar: 'IfstarFunction',
4420       ifnextchar: 'IfnextcharFunction',
4421       seteqnumber: 'SeteqnumberFunction'
4422     }, {
4423       // This function implements an ifstar macro.
4424       IfstarFunction(parser, name) {
4425         const resultstar = parser.GetArgument(name);
4426         const resultnostar = parser.GetArgument(name);
4427         const star = parser.GetStar(); // true if there is a *
4428         useArgument(parser, star ? resultstar : resultnostar);
4429       },
4430
4431       // This function implements an ifnextchar macro.
4432       IfnextcharFunction(parser, name) {
4433         let whichchar = parser.GetArgument(name);
4434         if (whichchar.match(/^(?:\d|[0-9A-F]+|[0-9]+)$/i)) {
4435           // $ syntax highlighting
4436           whichchar = String.fromCharCode(parseInt(whichchar));
4437         }
4438         const resultnextchar = parser.GetArgument(name);
4439         const resultnotnextchar = parser.GetArgument(name);
4440         const gotchar = (parser.GetNext() === whichchar);
4441         useArgument(parser, gotchar ? resultnextchar : resultnotnextchar);
4442       },
4443
4444       // This function modifies the equation numbers.
4445       SeteqnumberFunction(parser, name) {
```

```

4446         // Get the macro parameters
4447         const star = parser.GetStar();           // true if there is a *
4448         const optBrackets = parser.GetBrackets(name); // contents of optional brackets
4449         const newsubequations = parser.GetArgument(name); // the subequations argument
4450         const neweqsection = parser.GetArgument(name); // the eq section argument
4451         const neweqnumber = parser.GetArgument(name); // the eq number argument
4452         MathJax.config.subequations=newsubequations; // a string with boolean meaning
4453         MathJax.config.section=neweqsection; // a string with numeric meaning
4454         parser.tags.counter = parser.tags.allCounter = neweqnumber;
4455     }
4456
4457 });
4458
4459 // Create the ifstar-ifnextchar-setequnumber package
4460 Configuration.create('ifstar-ifnextchar-setequnumber', {
4461     handler: {macro: ['ifstar-ifnextchar-setequnumber']}
4462 });
4463
4464 MathJax.startup.defaultReady();
4465
4466 // For forward references:
4467 MathJax.startup.input[0].preFilters.add(({math}) => {
4468     if (math.inputData.recompile){
4469         MathJax.config.subequations = math.inputData.recompile.subequations;
4470         MathJax.config.section = math.inputData.recompile.section;
4471     }
4472 });
4473 MathJax.startup.input[0].postFilters.add(({math}) => {
4474     if (math.inputData.recompile){
4475         math.inputData.recompile.subequations = MathJax.config.subequations;
4476         math.inputData.recompile.section = MathJax.config.section;
4477     }
4478 });
4479
4480 // For \left, \right with unicode-math:
4481 const {DelimiterMap} = MathJax._.input.tex.SymbolMap;
4482 const {Symbol} = MathJax._.input.tex.Symbol;
4483 const {MapHandler} = MathJax._.input.tex.MapHandler;
4484 const delimiter = MapHandler.getMap('delimiter');
4485 delimiter.add('\lBrack', new Symbol('\lBrack', '\u27E6'));
4486 delimiter.add('\rBrack', new Symbol('\rBrack', '\u27E7'));
4487 delimiter.add('\lAngle', new Symbol('\lAngle', '\u27EA'));
4488 delimiter.add('\rAngle', new Symbol('\rAngle', '\u27EB'));
4489 delimiter.add('\lbrbrak', new Symbol('\lbrbrak', '\u2772'));
4490 delimiter.add('\rbrbrak', new Symbol('\rbrbrak', '\u2773'));
4491 delimiter.add('\lbag', new Symbol('\lbag', '\u27C5'));
4492 delimiter.add('\rbag', new Symbol('\rbag', '\u27C6'));
4493 delimiter.add('\llparenthesis', new Symbol('\llparenthesis', '\u2987'));
4494 delimiter.add('\rrparenthesis', new Symbol('\rrparenthesis', '\u2988'));
4495 delimiter.add('\llangle', new Symbol('\llangle', '\u2989'));
4496 delimiter.add('\rrangle', new Symbol('\rrangle', '\u298A'));
4497 delimiter.add('\Lbrbrak', new Symbol('\Lbrbrak', '\u27EC'));
4498 delimiter.add('\Rbrbrak', new Symbol('\Rbrbrak', '\u27ED'));
4499 delimiter.add('\lBrace', new Symbol('\lBrace', '\u2983'));
4500 delimiter.add('\rBrace', new Symbol('\rBrace', '\u2984'));

```

```

4501     delimiter.add('\lParen', new Symbol('\lParen', '\u2985'));
4502     delimiter.add('\rParen', new Symbol('\rParen', '\u2986'));
4503     delimiter.add('\lbrackubar', new Symbol('\lbrackubar', '\u298B'));
4504     delimiter.add('\rbrackubar', new Symbol('\rbrackubar', '\u298C'));
4505     delimiter.add('\lbrackultick', new Symbol('\lbrackultick', '\u298D'));
4506     delimiter.add('\rbracklrtick', new Symbol('\rbracklrtick', '\u298E'));
4507     delimiter.add('\lbracklltick', new Symbol('\lbracklltick', '\u298F'));
4508     delimiter.add('\rbrackurtick', new Symbol('\rbrackurtick', '\u2990'));
4509     delimiter.add('\langedot', new Symbol('\langedot', '\u2991'));
4510     delimiter.add('\rangedot', new Symbol('\rangedot', '\u2992'));
4511     delimiter.add('\lparenless', new Symbol('\lparenless', '\u2993'));
4512     delimiter.add('\rparengtr', new Symbol('\rparengtr', '\u2994'));
4513     delimiter.add('\Lparengtr', new Symbol('\Lparengtr', '\u2995'));
4514     delimiter.add('\Rparenless', new Symbol('\Rparenless', '\u2996'));
4515     delimiter.add('\lblkbrbrak', new Symbol('\lblkbrbrak', '\u2997'));
4516     delimiter.add('\rblkbrbrak', new Symbol('\rblkbrbrak', '\u2998'));
4517     delimiter.add('\lvzigzag', new Symbol('\lvzigzag', '\u29D8'));
4518     delimiter.add('\rvzigzag', new Symbol('\rvzigzag', '\u29D9'));
4519     delimiter.add('\Lvzigzag', new Symbol('\Lvzigzag', '\u29DA'));
4520     delimiter.add('\Rvzigzag', new Symbol('\Rvzigzag', '\u29DB'));
4521     delimiter.add('\lcurvyangle', new Symbol('\lcurvyangle', '\u29FC'));
4522     delimiter.add('\rcurvyangle', new Symbol('\rcurvyangle', '\u29FD'));
4523     delimiter.add('\Vvert', new Symbol('\Vvert', '\u2980'));
4524 } // ready
4525 }, // startup
4526
4527 tex: {
4528     packages: {'[+]': ['tagformat', 'ifstar-ifnextchar-setequanumber', 'textmacros']},
4529     tags: "ams",
4530     tagformat: {
4531         number: function (n) {
4532             if(MathJax.config.subequations==0)
4533                 return(MathJax.config.section + n);
4534             else
4535                 return(MathJax.config.section + String.fromCharCode(96+n));
4536         },
4537     },
4538 }
4539 }
4540 </script>
4541
4542 <script
4543     id="MathJax-script"
4544     src="https://cdn.jsdelivr.net/npm/mathjax@3/es5/tex-ctml.js"
4545 ></script>
4546 \end{filecontents*}
4547 % \end{Verbatim}% for syntax highlighting
4548 \end{LWRwriteconf}

```

39.12 `lwarpmk.lua` — `lwarpmk` option

Opt `lwarpmk` Creates a local copy of *lwarpmk*.

Prog `lwarpmk` Command-line utility to process *lwarp* files and images.

parallel processing lateximages and svg math images are generated using multiple processes in parallel. For UNIX and LINUX, every 32 images the wait command is issued to wait for the previous batch of images to finish processing before starting a new batch. For WINDOWS, every 32 images one task is dispatched with

```
START /B /WAIT /BELOWNORMAL
```

which causes the operating system to wait until this lesser-priority tasks finishes, hopefully also waiting for the normal priority tasks which were already in progress to also complete. Afterwards, the next batch of images is started.

The following is only generated if the `lwarpmk` option was given to `lwarp`.

```
4549 \begin{LWRcreateLwarpmk}

4550 \begin{filecontents*}[overwrite]{lwarpmk.lua}
4551 #!/usr/bin/env texlua
4552
4553 -- Copyright 2016-2020 Brian Dunn
4554
4555
4556 printversion = "v0.894"
4557 requiredconfversion = "2" -- also at *lwarpmk.conf
4558
4559 function printhelp ()
4560 print ("lwarpmk: Use lwarpmk -h or lwarpmk --help for help.");
4561 end
4562
4563
4564 function printusage ()
4565 --
4566 -- Print the usage of the lwarpmk command:
4567 --
4568 print ( [[
4569
4570 lwarpmk print [-p project]: Compile the print version if necessary.
4571 lwarpmk print1 [-p project]: Forced single compile of the print version.
4572 lwarpmk printindex [-p project]: Process print indexes.
4573 lwarpmk printglossary [-p project]: Process the glossary for the print version.
4574 lwarpmk html [-p project]: Compile the HTML version if necessary.
4575 lwarpmk html1 [-p project]: Forced single compile of the HTML version.
4576 lwarpmk htmlindex [-p project]: Process HTML indexes.
4577 lwarpmk htmlglossary [-p project]: Process the glossary for the html version.
4578 lwarpmk again [-p project]: Touch the source code to trigger recompiles.
4579 lwarpmk limages [-p project]: Process the "lateximages" created by lwarp.sty.
4580 lwarpmk pdftohtml [-p project]:
4581     For use with latexmk or a Makefile:
4582     Converts project_html.pdf to project_html.html and individual HTML files.
4583     Finishes the HTML conversion even if there was a compile error.
4584 lwarpmk pdftosvg <list of file names>: Converts each PDF file to SVG.
4585 lwarpmk epstopdf <list of file names>: Converts each EPS file to PDF.
4586 lwarpmk clean [-p project]: Remove *.aux, *.toc, *.lof/t,
4587     *.idx, *.ind, *.bbl, *.log, *_html_inc.*, .gl*,
4588     *_html.pdf, *_html.html, *_html.sidetoc
4589 lwarpmk cleanall [-p project]: Remove auxiliary files, project.pdf, *.html
```



```
4590 lwarpmk cleanimages: Removes all images from the "lateximages" directory.
4591 lwarpmk -v: Print the version number.
4592 lwarpmk -h: Print this help message.
4593 lwarpmk --help: Print this help message.
4594
4595 ]] )
4596 -- printconf ()
4597 end
4598
4599
4600 function splitfilename ( pathandfilename )
4601 --
4602 -- Separates out the path and extension from a filename.
4603 -- Returns path, filename with extension, and extension.
4604 -- Ex: thispath, thisfilename, thisextension = splitfilename ("path/to/filename.ext")
4605 --
4606 -- https://www.fhug.org.uk/wiki/wiki/doku.php?id=plugins:code_snippets:
4607 --     split_filename_in_to_path_filename_and_extension
4608 --
4609     if lhs.attributes(pathandfilename,"mode") == "directory" then
4610         local strPath = pathandfilename:gsub("[\\/]$", "") -- $(syntax highlighting)
4611         return strPath.."\\", "", ""
4612     end
4613     pathandfilename = pathandfilename.."."
4614     return pathandfilename:match("^(-)([^\\"/]-)%\.([^\\"/\.]-)?.$")
4615 end
4616
4617
4618 function splitfile (destfile,sourcefile)
4619 --
4620 -- Split one large sourcefile into a number of files,
4621 -- starting with destfile.
4622 -- The file is split at each occurrence of <!--|Start file|newfilename|*
4623 --
4624 print ("lwarpmk: Splitting " .. sourcefile .. " into " .. destfile) ;
4625 local sfile = io.open(sourcefile)
4626 io.output(destfile)
4627 for line in sfile:lines() do
4628 i,j,copen,cstart,newfilename = string.find (line,"(.*)|(.*)|(.*)|") ;
4629 if ( (i~= nil) and (copen == "<!--") and (cstart == "Start file")) then
4630     -- split the file
4631     io.output(newfilename) ;
4632 else
4633     -- not a splitpoint
4634     io.write (line .. "\n") ;
4635 end
4636 end -- do
4637 io.close(sfile)
4638 end -- function
4639
4640
4641 function cvalueerror ( line, linenum , cvalue )
4642 --
4643 -- Incorrect value, so print an error and exit.
4644 --
```

```
4645     print ("lwarpmk: ===")
4646     print ("lwarpmk: " .. linenum .. " : " .. line ) ;
4647     print (
4648         "lwarpmk: incorrect variable value \"\" .. cvalue ..
4649         "\"" in lwarpmk.conf.\n"
4650     ) ;
4651     print ("lwarpmk: ===")
4652 --     printconf () ;
4653     os.exit(1) ;
4654 end
4655
4656
4657 function printhowtorecompile ()
4658 -- Tells the user how to recompile to regenerate the configuration files.
4659     print ("lwarpmk: The configuration files lwarpmk.conf and "..sourcename.."lwarpmkconf" )
4660     print ("lwarpmk:  must be updated. To do so, recompile" )
4661     print ("lwarpmk:  ", sourcename.."tex" )
4662     if ( printlatexcmd == "" ) then
4663         print ("lwarpmk:  using xe/luatex/pdflatex," )
4664     else
4665         print ("lwarpmk:  using the command:")
4666         print ("lwarpmk:  ", printlatexcmd )
4667     end
4668     print ("lwarpmk:  then use lwarpmk again.")
4669 end -- printhowtorecompile
4670
4671
4672 function ignoreconf ()
4673 -- Global argument index
4674 argindex = 2
4675 end
4676
4677 function loadconf ()
4678 --
4679 -- Load settings from the project's "lwarpmk.conf" file:
4680 --
4681 -- Default configuration filename:
4682 local conffile = "lwarpmk.conf"
4683 local confroot = "lwarpmk"
4684 -- Global argument index
4685 argindex = 2
4686 -- Optional configuration filename:
4687 if ( arg[argindex] == "-p" ) then
4688     argindex = argindex + 1
4689     confroot = arg[argindex]
4690     conffile = confroot.."lwarpmkconf"
4691     argindex = argindex + 1
4692 end
4693 -- Additional defaults:
4694 confversion = "0"
4695 opsystem = "Unix"
4696 imagesdirectory = "lateximages"
4697 imagesname = "image-"
4698 latexmk = "false"
4699 printlatexcmd = ""
```

```

4700 HTMLlatexcmd = ""
4701 printindexcmd = ""
4702 HTMLindexcmd = ""
4703 latexmkindexcmd = ""
4704 -- to be removed:
4705 -- indexprog = "makeindex"
4706 -- makeindexstyle = "lwarp.ist"
4707 -- xindylanguage = "english"
4708 -- xindycodepage = "utf8"
4709 -- xindystyle = "lwarp.xdy"
4710 -- pdftotextenc = "UTF-8"
4711 glossarycmd = "makeglossaries"
4712 -- Verify the file exists:
4713 if (lfs.attributes(conffile,"mode")==nil) then
4714     -- file not exists
4715     print ("lwarpmk: ===")
4716     print ("lwarpmk: File \"\" .. conffile ..\"\" does not exist.")
4717     print ("lwarpmk: Move to the project's source directory,")
4718     print ("lwarpmk: recompile using pdflatex, xelatex, or luatex,")
4719     print ("lwarpmk: then try using lwarpmk again.")
4720     if ( arg[argindex] ~= nil ) then
4721         print (
4722             "lwarpmk: (\"\" .. confroot ..
4723             "\"\" does not appear to be a project name.)"
4724         )
4725     end
4726     print ("lwarpmk: ===")
4727     printhelp () ;
4728     os.exit(1) -- exit the entire lwarpmk script
4729 else -- file exists
4730 -- Read the file:
4731 print ("lwarpmk: Reading \"\" .. conffile ..".")
4732 local cfile = io.open(conffile)
4733 -- Scan each line, parsing each line as: name = [[string]]
4734 local linenum = 0
4735 for line in cfile:lines() do -- scan lines
4736 linenum = linenum + 1
4737 i,j,cvarname,cvalue = string.find (line,"([%w-_]*)%s*=%s*%[[^%]]*)%]") ;
4738 -- Error if incorrect enclosing characters:
4739 if ( i == nil ) then
4740     print ("lwarpmk: ===")
4741     print ("lwarpmk: \"\" .. linenum .. \"\" : \"\" .. line ) ;
4742     print ("lwarpmk: Incorrect entry in \"\" .. conffile ..\"\".\\n\" ) ;
4743     print ("lwarpmk: ===")
4744 --     printconf () ;
4745     os.exit(1) ;
4746 end -- nil
4747 if ( cvarname == "confversion" ) then
4748     confversion = cvalue
4749 elseif ( cvarname == "opssystem" ) then
4750     -- Verify choice of opssystem:
4751     if ( (cvalue == "Unix") or (cvalue == "Windows") ) then
4752         opssystem = cvalue
4753     else
4754         cvalueerror ( line, linenum , cvalue )

```

```

4755     end
4756 elseif ( cvarname == "sourcename" ) then sourcename = cvalue
4757 elseif ( cvarname == "homehtmlfilename" ) then homehtmlfilename = cvalue
4758 elseif ( cvarname == "htmlfilename" ) then htmlfilename = cvalue
4759 elseif ( cvarname == "imagesdirectory" ) then imagesdirectory = cvalue
4760 elseif ( cvarname == "imagesname" ) then imagesname = cvalue
4761 elseif ( cvarname == "latexmk" ) then latexmk = cvalue
4762 elseif ( cvarname == "printlatexcmd" ) then printlatexcmd = cvalue
4763 elseif ( cvarname == "HTMLlatexcmd" ) then HTMLlatexcmd = cvalue
4764 elseif ( cvarname == "printindexcmd" ) then printindexcmd = cvalue
4765 elseif ( cvarname == "HTMLindexcmd" ) then HTMLindexcmd = cvalue
4766 elseif ( cvarname == "latexmkindexcmd" ) then latexmkindexcmd = cvalue
4767 elseif ( cvarname == "glossarycmd" ) then glossarycmd = cvalue
4768 elseif ( cvarname == "pdftotextenc" ) then pdftotextenc = cvalue
4769 else
4770     print ("lwarpmk: ===")
4771     print ("lwarpmk: " .. linenum .. " : " .. line ) ;
4772     print (
4773         "lwarpmk: Incorrect variable name \" .. cvarname .. "\" in " ..
4774         conffile .. ".\n"
4775     ) ;
4776     print ("lwarpmk: ===")
4777 --     printconf () ;
4778 os.exit(1) ;
4779 end -- cvarname
4780 end -- do scan lines
4781 io.close(cfile)
4782 end -- file exists
4783 -- Error if sourcename is "lwarp".
4784 -- This could happen if a local copy of lwarp has recently been recompiled.
4785 if sourcename=="lwarp" then
4786     print ("lwarpmk: ===")
4787     print ("lwarpmk: lwarp.sty has recently been recompiled in this directory,")
4788     print ("lwarpmk: and \"lwarpmk.conf\" is no longer set for your own project.")
4789     print ("lwarpmk: (Perhaps you are not in your project's directory?)")
4790     print ("lwarpmk: In your project directory, recompile your project")
4791     print ("lwarpmk: using pdf/luaxelatex <projectname>.")
4792     print ("lwarpmk: After a recompile, \"lwarpmk.conf\" will be set for your project,")
4793     print ("lwarpmk: and you may again use lwarpmk.")
4794     print ("lwarpmk: ===")
4795     os.exit(1)
4796 end -- sourcename of "lwarp"
4797 -- Select some operating-system commands:
4798 if opsystem=="Unix" then -- For Unix / Linux / Mac OS:
4799     rmname = "rm"
4800     mvname = "mv"
4801     cpname = "cp"
4802     touchnamepre = "touch"
4803     touchnamepost = ""
4804     newtouchname = "touch"
4805     dirslash = "/"
4806     opquote= "\""
4807     cmdgroupopenname = " ( "
4808     cmdgroupclosename = " ) "
4809     seqname = " && "

```

```
4810     bname = " &"
4811 elseif opsystem=="Windows" then -- For Windows
4812     rmname = "DEL"
4813     mvname = "MOVE"
4814     cpname = "COPY"
4815     touchnamepre = "COPY /b"
4816     touchnamepost = "+,,"
4817     newtouchname = "echo empty >"
4818     dirslash = "\\\"
4819     opquote= "\""
4820     cmdgroupopenname = ""
4821     cmdgroupclosename = ""
4822     seqname = " & "
4823     bname = ""
4824 else
4825     print ("lwarpmk: ===")
4826     print ("lwarpmk: Select Unix or Windows for opsystem." )
4827     print ("lwarpmk: ===")
4828     os.exit(1)
4829 end --- for Windows
4830 -- Warning if the operating system does not appear to be correct,
4831 -- in case files were transferred to another system.
4832 if ( (package.config:sub(1,1)) ~= dirslash ) then
4833     print ("lwarpmk: ===")
4834     print ("lwarpmk: It appears that lwarpmk.conf is for a different operating system." )
4835     printhowtorecompile ()
4836     print ("lwarpmk: ===")
4837     os.exit(1)
4838 end
4839 -- Error if the configuration file's version is not current:
4840 if ( confversion ~= requiredconfversion ) then
4841     print ("lwarpmk: ===")
4842     printhowtorecompile ()
4843     print ("lwarpmk: ===")
4844     os.exit(1)
4845 end
4846 end -- loadconf
4847
4848
4849 function executecheckerror ( executecommands , errormessage )
4850 --
4851 -- Execute an operating system call,
4852 -- and maybe exit with an error message.
4853 --
4854 local err
4855 err = os.execute ( executecommands )
4856 if ( err ~= 0 ) then
4857     print ("lwarpmk: ===")
4858     print ("lwarpmk: " .. errormessage )
4859     print ("lwarpmk: ===")
4860     os.exit(1)
4861 end
4862 end -- executecheckerror
4863
4864
```

```
4865 function refreshdate ()
4866 os.execute(touchnamepre .. " " .. sourcename .. ".tex " .. touchnamepost)
4867 end
4868
4869
4870
4871 function reruntoget (filesorce)
4872 --
4873 -- Scan the LaTeX log file for the phrase "Rerun to get",
4874 -- indicating that the file should be compiled again.
4875 -- Return true if found.
4876 --
4877 local fsorce = io.open(filesorce)
4878 for line in fsorce:lines() do
4879 if ( string.find(line,"Rerun to get") ~= nil ) then
4880     io.close(fsorce)
4881     return true
4882 end -- if
4883 end -- do
4884 io.close(fsorce)
4885 return false
4886 end
4887
4888
4889
4890 function onetime (latexcmd, fsuffix)
4891 --
4892 -- Compile one time, return true if should compile again.
4893 -- fsuffix is "" for print, "_html" for HTML output.
4894 --
4895 print("lwarpmk: Compiling with: " .. latexcmd)
4896 executecheckerror (
4897     latexcmd ,
4898     "Compile error."
4899 )
4900 return (reruntoget(sourcename .. fsuffix .. ".log") ) ;
4901 end
4902
4903
4904 function manytimes (latexcmd, fsuffix)
4905 --
4906 -- Compile up to five times.
4907 -- fsuffix is "" for print, "_html" for HTML output
4908 --
4909 if onetime(latexcmd, fsuffix) == true then
4910 if onetime(latexcmd, fsuffix) == true then
4911 if onetime(latexcmd, fsuffix) == true then
4912 if onetime(latexcmd, fsuffix) == true then
4913 if onetime(latexcmd, fsuffix) == true then
4914 end end end end end
4915 end
4916
4917
4918 function verifyfileexists (filename)
4919 --
```

```
4920 -- Exit if the given file does not exist.
4921 --
4922 if (lfs.attributes ( filename , "modification" ) == nil ) then
4923     print ("lwarpmk: ===")
4924     print ("lwarpmk: " .. filename .. " not found." );
4925     print ("lwarpmk: ===")
4926     os.exit (1) ;
4927 end
4928 end
4929
4930
4931
4932 function pdftohtml ()
4933 --
4934 -- Convert <project>_html.pdf into HTML files:
4935 --
4936 -- Convert to text:
4937 print ("lwarpmk: Converting " .. sourcename
4938     .. "_html.pdf to " .. sourcename .. "_html.html")
4939 os.execute("pdftotext -enc " .. pdftotextenc .. " -nopgbrk -layout "
4940     .. sourcename .. "_html.pdf " .. sourcename .. "_html.html")
4941 -- Split the result into individual HTML files:
4942 splitfile (homehtmlfilename .. ".html" , sourcename .. "_html.html")
4943 end
4944
4945
4946 function removeaux ()
4947 --
4948 -- Remove auxiliary files:
4949 -- All .aux files are removed since there may be many bbl*.aux files.
4950 -- Also removes sourcename_html.pdf, sourcename_html.html,
4951 -- and sourcename_html.sidetoc, plus comment_*.cut.
4952 --
4953 os.execute ( rmname .. " *.aux " ..
4954     sourcename .. ".toc " .. sourcename .. "_html.toc " ..
4955     sourcename .. ".lof " .. sourcename .. "_html.lof " ..
4956     sourcename .. ".lot " .. sourcename .. "_html.lot " ..
4957     sourcename .. ".bbl " .. sourcename .. "_html.bbl " ..
4958     " *.idx " ..
4959     " *.ind " ..
4960     sourcename .. ".ps " .. sourcename .. "_html.ps " ..
4961     sourcename .. ".log " .. sourcename .. "_html.log " ..
4962     sourcename .. ".gl*" .. sourcename .. "_html.gl*" ..
4963     sourcename .. "_html.pdf " ..
4964     sourcename .. "_html.html " ..
4965     sourcename .. "_html.sidetoc " ..
4966     " *_html_inc.* " ..
4967     " comment_*.cut"
4968 )
4969 end
4970
4971 function checkhtmlpdfexists ()
4972 --
4973 -- Error if the HTML document does not exist.
4974 -- The lateximages are drawn from the HTML PDF version of the document,
```

```
4975 -- so "lwarpmk html" must be done before "lwarpmk limages".
4976 --
4977 local htmlpdffile = io.open(sourcename .. "_html.pdf", "r")
4978 if ( htmlpdffile == nil ) then
4979     print ("")
4980     print ("lwarpmk: ===")
4981     print ("lwarpmk: The HTML version of the document does not exist.")
4982     print ("lwarpmk: Enter \"lwarpmk html\" to compile the HTML version.")
4983     print ("lwarpmk: ===")
4984     os.exit(1)
4985 end
4986 io.close (htmlpdffile)
4987 end -- checkhtmlpdfexists
4988
4989
4990 function warnlimages ()
4991 --
4992 -- Warning of a missing <sourcename>-images.txt file:
4993     print ("lwarpmk: ===")
4994     print ("lwarpmk: \"" .. sourcename .. "-images.txt\" does not exist.")
4995     print ("lwarpmk: Your project does not use SVG math or other lateximages,")
4996     print ("lwarpmk: or the file has been deleted somehow.")
4997     print ("lwarpmk: Use \"lwarpmk html1\" to recompile your project")
4998     print ("lwarpmk: and recreate \"" .. sourcename .. "-images.txt\".")
4999     print ("lwarpmk: If your project does not use SVG math or other lateximages,")
5000     print ("lwarpmk: then \"" .. sourcename .. "-images.txt\" will never exist, and")
5001     print ("lwarpmk: \"lwarpmk limages\" will not be necessary.")
5002     print ("lwarpmk: ===")
5003 end -- warnlimages
5004
5005
5006 function warnlimagesrecompile ()
5007 -- Warning if must recompile before creating limages:
5008     print ("")
5009     print ("lwarpmk: ===")
5010     print ("lwarpmk: Cross-references are not yet correct.")
5011     print ("lwarpmk: The document must be recompiled before creating the lateximages.")
5012     print ("lwarpmk: Enter \"lwarpmk html1\" again, then try \"lwarpmk limages\" again.")
5013     print ("lwarpmk: ===")
5014 end --warnlimagesrecompile
5015
5016
5017 function checklimages ()
5018 --
5019 -- Check <sourcename>.txt to see if need to recompile first.
5020 -- If any entry has a page number of zero, then there were incorrect images.
5021 --
5022 print ("lwarpmk: Checking for a valid " .. sourcename .. "-images.txt file.")
5023 local limagesfile = io.open(sourcename .. "-images.txt", "r")
5024 if ( limagesfile == nil ) then
5025     warnlimages ()
5026     os.exit(1)
5027 end
5028 -- Track warning to recompile if find a page 0
5029 local pagezerowarning = false
```



```

5030 -- Scan <sourcename>.txt
5031 for line in limagesfile:lines() do
5032     -- lwimpage is the page number in the PDF which has the image
5033     -- lwimghash is true if this filename is a hash
5034     -- lwimname is the lateximage filename root to assign for the image
5035     i,j,lwimpage,lwimghash,lwimname = string.find (line,"|(.*)|(.*)|(.*)|")
5036     -- For each entry:
5037     if ( i~=nil ) then
5038         -- If the page number is 0, image references are incorrect
5039         -- and must recompile the source document:
5040         if ( lwimpage == "0" ) then
5041             pagezerowarning = true
5042         end
5043     end -- if i~=nil
5044 end -- do
5045 -- The last line should be |end|end|end|.
5046 -- If not, the compile must have aborted, and the images are incomplete.
5047 if ( lwimpage ~= "end" ) then
5048     warnlimagesrecompile()
5049     os.exit(1) ;
5050 end
5051 if ( pagezerowarning ) then
5052     warnlimagesrecompile()
5053     os.exit(1) ;
5054 end -- pagezerowarning
5055 end -- checklimages
5056
5057
5058 function createuniximage ( lwimfullname )
5059 --
5060 -- Create one lateximage for Unix / Linux / Mac OS.
5061 --
5062 executecheckerror (
5063     cmdgroupopenname ..
5064     "pdfseparate -f " .. lwimpage .. " -l " .. lwimpage .. " " ..
5065     sourcename .. "_html.pdf" " ..
5066     imagesdirectory .. dirslash .. "lateximagetemp-%d" .. ".pdf" ..
5067     seqname ..
5068     -- Crop the image:
5069     "pdfcrop --hires " .. imagesdirectory .. dirslash .. "lateximagetemp-" ..
5070     lwimpage .. ".pdf" " ..
5071     imagesdirectory .. dirslash .. lwimname .. ".pdf" ..
5072     seqname ..
5073     -- Convert the image to svg:
5074     "pdftocairo -svg -noshrink " .. imagesdirectory .. dirslash .. lwimname .. ".pdf" " ..
5075     imagesdirectory .. dirslash .. lwimname .. ".svg" ..
5076     seqname ..
5077     -- Remove the temporary files:
5078     rmname .. " " .. imagesdirectory .. dirslash .. lwimname .. ".pdf" .. seqname ..
5079     rmname .. " " .. imagesdirectory .. dirslash .. "lateximagetemp-" .. lwimpage .. ".pdf" ..
5080     cmdgroupclosename .. " >/dev/null " .. bname
5081     ,
5082     "File error trying to convert " .. lwimfullname
5083 )
5084 -- Every 32 images, wait for completion at below normal priority,

```

```
5085 -- allowing other image tasks to catch up.
5086 numimageprocesses = numimageprocesses + 1
5087 if ( numimageprocesses > 32 ) then
5088     numimageprocesses = 0
5089     print ( "lwarpmk: waiting" )
5090     executecheckerror ( "wait" , "File error trying to wait.")
5091 end
5092 end -- createuniximage
5093
5094
5095 function createwindowsimage ( lwimgfullname )
5096 --
5097 -- Create one lateximage for Windows.
5098 --
5099 -- Every 32 images, wait for completion at below normal priority,
5100 -- allowing other image tasks to catch up.
5101 numimageprocesses = numimageprocesses + 1
5102 if ( numimageprocesses > 32 ) then
5103     numimageprocesses = 0
5104     thiswaitcommand = "/WAIT /BELOWNORMAL"
5105     print ( "lwarpmk: waiting" )
5106 else
5107     thiswaitcommand = ""
5108 end
5109 -- Execute the image generation command
5110 executecheckerror (
5111     "start /B " .. thiswaitcommand .. " \"\" lwarp_one_limage " ..
5112     lwimgpage .. " " ..
5113     lwimghash .. " " ..
5114     lwimgname .. " " ..
5115     sourcename .. " <nul >nul"
5116     ,
5117     "File error trying to create image."
5118 )
5119 end -- createwindowsimage
5120
5121
5122 function createonelateximage ( line )
5123 --
5124 -- Given the next line of <sourcename>.txt, convert a single image.
5125 --
5126 -- lwimgpage is the page number in the PDF which has the image
5127 -- lwimghash is true if this filename is a hash
5128 -- lwimgname is the lateximage filename root to assign for the image
5129 i,j,lwimgpage,lwimghash,lwimgname = string.find (line,"|(.*)|(.*)|(.*)|")
5130 -- For each entry:
5131 if ( (i~=nil) ) then
5132     -- Skip if the page number is 0:
5133     if ( lwimgpage == "0" ) then
5134         pagezerowarning = true
5135     -- Skip if the page number is "end":
5136     else if ( lwimgpage == "end" ) then
5137     else
5138         -- Skip is this image is hashed and already exists:
5139         local lwimgfullname = imagesdirectory .. dirslash .. lwimgname .. ".svg"
```

```
5140     if (
5141         (lwimghash ~= "true") or
5142         (lfs.attributes(lwimgfullname,"mode")==nil) -- file not exists
5143     )
5144     then -- not hashed or not exists:
5145         -- Print the name of the file being generated:
5146         print ( "lwarpmk: " .. lwimgname )
5147         -- Touch/create the dest so that only once instance tries to build it:
5148         executecheckerror (
5149             newtouchname .. " " .. lwimgfullname ,
5150             "File error trying to touch " .. lwimgfullname
5151         )
5152         -- Separate out the image into its own single-page pdf:
5153         if opsystem=="Unix" then
5154             createuniximage (lwimgfullname)
5155         elseif opsystem=="Windows" then
5156             createwindowsimage (lwimgfullname)
5157         end
5158     end -- not hashed or not exists
5159 end -- not page "end"
5160 end -- not page 0
5161 end -- not nil
5162 end -- createonelateximage
5163
5164
5165 function createlateximages ()
5166 --
5167 -- Create lateximages based on <sourcename>-images.txt:
5168 --
5169 -- See if the document must be recompiled first:
5170 checklimages ()
5171 -- See if the HTML version exists:
5172 checkhtmlpdfexists ()
5173 -- Attempt to create the lateximages:
5174 print ("lwarpmk: Creating lateximages.")
5175 local limagesfile = io.open(sourcename .. "-images.txt", "r")
5176 if ( limagesfile == nil ) then
5177     warnlimages ()
5178     os.exit(1)
5179 end
5180 -- Create the lateximages directory, ignore error if already exists
5181 err = os.execute("mkdir " .. imagesdirectory)
5182 -- For Windows, create lwarp_one_limage.cmd from lwarp_one_limage.txt:
5183 if opsystem=="Windows" then
5184     executecheckerror (
5185         cpname .. " lwarp_one_limage.txt lwarp_one_limage.cmd" ,
5186         "File error trying to copy lwarp_one_limage.txt to lwarp_one_limage.cmd"
5187     )
5188 end -- create lwarp_one_limage.cmd
5189 -- Track the number of parallel processes
5190 numimageprocesses = 0
5191 -- Track warning to recompile if find a page 0
5192 pagezerowarning = false
5193 -- Scan <sourcename>.txt
5194 for line in limagesfile:lines() do
```

```
5195     createonelateximage ( line )
5196 end -- do
5197 io.close(limagesfile)
5198 print ( "lwarpmk limages: ===")
5199 print ( "lwarpmk limages: Wait a moment for the images to complete" )
5200 print ( "lwarpmk limages:   before reloading the page." )
5201 print ( "lwarpmk limages: ===")
5202 print ( "lwarpmk limages: Done." )
5203 if ( pagezerowarning == true ) then
5204     print ( "lwarpmk limages: WARNING: Images will be incorrect." )
5205     print ( "lwarpmk limages:   Enter \"lwarpmk cleanlimages\", then" )
5206     print ( "lwarpmk limages:   recompile the document one more time, then" )
5207     print ( "lwarpmk limages:   repeat \"lwarpmk images\" again." )
5208 end -- pagezerowarning
5209 end -- function
5210
5211
5212 function convertepstopdf ()
5213 --
5214 -- Converts EPS files to PDF files.
5215 -- The filenames are arg[argindex] and up.
5216 -- arg[1] is the command "epstopdf".
5217 --
5218 ignoreconf ()
5219 for i = argindex , #arg do
5220     if (lfs.attributes(arg[i],"mode")==nil) then
5221         print ("lwarpmk: File \"" .. arg[i] .. "\" does not exist.")
5222     else
5223         print ("lwarpmk: Converting \"" .. arg[i] .. "\"")
5224         thispath, thisfilename, thisextension = splitfilename(arg[i])
5225         if ( thispath == nil ) then
5226             os.execute ( "epstopdf " .. arg[i] )
5227         else
5228             os.execute (
5229                 "epstopdf " ..
5230                 thispath .. thisfilename .. "." .. thisextension .. " " ..
5231                 thispath .. thisfilename .. ".pdf"
5232             )
5233         end
5234     end -- if
5235 end -- do
5236 end --function
5237
5238
5239 function convertpdfptosvg ()
5240 --
5241 -- Converts PDF files to SVG files.
5242 -- The filenames are arg[argindex] and up.
5243 -- arg[1] is the command "pdfptosvg".
5244 --
5245 ignoreconf ()
5246 for i = argindex , #arg do
5247     if (lfs.attributes(arg[i],"mode")==nil) then
5248         print ("lwarpmk: File \"" .. arg[i] .. "\" does not exist.")
5249     else
```

```
5250     print ("lwarpmk: Converting \" .. arg[i] .. "\")
5251     thispath, thisfilename, thisextension = splitfilename(arg[i])
5252     if ( thispath == nil ) then
5253         os.execute ( "pdftocairo -svg " .. arg[i] )
5254     else
5255         os.execute (
5256             "pdftocairo -svg " ..
5257             thispath .. thisfilename .. "." .. thisextension .. " " ..
5258             thispath .. thisfilename .. ".svg"
5259         )
5260     end
5261 end -- if
5262 end -- do
5263 end --function
5264
5265
5266 -- Force an update and conclude processing:
5267 function updateanddone ()
5268 print ("lwarpmk: Forcing an update of " .. sourcename .. ".tex.")
5269 refreshdate ()
5270 print ("lwarpmk: " .. sourcename .. ".tex is ready to be recompiled.")
5271 print ("lwarpmk: Done.")
5272 end -- function
5273
5274
5275 -- Start of the main code: --
5276
5277
5278 -- lwarpmk --version :
5279
5280 if (arg[1] == "--version") then
5281 print ( "lwarpmk: " .. printversion )
5282
5283 else -- not --version
5284
5285
5286 -- print intro:
5287
5288 print ("lwarpmk: " .. printversion .. " Automated make for the LaTeX Lwarp package.")
5289
5290
5291 -- lwarpmk print:
5292
5293 if arg[1] == "print" then
5294 loadconf ()
5295 if ( latexmk == "true" ) then
5296     print ("lwarpmk: Compiling with: " .. printlatexcmd)
5297     executecheckerror (
5298         printlatexcmd ,
5299         "Compile error."
5300     )
5301     print ("lwarpmk: Done.")
5302 else -- not latexmk
5303     verifyfileexists (sourcename .. ".tex") ;
5304     -- See if up to date:
```

```
5305     if (
5306         ( lfs.attributes ( sourcename .. ".pdf" , "modification" ) == nil ) or
5307         (
5308             lfs.attributes ( sourcename .. ".tex" , "modification" ) >
5309             lfs.attributes ( sourcename .. ".pdf" , "modification" )
5310         )
5311     ) then
5312         -- Recompile if not yet up to date:
5313         manytimes(printlatexcmd, "")
5314         print ("lwarpmk: Done.");
5315     else
5316         print ("lwarpmk: " .. sourcename .. ".pdf is up to date.");
5317     end
5318 end -- not latexmk
5319
5320
5321 -- lwarpmk print1:
5322
5323 elseif arg[1] == "print1" then
5324     loadconf ()
5325     verifyfileexists (sourcename .. ".tex");
5326     onetime(printlatexcmd, "")
5327     print ("lwarpmk: Done.");
5328
5329
5330 -- lwarpmk printindex:
5331 -- Compile the index then touch the source
5332 -- to trigger a recompile of the document:
5333
5334 elseif arg[1] == "printindex" then
5335     loadconf ()
5336     os.execute ( printindexcmd )
5337     print ("lwarpmk: -----")
5338     updateanddone ()
5339
5340
5341 -- lwarpmk printglossary:
5342 -- Compile the glossary then touch the source
5343 -- to trigger a recompile of the document:
5344
5345 elseif arg[1] == "printglossary" then
5346     loadconf ()
5347     print ("lwarpmk: Processing the glossary.")
5348
5349     os.execute(glossarycmd .. " " .. sourcename)
5350     updateanddone ()
5351
5352
5353 -- lwarpmk html:
5354
5355 elseif arg[1] == "html" then
5356     loadconf ()
5357     if ( latexmk == "true" ) then
5358         print ("lwarpmk: Compiling with: " .. HTMLlatexcmd)
5359         executecheckerror (
```

```
5360     HTMLlatexcmd ,
5361     "Compile error."
5362 )
5363 pdftohtml ()
5364 print ("lwarpmk: Done.")
5365 else -- not latexmk
5366     verifyfileexists ( sourcename .. ".tex" ) ;
5367     -- See if exists and is up to date:
5368     if (
5369         ( lfs.attributes ( homehtmlfilename .. ".html" , "modification" ) == nil ) or
5370         (
5371             lfs.attributes ( sourcename .. ".tex" , "modification" ) >
5372             lfs.attributes ( homehtmlfilename .. ".html" , "modification" )
5373         )
5374     ) then
5375         -- Recompile if not yet up to date:
5376         manytimes(HTMLlatexcmd, "_html")
5377         pdftohtml ()
5378         print ("lwarpmk: Done.")
5379     else
5380         print ("lwarpmk: " .. homehtmlfilename .. ".html is up to date.")
5381     end
5382 end -- not latexmk
5383
5384
5385 -- lwarpmk html1:
5386
5387 elseif arg[1] == "html1" then
5388     loadconf ()
5389     verifyfileexists ( sourcename .. ".tex" ) ;
5390     onetime(HTMLlatexcmd, "_html")
5391     pdftohtml ()
5392     print ("lwarpmk: Done.")
5393
5394
5395 -- lwarpmk pdftohtml:
5396 elseif arg[1] == "pdftohtml" then
5397     loadconf ()
5398     pdftohtml ()
5399
5400
5401 -- lwarpmk htmlindex:
5402 -- Compile the index then touch the source
5403 -- to trigger a recompile of the document:
5404
5405 elseif arg[1] == "htmlindex" then
5406 loadconf ()
5407 os.execute ( HTMLindexcmd )
5408 print ("lwarpmk: -----")
5409 updateanddone ()
5410
5411
5412 -- lwarpmk htmlglossary:
5413 -- Compile the glossary then touch the source
5414 -- to trigger a recompile of the document.
```

```
5415 -- The <sourcename>.xdy file is created by the glossaries package.
5416
5417 elseif arg[1] == "htmlglossary" then
5418 loadconf ()
5419 print ("lwarpmk: Processing the glossary.")
5420 os.execute(glossarycmd .. " " .. sourcename .. "_html")
5421 updateanddone ()
5422
5423
5424 -- lwarpmk limages:
5425 -- Scan the <sourcename>.txt file to create lateximages.
5426
5427 elseif arg[1] == "limages" then
5428 loadconf ()
5429 print ("lwarpmk: Processing images.")
5430 createlateximages ()
5431 print ("lwarpmk: Done.")
5432
5433
5434 -- lwarpmk again:
5435 -- Touch the source to trigger a recompile.
5436
5437 elseif arg[1] == "again" then
5438 loadconf ()
5439 updateanddone ()
5440
5441
5442 -- lwarpmk clean:
5443 -- Remove project.aux, .toc, .lof, .lot, .log, *.idx, *.ind, *_html_inc.*, .gl*
5444
5445 elseif arg[1] == "clean" then
5446 loadconf ()
5447 removeaux ()
5448 print ("lwarpmk: Done.")
5449
5450
5451 -- lwarpmk cleanall
5452 -- Remove project.aux, .toc, .lof, .lot, .log, *.idx, *.ind, *_html_inc.*, .gl*
5453 -- and also project.pdf, project.dvi, *.html
5454
5455 elseif arg[1] == "cleanall" then
5456 loadconf ()
5457 removeaux ()
5458 os.execute ( rmname .. " " ..
5459     sourcename .. ".pdf " .. sourcename .. "_html.pdf " ..
5460     sourcename .. ".dvi " .. sourcename .. "_html.dvi " ..
5461     "*.html"
5462 )
5463 print ("lwarpmk: Done.")
5464
5465
5466 -- lwarpmk cleanlimages
5467 -- Remove images from the imagesdirectory.
5468
5469 elseif arg[1] == "cleanlimages" then
```



```

5470 loadconf ()
5471 os.execute ( rmname .. " " .. imagesdirectory .. dirslash .. "*" )
5472 print ("lwarpmk: Done.")
5473
5474 -- lwarpmk epstopdf <list of file names>
5475 -- Convert EPS files to PDF using epstopdf
5476 elseif arg[1] == "epstopdf" then
5477 convertepstopdf ()
5478 print ("lwarpmk: Done.")
5479
5480
5481 -- lwarpmk pdftosvg <list of file names>
5482 -- Convert PDF files to SVG using pdftocairo
5483 elseif arg[1] == "pdftosvg" then
5484 convertpdftosvg ()
5485 print ("lwarpmk: Done.")
5486
5487
5488 -- lwarpmk with no argument :
5489
5490 elseif (arg[1] == nil) then
5491 printhelp ()
5492
5493
5494 -- lwarpmk -v:
5495
5496 elseif (arg[1] == "-v" ) then
5497 -- The version number has already been printed
5498 -- by the lwarpmk intro.
5499
5500 -- lwarpmk -h or lwarpmk --help :
5501
5502 elseif (arg[1] == "-h" ) or (arg[1] == "--help") then
5503 printusage ()
5504
5505
5506 -- Unknown command:
5507
5508 else
5509 printhelp ()
5510 print ("\nlwarpmk: ***** Unknown command \"\"..arg[1]..\"\". *****\n")
5511 end
5512
5513 end -- not --version
5514 \end{filecontents*}
5515 % \end{Verbatim}% for syntax highlighting

5516 \end{LWRcreatelwarpmk}

```

40 Stacks

for HTML output: 5517 \begin{warphTML}



Stacks are used to remember how to close sections and list items. Before a new section is started, previously nested sections and items must be closed out (un-nested) in proper order. Note that starting a new section may close several levels of previously nested items at the same time. For example, starting a new `\section` would close any currently open subsection, subsubsection, and paragraph. General environments are not nested on the stack since they have their own close mechanism. List environments are nested, and items inside those environments are nested one level deeper still. List environments may be nested inside other list environments, and list items are nested inside list environments as well. Thus, the stack may have items which are not necessarily in order, since a description may contain an enumerate, for example. Depths to be recorded in `\LWR@closedepthone`, etc.

40.1 Assigning depths

initial depths for empty stack entries:

```
5518 \newcommand*\LWR@depthnone}{-5}
```

All sectioning depths are deeper than `LWR@depthfinished`:

```
5519 \newcommand*\LWR@depthfinished}{-4}
5520 \newcommand*\LWR@depthbook}{-2}
5521 \newcommand*\LWR@depthpart}{-1}
5522 \newcommand*\LWR@depthchapter}{0}
5523 \newcommand*\LWR@depthsection}{1}
5524 \newcommand*\LWR@depthsubsection}{2}
5525 \newcommand*\LWR@depthsubsubsection}{3}
5526 \newcommand*\LWR@depthparagraph}{4}
5527 \newcommand*\LWR@depthsubparagraph}{5}
```

Used by `\itemize`, `\enumerate`, `\description`:

```
5528 \newcommand*\LWR@depthlist}{6}
```

Used by `\item`:

```
5529 \newcommand*\LWR@depthlistitem}{7}
5530 \let\LWR@depthdescitem\LWR@depthlistitem
```

40.2 Closing actions

A stack to record the action to take to close each nesting level: Add more levels of stack if necessary for a very deeply nested document, adding to `\pushclose` and `\popclose` as well.

```
5531 \newcommand*\LWR@closeone}{% top of the stack
5532 \newcommand*\LWR@closetwo}{
5533 \newcommand*\LWR@closethree}{
5534 \newcommand*\LWR@closefour}{
```


```

5535 \newcommand*\LWR@closefive{}
5536 \newcommand*\LWR@closesix{}
5537 \newcommand*\LWR@closeseven{}
5538 \newcommand*\LWR@closeeight{}
5539 \newcommand*\LWR@closenine{}
5540 \newcommand*\LWR@closeten{}
5541 \newcommand*\LWR@closeeleven{}
5542 \newcommand*\LWR@closetwelve{}

```

40.3 Closing depths

A stack to record the depth of each level:

 Note that nested L^AT_EX structures may push depths which are non-sequential.

Ex:

```

\begin{itemize}
  \item{A}
  \begin{description}
    \item{B}
  \end{description}
\end{itemize}

```

```

5543 \newcommand*\LWR@closedepthone{\LWR@depthnone}% top of the stack
5544 \newcommand*\LWR@closedepthtwo{\LWR@depthnone}
5545 \newcommand*\LWR@closedepththree{\LWR@depthnone}
5546 \newcommand*\LWR@closedepthfour{\LWR@depthnone}
5547 \newcommand*\LWR@closedepthfive{\LWR@depthnone}
5548 \newcommand*\LWR@closedepthsix{\LWR@depthnone}
5549 \newcommand*\LWR@closedepthseven{\LWR@depthnone}
5550 \newcommand*\LWR@closedeptheight{\LWR@depthnone}
5551 \newcommand*\LWR@closedepthnine{\LWR@depthnone}
5552 \newcommand*\LWR@closedephten{\LWR@depthnone}
5553 \newcommand*\LWR@closedeptheleven{\LWR@depthnone}
5554 \newcommand*\LWR@closedephtwelve{\LWR@depthnone}

```

40.4 Pushing and popping the stack

`\LWR@pushclose` {<sectiontype>}

Pushes one return action and its L^AT_EX depth onto the stacks.

```

5555 \NewDocumentCommand{\LWR@pushclose}{m}
5556 {}
5557 \global\let\LWR@closetwelve\LWR@closeeleven%
5558 \global\let\LWR@closeeleven\LWR@closeten%
5559 \global\let\LWR@closeten\LWR@closenine%
5560 \global\let\LWR@closenine\LWR@closeeight%

```

```

5561 \global\let\LWR@closeeight\LWR@closeseven%
5562 \global\let\LWR@closeseven\LWR@closesix%
5563 \global\let\LWR@closesix\LWR@closefive%
5564 \global\let\LWR@closefive\LWR@closefour%
5565 \global\let\LWR@closefour\LWR@closethree%
5566 \global\let\LWR@closethree\LWR@closetwo%
5567 \global\let\LWR@closetwo\LWR@closeone%
5568 \global\csletcs{LWR@closeone}{LWR@printclose#1}%
5569 \global\let\LWR@closedepthtwelve\LWR@closedeptheleven%
5570 \global\let\LWR@closedeptheleven\LWR@closedephten%
5571 \global\let\LWR@closedephten\LWR@closedepthnine%
5572 \global\let\LWR@closedepthnine\LWR@closedeptheight%
5573 \global\let\LWR@closedeptheight\LWR@closedepthseven%
5574 \global\let\LWR@closedepthseven\LWR@closedepthsix%
5575 \global\let\LWR@closedepthsix\LWR@closedepthfive%
5576 \global\let\LWR@closedepthfive\LWR@closedepthfour%
5577 \global\let\LWR@closedepthfour\LWR@closedepththree%
5578 \global\let\LWR@closedepththree\LWR@closedepthtwo%
5579 \global\let\LWR@closedepthtwo\LWR@closedepthone%
5580 \global\csletcs{LWR@closedepthone}{LWR@depth#1}%
5581 }

```

\LWR@popclose Pops one action and its depth off the stacks.

```

5582 \newcommand*{\LWR@popclose}
5583 {%
5584 \global\let\LWR@closeone\LWR@closetwo%
5585 \global\let\LWR@closetwo\LWR@closethree%
5586 \global\let\LWR@closethree\LWR@closefour%
5587 \global\let\LWR@closefour\LWR@closefive%
5588 \global\let\LWR@closefive\LWR@closesix%
5589 \global\let\LWR@closesix\LWR@closeseven%
5590 \global\let\LWR@closeseven\LWR@closeeight%
5591 \global\let\LWR@closeeight\LWR@closenine%
5592 \global\let\LWR@closenine\LWR@closeten%
5593 \global\let\LWR@closeten\LWR@closeeleven%
5594 \global\let\LWR@closeeleven\LWR@closetwelve%
5595 \global\let\LWR@closedepthone\LWR@closedepthtwo%
5596 \global\let\LWR@closedepthtwo\LWR@closedepththree%
5597 \global\let\LWR@closedepththree\LWR@closedepthfour%
5598 \global\let\LWR@closedepthfour\LWR@closedepthfive%
5599 \global\let\LWR@closedepthfive\LWR@closedepthsix%
5600 \global\let\LWR@closedepthsix\LWR@closedepthseven%
5601 \global\let\LWR@closedepthseven\LWR@closedeptheight%
5602 \global\let\LWR@closedeptheight\LWR@closedepthnine%
5603 \global\let\LWR@closedepthnine\LWR@closedephten%
5604 \global\let\LWR@closedephten\LWR@closedeptheleven%
5605 \global\let\LWR@closedeptheleven\LWR@closedepthtwelve%
5606 }

5607 \end{warpHTML}

```

41 Data arrays

These macros are similar to the `arrayjobx` package, except that `\LWR@setexparray's` argument is expanded only once when assigned.

`name` has no backslash, `index` can be a number or a text name, and an empty value must be `\relax` instead of empty.

To assign an empty value:

```
\LWR@setexparray{name}{index}{}
```

for HTML output: 5608 `\begin{warpHTML}`

```
\LWR@setexparray {<name>} {<index>} {<contents>}
```

```
5609 \NewDocumentCommand{\LWR@setexparray}{m m m}{%
5610   \let\LWR@temp@par\par%
5611   \let\par\relax%
5612   \edef\LWR@thisexparrayname{#1#2}%
5613   \ifstrempy{#3}%
5614     {\csdef{\LWR@thisexparrayname}{}}%
5615     {\csdef{\LWR@thisexparrayname}{#3}}%
5616   \let\par\LWR@temp@par%
5617 }
```


```
\LWR@getexparray {<name>} {<index>}
```

```
5618 \newcommand*{\LWR@getexparray}[2]{%
5619   \@nameuse{#1#2}%
5620 }
```

```
5621 \end{warpHTML}
```

42 Localizing catcodes

for HTML & PRINT: 5622 `\begin{warpall}`

 **Misplaced alignment tab character &** Place `\StartDefiningTabulars` and `\StopDefiningTabulars` before and after defining macros or environments which include the tabular & character in their definitions.

The catcode of & must be changed before the definitions begin, and must be restored afterwards. Doing so avoids the error

```
Misplaced alignment tab character &.
```

`\StartDefiningTabulars` Place before defining something with & in it.

```
5623 \newcommand{\StartDefiningTabulars}{%
5624   \LWR@traceinfo{StartDefiningTabulars}%
```

```
5625 \warpHTMLonly{\catcode'\&=\active}%
5626 }
```

`\StopDefiningTabulars` Place after defining something with `&` in it.

```
5627 \newcommand{\StopDefiningTabulars}{%
5628 \LWR@traceinfo{StopDefiningTabulars}%
5629 \warpHTMLonly{\catcode'\&=4}%
5630 }
```

Bool `LWR@mathmacro` True if currently defining math macros. Used to disable svg math hashing and MathJax math contents while defining a macro using inline math. Begin a macro, it is not guaranteed that the contents are static, and so the image must be unique. The contents also almost certainly will not be parsed correctly by MathJax.

```
5631 \newbool{LWR@mathmacro}
5632 \boolfalse{LWR@mathmacro}
```

`\StartDefiningMath` Place before defining something with `$` in it.

```
5633 \newcommand{\StartDefiningMath}{%
5634 \LWR@traceinfo{StartDefiningMath}%
5635 \warpHTMLonly{\catcode'\$=\active}%
5636 }
```

`\StopDefiningMath` Place after defining something with `$` in it.

```
5637 \newcommand{\StopDefiningMath}{%
5638 \LWR@traceinfo{StopDefiningMath}%
5639 \warpHTMLonly{\catcode'\$=3}% math shift
5640 }
```

```
5641 \end{warpall}
```

43 Localizing dynamic math

Inline svg math usually uses a hash of its contents to generate `lateximages` which are reusable for multiple instances with the same contents. If the contents may change for each use, such as depending on the current value of a counter, then `\inlinemathother` must be used before the inline math expression, and `\inlinemathnormal` must be used after.

For MathJax, the inline math expression is usually printed for MathJax to interpret. When marked as dynamic math, the following inline math expression will be displayed as an unhashed inline svg image instead.

For existing code and packages, it may be possible to patch macros after they have been defined, using the `xpatch` package, which is pre-loaded by `lwarp`:

```

\patchcmd{\macroname}
  {$math expression$}
  {\inlinemathother$math expression$\inlinemathnormal}
  {}
  {\typeout{Error patching macroname.}}

```

for HTML & PRINT: 5642 \begin{warpall}

Bool LWR@dynamicmath True to mark inline math which is dynamic in nature, thus should not be hashed for reuse.
 Default: false

```

5643 \newbool{LWR@dynamicmath}
5644 \boolfalse{LWR@dynamicmath}

```

\inlinemathother Place before using \$... \$ or \ (... \) if the contents of the math are not static, depending on counters or dynamic macros.

```

5645 \newcommand{\inlinemathother}{%
5646 \LWR@traceinfo{inlinemathother}%
5647 \booltrue{LWR@dynamicmath}%
5648 }

```

\inlinemathnormal Place after using \$... \$ or \ (... \) with dynamic contents.

```

5649 \newcommand{\inlinemathnormal}{%
5650 \LWR@traceinfo{inlinemathnormal}%
5651 \boolfalse{LWR@dynamicmath}%
5652 }

```

```

5653 \end{warpall}

```

44 HTML entities

for HTML output: 5654 \begin{warpHTML}

HTML Unicode entities:

```

5655 \let\LWR@origampersand&

```

\HTMLentity {<entitytag>}

```

5656 \newcommand*{\HTMLentity}[1]{%
5657 % \LWR@traceinfo{HTMLentity \detokenize{#1}}%
5658 \begingroup%
5659 \LWR@FBcancel%
5660 \LWR@origampersand#1;%
5661 \endgroup%
5662 % \LWR@traceinfo{HTMLentity done}%
5663 }

```

`\HTMLUnicode` {*<hex_unicode>*}

5664 `\newcommand*{\HTMLUnicode}[1]{\HTMLentity{\LWR@origpound{ }x#1}}`

`\&`

5665 `\renewrobustcmd*{\&}{\HTMLentity{amp}}`

`\textless`

5666 `\let\LWR@origtextless\textless`

5667 `\renewrobustcmd*{\textless}{\HTMLentity{lt}}`

`\textgreater`

5668 `\let\LWR@origtextgreater\textgreater`

5669 `\renewrobustcmd*{\textgreater}{\HTMLentity{gt}}`

5670 `\end{warpHTML}`

45 HTML filename generation

The filename of the homepage is set to `\HomeHTMLFilename.html`. The filenames of additional sections start with `\HTMLFilename`, to which is appended a section number or a simplified section name, depending on `FileSectionNames`.

for HTML & PRINT: 5671 `\begin{warpall}`

`\BaseJobname` The `\jobname` of the printed version, even if currently compiling the HTML version. I.e. this is the `\jobname` without `_html` appended. This is used to set `\HomeHTMLFilename` if the user did not provide one.

5672 `\providecommand*{\BaseJobname}{\jobname}`

`\HTMLFilename` The prefix for all generated HTML files other than the home page, defaulting to empty. See section [7.6.1](#).

5673 `\providecommand*{\HTMLFilename}{}`

`\HomeHTMLFilename` The filename of the home page, defaulting to the `\BaseJobname`. See section [7.6.1](#).

5674 `\providecommand*{\HomeHTMLFilename}{\BaseJobname}`

`\SetHTMLFileNumber` {*<number>*}

Sets the file number for the next file to be generated. 0 is the home page. Use just before the next sectioning command, and set it to one less than the desired number

of the next section. May be used to generate numbered groups of nodes such as 100+ for one chapter, 200+ for another chapter, etc.

```
5675 \newcommand*{\SetHTMLFileNumber}[1]{%
5676   \setcounter{LWR@htmlfilenumber}{#1}%
5677 }
```

Bool FileSectionNames Selects how to create HTML file names.

Defaults to use section names in the filenames.

```
5678 \newbool{FileSectionNames}
5679 \booltrue{FileSectionNames}

5680 \end{warpall}
```

for HTML output: 5681 \begin{warpHTML}

Updated each time a new HTML file is begun. Used to provide HTML previous/next web page links.

```
5682 \newcounter{LWR@HTMLpagenum}
5683 \setcounter{LWR@HTMLpagenum}{0}
```

Ctr LWR@htmlseqfilenumber A sequential count of the number of each HTML file as it is being created. Number 0 is the home page. Unlike \LWR@htmlfilenumber, this one is known to increment by one for each file. This is used to generate previous /next links for each web page, via labels called \BaseJobname-autofile-*, and the last page is also labelled \BaseJobname-autofile-last.

```
5684 \newcounter{LWR@htmlseqfilenumber}
5685 \setcounter{LWR@htmlseqfilenumber}{0}
```

Bool LWR@setseqfilelabel At each new HTML file, this is false until a sectional unit is used, at which point this is set true and a label is placed. In this way, the previous/next labels will point to a named section.

```
5686 \newbool{LWR@setseqfilelabel}
5687 \setbool{LWR@setseqfilelabel}{false}
```

Ctr LWR@htmlfilenumber Records the number of each HTML file as it is being created. Number 0 is the home page. This might not be sequential, as the user may use \SetHTMLFileNumber to create groups of numbered nodes.

```
5688 \newcounter{LWR@htmlfilenumber}
5689 \setcounter{LWR@htmlfilenumber}{0}
```

\LWR@htmlsectionfilename *{(htmlfilenumber or name)}*

Prints the filename for a given section: \HTMLFilename{}filenumber/name.html

```

5690 \newcommand*{\LWR@htmlsectionfilename}[1]{%
5691 \LWR@traceinfo{\LWR@htmlsectionfilename A !\detokenize{#1}!}%
5692 \begingroup%

```

Disable CJK xpinyin while generating file names.

```
5693 \LWR@disablepinyin%
```

Section 0 or empty is given the home filename. The filename must be detokenized for underscores.

```

5694 % \LWR@traceinfo{about to assign temp}%
5695 \LWR@sanitize{#1}%
5696 \LWR@traceinfo{about to compare with ??}%
5697 \ifdefstring{\LWR@sanitized}{??}
5698   {\LWR@traceinfo{found ??}}%
5699   {\LWR@traceinfo{not found ??}}%
5700 \LWR@traceinfo{about to compare with zero or empty}%
5701 \ifboolexpr{
5702   test {\ifdefstring{\LWR@sanitized}{0}} or
5703   test {\ifdefstring{\LWR@sanitized}} or
5704   test {\ifdefstring{\LWR@sanitized}{??}}
5705 }
5706 {%
5707   \LWR@traceinfo{\LWR@htmlsectionfilename B \HomeHTMLFilename.html}%
5708   \HomeHTMLFilename.html%
5709 }%

```

For a L^AT_EX section named “Index” or “index” without a prefix, create a filename with a trailing -0 to avoid colliding with the HTML filename index.html:

```

5710 {%
5711   \LWR@traceinfo{\LWR@htmlsectionfilename C \LWR@sanitized}%
5712   \ifboolexpr{
5713     test{\ifdefvoid{\HTMLFilename}} and
5714     (
5715       test{\ifdefstring{\LWR@sanitized}{Index}} or
5716       test{\ifdefstring{\LWR@sanitized}{index}}
5717     )
5718   }%
5719   {%
5720     \LWR@traceinfo{Adding a zero to the index filename.}%
5721     \LWR@sanitized-0.html%
5722   }%

```

Otherwise, create a filename with the chosen prefix:

```

5723   {%
5724     \HTMLFilename\LWR@isolate{\LWR@sanitized}.html%
5725   }%
5726 }%
5727 \LWR@traceinfo{\LWR@htmlsectionfilename Z}%
5728 \endgroup%
5729 }

```

`\LWR@htmlrefsectionfilename` {<*label*>}

Prints the filename for the given label

```
5730 \newcommand*{\LWR@htmlrefsectionfilename}[1]{%
5731   \LWR@traceinfo{\LWR@htmlrefsectionfilename: !\detokenize{#1}!}%
```

`\LWR@nullfonts` to allow math in a section name.

```
5732   \begingroup%
5733   \LWR@nullfonts%
5734   \LWR@htmlsectionfilename{\LWR@htmlfileref{#1}}%
5735   \endgroup%
5736   \LWR@traceinfo{\LWR@htmlrefsectionfilename: done}%
5737 }
```

```
5738 \end{warpHTML}
```

46 Homepage link

for HTML & PRINT: 5739 `\begin{warpall}`

`\linkhomename` Holds the default name for the home link.

```
5740 \newcommand{\linkhomename}{Home}
```

```
5741 \end{warpall}
```

for HTML output: 5742 `\begin{warpHTML}`

`\LinkHome` May be used wherever you wish to place a link back to the homepage. The filename must be detokenized for underscores.

```
5743 \newcommand*{\LinkHome}{%
5744   \LWR@subhyperrefclass{\HomeHTMLFilename.html}{\linkhomename}{linkhome}%
5745 }
```

```
5746 \end{warpHTML}
```

for PRINT output: 5747 `\begin{warpprint}`

`\LinkHome` May be used wherever you wish to place a link back to the homepage. For print output, if `hyperref` is available a hyperlink to the first page is used, named by `\linkhomename`. If `hyperref` is not available, a `pageref` is used instead.

`\BaseJobname` is included in the link label in case multiple documents are cross-referenced.

```

5748 \AtBeginDocument{
5749 \ifundefined{hyperref}{
5750   \newcommand*\LinkHome{%
5751     \linkhomename\ --- page \pageref{\BaseJobname-page-LWRfirstpage}%
5752   }
5753 }{
5754   \newcommand*\LinkHome{%
5755     \hyperref[\BaseJobname-page-LWRfirstpage]{\linkhomename}%
5756   }
5757 }
5758 }
5759
5760 \AfterEndPreamble{\label{\BaseJobname-page-LWRfirstpage}}

5761 \end{warpprint}

```

for HTML output: 5762 \begin{warpHTML}

`\LWR@topnavigation` Creates a link to the homepage at the top of the page for use when the window is too narrow for the sideroc.

```

5763 \newcommand*\LWR@topnavigation{%
5764   \LWRhtmllementclassline{nav}{topnavigation}{\LinkHome}
5765 }

```

`\LWR@botnavigation` Creates a link to the homepage at the bottom of the page for use when the window is too narrow for the sideroc.

```

5766 \newcommand*\LWR@botnavigation{%
5767   \LWRhtmllementclassline{nav}{botnavigation}{\LinkHome}
5768 }

```

```
5769 \end{warpHTML}
```

47 Previous/next navigation links

for HTML & PRINT: 5770 \begin{warpall}

`\linkpreviousname` What to call the link to the previous web page.

```
5771 \newcommand*\linkpreviousname{Previous}
```

`\linknextname` What to call the link to the next web page.

```
5772 \newcommand*\linknextname{Next}
```

```
5773 \end{warpall}
```

for PRINT output: 5774 \begin{warpprint}

`\LinkPrevious` Creates a link to the previous web page if there is one.

```
5775 \newcommand*{\LinkPrevious}{}
```

`\LinkNext` Creates a link to the next web page if there is one.

```
5776 \newcommand*{\LinkNext}{}

5777 \end{warpprint}
```

for HTML output: `5778 \begin{warpHTML}`

`\LinkPrevious` Creates a link to the previous web page if there is one.

The links refer to the L^AT_EX labels `\Basejobname-autofile-*`

```
5779 \newcommand*{\LinkPrevious}{%
5780   \ifnumless{\value{LWR@htmlseqfilenumber}}{1}}{}{%
5781     \setcounter{LWR@tempcountone}{\value{LWR@htmlseqfilenumber}-1}%
5782     \LWR@subhyperrefclass{%
5783       \LWR@htmlrefsectionfilename{%
5784         \BaseJobname-autofile-\arabic{LWR@tempcountone}%
5785       }%
5786     }{\linkpreviousname}{linkhome}%
5787   }%
5788 }
```

`\LinkNext` Creates a link to the next web page if there is one.

The links refer to the L^AT_EX labels `\Basejobname-autofile-*`
and the last is the label `\Basejobname-autofile-last`

```
5789 \newcommand*{\LinkNext}{%
5790   \ifcsdef{r@\BaseJobname-autofile-last@lwarp}{%
5791     \edef\LWR@tempone{%
5792       \LWR@htmlfileref{\BaseJobname-autofile-\arabic{LWR@htmlseqfilenumber}}%
5793     }%
5794     \edef\LWR@temptwo{%
5795       \LWR@htmlfileref{\BaseJobname-autofile-last}%
5796     }%
5797     \ifdefequal{\LWR@tempone}{\LWR@temptwo}}{}{%
5798       \setcounter{LWR@tempcountone}{\value{LWR@htmlseqfilenumber}+1}%
5799       \LWR@subhyperrefclass{%
5800         \LWR@htmlrefsectionfilename{%
5801           \BaseJobname-autofile-\arabic{LWR@tempcountone}%
5802         }%
5803       }{\linknextname}{linkhome}%
5804     }%
5805   }{}%
5806 }

5807 \end{warpHTML}
```

48 \LWRPrintStack diagnostic tool



Diagnostics tool: Prints the L^AT_EX nesting depth values for the stack levels. \LWR@startpars is used before printing the stack, so that \LWRPrintStack may be called from anywhere in the normal text flow.

for HTML output: 5808 \begin{warpHTML}

\LWRPrintStack Prints the closedepth stack.

```
5809 \newcommand*{\LWR@subprintstack}{
5810 \LWR@closedepthone\ \LWR@closedepthtwo\ \LWR@closedepththree\
5811 \LWR@closedepthfour\ \LWR@closedepthfive\ \LWR@closedepthsix\
5812 \LWR@closedepthseven\ \LWR@closedeptheight\ \LWR@closedepthnine\
5813 \LWR@closedephten\ \LWR@closedeptheleven\ \LWR@closedephtwelve\
5814 }
5815
5816 \newcommand*{\LWRPrintStack}{
5817 \LWR@startpars
5818 \LWR@subprintstack
5819 }

5820 \end{warpHTML}
```

for PRINT output: 5821 \begin{warpprint}

```
5822 \newcommand*{\LWRPrintStack}{}

5823 \end{warpprint}
```

49 Closing stack levels

for HTML output: 5824 \begin{warpHTML}

Close one nested level:

```
5825 \newcommand*{\LWR@closeoneprevious}{%
5826
5827 \LWR@closeone
5828
5829 \LWR@popclose
5830 }
```

\LWR@closeprevious *{(sectintype)}* Close everything up to the given depth:

```
5831 \newcommand*{\LWR@closeprevious}[1]{
5832 \LWR@traceinfo{%
5833   \LWR@closeprevious to depth \csuse{\LWR@depth#1}, %
5834   depths are \LWR@subprintstack%
5835 }%
```

Close any pending paragraph:

```
5836 \LWR@stoppars%
```

Close anything nested deeper than the desired depth. First close anything deeper, then at most one of the same level.

```
5837 \whileboolexpr{test{\ifnumcomp{\LWR@closedepthone}{>}{\csuse{\LWR@depth#1}}}}%
5838 {%
5839   \LWR@traceinfo{\LWR@closeprevious: closing out depth \LWR@closedepthone}%
5840   \LWR@closeoneprevious%
5841 }%
5842 \ifboolexpr{test{\ifnumcomp{\LWR@closedepthone}{=}{\csuse{\LWR@depth#1}}}}%
5843 {%
5844   \LWR@traceinfo{\LWR@closeprevious: closing out depth \LWR@closedepthone}%
5845   \LWR@closeoneprevious%
5846 }{}%
5847 \LWR@traceinfo{\LWR@closeprevious: done, depths are \LWR@subprintstack}%
5848 }

5849 \end{warpHTML}
```

50 PDF pages and styles

for HTML output: 5850 \begin{warpHTML}

\LWR@forcenewpage New PDF page a before major environment.

This is used just before major environments, such as verse. Reduces the chance of an environment overflowing the HTML PDF output page.

```
5851 \newcommand{\LWR@forcenewpage}{%
5852 \LWR@traceinfo{\LWR@forcenewpage}%
5853 \ifinner\else%
5854   \LWR@traceinfo{\LWR@forcenewpage A}%
5855   \LWR@stoppars%
5856   \LWR@traceinfo{\LWR@forcenewpage B}%
5857   \LWR@maybe@orignewpage%
5858   \LWR@traceinfo{\LWR@forcenewpage C}%
5859   \LWR@startpars%
5860 \fi%
5861 \LWR@traceinfo{\LWR@forcenewpage done}%
5862 }
```

\pagestyle, etc. are nullified for HTML output.

\pagestyle {*style*}

```
5863 \renewcommand*{\pagestyle}[1]{}%
```

```

\thispagestyle  {\langle style \rangle}

5864 \renewcommand*{\thispagestyle}[1]{}

\markboth  {\langle left \rangle} {\langle right \rangle}

5865 \renewcommand*{\markboth}[2]{}

\markright  {\langle right \rangle}

5866 \renewcommand*{\markright}[1]{}

\raggedbottom

5867 \renewcommand*{\raggedbottom}{}

\flushbottom

5868 \renewcommand*{\flushbottom}{}

\sloppy

5869 \renewcommand*{\sloppy}{}

\fussy

5870 \renewcommand*{\fussy}{}

\pagenumbering * {\langle commands \rangle}

5871 \RenewDocumentCommand{\pagenumbering}{s m}{}

5872 \end{warpHTML}

```

51 HTML tags, spans, divs, elements

for HTML output: 5873 \begin{warpHTML}

51.1 Mapping L^AT_EX sections to HTML sections

```

5874 \newcommand*{\LWR@tagtitle}{h1}
5875 \newcommand*{\LWR@tagtitleend}{/h1}
5876 \newcommand*{\LWR@tagbook}{div class="book"}
5877 \newcommand*{\LWR@tagbookend}{/div}
5878 \newcommand*{\LWR@tagpart}{h2}

```



```

5879 \newcommand*\LWR@tagpartend{/h2}
5880 \newcommand*\LWR@tagchapter{h3}
5881 \newcommand*\LWR@tagchapterend{/h3}
5882 \newcommand*\LWR@tagsection{h4}
5883 \newcommand*\LWR@tagsectionend{/h4}
5884 \newcommand*\LWR@tagsubsection{h5}
5885 \newcommand*\LWR@tagsubsectionend{/h5}
5886 \newcommand*\LWR@tagsubsubsection{h6}
5887 \newcommand*\LWR@tagsubsubsectionend{/h6}
5888 \newcommand*\LWR@tagparagraph{span class="paragraph"}
5889 \newcommand*\LWR@tagparagraphend{/span}
5890 \newcommand*\LWR@tagsubparagraph{span class="subparagraph"}
5891 \newcommand*\LWR@tagsubparagraphend{/span}
5892
5893 \newcommand*\LWR@tagregularparagraph{p}

```

51.2 Babel-French tag modifications

Adjust babel-french for HTML spaces. So far, this only works for *pdf_latex* and *xelatex*.

(Emulates or patches code by DANIEL FLIPO.)

```

5894 \providecommand*\LWR@FBcancel{}
5895
5896 \AtBeginDocument{%

```

In some circumstances, `\NoAutoSpacing` may be defined when `\frenchbsetup` is not.

```

5897 \@ifundefined{NoAutoSpacing}%
5898   {}%
5899   {%
5900     \LetLtxMacro\LWR@FBcancel\NoAutoSpacing%
5901   }%
5902
5903 \@ifundefined{frenchbsetup}%
5904   {}%
5905   {%
5906     \frenchbsetup{FrenchFootnotes=false}%
5907 %
5908   \renewrobustcmd*\FBcolonspace{%
5909     \begingroup%
5910     \LWR@FBcancel%
5911     \LWR@origampersand{}nbsp;%
5912     \endgroup%
5913   }%
5914   \renewrobustcmd*\FBthinspace{%
5915     \begingroup%
5916     \LWR@FBcancel%
5917     \LWR@origampersand\LWR@origpound{x202f;% \,
5918     \endgroup%
5919   }%
5920   \renewrobustcmd*\FBguillspace{%

```

```

5921     \begingroup%
5922     \LWR@FBcancel%
5923     \LWR@origampersand{}nbsp;% ~, for \og xyz \fg{}
5924     \endgroup%
5925 }%
5926 \DeclareDocumentCommand{\FBmedkern}{}{%
5927     \begingroup%
5928     \LWR@FBcancel%
5929     \LWR@origampersand\LWR@origpound{}x202f;% \,
5930     \endgroup%
5931 }%
5932 \DeclareDocumentCommand{\FBthickkern}{}{%
5933     \begingroup%
5934     \LWR@FBcancel%
5935     \LWR@origampersand{}nbsp;% ~
5936     \endgroup%
5937 }%
5938 \renewrobustcmd*{~}{\HTMLentity{nbsp}}% was overwritten by babel-french
5939 \ifFBunicode%
5940 \else%
5941     \DeclareTextSymbol{\FBtextellipsis}{LY1}{133}%
5942     \DeclareTextCommandDefault{\FBtextellipsis}{\textellipsis\xspace}%
5943 \fi%
5944 }%
5945 }

```

51.3 HTML output formatting

Helps format the output HTML code for human readability.

`\LWR@indentHTML` Newline and indent the output HTML code.

```

5946 \newcommand*{\LWR@indentHTML}{}%
5947     \LWR@orignewline\LWR@origrule{2em}{0pt}%
5948 }

```

`\LWR@indentHTMLtwo` Newline and indent the output HTML code.

```

5949 \newcommand*{\LWR@indentHTMLtwo}{}%
5950     \LWR@orignewline\LWR@origrule{4em}{0pt}%
5951 }

```

51.4 HTML tags

`\LWR@htmltagc` `{\tag}` Break ligatures and use upright apostrophes in HTML tags.

`\protect` is in case the tag appears in TOC, LOF, LOT.

```

5952 \newcommand*{\LWR@htmltagc}[1]{}%
5953 \LWR@traceinfo{\LWR@htmltagc !\detokenize{#1}!}%

```

```

5954 \begingroup%
5955 \LWR@FBcancel%
5956 \ifmmode\else\protect\LWR@print@normalfont\protect\LWR@origttfamily\fi%
5957 \protect\LWR@origtextless%
5958 \LWR@isolate{#1}%
5959 \protect\LWR@origtextgreater%
5960 \endgroup%
5961 }

```

`\LWR@spanwarnformat` {*object*}

Warns if the given object is used inside a span.

```

5962 \newcommand*\LWR@spanwarnformat}[1]{%
5963   \ifnumcomp{\value{LWR@spandepth}}{>}{0}{%
5964     \PackageWarning{lwarp}{%
5965       A #1 is being used inside a span.\MessageBreak
5966       Formatting may be lost,%
5967     }%
5968   }{}%
5969 }

```

`\LWR@spanwarninvalid` {*object*}



Warns if the given object is used inside a span.

```

5970 \newcommand*\LWR@spanwarninvalid}[1]{%
5971   \ifnumcomp{\value{LWR@spandepth}}{>}{0}{%
5972     \PackageWarning{lwarp}{%
5973       A #1 is being used inside a span.\MessageBreak
5974       This generates invalid HTML,%
5975     }%
5976   }{}%
5977 }

```

Env `LWR@nestspan` Disable minipage, `\parbox`, and HTML `<div>`s inside a ``.

-  `\begin{LWR@nestspan}` must follow the opening `` tag to allow a paragraph to start if the span is at the beginning of a new paragraph.
-  `\end{LWR@nestspan}` must follow the `` or a `<p>` may appear inside the span.

```

5978 \newcommand*\LWR@nestspanitem}{%
5979 \if@newlist\else{\LWR@htmltagc{br /}}\fi%
5980 \LWR@origitem%
5981 }
5982
5983 \newenvironment*{LWR@nestspan}
5984 {%
5985 \LWR@traceinfo{LWR@nestspan starting}%
5986 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
5987 {%
5988   \LWR@traceinfo{LWR@nestspan: inside a lateximage}%

```

```

5989 }%
5990 {% not in a lateximage
5991   \LWR@traceinfo{LWR@nestspan: NOT inside a lateximage}%
5992   \addtocounter{LWR@spandepth}{1}%

```

Nullify several objects inside the span:

```

5993   \RenewDocumentEnvironment{minipage}{O{t} o O{t} m}%
5994     {\LWR@spanwarnformat{minipage or \protect\parbox}}%
5995     {}%
5996   \RenewDocumentEnvironment{BlockClass}{o m}%
5997     {\LWR@spanwarnformat{multi-paragraph object}}%
5998     {}%
5999   \renewcommand{\BlockClassSingle}[2]{%
6000     {\LWR@spanwarnformat{multi-paragraph object}}%
6001     ##2%
6002   }%
6003   \renewcommand{\LWR@forcenewpage}{}%
6004   \renewcommand{\LWR@liststart}{%
6005     \let\item\LWR@nestspanitem%
6006   }%
6007   \renewcommand{\LWR@listend}{\LWR@htmltagc{br /}\LWR@htmltagc{br /}}%
6008   \renewenvironment{quote}{\LWR@htmltagc{br /}}{\LWR@htmltagc{br /}}%
6009   \renewenvironment{quotation}{\LWR@htmltagc{br /}}{\LWR@htmltagc{br /}}%
6010 }% not in a lateximage
6011 \LWR@traceinfo{LWR@nestspan starting: done}%
6012 }% starting env
6013 {% ending env
6014 \LWR@traceinfo{LWR@nestspan ending}%
6015 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
6016 {}%
6017 {\addtocounter{LWR@spandepth}{-1}}%
6018 \LWR@traceinfo{LWR@nestspan ending: done}%
6019 }
6020
6021 \AfterEndEnvironment{LWR@nestspan}{\global\let\par\LWR@closeparagraph}

```

`\LWR@htmlspan` $\{\langle tag \rangle\} \{\langle text \rangle\}$



`\LWR@spandepth` is used to ensure that paragraph tags are not generated inside a span. The exact sequence of when to add and subtract the counter is important to correctly handle the paragraph tags before and after the span.

```

6022 \NewDocumentCommand{\LWR@htmlspan}{m +m}{%
6023 \LWR@ensuredoingapar%
6024 \LWR@htmltagc{#1}%
6025 \begin{LWR@nestspan}%
6026 #2%
6027 \LWR@htmltagc{/#1}%
6028 \end{LWR@nestspan}%
6029 }

```

`\LWR@htmlspanclass` $[\langle style \rangle] \{\langle class \rangle\} \{\langle text \rangle\}$

```

6030 \NewDocumentCommand{\LWR@htmlspanclass}{o m +m}{%
6031 \LWR@traceinfo{\LWR@htmlspanclass |#1|#2|}%
6032 \LWR@ensuredoingapar%
6033 \LWR@subhtml@elementclass{span}[#1][#2]%
6034 \begin{\LWR@nestspan}%
6035 #3%
6036 \LWR@htmltagc{/span}%
6037 \LWR@traceinfo{\LWR@htmlspanclass done}%
6038 \end{\LWR@nestspan}%
6039 }

```

`\LWR@htmltag` {*<tag>*}

Print an HTML tag: `<tag>`

```

6040 \newcommand*\LWR@htmltag[1]{%
6041 % \LWR@traceinfo{\LWR@htmltagb !\detokenize{#1}!}%
6042 \LWR@htmltagc{#1}%
6043 % \LWR@traceinfo{\LWR@htmltagb: done}%
6044 }

```

51.5 Block tags and comments

In the following, `\origttfamily` breaks ligatures, which may not be used for HTML codes:

`\LWR@html@opencomment`
`\LWR@html@closecomment`

```

6045 \newcommand*\LWR@html@opencomment}{%
6046 {%
6047 % \LWR@traceinfo{\LWR@html@opencomment}%
6048 \begin@group%
6049 \LWR@FB@cancel%
6050 \ifmmode\else\protect\LWR@print@normalfont\protect\LWR@origttfamily\fi%
6051 \LWR@print@mbbox{\LWR@origtextless{}}!-/-}%
6052 \end@group%
6053 }%
6054 }
6055
6056 \newcommand*\LWR@html@closecomment}{%
6057 {%
6058 % \LWR@traceinfo{\LWR@html@closecomment}%
6059 \begin@group%
6060 \LWR@FB@cancel%
6061 \ifmmode\else\protect\LWR@print@normalfont\protect\LWR@origttfamily\fi%
6062 \LWR@print@mbbox{-/-\LWR@origtextgreater}%
6063 \end@group%
6064 }%
6065 }

```

`\LWR@html@comment` {*<comment>*}

```

6066 \newcommand{\LWR@htmlcomment}[1]{%
6067 \ifmmode%
6068 \else%
6069   \LWR@htmlopencomment{%
6070     {%
6071       \LWR@print@normalfont%
6072       \LWR@origttfamily% break ligatures
6073       #1%
6074     }%
6075   \LWR@htmlclosecomment{%
6076 \fi%
6077 }

```

`\LWR@htmlblockcomment` {*comment*}

```

6078 \newcommand{\LWR@htmlblockcomment}[1]
6079 {\LWR@stoppars\LWR@htmlcomment{#1}\LWR@startpars}

```

`\LWR@htmlblocktag` {*tag*} print a stand-alone HTML tag

```

6080 \newcommand*\LWR@htmlblocktag}[1]{%
6081 \LWR@stoppars%
6082 \LWR@htmltag{#1}%
6083 \LWR@startpars%
6084 }

```

51.6 Div class and element class

`\LWR@subhtmlElementclass` {*element*} [*style*] {*class*}

Factored and reused in several places.

The trailing spaces allow more places for a line break.

The use of `\textquotedbl` instead of " provides improved compatibility with xeCJK.

```

6085 \NewDocumentCommand{\LWR@subhtmlElementclass}{m O{} m}{%
6086 \LWR@traceinfo{\LWR@subhtmlElementclass !#1!#2!#3!}%
6087 \ifblank{#2}%
6088 {% empty style
6089   \LWR@htmltag{%
6090     #1%
6091     \ifblank{#3}{\class=\textquotedbl#3\textquotedbl\ }% spaces
6092   }%
6093 }%
6094 {% non-empty style
6095   \LWR@htmltag{%
6096     #1\LWR@indentHTML%
6097     \ifblank{#3}{\class=\textquotedbl#3\textquotedbl\LWR@indentHTML}%
6098     style=\textquotedbl#2\textquotedbl\LWR@orignewline%
6099   }%
6100 }%

```

```
6101 \LWR@traceinfo{\LWR@subhtmlElementclass done}%
6102 }
```

```
\LWR@htmlElementclass {<element>} {<class>} [ <style> ]
```

```
6103 \NewDocumentCommand{\LWR@htmlElementclass}{m o m}{%
6104 \LWR@stoppars%
6105 \LWR@forceemptyline%
6106 \LWR@subhtmlElementclass{#1}[#2]{#3}%
6107 \LWR@startpars%
6108 }
```

```
\LWR@htmlElementclassend {<element>} {<class>}
```

```
6109 \newcommand*{\LWR@htmlElementclassend}[2]{%
6110 \LWR@stoppars%
6111 \LWR@htmltag{/#1}%
6112 \ifbool{HTMLDebugComments}{%
6113   \LWR@htmlcomment{End of #1 ‘#2’}%
6114 }{}%
6115 \LWR@startpars%
6116 }
```

```
\LWR@htmldivclass [ <style> ] {<class>}
```

```
6117 \NewDocumentCommand{\LWR@htmldivclass}{o m}{%
6118 \LWR@htmlElementclass{div}[#1]{#2}%
6119 }
```

```
\LWR@htmldivclassend {<class>}
```

```
6120 \newcommand*{\LWR@htmldivclassend}[1]{%
6121 \LWR@htmlElementclassend{div}{#1}%
6122 }
```

51.7 Single-line elements

A single-line element, without a paragraph tag for the line of text:

```
\LWR@htmlElementclassline {<element>} [ <style> ] {<class>} {<text>}
```

```
6123 \NewDocumentCommand{\LWR@htmlElementclassline}{m o m +m}{%
6124 \LWR@stoppars
6125 \LWR@forceemptyline%
6126 \LWR@subhtmlElementclass{#1}[#2]{#3}%
6127 #4%
6128 \LWR@htmltag{/#1}
6129 \LWR@startpars
6130 }
```

51.8 HTML5 semantic elements

`\LWR@htmlElement` $\{\langle element \rangle\}$

```
6131 \newcommand*\LWR@htmlElement}[1]{%
6132 \LWR@htmlblocktag{#1}
6133 }
```

`\LWR@htmlElementend` $\{\langle element \rangle\}$

```
6134 \newcommand*\LWR@htmlElementend}[1]{%
6135 \LWR@stoppars
6136 \LWR@htmltag{/#1}
6137 \LWR@startpars
6138 }
6139
6140 \end{warpHTML}
```

51.9 High-level block and inline classes

These are high-level commands which allow the creation of arbitrary block or inline sections which may be formatted with css.

Nullified versions are provided for print mode.

For other direct-formatting commands, see section [93](#).

Env `BlockClass` $[\langle style \rangle] \{\langle class \rangle\}$ High-level interface for `<div>` classes.

Ex: `\begin{BlockClass}{class} text \end{BlockClass}`

for PRINT output:

```
6141 \begin{warpprint}
6142 \NewDocumentEnvironment{BlockClass}{o m}{}{}%
6143 \end{warpprint}
```

for HTML output:

```
6144 \begin{warpHTML}
6145
6146 \NewDocumentEnvironment{LWR@print@BlockClass}{o m}{}{}%
6147
6148 \NewDocumentEnvironment{LWR@HTML@BlockClass}{o m}%
6149   {\LWR@htmldivclass{#1}{#2}}
6150   {\LWR@htmldivclassend{#2}}
6151
6152 \LWR@formattedenv{BlockClass}
6153 \end{warpHTML}
```

`\BlockClassSingle` $\{\langle class \rangle\} \{\langle text \rangle\}$ A single-line `<div>`, without a paragraph tag for the line of text.

for HTML & PRINT:

```
6154 \begin{warpall}
6155 \newcommand{\BlockClassSingle}[2]{#2}
6156 \end{warpall}
```


for HTML output: 6157 \begin{warpHTML}
6158 \newcommand{\LWR@HTML@BlockClassSingle}[2]{%
6159 \LWR@html@element@class@line{div}{#1}{#2}%
6160 }
6161
6162 \LWR@formatted{BlockClassSingle}
6163 \end{warpHTML}

\InlineClass (*<WP style>*) [*<style>*] {*<class>*} {*<text>*}

High-level interface for inline span classes.

(*<WP style>*) is CSS styling to add when formatting for a word processor import.

[*<style>*] is the CSS styling to add when not formatting for a word processor.

for PRINT output: 6164 \begin{warpprint}
6165 \NewDocumentCommand{\InlineClass}{D{()}{}}{ o m +m}{#4}%
6166 \end{warpprint}

for HTML output: 6167 \begin{warpHTML}
6168 \NewDocumentCommand{\LWR@print@InlineClass}{D{()}{}}{ o m +m}{#4}%
6169
6170 \NewDocumentCommand{\LWR@HTML@InlineClass}{D{()}{}}{ o m +m}{%
6171 \ifbool{FormatWP}{%
6172 \LWR@html@span@class[#1]{#3}{#4}%
6173 }{%
6174 \LWR@html@span@class[#2]{#3}{#4}%
6175 }%
6176 }
6177
6178 \LWR@formatted{InlineClass}
6179 \end{warpHTML}

Env LWR@BlockClassWP {*<WPstyle>*} {*<HTMLstyle>*} {*<class>*} Low-level interface for <div> classes with an automatic float ID. These are often used when \ifbool{FormatWP}.

The use of \textquotedbl instead of " provides improved compatibility with XeCJK.

for PRINT output: 6180 \begin{warpprint}
6181 \NewDocumentEnvironment{LWR@BlockClassWP}{m m m}{ }{%
6182 \end{warpprint}

for HTML output: 6183 \begin{warpHTML}
6184 \NewDocumentEnvironment{LWR@print@LWR@BlockClassWP}{m m m}{ }{%
6185 \NewDocumentEnvironment{LWR@HTML@LWR@BlockClassWP}{m m m}{%
6186 {%
6187 \LWR@stoppars%
6188 \ifbool{FormatWP}%
6189 {%
6190 \addtocounter{LWR@thisautoidWP}{1}%

6191 \LWR@html@tag{%

```

6192     div class=\textquotedbl#3\textquotedbl\ % space
6193     id=\textquotedbl%
6194     \LWR@print@mbox{autoidWP-\arabic{LWR@thisautoidWP}}%
6195     \textquotedbl%
6196     \ifblank{#1}{\style=\textquotedbl#1\textquotedbl}%
6197   }%
6198 }% FormatWP
6199 {% not FormatWP
6200   \LWR@htmltag{%
6201     div class=\textquotedbl#3\textquotedbl%
6202     \ifblank{#2}{\style=\textquotedbl#2\textquotedbl}%
6203   }%
6204 }% not FormatWP
6205 \LWR@startpars%
6206 }
6207 {\LWR@htmldivclassend{#3}}
6208
6209 \LWR@formattedenv{LWR@BlockClassWP}
6210 \end{warpHTML}

```

51.10 Closing HTML tags

for HTML output: 6211 \begin{warpHTML}

Sections H1, H2, etc. do not need a closing HTML tag, but we add a comment for readability:

```

6212 \newcommand*{\LWR@printclosebook}
6213   {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing book}}{}}
6214 \newcommand*{\LWR@printclosepart}
6215   {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing part}}{}}
6216 \newcommand*{\LWR@printclosechapter}
6217   {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing chapter}}{}}
6218 \newcommand*{\LWR@printclosesection}
6219   {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing section}}{}}
6220 \newcommand*{\LWR@printclosesubsection}
6221   {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing subsection}}{}}
6222 \newcommand*{\LWR@printclosesubsection}
6223   {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing subsection}}{}}
6224 \newcommand*{\LWR@printcloseparagraph}
6225   {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing paragraph}}{}}
6226 \newcommand*{\LWR@printclose subparagraph}
6227   {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing subparagraph}}{}}

```

Lists require closing HTML tags:

```

6228 \newcommand*{\LWR@printcloselistitem}
6229   {\LWR@htmltag{/li}}
6230 \newcommand*{\LWR@printclosedescitem}
6231   {\LWR@htmltag{/dd}}
6232 \newcommand*{\LWR@printcloseitemize}
6233   {\LWR@htmltag{/ul}}
6234 \newcommand*{\LWR@printcloseenumerate}

```

```

6235     {\LWR@htmltag{/ol}}
6236 \newcommand*{\LWR@printclosedescription}
6237     {\LWR@htmltag{/dl}}

6238 \end{warpHTML}

```

52 Paragraph handling

These commands generate the HTML paragraph tags when allowed and required.

Paragraph tags are or are not allowed depending on many conditions. Section 53 has high-level commands which allow paragraph-tag generation to start/stop. Even when allowed (`\LWR@doingstartpars`), tags are not generated until a \LaTeX paragraph is being used (`\LWR@doingapar`). `LWR@lateximagedepth` is used to prevent nesting tags inside a `lateximage`. `LWR@spandepth` is used to prevent nesting paragraph tags inside a paragraph, which became important inside `\fbox` commands and other spans.

for HTML output: 6239 `\begin{warpHTML}`

Ctrl `LWR@spandepth` Do not create paragraph tags inside of an HTML span.

```

6240 \newcounter{LWR@spandepth}
6241 \setcounter{LWR@spandepth}{0}

```

Bool `LWR@doingstartpars` Tells whether paragraphs may be generated.

```

6242 \newbool{LWR@doingstartpars}
6243 \boolfalse{LWR@doingstartpars}

```

Bool `LWR@doingapar` Tells whether have actually generated and are currently processing paragraph text.

```

6244 \newbool{LWR@doingapar}
6245 \global\boolfalse{LWR@doingapar}

```

`\LWR@ensuredoingapar` If are about to print something visible, and if allowed to start a new paragraph, ensure that are `LWR@doingapar`, so that paragraph tags are placed:

```

6246 \newcommand*{\LWR@ensuredoingapar}{%
6247 \ifbool{LWR@doingstartpars}%
6248 {\global\booltrue{LWR@doingapar}}%
6249 }%
6250 }

```

`\PN@parnotes@auto` Redefined by `parnotes` to print paragraph notes at the end of each paragraph.

```

6251 \def\PN@parnotes@auto{}%

```

`\LWR@openparagraph`

```
6252 \newcommand*{\LWR@openparagraph}
6253 {%
```

See if paragraph handling is enabled:

```
6254 \ifbool{LWR@doingstartpars}%
6255 {% handling pars
```

See if have already started a `lateximage` or a ``. If so, do not generate nested paragraph tags.

```
6256   \ifboolexpr{
6257     test {\ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}} or
6258     test {\ifnumcomp{\value{LWR@spandepth}}{>}{0}}
6259   }% nested par tags?
```

If so: Do nothing if already started a `lateximage` page. Cannot nest a `lateximage`. Also do nothing if already inside a ``. Do not nest paragraph tags inside a ``.

```
6260   {}% no nested par tags
```

Else: No `lateximage` or `` has been started yet, so it's OK to generate paragraph tags.

```
6261   {% yes nest par tags
```

If `parnotes` is used, paragraph notes are inserted before starting the next paragraph:

```
6262     \PN@parnotes@auto%
```

The opening paragraph tag:

```
6263     \LWR@htmltagc{\LWR@tagregularparagraph}\LWR@originewline%
```

Now have started a paragraph.

```
6264     \global\booltrue{LWR@doingapar}%
```

At the end of each paragraph, generate closing tag and do regular `/par` stuff. (Attempting to use the `everyhook` or `hook` for `\LWR@closeparagraph` does not work well.)

```
6265     \let\par\LWR@closeparagraph%
6266   }% end of yes nest par tags
6267 }% end of handling pars
6268 {}% not handling pars
6269 }
```

`\LWR@closeparagraph@br` Add an HTML break if in a `span`, and not in a `lateximage`, and not in tabular metadata. Factored from `\LWR@closeparagraph`.

```
6270 \newcommand*{\LWR@closeparagraph@br}
6271 {%
```

```

6272 \ifboolexpr{
6273     test {\ifnumcomp{\value{LWR@spandepth}}{>}{0}} and
6274     test {\ifnumcomp{\value{LWR@lateximagedepth}}{=}{0}} and
6275     not bool {LWR@intabularmetadata}
6276 }%
6277 {\unskip\LWR@htmltagc{br /}}%
6278 {}%
6279 }

```

\LWR@closeparagraph

```

6280 \newcommand*{\LWR@closeparagraph}
6281 {%
6282 % \LWR@traceinfo{LWR@closeparagraph}%

```

See if paragraph handling is enabled:

```
6283 \ifbool{LWR@doingapar}%
```

If currently in paragraph mode:

```
6284 {% handling pars
```

See if already started a lateximage or a :

```

6285 \ifboolexpr{
6286     test {\ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}} or
6287     test {\ifnumcomp{\value{LWR@spandepth}}{>}{0}}
6288 }%

```

Add a parbreak if in a span, not in a lateximage, and not in table metadata.

```

6289 {% no nested par tags
6290     \LWR@closeparagraph@br%
6291 }% no nested par tags

```

If have not already started a lateximage or a :

```
6292 {% yes nest par tags
```

Print a closing tag and some extra vertical space.

(The fill seems to be required to force the caption package to create flush left caption text in the HTML.)

```

6293     \@hspacer{\fill}% \hspace*{\fill}
6294     \leavevmode\LWR@orignewline%
6295     \LWR@htmltagc{/\LWR@tagregularparagraph}%

```

No longer doing a paragraph:

```
6296     \global\boolfalse{LWR@doingapar}%
```

Disable the special minipage & \hspace interaction until a new minipage is found:

```
6297      \global\boolfalse{LWR@minipagethispar}%
```

If parnotes is used, paragraph notes are inserted after ending the previous paragraph:

```
6298      \PN@parnotes@auto%
6299    }% end of yes nest par tags
6300}% end of handling pars
```

Add a parbreak if in a span, not in a lateximage, and not in table metadata.

```
6301{% not handling pars
6302  \LWR@closeparagraph@br%
6303}% not handling pars
```

In most cases, finish with a \LaTeX `\par`, but in the case of paragraphs between lines in a tabular fetch the next token instead:

```
6304 \ifboolexpr{%
6305   not bool {LWR@doingapar} and
6306   test {\ifnumcomp{\value{LWR@tabulardepth}}{>}{0}} and
6307   test {
6308     \ifnumcomp{\value{LWR@tabulardepth}}{=}{\value{LWR@tabularpardepth}}
6309   } and
6310   bool {LWR@intabularmetadata} and
6311   not bool {LWR@tableparcell} and
6312   test {\ifnumcomp{\value{LWR@lateximagedepth}}{=}{0}}
6313 }%
6314 {%
6315   \LWR@getmynexttoken%
6316 }{%
6317   \LWR@origpar%
6318 }%
6319 }

6320 \end{warpHTML}
```

53 Paragraph start/stop handling

These commands allow/disallow the generation of HTML paragraph tags.

Section 52 has the commands which actually generate the tags.

The everyhook package is used to generate the opening paragraph tags. The closing tags are generated by `\par`.

for HTML output: `6321 \begin{warpHTML}`

`\LWR@startpars` Begin handling HTML paragraphs. This allows an HTML paragraph to start, but one has not yet begun.

```
6322 \newcommand*{\LWR@startpars}%
6323 {%
6324 % \LWR@traceinfo{\LWR@startpars}%
```

Ignore if inside a lateximage or :

```
6325 \ifboolexpr{
6326   test {\ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}} or
6327   test {\ifnumcomp{\value{\LWR@spandepth}}{>}{0}}
6328 }%
6329 {%
6330 {%
```

See if currently handling HTML paragraphs:

```
6331   \ifbool{\LWR@doingstartpars}%
```

If already in paragraph mode, do nothing.

```
6332   }%
```

If not currently in paragraph mode:

```
6333   {%
```

At the start of each paragraph, generate an opening tag:

```
6334       \PushPreHook{par}{\LWR@openparagraph}%
```

At the end of each paragraph, generate closing tag then do regular /par actions:

```
6335       \let\par\LWR@closeparagraph
6336
6337   }% an intentionally blank line
```

Are now handling paragraphs, but have not yet actually started one:

```
6338   \global\setbool{\LWR@doingstartpars}{true}%
```

No <par> tag yet to undo:

```
6339   \global\boolfalse{\LWR@doingapar}%
6340 }% nestspan
6341 % \LWR@traceinfo{\LWR@startpars: done}%
6342 }
```

`\LWR@stoppars` Stop handling HTML paragraphs. Any currently open HTML paragraph is closed, and no more will be opened.

```
6343 \newcommand*{\LWR@stoppars}%
6344 {%
```

Ignore if inside a lateximage or :

```
6345 \ifboolexpr{
6346   test {\ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}} or
6347   test {\ifnumcomp{\value{LWR@spandepth}}{>}{0}}
6348 }%
6349 {%
6350 {%
```

See if currently handling HTML paragraphs:

```
6351   \ifbool{LWR@doingapar}%
```

if currently in an HTML paragraph:

```
6352   {%
```

Print a closing tag:

```
6353       \leavevmode\LWR@orignewline%
6354       \LWR@htmltagc{\LWR@tagregularparagraph}%
6355       \LWR@orignewline%
```

No longer have an open HTML paragraph:

```
6356       \global\boolfalse{LWR@doingapar}%
```

Disable the special minipage & \hspace interaction until a new minipage is found:

```
6357       \global\boolfalse{LWR@minipagethispar}
6358   }%
```

If was not in an HTML paragraph:

```
6359   }%
```

See if currently allowing HTML paragraphs:

```
6360   \ifbool{LWR@doingstartpars}%
```

If so: clear the par hook to no longer catch paragraphs:

```
6361       {\ClearPreHook{par}}%
```

Else: Do nothing:

```
6362       }%
```

No longer in paragraph mode:

```
6363   \global\setbool{LWR@doingstartpars}{false}%
```


No <p> tag to undo:

```
6364   \global\boolfalse{LWR@doingapar}%
6365 }% nestspan
6366 }

6367 \end{warpHTML}
```

54 Indentfirst

Pkg indentfirst indentfirst redefines \@afterindentfalse to be \@afterindenttrue. This is reversed \@AtBeginDocument here.

for HTML output: 6368 \begin{warpHTML}

```
6369 \AtBeginDocument{
6370   \def\@afterindentfalse{\let\if@afterindent\iffalse}
6371   \@afterindentfalse
6372 }
6373 \let\LWR@afterindent@syntaxhighlight\fi% syntax highlighting

6374 \end{warpHTML}
```

55 Page headers and footers

for HTML & PRINT: 6375 \begin{warpall}

In the following, catcode is manually changed back and forth without groups, since new macros are being defined which must not be contained within the groups.

```
6376 \newcommand{\LWR@firstpagetop}{} % for the home page alone
6377 \newcommand{\LWR@firstpagebottom}{} % for the home page alone
6378 \newcommand{\LWR@pagetop}{} % for all other pages
6379 \newcommand{\LWR@pagebottom}{}%
```

\HTMLFirstPageTop {<text and logos>}

```
6380 \newcommand{\HTMLFirstPageTop}[1]{%
6381   \renewcommand{\LWR@firstpagetop}{#1}%
6382 }
```

\HTMLFirstPageBottom {<text and logos>}

```
6383 \newcommand{\HTMLFirstPageBottom}[1]{%
6384   \renewcommand{\LWR@firstpagebottom}{#1}%
6385 }
```

`\HTMLPageTop` {*⟨text and logos⟩*}

```
6386 \newcommand{\HTMLPageTop}[1]{%
6387   \renewcommand{\LWR@pagetop}{#1}%
6388 }
```

`\HTMLPageBottom` {*⟨text and logos⟩*}

```
6389 \newcommand{\HTMLPageBottom}[1]{%
6390   \renewcommand{\LWR@pagebottom}{#1}%
6391 }
```

```
6392 \end{warpall}
```

56 CSS

for HTML output: 6393 `\begin{warpHTML}`

`\LWR@currentcss` The css filename to use. This may be changed mid-document using `\CSSFilename`, allowing different css files to be used for different sections of the document.

```
6394 \newcommand*\LWR@currentcss{lwrap.css}
```

`\CSSFilename` {*⟨new-css-filename.css⟩*} Assigns the css file to be used by the following HTML pages.

```
6395 \newcommand*\CSSFilename[1]{%
6396   \renewcommand*\LWR@currentcss{#1}%
6397   \@onelevel@sanitize\LWR@currentcss%
6398 }
6399
6400 \end{warpHTML}
```

for PRINT output: 6401 `\begin{warpprint}`
 6402 `\newcommand*\CSSFilename[1]{}`
 6403 `\end{warpprint}`

57 MathJax script

for HTML output: 6404 `\begin{warpHTML}`
 Default: `lwrap_mathjax.txt`

`\LWR@mathjaxfilename` The MathJax script filename to use. This file is copied into the head of each HTML page. This may be changed mid-document using `\MathJaxFilename`, allowing the use of a custom MathJax script, such as for a local repository, or different MathJax script files to be used for different sections of the document.

```
6405 \newcommand*\LWR@mathjaxfilename{lwrap_mathjax.txt}
```

`\MathJaxFilename` $\langle filename \rangle$ Assigns the MathJax script file to be used by the following HTML pages.

```
6406 \newcommand*\MathJaxFilename[1]{%
6407   \renewcommand*\LWR@mathjaxfilename{#1}%
6408   \@onelevel@sanitize\LWR@mathjaxfilename%
6409 }
6410
6411 \end{warpHTML}
```

for PRINT output:

```
6412 \begin{warpprint}
6413 \newcommand*\MathJaxFilename[1]{}
6414 \end{warpprint}
```

58 Title, HTML meta author, HTML meta description

for HTML output:

```
6415 \begin{warpHTML}
```

`\title` $\langle title \rangle$ Modified to remember `\thetitle`, which is used to set the HTML page titles.

```
6416 \let\LWR@origtitle\title
6417
6418 \renewcommand*\title[1]{%
6419   \LWR@origtitle{#1}%
6420   \begingroup%
6421     \renewcommand{\thanks}[1]{}%
6422     \protected@xdef\thetitle{#1}%
6423   \endgroup%
6424 }
```

```
6425 \end{warpHTML}
```

for HTML & PRINT:

```
6426 \begin{warppall}
```


`\HTMLTitle` $\langle Titlename \rangle$ The Title to place into an HTML meta tag. The default is to use the document `\title`'s setting.

```
6427 \providecommand{\thetitle}{\BaseJobname}
6428
6429 \newcommand{\theHTMLTitle}{\thetitle}
6430
6431 \newcommand{\HTMLTitle}[1]{\renewcommand{\theHTMLTitle}{#1}}
```

`\HTMLAuthor` $\langle authorname \rangle$ The author to place into an HTML meta tag. If none given, the default is `\theauthor`, which is empty unless the titling package is used.

```
6432 \providecommand{\theauthor}{}
6433
6434 \newcommand{\theHTMLAuthor}{\theauthor}
6435
6436 \newcommand{\HTMLAuthor}[1]{\renewcommand{\theHTMLAuthor}{#1}}
```

This is placed inside an HTML meta tag at the start of each file. This may be changed mid-document using `\HTMLDescription`, allowing different HTML descriptions to be used for different sections of the document.

 **HTML author** Do not use double quotes, and do not exceed 150 characters.

`\HTMLDescription` `{\langle New HTML meta description.\rangle}` Assigns the HTML file's description meta tag.

```
6437 \newcommand{\LWR@currentHTMLDescription}{}
6438
6439 \newcommand{\HTMLDescription}[1]{%
6440 \renewcommand{\LWR@currentHTMLDescription}{#1}
6441 }
6442
6443 \end{warpall}
```

59 Footnotes

lwarp uses native L^AT_EX footnote code, although with its own `\box` to avoid the L^AT_EX output routine. The usual functions mostly work as-is.


footnote numbering To have footnote numbers reset each time footnotes are printed:

```
\setcounter{footnoteReset}{1}
```

For `bigfoot`, `manyfoot`, or `perpage`:

```
\MakePerPage{footnoteX}
— or —
\MakeSortedPerPage{footnoteX}
```

The footnotes are reset when they are printed, according to section level as set by `FootnoteDepth`, which is not necessarily by HTML page. This is recommended for `\alph`, `\Alph`, or `\fnsymbol` footnotes, due to the limited number of symbols which are available.

 **MathJax, \footnotemark** If using MATHJAX, after each math expression with a `\footnotemark`, adjust the footnote counter by the number of `\footnotemarks`:

```
\[ (math expression with two instances of \footnotemark) \]
\warpHTMLonly{\addtocounter{footnote}{2}}
```

Similarly for endnotes, but *not* sidenotes.

Also for MATHJAX, `\footnotename` is used for a `\footnotemark` if the actual footnote number is not known. To redefine it, provide it before loading `lwarp`:


```
\providecommand{\footnotename}{something}
\usepackage{lwarp}
```

Similar for sidenotes. For endnotes:

```
\def\endnotename{something}% \def allows name to start with "end"
```

For the `pagenote` package, there is no `\pagenotename` to define, since there is no `\pagenotemark` command.

`footmisc` The `footmisc stable` option is emulated by `lwarp`.

 **sectioning commands** When using footnotes in sectioning commands, to generate consistent results between print and HTML, use the `footmisc` package with the `stable` option, provide a short TOC entry, and `\protect` the `\footnote`:

```
\usepackage[stable]{footmisc}
...
\subsection[Subsection Name]
{Subsection Name\protect\footnote{A footnote.}}
```

memoir with footmisc If using `memoir` class, with which `lwarp` preloads `footmisc`, the `stable` option must be declared before `lwarp` is loaded:

 **memoir**

```
\PassOptionsToPackage{stable}{footmisc}
\usepackage{lwarp}
...
```

Do not use a starred sectioning command. As an alternative, it may be possible to adjust `\secnumdepth` instead.

Several kinds of footnotes are used: in a regular page, in a minipage, or as thanks in the titlepage. Each of these is handle differently.

59.1 Regular page footnotes

In HTML documents, footnotes are placed at the bottom of the web page or the section, depending on `FootnoteDepth`, using the L^AT_EX box `\LWR@footnotebox`. Using this instead of the original `\footins` box avoids having footnotes be printed by the output routine, since footnotes should be printed per HTML page instead of per PDF page.

See section 59.4 for the implementation.

59.2 Minipage footnotes

See section 59.5 for how minipage footnotes are gathered. See section 92.4 for how minipage footnotes are placed into the document.

59.3 Titlepage thanks

See section 67.7 for titlepage footnotes.

59.4 Regular page footnote implementation

for HTML & PRINT: 6444 `\begin{warpall}`

Ctrl FootnoteDepth Determines how deeply to place footnotes in the HTML files, similar to tocdepth. The default of 3 places footnotes before each `\subsubsection` or higher. See table 11 for a table of L^AT_EX section headings.

Default: 3

```
6445 \newcounter{FootnoteDepth}
6446 \setcounter{FootnoteDepth}{3}
```

Ctrl footnoteReset If non-zero, the footnote counter is reset to this value each time the footnotes are printed, as controlled by FootnoteDepth. For the `manyfoot` and `bigfoot` packages, additional counters such as `footnote<suffix>Reset` will be defined as well. These counters may be set non-zero by the user, and are also set if the `perpage`'s `\MakePerPage` or `\MakeSortedPerPage` macros are used for the footnote or `footnote<suffix>` counters.

Default: 0

(The name is not capitalized because it is made from the counter's name with "Reset" appended.)

```
6447 \newcounter{footnoteReset}
6448 \setcounter{footnoteReset}{0}
```

```
6449 \end{warpall}
```

for HTML output: 6450 `\begin{warpHTML}`

`\LWR@footnotebox` Patch L^AT_EX footnotes to use a new `\box` instead of an insert for `lwarp` footnotes. This avoids having the original `\footins` appear at the bottom of a `lateximage`, which is on its own new page.

```
6451 \newbox\LWR@footnotebox
```

Much of the following has unneeded print-mode formatting removed.

`\@makefntext` `{\text}`

```
6452 \long\def\@makefntext#1{\textsuperscript{\@thefnmark}~#1}
```

`\@makefnmark`

```
6453 \def\@makefnmark{%
6454   \textsuperscript{\@thefnmark}%
6455 }
```

Footnotes may be in regular text, in which case paragraphs are tagged, or in a table data cell or `lateximage`, in which case paragraph tags must be added manually.

In a `lateximage` during HTML output, the `lateximage` is placed inside a print-mode `minipage`, but the footnotes are broken out by:

```
\def\@mpfn{footnote}
\def\@thempfn{\thefootnote}
\let\@footnotetext\LWR@footnotetext
```

```
\LWR@@footnotetext {<text>} {<footnote box name>}
```

Factored to allow multiple footnote boxes for manyfoot.

```
6456 \long\def\LWR@@footnotetext#1#2{%
6457 \LWR@traceinfo{LWR@footnotetext}%
6458 \global\setbox\csname #2\endcsname=\vbox{%
```

Add to any current footnotes:

```
6459 \unvbox\csname #2\endcsname%
```

Remember the footnote number for \ref:

```
6460 \protected@edef\@currentlabel{%
6461 \csname p@footnote\endcsname\@thefnmark%
6462 }% @currentlabel
```

Open a group:

```
6463 \color@begingroup%
```

Disable CJK xpinyin while generating footnotes.

```
6464 \LWR@disablepinyin%
```

Use HTML superscripts in the footnote even when the main text is inside a lateximage, because the footnote will be in HTML:

```
6465 \renewrobustcmd{\textsuperscript}[1]{\LWR@htmlspan{sup}{##1}}%
```

Use paragraph tags if in a tabular data cell or a lateximage:

```
6466 \ifthenelse{%
6467 \boolean{LWR@doingstartpars} \AND%
6468 \cnttest{\value{LWR@lateximagedepth}}{=}{0}%
6469 }%
6470 {}%
6471 {\LWR@htmltagc{\LWR@tagregularparagraph}\LWR@originewline}%
```

Append the footnote to the list:

```
6472 \@makefntext{#1}%
```

Closing paragraph tag:

```
6473 \ifthenelse{%
6474 \boolean{LWR@doingstartpars} \AND%
6475 \cnttest{\value{LWR@lateximagedepth}}{=}{0}%
6476 }%
6477 {\par}%
6478 {%
6479 \LWR@htmltagc{/\LWR@tagregularparagraph}%
```

```
6480         \LWR@orignewline%
6481     }%
```

Close the group:

```
6482     \color@endgroup%
6483 }% vbox
```

Paragraph handling:

```
6484 \LWR@ensuredoingapar%
6485 }%
```

```
\LWR@footnotetext {<text>}
```

```
6486 \long\def\LWR@footnotetext#1{\LWR@@footnotetext{#1}{LWR@footnotebox}}
```

```
\@footnotetext {<text>}
```

```
6487 \LetLtxMacro\@footnotetext\LWR@footnotetext
```

59.5 Minipage footnote implementation

Patch \LaTeX minipage footnotes to use a new `\box` instead of an insert for `lwarp` minipage footnotes. This avoids having the original `\@mpfootins` appear at the bottom of a `lateximage`, which is on its own new page.

```
6488 \newbox\LWR@mpfootnotes
```

```
\@mpfootnotetext {<text>}
```

```
6489 \long\def\@mpfootnotetext#1{%
6490 \LWR@traceinfo{@mpfootnotetext}%
6491 \global\setbox\LWR@mpfootnotes\vbox{%
6492     \unvbox\LWR@mpfootnotes%
6493     \reset@font\footnotesize%
6494     \hsize\columnwidth%
6495     \@parboxrestore%
6496     \protected@edef\@currentlabel%
6497         {\csname p@mpfootnote\endcsname\@thefnmark}%
6498     \color@begingroup%
```

Use paragraph tags if in a tabular data cell or a `lateximage`:

```
6499     \ifthenelse{%
6500         \boolean{LWR@doingstartpars} \AND%
6501         \cnttest{\value{LWR@lateximagedepth}}{=}{0}%
6502     }%
6503     {}%
6504     {\LWR@htmltagc{\LWR@tagregularparagraph}\LWR@orignewline}%
```



```

6505 \@makefntext{%
6506 \ignorespaces#1%
6507 }%

```

Don't add the closing paragraph tag if are inside a lateximage:

```

6508 \ifthenelse{\cnttest{\value{LWR@lateximagedepth}}{>}{0}}%
6509 {}%
6510 {%
6511 \leavevmode\LWR@orignewline%
6512 \LWR@htmltagc{/LWR@tagregularparagraph}%
6513 \LWR@origpar%
6514 }%
6515 \color@endgroup%
6516 }% vbox

```

Paragraph handling:

```

6517 \LWR@ensuredoingapar%
6518 \LWR@traceinfo{@mpfootnotetext: done}%
6519 }

```

`\thempfootnote` Redefined to remove the `\itshape`, which caused an obscure compiling error in some situations.

```

6520 \AtBeginDocument{
6521 \def\thempfootnote{\@alph\c@mpfootnote}
6522 }

```

59.6 Printing pending footnotes

`\LWR@printpendingfootnotes` $\{ \langle footnote\ counter\ name \rangle \}$

```

6523 \newcommand*{\LWR@printpendingfootnotes}[1]{%
6524 \expandafter\ifvoid\c@name LWR@#1box\endcsname\else
6525 \LWR@forcenewpage
6526 \begin{BlockClass}{footnotes}
6527 \null
6528 \unvbox\csuse{LWR@#1box}
6529 \setbox\csuse{LWR@#1box}=\vbox{}
6530 \end{BlockClass}
6531 \ifltxcounter{#1Reset}{%
6532 \ifnumgreater{\value{#1Reset}}{0}{%
6533 \setcounter{#1}{\value{#1Reset}}%
6534 \addtocounter{#1}{-1}%
6535 }{}%
6536 }{}%
6537 \fi
6538 }

```

`\LWR@printpendingfootnotes` Enclose the footnotes in a class, print, then clear. For `manynotes`, new footnotes may be added via `\appto`.

```
6539 \newcommand*\LWR@printpendingfootnotes}{%
6540   \LWR@printpendingfootnotes{footnote}%
6541 }
```

`\LWR@maybeprintpendingfootnotes` `{<depth>}` Used to print footnotes before sections only if formatting for an EPUB or word processor:

```
6542 \newcommand*\LWR@maybeprintpendingfootnotes}[1]{%
6543   \ifboolexpr{
6544     not test{\ifnumcomp{#1}{>}{\value{FootnoteDepth}}} or
6545     bool{FormatEPUB} or
6546     bool{FormatWP}
6547 }%
6548   {\LWR@printpendingfootnotes}%
6549 }%
6550 }
```

`\LWR@printpendingmpfootnotes` Enclose the minipage footnotes in a class, print, then clear.

```
6551 \newcommand*\LWR@printpendingmpfootnotes}{%
6552   \ifvoid\LWR@mpfootnotes\else
6553     \LWR@forcenewpage
6554     \begin{BlockClass}{footnotes}
6555     \null
6556     \unvbox\LWR@mpfootnotes
6557     \setbox\LWR@mpfootnotes=\vbox{}
6558     \end{BlockClass}
6559   \fi
6560 }

6561 \end{warpHTML}
```

60 Marginpars

`\marginpar` [`<left>`] [`<right>`] `\marginpar` may contain paragraphs, but in order to remain inline with the surrounding text `lwarp` nullifies block-related macros inside the `\marginpar`. Paragraph breaks are converted to `
` tags.

`\marginparBlock` [`<left>`] [`<right>`] To include block-related macros, use `\marginparBlock`, which takes the same arguments but creates a `<div>` instead of a ``. A line break will occur in the text where the `\marginBlock` occurs.

for HTML output: 6562 `\begin{warpHTML}`

`\marginpar` [`<left>`] [`<right>`]

```

6563 \renewcommand{\marginpar}[2][]{%
6564 \ifbool{FormatWP}%
6565 {%
6566 \begin{LWR@BlockClassWP}{width:2in; float:right; margin:10pt}{\marginblock}
6567 #2
6568 \end{LWR@BlockClassWP}
6569 }%
6570 {%
6571 \LWR@htmlspanclass{\marginpar}{#2}%
6572 }%
6573 }

```

`\marginparBlock` [*left*] [*right*]

For use when the marginpar will be more than one paragraph, and/or contains more than simple text.

HTML version.

```

6574 \newcommand{\marginparBlock}[2][]{%
6575 \LWR@stoppars%
6576 \ifbool{FormatWP}%
6577 {%
6578 \begin{LWR@BlockClassWP}{width:2in; float:right; margin:10pt}{\marginblock}
6579 #2
6580 \end{LWR@BlockClassWP}
6581 }%
6582 \begin{BlockClass}[width:2in; float:right; margin:10pt]{\marginparblock}
6583 #2
6584 \end{BlockClass}
6585 }%
6586 \LWR@startpars%
6587 }

```

`\reversemarginpar`

```
6588 \renewcommand*{\reversemarginpar}{}

```

`\normalmarginpar`

```
6589 \renewcommand*{\normalmarginpar}{}

```

```
6590 \end{warpHTML}

```

for PRINT output: 6591 \begin{warpprint}

`\marginparBlock` [*left*] [*right*]

For use when the marginpar will be more than one paragraph, and/or contains more than simple text.

Print version.

```
6592 \LetLtxMacro\marginparBlock\marginpar
```

```
6593 \end{warpprint}
```

61 Splitting HTML files

- Files are split according to FileDepth and CombineHigherDepths.
- Filenames are sanitized by \LWR@filenameno blanks.
- \LWR@newhtmlfile finishes an HTML page, adds a comment to tell where and how to split the file, then starts a new HTML page.

for HTML & PRINT: 6594 \begin{warpall}

Ctrl FileDepth *{<section depth>}* determines how deeply to break into new HTML files, similar to tocdepth. The default of -5 produces one large HTML file.

```
6595 \newcounter{FileDepth}
6596 \setcounter{FileDepth}{-5}
```

Bool CombineHigherDepths Combile higher-level sections together into one file?

```
6597 \newbool{CombineHigherDepths}
6598 \booltrue{CombineHigherDepths}
```

\FilenameLimit Maximum length of the generated filenames.

```
6599 \newcommand*{\FilenameLimit}{80}
```

```
6600 \end{warpall}
```

for HTML output: 6601 \begin{warpHTML}

\LWR@thisfilename The currently-active filename or number. At first, this is the homepage.

```
6602 \AtBeginDocument{
6603 \ifbool{FileSectionNames}%
6604   {\newcommand*\LWR@thisfilename{\HomeHTMLFilename}}
6605   {\newcommand*\LWR@thisfilename{0}}
6606 }
```

\LWR@thisnewfilename The filename being sanitized.

```
6607 \newcommand*\LWR@thisnewfilename{}
```

`\LWR@simplifiname` * $\langle expression \rangle$ Simplify `\LWR@thisnewfilename`.

If starred, detokenizes the input expression. If found, changes the expression to a single detokenized dash.

```
6608 \NewDocumentCommand{\LWR@simplifiname}{s m}{%
6609 \IfBooleanTF{#1}{%
6610   \StrSubstitute{\LWR@thisnewfilename}%
6611     {\detokenize{#2}}%
6612     {\detokenize{-}}[\LWR@thisnewfilename]%
6613 }{%
6614   \StrSubstitute{\LWR@thisnewfilename}%
6615     {#2}%
6616     {\detokenize{-}}[\LWR@thisnewfilename]%
6617 }
6618 }
```

`\LWR@simplifycustom` User-defined filename simplifications. Redefine with `\newcommand`.

```
6619 \newcommand*{\LWR@simplifycustom}{}%
```

`\FilenameSimplify` * $\langle phrase \rangle$ Assign a user-defined filename simplification. Appends to `\LWR@simplifycustom`.

```
6620 \NewDocumentCommand{\FilenameSimplify}{s m}{%
6621 \IfBooleanTF{#1}{%
6622   \appto{\LWR@simplifycustom}{%
6623     \LWR@simplifiname*{#2}%
6624   }%
6625 }{%
6626   \appto{\LWR@simplifycustom}{%
6627     \LWR@simplifiname{#2}%
6628   }%
6629 }%
6630 }
```

`\LWR@avoiddupfilenames` Instructions for how to avoid duplicate filenames. This is used in a warning in `\LWR@filenamenoblanks`, and in an error in `\LWR@newhtmlfile`.

```
6631 \newcommand*{\LWR@avoiddupfilenames}{%
6632   To avoid duplicate filenames, use the optional\MessageBreak
6633   short Table of Contents entry:\MessageBreak
6634   \space\space\protect\section[Unique name, no math]{Name with math}%
6635   \MessageBreak
6636   or use \protect\texorpdfstring, from the hyperref package:\MessageBreak
6637   \space\space%
6638   \protect\section{\MessageBreak
6639     \space\space\space\space\protect\texorpdfstring\MessageBreak
6640     \space\space\space\space\space\space%
6641     {Name with math}{Unique name, no math}\MessageBreak
6642   \space\space}
6643 }
```

`\LWR@filenamoblanks` $\{ \langle filename \rangle \}$

Convert blanks into dashes, removes short words, store result in `\LWR@thisfilename`.

Also see `\LWR@nullfonts` for nullified macros.

```
6644 \newcommand*\LWR@filenamoblanks}[1]{%
6645 \begingroup
```

Locally temporarily disable direct-formatting commands, not used in filenames:

```
6646 \LWR@nullfonts%
6647 \renewcommand*\LWR@htmltagc}[1]{%
```

```
6648 \edef\LWR@thisnewfilename{#1}%
```

Replaces common macros with hyphens. (`\&` is done by `\LWR@nullfonts`.)

```
6649 \RenewDocumentCommand{\LWR@subsingledollar}{s m m}{}%
6650 \LWR@simplifiname{\_}
6651 \LWR@simplifiname{\#}
6652 \LWR@simplifiname{\textbackslash}
6653 \LWR@simplifiname{\protect}
6654 \LWR@simplifiname{\ }
6655 \LWR@simplifiname{\textless}
6656 \LWR@simplifiname{\textgreater}
```

```
6657 \edef\LWR@thisnewfilename{\detokenize\expandafter{\LWR@thisnewfilename}}%
```

Warn if there is dollar math in the section name:

```
6658 \ifbool{FileSectionNames}{%
6659   \IfSubStr{\LWR@thisnewfilename}{\LWRdollar}{%
6660     \PackageWarning{lwarp}
6661     {%
6662       This section name:\MessageBreak
6663       \space\space‘\detokenize\expandafter{#1}’\MessageBreak
6664       at the line number listed below,\MessageBreak
6665       is using $dollar-delimited math$,
6666       which generates\MessageBreak
6667       complicated file names. It is better to use\MessageBreak
6668       \space\space%
6669       \protect\section{Name with \protect\(\parenthesis math\protect\)}%
6670       \MessageBreak
6671       The math then will be removed from the file name.\MessageBreak
6672       \MessageBreak
6673       \LWR@avoiddupfilenames%
6674       \MessageBreak
6675       This section is found before or%
6676     }
6677   }{}%
6678 }
```

```
6679 \LWR@traceinfo{LWR@filenamoblanks edef: !\LWR@thisnewfilename!}%
6680 \fullexpandarg%
```

Convert spaces into hyphens:

```
6681 \LWR@simplifiname*{ }
```

Convert punctutation into hyphens:

```
6682 \LWR@simplifiname*{*}
6683 \LWR@simplifiname*{(}
6684 \LWR@simplifiname*{)}
6685 \LWR@simplifiname*{.}
6686 \LWR@simplifiname*{!}
6687 \LWR@simplifiname*{,}
6688 \LWR@simplifiname*{'}
6689 \LWR@simplifiname*{+}
6690 \LWR@simplifiname*{/}
6691 \LWR@simplifiname*{:}
6692 \LWR@simplifiname*{;}
6693 \LWR@simplifiname*{=}
6694 \LWR@simplifiname*{?}
6695 \LWR@simplifiname*{@}
6696 \LWR@simplifiname*{^}
6697 \LWR@simplifiname*{&}
6698 \LWR@simplifiname*{"}
6699 \LWR@simplifiname*{<}
6700 \LWR@simplifiname*{>}
```

```
6701 \LWR@simplifiname{\LWRbackslash}
```

Braces are removed entirely to avoid extra dashes in the result.

```
6702 \StrSubstitute{\LWR@thisnewfilename}%
6703   {\LWRleftbrace}{\LWR@thisnewfilename}%
6704 \StrSubstitute{\LWR@thisnewfilename}%
6705   {\LWRrightbrace}{\LWR@thisnewfilename}%
```

```
6706 \LWR@simplifiname{\LWRpercent}
6707 \LWR@simplifiname{\LWRdollar}
```

```
6708 \LWR@simplifiname*{|}
6709 \LWR@simplifiname*{^}
6710 \LWR@simplifiname*{~}
6711 \LWR@simplifiname*{[}
6712 \LWR@simplifiname*{]}
6713 \LWR@simplifiname*{'}
```

Convert short words:

```
6714 \LWR@simplifiname*{-s-}
6715 \LWR@simplifiname*{-S-}
6716 \LWR@simplifiname*{-a-}
```

```

6717 \LWR@simplifyname*{-A-}
6718 \LWR@simplifyname*{-an-}
6719 \LWR@simplifyname*{-AN-}
6720 \LWR@simplifyname*{-to-}
6721 \LWR@simplifyname*{-TO-}
6722 \LWR@simplifyname*{-by-}
6723 \LWR@simplifyname*{-BY-}
6724 \LWR@simplifyname*{-of-}
6725 \LWR@simplifyname*{-OF-}
6726 \LWR@simplifyname*{-and-}
6727 \LWR@simplifyname*{-AND-}
6728 \LWR@simplifyname*{-for-}
6729 \LWR@simplifyname*{-FOR-}
6730 \LWR@simplifyname*{-the-}
6731 \LWR@simplifyname*{-THE-}

```

Convert custom words:

```
6732 \LWR@simplifycustom%
```

If pdfL^AT_EX and not utf8 encoding, don't try to convert emdash, endash:

```

6733 \ifPDFTeX% pdflatex or dvi latex
6734 \ifdefstring{\inputencodingname}{utf8}{%
6735     \LWR@simplifyname*{-}
6736 %     emdash
6737     \LWR@simplifyname*{-}
6738 %     endash
6739 }{}%
6740 \else% not PDFTeX
6741     \LWR@simplifyname*{-}
6742     \LWR@simplifyname*{-}
6743 \fi%

```

Convert multiple hyphens:

```

6744 \LWR@simplifyname*{-----}
6745 \LWR@simplifyname*{----}
6746 \LWR@simplifyname*{---}
6747 \LWR@simplifyname*{--}

```

If starts with a dash, remove the leading dash:

```

6748 \IfBeginWith{\LWR@thisnewfilename}{\detokenize{-}}{%
6749     \StrGobbleLeft{\LWR@thisnewfilename}{1}[\LWR@thisnewfilename]%
6750 }{}%

```

If ends with a dash, remove the trailing dash:

```

6751 \IfEndWith{\LWR@thisnewfilename}{\detokenize{-}}{%
6752     \StrGobbleRight{\LWR@thisnewfilename}{1}[\LWR@thisnewfilename]%
6753 }{}%

```


Limits the length of the filename:

```
6754 \StrLeft{\LWR@thisnewfilename}{\FilenameLimit}[\LWR@thisnewfilename]%
```

Return the global result:

```
6755 \global\let\LWR@thisfilename\LWR@thisnewfilename%
6756 \endgroup%
6757 \LWR@traceinfo{\LWR@filenameno blanks: result is \LWR@thisfilename}%
6758 }
```

Ctrl Remembers which autopage label was most recently generated. Used to avoid duplicates.
LWR@previousautopagelabel

```
6759 \newcounter{\LWR@previousautopagelabel}
6760 \setcounter{\LWR@previousautopagelabel}{-1}
```

File *_html.aux A new entry in the *_html.aux file is used to help cross-references:

```
\newlabel{autopage-<nnn>}{<x>}{<y>}}
```

LWR@newautopagelabel $\langle \text{pagenumber counter} \rangle$

LWR@BaseJobname is added to the label in case xr or xr-hyper are used.

```
6761 \newcommand*{\LWR@newautopagelabel}[1]{%
6762 \ifnumequal{\value{\LWR@previousautopagelabel}}{\value{page}}%
6763 {}% no action if this autopage label has already been defined
6764 {%
6765 \label{\LWR@BaseJobname-autopage-\arabic{#1}}%
6766 \setcounter{\LWR@previousautopagelabel}{\value{page}}
6767 }%
6768 }
```

61.1 Sanitizing expressions for HTML

Math expressions are converted to lateximages, and some math environments may contain &, <, or >, which should not be allowed inside an HTML <alt> tag, so must convert them to HTML entities.

LWR@replacestrings $\langle \text{search} \rangle \langle \text{replace} \rangle$

Replaces strings inside \tmpb.

Modified from the original, by PETR OLSAK, from the opmac package.

```
6769 \bgroup
6770 \catcode'\!=3 \catcode'\? =3
6771
6772 \long\gdef\LWR@replacestrings@addto#1#2{%
```

```

6773 \expandafter\def\expandafter#1\expandafter{#1#2}%
6774 }
6775
6776 \gdef\LWR@replacestrings#1#2{%
6777 \long\def\LWR@replacestringsA##1#1{\def\tmpb{##1}\LWR@replacestringsB}%
6778 \long\def\LWR@replacestringsB##1#1{%
6779 \ifx!##1\relax \else\LWR@replacestrings@addto\tmpb{#2##1}%
6780 \expandafter\LWR@replacestringsB\fi%
6781 }%
6782 \expandafter\LWR@replacestringsA\tmpb?#1!#1% from pysyntax.tex by Petr Krajnik
6783 \long\def\LWR@replacestringsA##1?{%
6784 \def\tmpb{##1}%
6785 }\expandafter\LWR@replacestringsA\tmpb%
6786 }
6787 \egroup

```

`Bool` `LWR@MathJax@silentquotes` If true, double quotes (\ " and ") are removed (used for mathspec). This unfortunately includes double quotes used inside `\text` with `MATHJAX`. If false, double quotes are escaped.

```

6788 \newbool{LWR@MathJax@silentquotes}
6789 \boolfalse{LWR@MathJax@silentquotes}

```

`\LWR@subHTMLsanitize` `\LWR@strresult` must first be set by `\LWR@HTMLsanitize`, `\LWR@HTMLsanitizeexpand`, or `\CustomizeMathJax`.

```

6790 \catcode'\#=12
6791 \catcode'\&=12
6792 \newcommand{\LWR@subHTMLsanitize}{%

```

The `&`, `<`, and `>` may be interpreted by the browser:

```

6793 \edef\tmpb{\detokenize\expandafter{\LWR@strresult}}%
6794 \LWR@replacestrings{&}{&};%
6795 \LWR@replacestrings{<}{&lt;};%
6796 \LWR@replacestrings{>}{&gt;};%

```

The quotes occasionally causes problems. For `mathspec`, also allow neutralization of `\` " and the `"` character.

```

6797 \ifbool{LWR@MathJax@silentquotes}
6798 {%
6799 \expandafter\LWR@replacestrings\expandafter{\LWRbackslash"}{ }%
6800 \LWR@replacestrings{"}{ }%
6801 }%
6802 {\LWR@replacestrings{"}{&quot;};}%
6803 \LWR@replacestrings{'}{&apos;};}%
6804 \LWR@replacestrings{'}{&grave;};}%

```

`MathJax` allows expressions to be defined with `\newcommand`. These expressions would appear with `##` for each argument, and each must be changed to a single `#`. This must

be done after all the above changes. Attempting another conversion after this causes an error upon further expansion.

```
6805 \LWR@replacestrings{##}{#}%
6806 \edef\LWR@strresult{\detokenize\expandafter{\tmpb}}%
6807 }
6808 \catcode'\#=6
6809 \catcode'\&=4
```

`\LWR@HTMLsanitize` $\langle text \rangle$

```
6810 \newrobustcmd{\LWR@HTMLsanitize}[1]{%
```

Cancel French babel character handling, and fully expand the strings:

```
6811 \begingroup%
6812 \LWR@FBcancel%
6813 \edef\LWR@strresult{\detokenize{#1}}%
6814 \LWR@subHTMLsanitize%
6815 \LWR@strresult%
6816 \endgroup%
6817 }
```

`\LWR@HTMLsanitizeexpand` $\langle text \rangle$

This version expands the argument before sanitizing it. This is only used for adding math to `MATHJAX` expressions or `lateximage alt` tags.

```
6818 \edef\LWR@beginspaceleftbrace{begin \LWRleftbrace}
6819 \edef\LWR@beginspaceleftbrace{\detokenize\expandafter{\LWR@beginspaceleftbrace}}
6820 \edef\LWR@beginleftbrace{begin\LWRleftbrace}
6821 \edef\LWR@beginleftbrace{\detokenize\expandafter{\LWR@beginleftbrace}}
6822
6823 \edef\LWR@endspacerightbrace{end \LWRrightbrace}
6824 \edef\LWR@endspacerightbrace{\detokenize\expandafter{\LWR@endspacerightbrace}}
6825 \edef\LWR@endrightbrace{end\LWRrightbrace}
6826 \edef\LWR@endrightbrace{\detokenize\expandafter{\LWR@endrightbrace}}
6827
6828 \newrobustcmd{\LWR@HTMLsanitizeexpand}[1]{%
```

Cancel French babel character handling, and fully expand the strings:

```
6829 \begingroup%
6830 \LWR@FBcancel%
```

The difference between this and `\LWR@HTMLsanitize` (without “expand”) is the following `\expandafter`:

```
6831 \edef\LWR@strresult{\detokenize\expandafter{#1}}%
```

The math expression may includes spaces between tokens, but MATHJAX does not want a space between `\begin` or `\end` and the following brace. This space is removed here.

```

6832 \protect\StrSubstitute{\LWR@strresult}%
6833     {\LWR@beginspaceleftbrace}{\LWR@beginleftbrace}[\LWR@strresult]%
6834 \protect\StrSubstitute{\LWR@strresult}%
6835     {\LWR@endspacerightbrace}{\LWR@endrightbrace}[\LWR@strresult]%

6836 \LWR@subHTMLsanitize%
6837 \LWR@strresult%
6838 \endgroup%
6839 }

```

61.2 Customizing MATHJAX

`\LWR@customizedMathJax` Additional MATHJAX definitions to be added to the start of each HTML page.

```
6840 \newcommand*{\LWR@customizedMathJax}{}

```

Bool Used to issue only one warning about using a `\CustomizeMathJax` per macro.

`LWR@warnedcustomizemathjax`

```

6841 \newbool{LWR@warnedcustomizemathjax}
6842 \boolfalse{LWR@warnedcustomizemathjax}

```

`\LWR@subcustomizedmathjax` {*macro definition*}

```

6843 \newcommand*{\LWR@subcustomizedmathjax}[1]{%
6844     \begingroup%
6845     \LWR@FBcancel%
6846     \edef\LWR@strresult{\detokenize{#1}}%
6847     \LWR@subHTMLsanitize%
6848     \xdef\LWR@customizedMathJax{%
6849         \LWR@customizedMathJax%
6850         \LWR@strresult%
6851     }%
6852     \endgroup%
6853 }
6854 \@onlypreamble\LWR@subcustomizedmathjax

```

`\CustomizeMathJax` {*macro definition*}

A warning is issued if a very long argument is given.

```

6855 \newcommand*{\CustomizeMathJax}[1]{%
6856     \ifbool{LWR@warnedcustomizemathjax}{}{%
6857         \StrLen{\detokenize{#1}}[\LWR@tempone]%
6858         \ifnumgreater{\LWR@tempone}{200}{%
6859             \AtEndDocument{%
6860                 \PackageWarningNoLine{lwarp}{%

```

```

6861             To ensure faster MathJax compilation, place each\MessageBreak
6862             custom macro in its own \protect\CustomizeMathJax.\MessageBreak
6863             See the Lwarp documentation regarding customizing\MessageBreak
6864             MathJax%
6865             }%
6866         }%
6867         \booltrue{LWR@warnedcustomizemathjax}%
6868     }{}%
6869 }%
6870 \appto\LWR@customizedMathJax{\LWRbackslash{}}%
6871 \LWR@subcustomizedmathjax{#1}%
6872 \appto\LWR@customizedMathJax{\LWRbackslash}\par}%
6873 }
6874 \@onlypreamble\CustomizeMathJax

```

`\LWR@infoprocessingmathjax` $\{(\textit{package name})\}$

```

6875 \newcommand*{\LWR@infoprocessingmathjax}[1]{%
6876 \typeout{---}
6877 \typeout{Package lwarp: Processing MathJax customizations for #1.}
6878 \typeout{\space\space This may take a moment.}
6879 \typeout{---}
6880 }

```

defaults Default customizations:

In the MATHJAX code, footnotes are only referenced. For equations, they are also generated in the HTML when the L^AT_EX math is generated inside the HTML comment. For other math environments, the `\footnotemark/\footnotetext` method must be used. See section 8.5.4 regarding `\footnotemark`.

 `\footnotemark`

For footnotes, `\footnotename` is used in most cases, however for equation the footnote is picked up from L^AT_EX in `\LWR@doendequation`.

First, `\footnotename` for MATHJAX is copied from L^AT_EX.

```

6881 \providecommand{\footnotename}{footnote}
6882
6883 % due to warpMathJax:
6884 \end{warpHTML}
6885
6886 \begin{warpMathJax}
6887 \xdef\LWR@customizedMathJax{\LWR@customizedMathJax%
6888     \LWRbackslash(%
6889     \LWRbackslash{}newcommand%
6890     \{\LWRbackslash{}footnotename\}%
6891     \{\footnotename\}%
6892     \LWRbackslash)\par%
6893 }
6894 \end{warpMathJax}

```

`\LWRfootnote` is set per equation if a footnote is detected in the equation's math expression, otherwise it defaults to `\footnotename`.

```

6895 \begin{warpMathJax}
6896 \CustomizeMathJax{\def\LWRfootnote{1}}
6897 \CustomizeMathJax{\newcommand{\footnote}[2][\LWRfootnote]{\^{\mathrm{#1}}}}
6898 \CustomizeMathJax{\newcommand{\footnotemark}[1][\LWRfootnote]{\^{\mathrm{#1}}}}

```

`\hspace` is modified to accept and ignore a star:

```

6899 \CustomizeMathJax{\let\LWRrighspace\hspace}
6900 \CustomizeMathJax{\renewcommand{\hspace}{\ifstar\LWRrighspace\LWRrighspace}}

```

Various other customizations:

```

6901 \CustomizeMathJax{\newcommand{\mathnormal}[1]{#1}}
6902 \CustomizeMathJax{\newcommand\ensuremath[1]{#1}}
6903 \CustomizeMathJax{% absorb two optional arguments
6904     \newcommand{\LWRframebox}[2][\fbox{#2}]
6905     \newcommand{\framebox}[1][\LWRframebox]
6906 }
6907 \CustomizeMathJax{\newcommand{\setlength}[2]{}}
6908 \CustomizeMathJax{\newcommand{\addtolength}[2]{}}
6909 \CustomizeMathJax{\newcommand{\setcounter}[2]{}}
6910 \CustomizeMathJax{\newcommand{\addtocounter}[2]{}}
6911 \CustomizeMathJax{\newcommand{\arabic}[1]{}}
6912 \CustomizeMathJax{\newcommand{\number}[1]{}}
6913 \CustomizeMathJax{\newcommand{\noalign}[1]{\text{#1}\notag \}}
6914 \CustomizeMathJax{\newcommand{\cline}[1]{}}
6915 \CustomizeMathJax{\newcommand{\directlua}[1]{\text{(directlua)}}}
6916 \CustomizeMathJax{\newcommand{\luatexdirectlua}[1]{\text{(directlua)}}}

```

`\protect`, `\mathchar`, and `\delimiter` are silently discarded; and `\mathcode` and `\delcode` are ignored.

```

6917 \CustomizeMathJax{\newcommand{\protect}{}}
6918 \CustomizeMathJax{\def\LWRabsorbnumber#1 {}}
6919 \CustomizeMathJax{\def\LWRabsorbquotenumber"#1 {}}
6920 \CustomizeMathJax{\newcommand{\LWRabsorboption}[1][{}]}
6921 \CustomizeMathJax{\newcommand{\LWRabsorbtwooptions}[1][\LWRabsorboption]}
6922 \CustomizeMathJax{\def\mathchar{\ifnextchar"LWRabsorbquotenumber\LWRabsorbnumber}}
6923 \CustomizeMathJax{\def\mathcode#1={\mathchar}}
6924 \CustomizeMathJax{\let\delcode\mathcode}
6925 \CustomizeMathJax{\let\delimiter\mathchar}
6926 \end{warpMathJax}
6927
6928 \begin{warpHTML}% due to warpMathJax

```

`\LWR@customizeMathJax` Prints MathJax commands to the HTML output.

```

6929 \newcommand{\LWR@customizeMathJax}{%
6930 \ifbool{mathjax}{

6931 \LWR@stoppars
6932 \LWR@htmlcomment{MathJax customizations:}
6933
6934 \begin{BlockClass}{hidden}

```

```
6935 \LWR@stoppars
```

Avoid ligatures while printing MATHJAX customizations:

```
6936 {
6937   \LWR@print@ttfamily
6938   \LWR@customizedMathJax
6939 }
6940 \LWR@startpars
6941 \end{BlockClass}
6942
6943 \LWR@startpars
6944 }{}
6945 }
```

```
6946 \end{warpHTML}
```

for PRINT output: 6947 \begin{warpprint}

\CustomizeMathJax The print-mode version:

```
6948 \newcommand*{\CustomizeMathJax}[1]{}

```

\FilenameSimplify * $\langle expression \rangle$

```
6949 \NewDocumentCommand{\FilenameSimplify}{s m}{}

```

```
6950 \end{warpprint}
```

for HTML output: 6951 \begin{warpHTML}

\LWR@createfooter If specified, create the first or later web page footer.

```
6952 \newcommand*{\LWR@createfooter}{%
6953   \ifnumless{\value{\LWR@htmlseqfilenumber}}{1}{%
6954     \ifdefempty{\LWR@firstpagebottom}{}{%
6955       \LWR@htmlElement{footer}
6956     }
6957     \LWR@firstpagebottom
6958   }%
6959   \LWR@htmlElementend{footer}
6960 }%
6961 }{}%
6962 \ifdefempty{\LWR@pagebottom}{}{%
6963   \LWR@htmlElement{footer}
6964 }%
6965 \LWR@pagebottom
6966 }%
6967 \LWR@htmlElementend{footer}
6968 }%
6969 }%
6970 }
```

`\LWR@newhtmlfile {<section name>}`

Finishes the current HTML page with footnotes, footer, navigation, then starts a new HTML page with an HTML comment telling where to split the page and what the new filename and CSS are, then adds navigation, side TOC, header, and starts the text body.

```
6971 \newcommand*{\LWR@newhtmlfile}[1]{
6972 \LWR@traceinfo{\LWR@newhtmlfile}
```

At the bottom of the ending file:

```
6973 \LWR@htmlclassend{section}{tbody}
6974 \LWR@htmlclassend{div}{bodycontainer}
6975 \LWR@htmlclassend{div}{bodyandsidetoc}
6976
6977 \LWR@printpendingfootnotes
6978
```

No footer between files if EPUB:

```
6979 \ifbool{FormatEpub}{\LWR@createfooter}
```

No bottom navigation if are finishing the home page or formatting for EPUB or a word-processor.

```
6980 \ifthenelse{\boolean{FormatEpub}\OR\boolean{FormatWP}}
6981   {}
6982   {\ifnumcomp{\value{\LWR@htmlfilenumber}}{>}{0}{\LWR@botnavigation}{}}
```

End of this HTML file:

```
6983 \LWR@stoppars
6984 \LWR@htmltag{/body}\LWR@orignewline
6985 \LWR@htmltag{/html}\LWR@orignewline
6986 \LWR@traceinfo{\LWR@newhtmlfile: about to LWR@orignewpage}
6987 \LWR@maybe@orignewpage
```

```
6988 \addtocounter{\LWR@htmlfilenumber}{1}%
6989 \addtocounter{\LWR@htmlseqfilenumber}{1}%
```

If using a filename based on section name, create a version without blanks. The filename without blanks will be placed into `\LWR@thisfilename`. Duplicates will be detected using MD5 hashes.

If not using a filename, the file number will be used instead.

```
6990 \ifbool{FileSectionNames}%
6991 {%
```

Convert the section name to a filename with blanks and common words removed. The resulting filename is in `\LWR@thisfilename`.

```
6992   \LWR@filenamemoblanks{#1}%
```


Create a macro name from the MD5 hash of the file name, to detect duplicates:

```
6993 \edef\LWR@hashedname{\LWR@mdfive{\LWR@thisfilename}}%
```

If the macro name is not yet defined, this filename is unique.

```
6994 \ifcsundef\LWR@filename\LWR@hashedname}{%
```

If the filename is unique, create a macro using the hashed name, to be used to test for additional duplicates in the future.

```
6995 \csdef\LWR@filename\LWR@hashedname}{%
6996 }{%
```

If the filename is not unique, create an error.

```
6997 \PackageError{lwarp}%
6998 {%
6999 The section name:\MessageBreak
7000 ‘‘#1’’,\MessageBreak
7001 at the line number listed below,\MessageBreak
7002 generates the filename\MessageBreak
7003 ‘‘\LWR@thisfilename’’,\MessageBreak
7004 which appears to be a duplicate. There is a\MessageBreak
7005 previous section with an identical or similar name.\MessageBreak
7006 While generating file names, Lwarp sanitizes math,\MessageBreak
7007 most symbols, and a few common short words,\MessageBreak
7008 and this may cause a conflict.\MessageBreak
7009 Enter ‘H’ for possible solutions%
7010 }%
7011 {%
7012 \LWR@avoiddupfilenames%
7013 }%
7014 }%
7015 }%
```

If using file numbers instead of names, the name is set to the next file number.

```
7016 {\renewcommand*{\LWR@thisfilename}{\arabic{\LWR@htmlfilenumber}}}
```

Include an HTML comment to instruct `lwarpmk` where to split the files apart. Uses pipe-separated fields for `split_html.gawk`. Uses monospaced font with ligatures disabled for everything except the title.

```
7017 \LWR@traceinfo{\LWR@newhtmlfile: about to print start file}%
```

`\LWR@nullfonts` to allow math in a section name.

```
7018 \begingroup%
7019 \LWR@nullfonts%
7020 \LWR@htmlblockcomment{%
7021 |Start file|%
7022 \LWR@htmlsectionfilename{\LWR@thisfilename}|%
```

```
7023 }
7024 \endgroup%
```

At the top of the starting file:

```
7025 \LWR@stoppars
7026
```

Start a new file with the given section name:

```
7027 \LWR@filestart[#1]
7028
```

Track the PDF page numbers of the HTML output:

```
7029 \setcounter{LWR@latestautopage}{\value{page}}%
7030 \LWR@newautopagelabel{LWR@latestautopage}%
```

No navigation between files if formatting for an EPUB or word processor:

```
7031 \ifthenelse{\boolean{FormatEPUB}\OR\boolean{FormatWP}}
7032   {}
7033   {\LWR@topnavigation}
7034
```

No header if between files if formatting for an EPUB or word processor:

```
7035 \ifthenelse{\boolean{FormatEPUB}\OR\boolean{FormatWP}}
7036   {}
7037   {
7038       \ifdefempty{\LWR@pagetop}{}{
7039           \LWR@htmlElement{header}
7040
7041           \LWR@pagetop
7042
7043           \LWR@htmlElementend{header}
7044       }
7045   }
7046
```

The container for the sidetoc and text body:

```
7047 \LWR@htmlElementclass{div}{bodyandsidetoc}
```

No sideroc if formatting for an EPUB or word processor:

```
7048 \ifthenelse{\boolean{FormatEPUB}\OR\boolean{FormatWP}}
7049   {}
7050   {\LWR@sidetoc}
7051
```

Start of the <textbody>:

```
7052 \LWR@htmlElementclass{div}{bodycontainer}
7053 \LWR@htmlElementclass{section}{textbody}
```

Not yet found a new section in this file. Once one is found, a label will be placed for previous/next links.

```
7054 \boolfalse{LWR@setseqfilelabel}
```

Print title only if there is one. Skip if formatting for an EPUB or word processor:

```
7055 \ifthenelse{\boolean{FormatEPUB}\OR\boolean{FormatWP}}%
7056   {}%
7057   {%
7058     \ifcvoid{thetitle}{}{%
7059       \LWR@printthetitle%
7060     }%
7061   }%
```

Keep paragraph tags disabled for now:

```
7062 \LWR@stoppars
7063
```

If using MATHJAX, print the customizations here.

```
7064 \LWR@customizeMathJax
```

```
7065 \LWR@traceinfo{LWR@newhtmlfile: done}
7066 }
```

```
7067 \end{warpHTML}
```

62 Sectioning

Sectioning and cross-references have been emulated from scratch, rather than try to patch several layers of existing L^AT_EX code and packages. Formatting is handled by CSS, so the emulated code has much less work to do than the print versions.

Unicode Section names and the resulting filenames with accented characters are partially supported, depending on the ability of *pdflatex* to generate characters and *pdf_{totext}* to read them. If extra symbols appear in the text, it may be that *pdflatex* is actually producing a symbol over or under a character, resulting in *pdf_{totext}* picking up the accent symbol separately.

 accents in filenames

X_YL^AT_EX and Lua^AT_EX directly support accented section and file names, but it may be necessary to use L^AT_EX accents instead of native Unicode accents. L^AT_EX accents will have the accents stripped when creating file names, whereas using Unicode accents will create filenames which include accents, which may cause issues with some operating systems.

for HTML output: 7068 \begin{warpHTML}

62.1 User-level starred section commands

`\ForceHTMLPage` For HTML output, forces the next section to be on its own HTML page, if `FileDepth` allows, even if starred. For use with `\printindex` and others which generate a starred section which should be on its own HTML page. Also see `\ForceHTMLTOC`.

For print output, no effect.

```
7069 \newbool{LWR@forcinghtmlpage}
7070 \boolfalse{LWR@forcinghtmlpage}
7071
7072 \newcommand*{\ForceHTMLPage}{%
7073 \global\booltrue{LWR@forcinghtmlpage}%
7074 }
```

`\ForceHTMLTOC` For HTML output, forces the next section to have a TOC entry, even if starred. For use with `\printindex` and others which generate a starred section which should be in the TOC so that it may be accessed via HTML. Not necessary if used with `tocbibind`. Also see `\ForceHTMLPage`.

For print output, no effect.

```
7075 \newbool{LWR@forcinghtmltoc}
7076 \boolfalse{LWR@forcinghtmltoc}
7077
7078 \newcommand*{\ForceHTMLTOC}{%
7079 \global\booltrue{LWR@forcinghtmltoc}%
7080 }
```

```
7081 \end{warpHTML}
```


for PRINT output:

```
7082 \begin{warpprint}
7083 \newcommand*{\ForceHTMLPage}{}
7084 \newcommand*{\ForceHTMLTOC}{}
7085 \end{warpprint}
```

for HTML output:

```
7086 \begin{warpHTML}
```

62.2 Book class commands

`\mainmatter`  Declare the main matter section of the document. Does not reset the page number, which must be consecutive arabic numbers for the HTML conversion.

```
7087 \newbool{LWR@mainmatter}
7088 \DeclareDocumentCommand{\mainmatter}{}{}%
7089 \booltrue{LWR@mainmatter}%
7090 }
```

`\frontmatter` Declare the front matter section of the document, using arabic numbering for the internal numbering. Does not reset the page number.

```
7091 \DeclareDocumentCommand{\frontmatter}{}{}%
7092 \boolfalse{LWR@mainmatter}%
7093 }
```

`\backmatter` Declare the back matter section of the document. Does not reset the page number.

```
7094 \DeclareDocumentCommand{\backmatter}{}{}%
7095 \boolfalse{LWR@mainmatter}
7096 }
```

62.3 Sectioning support macros

`\LWR@sectionnumber` $\langle \textit{section type} \rangle$

Typeset a section number and its trailing space with css formatting:

```
7097 \newcommand*{\LWR@sectionnumber}[1]{%
7098 \InlineClass{sectionnumber}{#1}%
7099 }
```

`autosec` A tag used by the toc and index.

`\LWR@createautosec` $\langle \textit{section type} \rangle$

Create an autosection tag.

The use of `\textquotedbl` instead of " provides improved compatibility with xeCJK.

```
7100 \newcommand*{\LWR@createautosec}[1]{%
7101 \LWR@htmltag{%
7102   #1 % space
7103   id=\textquotedbl\LWR@print@mbbox{autosec-\arabic{page}}\textquotedbl%
7104 }%
7105 }
```

`\LWR@pushoneclose` $\langle \textit{section type} \rangle$ Stacks the new sectioning level's closing tag, to be used when this section is closed some time later.



`\LWR@stoppars` must be executed first.

```
7106 \NewDocumentCommand{\LWR@pushoneclose}{m}{%
7107 \LWR@traceinfo{LWR@pushoneclose #1}%
7108   \LWR@pushclose{#1}%
7109 }
```

`\LWR@startnewdepth` $\langle \textit{section type} \rangle$

Closes currently stacked tags of a lesser level, then opens the new nesting level by saving this new sectioning level's closing tag for later use.



`\LWR@stoppars` must be executed first.

```
7110 \NewDocumentCommand{\LWR@startnewdepth}{m}{%
```

Close any stacked sections up to this new one.

```
7111 \LWR@closeprevious{#1}%
```

Push a new section depth:

```
7112 \LWR@pushoneclose{#1}%
```

```
7113 }
```

Ctrl `LWR@prevFileDepth` Remembers the previous `LWR@FileDepth`.

Initialized to a deep level so that any section will trigger a new HTML page after the home page.

```
7114 \newcounter{LWR@prevFileDepth}
```

```
7115 \setcounter{LWR@prevFileDepth}{\LWR@depthsubparagraph}
```

`\@secntformat` {<*sectiontype*>}

```
7116 \def\@secntformat#1{\csname the#1\endcsname\quad}
```

`\simplechapterdelim` Used by `tocbibind` and `anonchap`.

```
7117 \newcommand*\simplechapterdelim{}
```

`\@chapcntformat` {<*sectiontype*>}

\let to `\@secntformat` by default, but may be redefined by `\simplechapter` and `\restorechapter` from `tocbibind` or `anonchap`.

```
7118 \let\@chapcntformat\@secntformat
```

`\@partcntformat` {<*sectiontype*>}

\let to `\@secntformat` by default, but may be redefined by `ctex`.

```
7119 \let\@partcntformat\@secntformat
```

`\@partnameformat` Prints “Part” for part sections.

Nullified by `ctex`.

```
7120 \newcommand*\@partnameformat{\LWR@isolate{\partname}~}%
```

`\LWR@printchaptername` Print `\chaptername` in most cases, but this is nullified for `ctexbook`, `komascript`, `ujt*` classes.

```
7121 \newcommand*{\LWR@printchaptername}{%
7122   \ifdefvoid{\chaptername}{\chaptername~}%
7123 }
```

Ctrl `LWR@currentautosec` Records the page number when the section was created. (If a math expression is included in the section name, and SVG math is used, the corresponding `lateximage` will cause the page number to change by the time the following `autosec` label is created, thus the initial page number is recorded here.)

```
7124 \newcounter{LWR@currentautosec}
7125 \setcounter{LWR@currentautosec}{1}
```

`\LWR@section` * [`<TOC name>`] {`<name>`} {`<sectiontype>`}

The common actions for the high-level sectioning commands.

```
7126 \DeclareDocumentCommand{\LWR@section}{m m m m}{%
7127   \IfValueTF{#2}{%
7128     {\LWR@traceinfo{LWR@section: starting #4 #2}}%
7129     {\LWR@traceinfo{LWR@section: starting #4 #3}}%
7130   }
```

Warn if starting a section inside a ``:

```
7130   \LWR@spanwarninvalid{section}%

7131 \LWR@maybeprintpendingfootnotes{\csuse{LWR@depth#4}}%
7132 \LWR@stoppars%
7133 \LWR@startnewdepth{#4}%
```

Cancel special minipage horizontal space interaction:

```
7134 \global\boolfalse{LWR@minipagethispar}%
```

Start a new HTML file unless starred, and if is a shallow sectioning depth.

Exception: Also start a new HTML file for `\part*`, for appendix.

Generate a new \LaTeX page so that toc and index page number points to the section:

```
7135 \LWR@traceinfo{LWR@section: testing whether to start a new HTML file}%
7136 \IfBooleanT{#1}{\LWR@traceinfo{LWR@section: starred}}%
7137 \ifbool{LWR@forcinghtmlpage}{\LWR@traceinfo{LWR@section: forcinghtmlpage}}{}%
7138 \ifthenelse{%
7139   \(%
7140     \(\NOT\equal{#1}{\BooleanTrue})\)\OR%
7141     \(\cnttest{\@nameuse{LWR@depth#4}}{=}{\LWR@depthpart})\)\OR%
7142     \(\boolean{LWR@forcinghtmlpage})\)%
7143   \)%
7144   \AND%
7145   \cnttest{\@nameuse{LWR@depth#4}}{<=}{\value{FileDepth}}%
```

```

7146 \AND%
7147 \(%
7148 \NOT\boolean{CombineHigherDepths}\OR%
7149 \cnttest{\@nameuse{LWR@depth#4}}{<=}{\value{LWR@prevFileDepth}}%
7150 \)%
7151 \AND%

7152 \(% phantomsection
7153 \NOT\isempty{#3}%
7154 \OR%
7155 \(\NOT\equal{#1}{\BooleanTrue}\)%
7156 \)%
7157 }%

```

If so: start a new HTML file:

```

7158 {% new file
7159 \LWR@traceinfo{LWR@section: new HTML file}%

```

See if there was an optional TOC name entry:

```

7160 \IfNoValueTF{#2}%

```

If no optional entry

```

7161 {\LWR@newhtmlfile{#3}}%

```

If yes an optional entry

```

7162 {\LWR@newhtmlfile{#2}}%
7163 }% new file

```

Else: No new HTML file:

```

7164 {% not new file

```

Generate a new L^AT_EX page so that TOC and index page number points to the section:

```

7165 \LWR@traceinfo{LWR@section: not a new HTML file, about to LWR@orignewpage}%
7166 \LWR@maybe@orignewpage%
7167 }% not new file
7168

```

Remember this section's name for \nameref:

```

7169 \IfValueT{#3}{%
7170 \LWR@traceinfo{LWR@section: about to LWR@setlatestname}%
7171 \IfValueTF{#2}{\LWR@setlatestname{#2}}{\LWR@setlatestname{#3}}%
7172 }%

```

Print an opening comment with the level and the name; ex: “section” “Introduction”
Footnotes may be used in section names, which would also appear in the HTML section

opening comments, so the short TOC entry is used if possible, and a limited opening comment is made if the sectional unit is starred.

```

7173 \ifbool{HTMLDebugComments}{%
7174   \begingroup%
7175   \LWR@nullfonts%
7176   \IfBooleanTF{#1}% starred
7177   {\LWR@htmlcomment{Opening #4*}}%
7178   {%
7179     \IfNoValueTF{#2}% short TOC
7180     {\LWR@htmlcomment{Opening #4 ‘#3’}}%
7181     {\LWR@htmlcomment{Opening #4 ‘#2’}}%
7182   }\LWR@orignewLine%
7183   \endgroup%
7184 }{}

```

For inline sections paragraph and subparagraph, start a new paragraph now:

```

7185 \ifthenelse{%
7186   \cnttest{\@nameuse{LWR@depth#4}}{>=}{\LWR@depthparagraph}%
7187 }%
7188   {\LWR@startpars}%
7189   {}%

```

Create the opening tag with an autosec:

```

7190 \LWR@traceinfo{LWR@section: about to LWR@createautosec}%
7191 \LWR@createautosec{\@nameuse{LWR>tag#4}}%

7192 \setcounter{LWR@currentautosec}{\value{page}}%

```

Check if starred:

```

7193 \IfBooleanTF{#1}%
7194 {%
7195   \LWR@traceinfo{LWR@section: starred}%

```

Starred, but also forcing a TOC entry, so add unnumbered TOC name or regular name:

```

7196   \ifbool{LWR@forcinghtmltoc}%
7197   {%
7198     \addcontentsline{toc}{#4}{%
7199       \IfValueTF{#2}{\LWR@isolate{#2}}{\LWR@isolate{#3}}%
7200     }%
7201   }%
7202   {}%
7203 }% starred

```

Not starred, so step counter and add to TOC:

```

7204 {% not starred

```

Only add a numbered TOC entry if section number is not too deep:

```

7205 \ifthenelse{%
7206   \cntttest{\@nameuse{LWR@depth#4}}{<=} {\value{secnumdepth}}%
7207 }%
7208 {% if secnumdepth

```

If in the main matter, step the counter and add the toc entry. For article class, `lwarp` assumes that all is `mainmatter`.

```

7209 \LWR@traceinfo{LWR@section: about to test main matter}%
7210 \ifbool{LWR@mainmatter}%
7211 {%
7212   \LWR@traceinfo{LWR@section: yes mainmatter}%
7213   \refstepcounter{#4}%

```

Add main matter numbered toc entry with the toc name or the regular name:

```

7214 \LWR@traceinfo{LWR@section: about to addcontentsline}%
7215 \addcontentsline{toc}{#4}%
7216 {%
7217   \protect\numberline{%
7218     \@nameuse{pre#4name}%
7219     \@nameuse{the#4}%
7220     \@nameuse{post#4name}%
7221   }%
7222   {%
7223     \ignorespaces%
7224     \IfValueTF{#2}{\LWR@isolate{#2}}{\LWR@isolate{#3}}\protect\relax%
7225   }%
7226 }%
7227 \LWR@traceinfo{LWR@section: finished addcontentsline}%
7228 }% end of if main matter

```

If not main matter, add unnumbered toc name or regular name:

```

7229 {% not main matter
7230   \LWR@traceinfo{LWR@section: no main matter}%
7231   \addcontentsline{toc}{#4}{%
7232     \IfValueTF{#2}{\LWR@isolate{#2}}{\LWR@isolate{#3}}%
7233   }%
7234 }% end of not main matter
7235 }% end of secnumdepth

```

Deeper than `secnumdepth`, so add an unnumbered toc entry:

```

7236 {%
7237   \addcontentsline{toc}{#4}{%
7238     \IfValueTF{#2}{\LWR@isolate{#2}}{\LWR@isolate{#3}}%
7239   }%
7240 }%

```

For part, print "Part":

```

7241 \ifbool{LWR@mainmatter}%
7242 {%

```

```

7243 \ifthenelse{%
7244     \(\cnttest{\@nameuse{LWR@depth#4}}{<=}%)
7245     {\value{secnumdepth}}\)\ \AND%
7246     \(\cnttest{\@nameuse{LWR@depth#4}}{=}{\LWR@depthpart}\)%
7247 }%
7248 {\@partnameformat}%
7249 }%

```

Print the section number:

```

7250 \LWR@traceinfo{LWR@section: about to print section number}%
7251 \ifthenelse{%
7252     \cnttest{\@nameuse{LWR@depth#4}}{<=}{\value{secnumdepth}}%
7253 }%
7254 {%
7255     \ifstrequal{#4}{part}%
7256     {\protect\LWR@sectionnumber{\@partcntformat{#4}}}%
7257     {%
7258         \ifstrequal{#4}{chapter}%
7259         {%
7260             \LWR@printchaptername%
7261             \protect\LWR@sectionnumber{\@chapcntformat{#4}}%
7262         }%
7263         {\protect\LWR@sectionnumber{\@secntformat{#4}}}%
7264     }%
7265 }%
7266 }%
7267 \LWR@traceinfo{LWR@section: finished print section number}%
7268 }{}%
7269 }% not starred

```

Print the section name:

```

7270 \LWR@traceinfo{LWR@section: about to print the section name}%
7271 \LWR@isolate{#3}%

```

Close the heading tag, such as /H2:

```

7272 \LWR@traceinfo{LWR@section: about to close the heading tag}%
7273 \LWR@htmltag{\@nameuse{LWR@tag#4end}}%
7274 \LWR@orignewline%

```

Generate a L^AT_EX label.

Track the PDF page numbers of the HTML output.

```

7275 \LWR@traceinfo{LWR@section: about to create the LaTeX label}%
7276 \setcounter{LWR@latestautopage}{\value{page}}%
7277 \LWR@newautopageLabel{LWR@currentautosec}\LWR@orignewline%

```

If this is the first section found in this file, create a label for prevous/next links:

```

7278 \ifbool{LWR@setseqfilelabel}{}%
7279   \label{\BaseJobname-autofile-\arabic{LWR@htmlseqfilenumber}}%
7280   \booltrue{LWR@setseqfilelabel}%
7281 }%

```

Start paragraph handing unless is an inline paragraph or subparagraph:

```

7282 \ifthenelse{%
7283   \cnttest{\@nameuse{LWR@depth#4}}{<}{\LWR@depthparagraph}%
7284 }%
7285   {\LWR@startpars}%
7286   {}%

```

If not starred, remember the previous depth to possibly trigger a new HTML page.

HOWEVER, allow a `\part*` to start a new HTML page. This is used by appendix.

A starred section does not trigger a new HTML page at the beginning of this macro, so it should not affect it here at the end either. This became an issue when a `\listoftables` was tested in the middle of the document. The `\chapter*` for the list was not allowing a new HTML page for the section following it while `CombineHigherDepths` was true.

```

7287 \ifthenelse{%
7288   \NOT\equal{#1}{\BooleanTrue}\OR%
7289   \cnttest{\@nameuse{LWR@depth#4}}{=}{\LWR@depthpart}%
7290 }%
7291   {% not starred
7292     \setcounter{LWR@prevFileDepth}{\@nameuse{LWR@depth#4}}%
7293   }% not starred
7294   {}%

```

Reset to defaults if not a phantomsection:

```

7295 \ifstrempy{#3}%
7296   {}%
7297   {%
7298     \global\boolfalse{LWR@forcinghtmlpage}%
7299     \global\boolfalse{LWR@forcinghtmltoc}%
7300   }%
7301 %
7302 \LWR@traceinfo{LWR@section: done}%
7303 }

```

62.4 Pre- and post- sectioning names

`\prebookname` Usually null, but is used by `uj*` and `ut*` Japanese classes.

`\postbookname`

```
7304 \providecommand*\prebookname{}
```

```
7305 \providecommand*\postbookname{}
```

`\prepartname` Usually null, but is used by `uj*` and `ut*` Japanese classes.

`\postpartname`

```
7306 \providecommand*\prepartname{}
7307 \providecommand*\postpartname{}
```

`\prechaptername` Usually null, but is used by `uj*` and `ut*` Japanese classes.
`\postchaptername`

```
7308 \providecommand*\prechaptername{}
7309 \providecommand*\postchaptername{}
```

`\presectionname` Always null, but provided here for algorithmic simplicity in `\LWR@section`.
`\postsectionname`

```
7310 \providecommand*\presectionname{}
7311 \let\postsectionname\presectionname
7312
7313 \let\presubsectionname\presectionname
7314 \let\postsubsectionname\postsectionname
7315
7316 \let\presubsubsectionname\presectionname
7317 \let\postsubsubsectionname\postsectionname
7318
7319 \let\preparagraphname\presectionname
7320 \let\postparagraphname\postsectionname
7321
7322 \let\presubparagraphname\presectionname
7323 \let\postsubparagraphname\postsectionname
```

62.5 `\section` and friends

For `memoir`, a second optional argument is allowed.

For `hybpbmsec`, a second optional argument or either parenthesis argument is allowed.

Each of these additional arguments are for headers or PDF bookmarks, and are ignored for HTML output.

```
\part * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {\<6:name>}
```

```
7324 \newcommand{\part@preamble}{}% for koma-script
7325
7326 \DeclareDocumentCommand{\part}{s d() o o d() m}{%
7327   \LWR@section{#1}{#3}{#6}{part}%
7328
7329   \part@preamble% for koma-script
7330   \renewcommand{\part@preamble}{}%
7331 }
```

```
\chapter * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {\<6:name>}
```

```
7332 \let\@printcites\relax% for quotchap package
7333
7334 \newcommand{\chapter@preamble}{}% for koma-script
```

```

7335
7336 \@ifundefined{chapter}
7337 {}
7338 {%
7339   \DeclareDocumentCommand{\chapter}{s d() o o d() m}{%
7340     \LWR@section{#1}{#3}{#6}{chapter}%
7341
7342     \@printcites% for quotchap package
7343
7344     \chapter@preamble% for koma-script
7345     \renewcommand{\chapter@preamble}{}%
7346   }
7347 }

```

`\section * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {\<6:name>}`

```

7348 \DeclareDocumentCommand{\section}{s d() o o d() m}{%
7349   \LWR@section{#1}{#3}{#6}{section}%
7350 }

```

`\subsection * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {\<6:name>}`

```

7351 \DeclareDocumentCommand{\subsection}{s d() o o d() m}{%
7352   \LWR@section{#1}{#3}{#6}{subsection}%
7353 }

```

`\subsubsection * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {\<6:name>}`

```

7354 \DeclareDocumentCommand{\subsubsection}{s d() o o d() m}{%
7355   \LWR@section{#1}{#3}{#6}{subsubsection}%
7356 }

```

`\paragraph * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {\<6:name>}`

```

7357 \DeclareDocumentCommand{\paragraph}{s d() o o d() m}{%
7358   \LWR@section{#1}{#3}{#6}{paragraph}%
7359 }

```

`\subparagraph * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {\<6:name>}`

```

7360 \DeclareDocumentCommand{\subparagraph}{s d() o o d() m}{%
7361   \LWR@section{#1}{#3}{#6}{subparagraph}%
7362 }

```

```
7363 \end{warpHTML}
```

63 Starting a new file

for HTML & PRINT: 7364 \begin{warpall}

`\HTMLLanguage` Default language for the HTML lang tag.

```
7365 \newcommand*\LWR@currentHTMLLanguage}{en-US}
7366
7367 \newcommand*\HTMLLanguage}[1]{%
7368   \renewcommand*\LWR@currentHTMLLanguage}{#1}%
7369 }
```

`\theHTMLTitleSeparator` May be used inside `\theHTMLTitleSection` to separate the website's overall HTML title and the particular page's section name.

```
7370 \ifPDFTeX% pdflatex or dvi latex
7371   \ifdefstring{\inputencodingname}{utf8}{%
7372     \newcommand*\theHTMLTitleSeparator}{ -\ }% EMDash
7373   }{%
7374     \newcommand*\theHTMLTitleSeparator}{ -\ }% hyphen
7375   }%
7376 \else%
7377   \ifpTeX
7378     \newcommand*\theHTMLTitleSeparator}{ -\ }% hyphen
7379   \else
7380     \newcommand*\theHTMLTitleSeparator}{ -\ }% EMDash
7381   \fi%
7382 \fi%
```

`\HTMLTitleBeforeSection` Sets the HTML page's meta title tag to show the website title before the section name.

```
7383 \newcommand*\HTMLTitleBeforeSection}{%
7384   \def\theHTMLTitleSection{%
7385     \theHTMLTitle\theHTMLTitleSeparator\theHTMLSection%
7386   }%
7387 }
```

`\HTMLTitleAfterSection` Sets the HTML page's meta title tag to show the section name before the website title.

```
7388 \newcommand*\HTMLTitleAfterSection}{%
7389   \def\theHTMLTitleSection{%
7390     \theHTMLSection\theHTMLTitleSeparator\theHTMLTitle%
7391   }%
7392 }
```

`\theHTMLTitleSection` Forms the HTML page's meta title tag. The default is to show the website title before the section name.

```
7393 \HTMLTitleBeforeSection
```

`\theHTMLSection` The section name is passed to `\LWR@filestart`, which then sets `\theHTMLSection` for use inside `\theHTMLTitleSection` to create an HTML meta title tag.

```
7394 \newcommand*\theHTMLSection}{}
```

```
7395 \end{warpall}
```

for HTML output: 7396 \begin{warpHTML}

\LWR@filestart [*<section name>*] Creates the opening HTML tags.

```
7397 \newcommand*\LWR@filestart[1][]{%
7398 \LWR@traceinfo{\LWR@filestart !#1!}%
```

Locally temporarily disable direct-formatting commands:

```
7399 \begingroup%
7400 \LWR@nullfonts%
```

Save the section name for use while creating the HTML meta title tag:

```
7401 \edef\theHTMLSection{#1}%
```

Remove extra material:

```
7402 \StrSubstitute{\theHTMLSection}{\protect}{\detokenize{-}}[\theHTMLSection]
7403 \StrSubstitute{\theHTMLSection}{\detokenize{----}}{\detokenize{-}}[\theHTMLSection]
7404 \StrSubstitute{\theHTMLSection}{\detokenize{---}}{\detokenize{-}}[\theHTMLSection]
7405 \StrSubstitute{\theHTMLSection}{\detokenize{--}}{\detokenize{-}}[\theHTMLSection]
7406 \StrSubstitute{\theHTMLSection}{\detokenize{-}}{\detokenize{-}}[\theHTMLSection]
```

If starts with a dash, remove the leading dash:

```
7407 \IfBeginWith{\theHTMLSection}{\detokenize{-}}{%
7408   \StrGobbleLeft{\theHTMLSection}{1}[\theHTMLSection]%
7409 }{%}
```

Create the page's HTML header:

```
7410 \LWR@htmltag{!DOCTYPE html}\LWR@orignewline
```

The language is user-adjustable:

```
7411 \LWR@htmltag{%
7412   html lang=\LWR@orig@textquotedbl\LWR@currentHTMLLanguage\LWR@orig@textquotedbl%
7413 }\LWR@orignewline
```

Start of the meta data:

```
7414 \LWR@htmltag{head}\LWR@orignewline
```

Charset is fixed at UTF-8:

```
7415 \LWR@htmltag{%
7416   meta charset=\LWR@orig@textquotedbl{UTF-8}\LWR@orig@textquotedbl \ /%
7417 }\LWR@orignewline
```


Author:

```

7418 \ifthenelse{\equal{\theHTMLAuthor}{}}%
7419   {}%
7420   {%
7421     \LWR@htmltag{%
7422       meta name=\LWR@orig@textquotedbl{}author\LWR@orig@textquotedbl\ % space
7423       content=\LWR@orig@textquotedbl\theHTMLAuthor\LWR@orig@textquotedbl\ /%
7424     }\LWR@orig@textquotedbl{}\LWR@orig@textquotedbl\ /%
7425   }%

```

lwarp is the generator:

```

7426 \LWR@htmltag{%
7427   meta % space
7428   name=\LWR@orig@textquotedbl{}generator\LWR@orig@textquotedbl\ % space
7429   content=\LWR@orig@textquotedbl{}LaTeX Lwarp package\LWR@orig@textquotedbl\ /%
7430 }\LWR@orig@textquotedbl{}\LWR@orig@textquotedbl\ /%

```

If there is a description, add it now:

```

7431 \ifdefempty{\LWR@currentHTMLDescription}{}%
7432   \LWR@htmltag{%
7433     meta name=\LWR@orig@textquotedbl{}description\LWR@orig@textquotedbl\ % space
7434     content=\LWR@orig@textquotedbl\LWR@currentHTMLDescription\LWR@orig@textquotedbl\ /%
7435   }\LWR@orig@textquotedbl{}\LWR@orig@textquotedbl\ /%
7436 }%

```

Mobile-friendly viewport:

```

7437 \LWR@htmltag{%
7438   meta % space
7439   name=\LWR@orig@textquotedbl{}viewport\LWR@orig@textquotedbl\ % space
7440   content=\LWR@orig@textquotedbl{}width=device-width, initial-scale=1.0\LWR@orig@textquotedbl\ /%
7441 }\LWR@orig@textquotedbl{}\LWR@orig@textquotedbl\ /%

```

IE patch:

```

7442 \LWR@htmltag{!-\/-[if lt IE 9]}\LWR@orig@textquotedbl{}\LWR@orig@textquotedbl\ /%
7443 \LWR@htmltag{%
7444   script % space
7445   src=\LWR@orig@textquotedbl{}
7446     http://html5shiv.googlecode.com/svn/trunk/html5.js%
7447   \LWR@orig@textquotedbl{}
7448 }%
7449 \LWR@htmltag{/script}\LWR@orig@textquotedbl{}\LWR@orig@textquotedbl\ /%
7450 \LWR@htmltag{![endif]-\/-}\LWR@orig@textquotedbl{}\LWR@orig@textquotedbl\ /%

```

The page's title, if there is one. A section name is also added if given.

```

7451 \ifthenelse{\equal{\theHTMLTitle}{}}%
7452   {}%
7453   {%
7454     \LWR@htmltag{title}%

```

```

7455     \ifdefempty{\theHTMLSection}%
7456         {\theHTMLTitle}%
7457         {\theHTMLTitleSection}%
7458     \LWR@htmltag{/title}\LWR@orignewline%
7459 }%

```

The page's stylesheet:

```

7460 \LWR@htmltag{%
7461     link % space
7462     rel=\LWR@orig@textquotedbl{}stylesheet\LWR@orig@textquotedbl\ % space
7463     type=\LWR@orig@textquotedbl{}text/css\LWR@orig@textquotedbl\ % space
7464     href=\LWR@orig@textquotedbl\LWR@currentcss\LWR@orig@textquotedbl\ /%
7465 }%
7466 \LWR@orignewline

```

Optional MATHJAX support. The HTML tags must be turned off during the verbatim input, and the paragraph handling which was turned on at the end of verbatim input must be immediately turned off again.

```

7467 \ifbool{mathjax}%
7468 {%
7469     \begingroup%
7470     \LWR@restoreoriglists%
7471     \boolfalse{LWR@verbtags}%

7472     \IfFileExists{\LWR@mathjaxfilename}%
7473         {\verbatiminput{\LWR@mathjaxfilename}}%
7474         {%
7475             \PackageError{lwarp}%
7476                 {%
7477                     \protect\MathJaxFilename\space specified the file\MessageBreak
7478                         \space\space\LWR@mathjaxfilename\MessageBreak
7479                             which does not exist%
7480                 }%
7481             {Specify an existing file, or remove \protect\MathJaxFilename.}%
7482         }%

7483     \booltrue{LWR@verbtags}%
7484     \endgroup%
7485     \LWR@stoppars%
7486 }% end of mathjax
7487 {}%

```

End of the header:

```

7488 \LWR@htmltag{/head}\LWR@orignewline

```

Start of the body:

```

7489 \LWR@htmltag{body}\LWR@orignewline
7490 \endgroup
7491 \LWR@traceinfo{LWR@filestart: done}
7492 }

```

```
7493 \end{warpHTML}
```

64 Starting HTML output

for HTML output: 7494 \begin{warpHTML}

\LWR@LwarpStart Executed at the beginning of the entire document.

The use of \textquotedbl instead of " improves compatibility with xeCJK.

```
7495 \catcode'\$=\active
7496 \newcommand*\LWR@LwarpStart
7497 {%
7498 \LWR@traceinfo{\LWR@LwarpStart}
```

If formatting for a word processor, force filedepth to single-file only, force HTML debug comments off.

```
7499 \ifbool{FormatWP}{%
7500   \setcounter{FileDepth}{-5}%
7501   \boolfalse{HTMLDebugComments}%
7502 }{}
```

Expand and detokenize \HomeHTMLFilename and \HTMLFilename:

```
7503 \edef\LWR@strresult{\HomeHTMLFilename}
7504 \edef\HomeHTMLFilename{\detokenize\expandafter{\LWR@strresult}}
7505 \edef\LWR@strresult{\HTMLFilename}
7506 \edef\HTMLFilename{\detokenize\expandafter{\LWR@strresult}}
```

Force onecolumn and empty page style:

```
7507 \LWR@origonecolumn%
7508 \LWR@origpagestyle{empty}%
```

No black box for overfull lines:

```
7509 \overfullrule=0pt
```

Reduce chance of line overflow when HTML tags are added:

```
7510 \LWR@print@footnotesize%
```

In PDF output, don't allow line breaks to interfere with HTML tags:

```
7511 \LWR@print@raggedright%
7512 \LetLtxMacro{\}{\LWR@endofline}%
```

Spread the lines for *pdftotext* to read them well:

```
7513 \linespread{1.3}%
```

For *pdftotext* to reliably identify paragraph splits:

```
7514 \setlength{\parindent}{0pt}
7515 \setlength{\parskip}{2ex}
```

For the lateximage record file:

```
7516 \immediate\openout\LWR@lateximagesfile=\BaseJobname-images.txt
```

Removes space around the caption in the HTML:

```
7517 \setlength{\belowcaptionskip}{0ex}
7518 \setlength{\abovecaptionskip}{0ex}
```

Redefine the plain page style to be empty when used by index pages:

```
7519 \renewcommand{\ps@plain}{}
```

Plug in some new actions. This is done just before the document start so that they won't be over-written by some other package.

Float captions:

```
7520 \let\LWR@origcaption\caption
```

Not yet started any paragraph handling:

```
7521 \global\boolfalse{LWR@doingapar}
7522 \global\boolfalse{LWR@doingstartpars}
```

Document and page settings:

```
7523 \mainmatter
7524 \LWR@origpagenumbering{arabic}
```

Start a new HTML file and a header:

```
7525 \LWR@traceinfo{LWR@lwarpStart: Starting new file.}
7526 \LWR@filestart
7527 \LWR@traceinfo{LWR@lwarpStart: Generating first header.}
```

```
7528 \ifdefempty{\LWR@firstpagetop}{}{%
7529   \LWR@htmltag{header}\LWR@orignewline
7530   \LWR@startpars
7531   \LWR@firstpagetop
7532   \LWR@stoppars
7533   \LWR@htmltag{/header}\LWR@orignewline
7534 }%
```

```
7535 \LWR@htmlclass{div}{bodywithoutsidetoc}
7536 \LWR@htmlclass{div}{bodycontainer}
7537 \LWR@traceinfo{LWR@lwarpStart: Generating textbody.}
7538 \LWR@htmlclass{section}{textbody}
```

Create a label for previous/next links, and remember it has been done:

```
7539 \booltrue{LWR@setseqfilelabel}%
7540 \label{\BaseJobname-autofile-\arabic{LWR@htmlseqfilenumber}}
```

Patch the `itemize`, `enumerate`, and `description` environments and `\item`. This works with the native L^AT_EX environments, as well as those provided by `enumitem`, `enumerate`, and `paralist`.

```
7541 \LWR@patchlists
```

Ensure that math mode is active to call lwarp's patches:

```
7542 \catcode'\$=\active
```

Required for `\nameref` to work with SVG math:

```
7543 \immediate\write\@mainaux{\catcode'\string$\active}%
7544 \LetLtxMacro\LWR@syntaxhighlightone$% balance for editor syntax highlighting
```

Allow HTML paragraphs to begin:

```
7545 \LWR@startpars
```

If using MATHJAX, disable `\ensuremath` by printing a nullified definition at the start of each file, and add further customizations:

```
7546 \ifbool{mathjax}{
7547   \typeout{---}
7548   \typeout{Package lwarp:}
7549   \typeout{Processing MathJax customizations for the first HTML page.}
7550   \typeout{Later HTML pages will take the same amount of time.}
7551   \typeout{If this takes too long, see the Lwarp manual regarding customizing MathJax.}
7552 }{}
7553
7554 \LWR@customizeMathJax
7555
7556 \ifbool{mathjax}{
7557   \typeout{Done.}
7558   \typeout{---}
7559 }{}
```

First autopage label in case a figure occurs early.

```
7560 \setcounter{LWR@latestautopage}{\value{page}}%
7561 \LWR@newautopagelabel{LWR@currentautosec}%
```

```
7562 \LWR@traceinfo{LWR@lwarpStart: done}
7563 }
7564 \catcode'\$=3% math shift until lwarp starts
```

```
7565 \end{warpHTML}
```

65 Ending HTML output

for HTML output: 7566 \begin{warpHTML}

\LWR@requesttoc *{<boolean>}{<suffix>}* Requests that a TOC, LOF, or LOT be generated.

```
7567 \newcommand*{\LWR@requesttoc}[2]{%
7568 \ifbool{#1}
7569 {
7570   \expandafter\newwrite\@nameuse{tf@#2}
7571   \immediate\openout \@nameuse{tf@#2} \jobname.#2\relax
7572 }{}
7573 }
```

\LWR@LwarpEnd Final stop of all HTML output:

```
7574 \newcommand*{\LWR@LwarpEnd}
7575 {
7576 \LWR@stoppars
7577 \LWR@closeprevious{finished}
```

At the bottom of the ending file:

Close the textbody:

```
7578 \label{\BaseJobname-autofile-last}
7579 \LWR@htmllementclassend{section}{textbody}
7580 \LWR@htmllementclassend{div}{bodycontainer}
7581 \LWR@htmllementclassend{div}{bodyandsidetoc}
```

Print any pending footnotes:

```
7582 \LWR@printpendingfootnotes
```

Create the footer if not EPUB

```
7583 \ifbool{FormatEPUB}{\LWR@createfooter}
```

No bottom navigation if are finishing the home page, or if formatting for an EPUB or word processor.

Presumably has a table-of-contents.

```
7584 \ifthenelse{\boolean{FormatEPUB}\OR\boolean{FormatWP}}
7585   {}
7586   {
7587     \ifnumcomp{\value{LWR@htmlfilenumber}}{>}{0}{\LWR@botnavigation}{}
7588   }
```

```
7589 \LWR@stoppars% final stop of all paragraphs
```

Finish the HTML file:

```
7590 \LWR@htmltag{/body}\LWR@orignewline
7591 \LWR@htmltag{/html}\LWR@orignewline
```

Seems to be required sometimes:

```
7592 \LWR@maybe@orignewpage
7593 }
```

`\enddocument` If labels have not changed, mark successful completion of the `lateximages.txt` file. Executed as everything is being shut down.

For the newer kernel hooks, see `texdoc lthooks-doc` and `texdoc ltshipout-doc`.

```
7594 \ifdef{\AddToHook}{% newer kernel
7595   \AddToHook{enddocument/info}{%
7596     \if@filesw
7597     \ifx \@multiplelabels \relax
7598     \if@tempswa
```

This is where warnings of duplicate labels would appear.

```
7599   \else
```

No duplicate labels, so safe to create images.

```
7600       \immediate\write\LWR@lateximagesfile{%
7601         |end|end|end|%
7602       }%
7603     \fi
7604   \fi\fi
7605 }
7606 }% newer kernel
7607 {% older kernel
7608   \xpatchcmd{\enddocument}
7609     {%
7610       \if@tempswa
7611       \@latex@warning@no@line{Label(s) may have changed.
7612         Rerun to get cross-references right}%
7613       \fi
7614     }
7615     {%
7616       \if@tempswa
7617       \@latex@warning@no@line{Label(s) may have changed.
7618         Rerun to get cross-references right}%
7619     \else
```

No duplicate labels, so safe to create images.

```
7620       \immediate\write\LWR@lateximagesfile{%
7621         |end|end|end|%
7622       }%
7623     \fi
```

```

7624     }
7625     {}
7626     {
7627         \AtEndDocument{
7628             \PackageWarningNoLine{lwarp}
7629             {%
7630                 Could not patch \protect\enddocument.\MessageBreak
7631                 If labels have changed, be sure to recompile before.\MessageBreak
7632                 creating lateximages with.\MessageBreak
7633                 \space\space lwarpmk limages,\MessageBreak
7634                 or the images may be corrupt%
7635             }
7636         }
7637     }
7638 }% older kernel

```

66 Nullifying foreground/background hooks

See `texdoc lthooks-doc` and `texdoc ltshipout-doc`.

```

7639 \ifdef{\RemoveFromHook}{
7640     \AfterEndPreamble{
7641         \IfHookEmptyTF{shipout/background}{}{
7642             \PackageInfo{lwarp}{Removing background hook}
7643             \RemoveFromHook{shipout/background}[*]
7644         }
7645         \IfHookEmptyTF{shipout/foreground}{}{
7646             \PackageInfo{lwarp}{Removing foreground hook}
7647             \RemoveFromHook{shipout/foreground}[*]
7648         }
7649     }
7650 }{}

7651 \end{warpHTML}

```

67 Title page

package support `lwarp` supports the native L^AT_EX titling commands, and also supports the packages `authblk` and `titling`. If both are used, `authblk` should be loaded before `titling`.

 **load order**

`\published` and `\subtitle` If using the `titling` package, additional titlepage fields for `\published` and `\subtitle` may be added by using `\AddSubtitlePublished` in the preamble. See section 67.8.

affiliation `lwarp` provides for the `\author` macro an additional `\affiliation` macro to provide an affiliation and other additional information for each author in the title page. The affiliation information is removed when using `titlingpage`'s `\theauthor` in the main text.

reusing titlepage information The `titling` package maintains the definitions of `\thetitle`, `\theauthor`, etc., after

- the title has been typeset. These commands are to be used to refer to the document's title and author, etc., in the main text. These definitions have the `\thanks` and `\affiliation` removed, and for `\author` the `\and` is replaced to generate a simple inline list of authors separated by commas. Note: `\theauthor` does not work well with `authblk` unless the traditional L^AT_EX syntax is used.
- △ `\theauthor`, `authblk`
- custom titlepages `\printtitle`, `\printauthor`, etc., are provided for use inside a custom titlepage or titlingpage environment, and these retain the `\thanks` and `\affiliation`.
- `\printthanks` `\printthanks` has been added to force the printing of thanks inside a titlingpage environment when `\maketitle` is not used.
- △ `\thanks` Inside a `\titlepage` or `\titlingpage` environment, use `\thanks` instead of `\footnote` for acknowledgements, etc.

67.1 Setting the title, etc.

The following provide setting commands for both HTML and print outputs.

`\author` `{\author}` While using `\maketitle` and print mode, the author is treated as a single-column tabular and the `\and` feature finishes the current tabular then starts a new one for the next author. Each author thus is placed into its own tabular, and an affiliation may be placed on its own line such as

```
\author{Name \\ Affiliation \and Second Name \\ Second Affiliation}
```

For HTML, the entire author block is placed inside a `<div>` of class `author`, and each individual author is inside a `<div>` of class `oneauthor`.

`\@title` `\@author` `\@date` `\@title`, `\@author`, and `\@date` store the values as originally assigned, including any `\thanks`, `\and`, or `\affiliation`. These are low-level macros intended to be used by other macros only inside a titlepage or titlingpage, and are used by `\maketitle`. The author is printed inside a single-column tabular, which becomes multiple single-column tabulars if multiples authors are included. For HTML, these tabulars become side-by-side `<div>`s of class `oneauthor`, all of which are combined into one `<div>` of class `author`.

`\printtitle` `\printauthor` `\printdate` `\printtitle`, etc. are user-level macros intended to be used in custom titlepage or titlingpage environments in cases where `\maketitle` is not desired. These commands preserve the `\thanks`, etc., and should not be used in the main text.

`\thetitle` `\theauthor` `\thedata` `\thetitle`, `\theauthor`, and `\thedata` are available if `titling` has been loaded, and are sanitized user-level versions from which have been removed the `\thanks` and `\affiliation`, and `\and` is changed for inline text usage. The author is printed inline without `\affiliation` or `\thanks`, with `\and` placing commas between multiple authors. Thus, these commands are to be used in the main text whenever the user wishes to refer to the document's title and such. One practical use for this is to place the authors at the bottom of each HTML page, such as:

```
\HTMLPageBottom{
  \begin{center}\textcopyright~20xx \theauthor\end{center}
}
```

- ⚠ `\theauthor`, `authblk` `\theauthor` does not work well if `authblk` is used. If `\theauthor` is important, it is recommended to use the standard \LaTeX syntax for `\author`, optionally with `lwarp`'s `\affiliation` macro as well.
- ⚠ `affiliations` After `\maketitle` has completed, `\theauthor` retains the definition of the author, but `\and` is changed to become a comma and a space, intending to print the authors names separated by spaces. This fails when affiliations are included on their own table rows.
- `\affiliation` A solution, provide here, is to define a macro `\affiliation` which, during `\maketitle`, starts a new row and adds the affiliation, but after `\maketitle` is finished `\affiliation` is re-defined to discard its argument, thus printing only the author names when `\author` is later used inline.

67.2 `\if@titlepage`

for HTML & PRINT: 7652 `\begin{warpall}`

`\if@titlepage` Some classes do not provide `\if@titlepage`. In this case, provide it and force it false.

```
7653 \ifcsvoid{@titlepagefalse}{
7654   \newif\if@titlepage
7655   \@titlepagefalse
7656 }{}
```

```
7657 \end{warpall}
```

67.3 Changes for `\affiliation`

`\affiliation` `{\text}`

Adds the affiliation to the author for use in `\maketitle`.

Inside `titlepage`, this macro prints its argument. Outside, it is null.

for HTML & PRINT: 7658 `\begin{warpall}`
7659 `\providerobustcmd{\affiliation}[1]{}{}`
7660 `\end{warpall}`

for PRINT output: 7661 `\begin{warpprint}`

```
7662 \AtBeginEnvironment{titlepage}{
7663 \renewrobustcmd{\affiliation}[1]{\ \ \textsc{\small#1}}
7664 }
7665
7666 \AtBeginDocument{
7667 \@ifpackageloaded{titling}{
7668 \AtBeginEnvironment{titlingpage}{
7669 \renewrobustcmd{\affiliation}[1]{\ \ \textsc{\small#1}}
7670 }
```

```
7671 }{}% titling loaded
7672 }% AtBeginDocument
```

```
7673 \end{warpprint}
```

for HTML output: 7674 \begin{warppHTML}

Env titlepage Sets up a <div> of class titlepage. Provided even for memoir class, since it is used by \maketitle.

```
7675 \DeclareDocumentEnvironment{titlepage}{}
7676 {
7677 \renewrobustcmd{\affiliation}[1]{\ \ \InlineClass{affiliation}{##1}}
7678 \LWR@printpendingfootnotes
7679 \LWR@forcenewpage
7680 \BlockClass{titlepage}
7681 }
7682 {
7683 \endBlockClass
7684 \LWR@printpendingfootnotes
7685 }

7686 \end{warppHTML}
```

67.4 Printing the thanks

\printthanks Forces the \thanks to be printed. This is necessary in a titlingpage environment when \maketitle was not used.

for PRINT output: 7687 \begin{warpprint}
7688 \newcommand*{\printthanks}{\@thanks}
7689 \end{warpprint}

for HTML output: 7690 \begin{warppHTML}
7691 \newcommand*{\printthanks}{\LWR@stoppars\@thanks\LWR@startpars}
7692 \end{warppHTML}

67.5 Printing the title, etc. in HTML

The following are for printing the title, etc. in a titlepage or a titlingpage in HTML:

for HTML output: 7693 \begin{warppHTML}

\printtitle

```
7694 \newcommand*{\printtitle}
7695 {%
7696   \LWR@stoppars%
7697   \LWR@htmltag{\LWR@tagtitle}%
```

```

7698 \@title%
7699 \LWR@htmltag{\LWR@tagtitleend}%
7700 \LWR@startpars%
7701 }

```

`\LWR@printthetitle` A private version which prints the title without footnotes, used to title each HTML page.

```

7702 \newcommand*{\LWR@printthetitle}
7703 {%
7704 \LWR@stoppars%
7705 \LWR@htmltag{\LWR@tagtitle}%
7706 \thetitle%
7707 \LWR@htmltag{\LWR@tagtitleend}%
7708 \LWR@startpars%
7709 }

```

`\printauthor` HTML version.

```
7710 \newcommand*{\printauthor}{
```

The entire author block is contained in a <div> named author:

```
7711 \begin{BlockClass}{author}
```

\and finishes one author and starts the next:

```

7712 \renewcommand{\and}{%
7713 \end{BlockClass}
7714 \begin{BlockClass}{oneauthor}
7715 }

```

Individual authors are contained in a <div> named oneauthor:

```

7716 \begin{BlockClass}{oneauthor}
7717 \@author
7718 \end{BlockClass}
7719 \end{BlockClass}
7720 }

```

`\printdate`

```

7721 \newcommand*{\printdate}{%
7722 \begin{BlockClass}{titledate}
7723 \@date
7724 \end{BlockClass}
7725 }

```

```
7726 \end{warpHTML}
```

67.6 Printing the title, etc. in print form

The following are for printing the title, etc. in a titlepage or a titlingpage in print form:

for PRINT output: 7727 \begin{warpprint}

\printtitle

```
7728 \newcommand*{\printtitle}{{\Huge\@title}}
```

\printauthor Print mode.

```
7729 \newcommand*{\printauthor}
```

```
7730   {{\large\begin{tabular}[t]{c}\@author\end{tabular}}}
```

\printdate

```
7731 \newcommand*{\printdate}{{\small\textit{\@date}}}
```

```
7732 \end{warpprint}
```

67.7 \maketitle for HTML output

An HTML <div> of class titlepage is used.

\thanks are a form of footnotes used in the title page. See section 59 for other kinds of footnotes.

See \thanksmarkseries{series}, below, to set the style of the footnote marks.

for HTML output: 7733 \begin{warppHTML}

```
7734 \@ifclassloaded{memoir}
```

```
7735 {
```

```
7736 \newcommand{\LWR@setfootnoteseries}{%
```

```
7737   \renewcommand\thefootnote{\@arabic\c@footnote}%
```

```
7738 }
```

```
7739 }{% not memoir
```

```
7740 \if@titlepage
```

```
7741 \newcommand{\LWR@setfootnoteseries}{%
```

```
7742   \renewcommand\thefootnote{\@arabic\c@footnote}%
```

```
7743 }
```

```
7744 \else
```

```
7745 \newcommand{\LWR@setfootnoteseries}{%
```

```
7746   \renewcommand\thefootnote{\@fnsymbol\c@footnote}%
```

```
7747 }
```

```
7748 \fi
```

```
7749 }% not memoir
```

`\LWR@maketitlesetup` Patches `\thanks` macros.

```
7750 \newcommand*{\LWR@maketitlesetup}{%
```

Redefine the footnote mark:

```
7751 \LWR@setfootnoteseries%
7752 \def\@makefnmark{\textsuperscript{\thefootnote}}
```

```
\thefootnote ⇒ \nameuse{arabic}{footnote}, or
\thefootnote ⇒ \nameuse{fnsymbol}{footnote}
```

Redefine the footnote text:

```
7753 \long\def\@makefntext##1{%
```

Make the footnote mark and some extra horizontal space for the tags:

```
7754 \textsuperscript{\@thefnmark}~%
```

```
\makethanksmark ⇒ \thanksfootmark ⇒ \tamark ⇒
\@thefnmark ⇒ \itshape a (or similar)
```

Print the text:

```
7755 ##1%
7756 }%
7757 }
```

`\@fnsymbol` {*counter*}

Re-defined to use an HTML entity for the double vertical bar symbol. The original definition used `\|` which was not being seen by *pdfotext*.

```
7758 \def\LWR@HTML@fnsymbol#1{%
7759   \ifcase#1\or *\or
7760   \HTMLentity{dagger}\or
7761   \HTMLentity{Dagger}\or
7762   \HTMLentity{sect}\or
7763   \HTMLentity{para}\or
7764   \HTMLUnicode{2016}\or
7765   **\or
7766   \HTMLentity{dagger}\HTMLentity{dagger} \or
7767   \HTMLentity{Dagger}\HTMLentity{Dagger} \else
7768   \@ctrerr\fi%
7769 }
7770 \LWR@formatted{@fnsymbol}
```

`\maketitle` HTML mode. Creates an HTML titlepage div and typesets the title, etc.

Code from the titling package is adapted, simplified, and modified for HTML output.

```
7771 \renewcommand*{\maketitle}{%
```

An HTML titlepage <div> is used for all classes.

```
7772 \begin{titlepage}
```

Set up special patches:

```
7773 \LWR@maketitlesetup
```

Typeset the title, etc:

```
7774 \@maketitle
```

Immediately generate any \thanks footnotes:

```
7775 \LWR@stoppars\@thanks\LWR@startpars
```

Close the HTML titlepage div and cleanup:

```
7776 \end{titlepage}
7777 \setcounter{footnote}{0}%
7778 \global\let\thanks\relax
7779 \global\let\maketitle\relax
7780 \global\let\@maketitle\relax
7781 \global\let\@thanks\@empty
7782 \global\let\@author\@empty
7783 \global\let\@date\@empty
7784 \global\let\@title\@empty
7785 \global\let\title\relax
7786 \global\let\author\relax
7787 \global\let\date\relax
7788 \global\let\and\relax
7789 }
```

`\@maketitle` HTML mode. Typesets the title, etc.:

```
7790 \DeclareDocumentCommand{\@maketitle}{}{%
7791     \LWR@stoppars%
7792     \LWR@htmltag{\LWR@tagtitle}%
7793     \@title%
7794     \LWR@htmltag{\LWR@tagtitleend}%
7795     \LWR@startpars%
7796     \begin{BlockClass}{author}%
```

For IEEEtran class:

```
7797     \renewcommand*{\cr}{}%
7798     \renewcommand*{\crr}{}%
7799     \renewcommand*{\noalign}{}%
```

```

7800     \renewcommand{\and}{%
7801         \end{BlockClass}%
7802         \begin{BlockClass}{oneauthor}%
7803     }%
7804     \begin{BlockClass}{oneauthor}%
7805         \@author%
7806     \end{BlockClass}%
7807 \end{BlockClass}%
7808 \begin{BlockClass}{titledate}%
7809 \@date%
7810 \end{BlockClass}%
7811 }
```

`\LWR@titlingmaketitle` `\maketitle` for use inside an HTML titlingpage environment.

```
7812 \newcommand*{\LWR@titlingmaketitle}{%
```

Keep pending footnotes out of the title block:

```
7813 \LWR@stoppars\@thanks\LWR@startpars
```

Set up special patches:

```
7814 \LWR@maketitlesetup
```

Typeset the title, etc:

```
7815 \@maketitle
```

Immediately generate any `\thanks` footnotes:

```
7816 \LWR@stoppars\@thanks\LWR@startpars
7817 }
```


```
7818 \end{warpHTML}
```

67.8 `\published` and `\subtitle`

`\subtitle` and `\published` To add `\subtitle` and `\published` to the titlepage, load the titling package and use `\AddSubtitlePublished` in the preamble.

The default `lwarp.css` has definitions for the `published` and `subtitle` classes.

If `titling` is loaded, `\AddSubtitlePublished` creates a number of additional macros, and also assigns some of the `titling` hooks. If `titling` is not loaded, `\AddSubtitlePublished` creates null macros.

 **titling hooks** Do not use `\AddSubtitlePublished` if the user has patched the `titling` hooks for some other reason. Portions are marked `\warpprintonly` to reduce extra tags in HTML. Similarly, `BlockClass` has no effect in print mode. Thus, the following may be marked `warpall`.

for HTML & PRINT: 7819 \begin{warpall}

\AddSubtitlePublished Adds \published and \subtitle, and related.

```

7820 \newcommand*{\AddSubtitlePublished}{%
7821 \ifpackageloaded{titling}{% yes titling package
7822   \newcommand{\@published}{}%
7823   \newcommand{\published}[1]{\gdef\@published{##1}}%
7824   \renewcommand*\maketitlehooka{\printpublished}%
7825   \newcommand*\printpublished{%
7826     \warpprintonly{\begin{center}\unskip}%
7827     \begin{BlockClass}{published}%
7828     \warpprintonly{\Large\itshape}%
7829     \@published%
7830     \end{BlockClass}%
7831     \warpprintonly{\end{center}}%
7832   }%
7833   \newcommand{\@subtitle}{}%
7834   \newcommand{\subtitle}[1]{\gdef\@subtitle{##1}}%
7835   \renewcommand*\maketitlehookb{\printsubtitle}%
7836   \newcommand*\printsubtitle{%
7837     \warpprintonly{\begin{center}\unskip}%
7838     \begin{BlockClass}{subtitle}%
7839     \warpprintonly{\Large\itshape}%
7840     \@subtitle%
7841     \end{BlockClass}%
7842     \warpprintonly{\end{center}}%
7843   }%
7844 }% yes titling package
7845 {% no titling package

7846   \def\@published{}%
7847   \DeclareDocumentCommand{\published}{m}{\gdef\@published{##1}}%
7848   \DeclareDocumentCommand{\printpublished}{}{}%
7849   \def\@subtitle{}%
7850   \DeclareDocumentCommand{\subtitle}{m}{\gdef\@subtitle{##1}}%
7851   \DeclareDocumentCommand{\printsubtitle}{}{}%
7852 }% no titling package
7853 }% \AddSubtitlePublished

7854 \end{warpall}

```

68 Abstract

The following code replaces the L^AT_EX default, and will itself be replaced later if the abstract package is loaded.

for HTML output: 7855 \begin{warpHTML}

\abstractname User-redefinable title for the abstract.

Also over-written by the `babel` package.

```
7856 \providecommand*{\abstractname}{Abstract}
```

Some classes allow an optional name, so it is allowed here.

Env `abstract`

```
7857 \DeclareDocumentEnvironment{abstract}{0}{\abstractname}
7858 {
7859   \LWR@forcenewpage
7860   \BlockClass{abstract}
7861   \BlockClassSingle{abstracttitle}{#1}
7862 }
7863 {
7864   \endBlockClass
7865 }

7866 \end{warpHTML}
```

69 Quote and verse

69.1 Attributions

`\attribution` $\langle name \rangle$

For use with `quote`, `quotation`, `verse`:

Ex: "A quotation." `\attribution{\textsc{Author Name}}\textsl{Book Title}`

for HTML & PRINT:

```
7867 \begin{warpall}
7868 \newcommand{\attribution}[1]{
7869   \begin{flushright}
7870   \unskip
7871   #1
7872   \end{flushright}%
7873 }
7874 \end{warpall}
```

for HTML output:

```
7875 \begin{warpHTML}
7876 \newcommand{\LWR@HTML@attribution}[1]{%
7877   \LWR@stoppars%
7878   \begin{BlockClass}{attribution}
7879   #1
7880   \end{BlockClass}
7881   \LWR@startpars%
7882 }
7883 \LWR@formatted{attribution}
7884 \end{warpHTML}
```

69.2 Quotes, quotations

for HTML output: 7885 `\begin{warpHTML}`

Env quote

```
7886 \newenvironment*{LWR@HTML@quote}
7887 {
7888     \LWR@forcenewpage
7889     \LWR@htmlblocktag{blockquote}
7890 }
7891 {\LWR@htmlblocktag{/blockquote}}
7892
7893 \LWR@formattedenv{quote}
```

Env quotation

```
7894 \newenvironment*{LWR@HTML@quotation}
7895 {
7896     \LWR@forcenewpage
7897     \LWR@htmlblocktag{blockquote}
7898 }
7899 {\LWR@htmlblocktag{/blockquote}}
7900
7901 \LWR@formattedenv{quotation}

7902 \end{warpHTML}
```

69.3 Verse

When using `verse` or `memoir`, always place a `\\` after each line.

`\attrib` The documentation for the `verse` and `memoir` packages suggest defining an `\attrib` command, which may already exist in current documents, but it will only work for print output. `lwarp` provides `\attribution`, which works for both print and HTML output. To combine the two so that `\attrib` is used for print and `\attribution` is used for HTML:

```
\begin{warpHTML}
\let\attrib\attribution
\end{warpHTML}
```

Len `\vleftskip` These lengths are used by `verse` and `memoir` to control the left margin, and they may already be set by the user for print output. New lengths `\HTMLvleftskip` and `\HTMLleftmargini` are provided to control the margins in HTML output. These new lengths may be set by the user before any `verse` environment, and persist until they are manually changed again. One reason to change `\HTMLleftmargini` is if there is a wide `\flagverse` in use, such as the word “Chorus”, in which case the value of `\HTMLleftmargini` should be set to a wide enough length to contain “Chorus”. The default is wide enough for a stanza number.

Len `\leftmargini`

Len `\HTMLvleftskip`

Len `\HTMLleftmargini`

- ⚠ **spacing** Horizontal spacing relies on *pdftotext*'s ability to discern the layout (`-layout` option) of the text in the HTML-tagged PDF output. For some settings of `\HTMLleftmargini` or `\HTMLleftskip` the horizontal alignment may not work out exactly, in which case a label may be shifted by one space. During translation to HTML, the stanza numbers are kept out of the left margin, which would have caused *pdftotext* to shift everything over.
- ⚠ **verse margin**

69.3.1 L^AT_EX core verse environment

for HTML output: 7903 `\begin{warpHTML}`

Env `verse`

```

7904 \newenvironment{LWR@HTML@verse}
7905     {\let\\newline% lwarp
7906      \list{}{\itemsep \z@
7907       \itemindent -1.5em%
7908       \listparindent\itemindent
7909       \rightmargin \leftmargin
7910       \advance\leftmargin 1.5em}%
7911      \item\relax}
7912     {\endlist}
7913
7914 \LWR@formattedenv{verse}

7915 \end{warpHTML}

```

for HTML & PRINT: 7916 `\begin{warpall}`

69.3.2 verse and memoir

The following lengths are used by `verse` and `memoir`. They may be set in either print or HTML output, but are only used in HTML. This allows the user to set `\vleftskip` and `\leftmargini` for print output, and optionally select different values for HTML.

Len `\HTMLvleftskip` Sets `\vleftskip` inside a `verse` environment in HTML.

```

7917 \newlength{\HTMLvleftskip}
7918 \setlength{\HTMLvleftskip}{1em}

```

Len `\HTMLleftmargini` Sets `\leftmargini` inside a `verse` environment in HTML.

```

7919 \newlength{\HTMLleftmargini}
7920 \setlength{\HTMLleftmargini}{4.5em}

7921 \end{warpall}

```

70 Verbatim and tabbing

for HTML & PRINT: 7922 \begin{warpall}

Len \VerbatimHTMLWidth Width to use in HTML Verbatim environment.

This width is used when placing line numbers to the right. Ignored during print output.

```
7923 \newlength{\VerbatimHTMLWidth}
7924 \setlength{\VerbatimHTMLWidth}{4in}
7925 \end{warpall}
```

for HTML output: 7926 \begin{warpHTML}

Bool LWR@verbtags Used to temporarily turn off verbatim tags while doing \verbatiminput in the HTML head.

```
7927 \newbool{LWR@verbtags}
7928 \booltrue{LWR@verbtags}
```

\verb Patched to encapsulate the verbatim text inside span with a class of texttt.

```
7929 \LetLtxMacro\LWR@orig@verb@egroup\verb@egroup
7930
7931 \def\LWR@verb@egroup@endspan{%
7932   \LWR@orig@verb@egroup%
7933   \LWR@htmltag{/span}%
7934   \endgroup%
7935 }
7936
7937 \xpretocmd{\verb}
7938   {%
7939     \begingroup%
7940     \LWR@htmltag{span class="texttt"}%
7941     \let\verb@egroup\LWR@verb@egroup@endspan%
7942   }
7943   {}
7944   {\LWR@patcherror{LaTeX}{\verb}}
```

\LWR@atbeginverbatim [*1: style*] {*2: class*}

Encloses a verbatim environment with the given css class.

The use of \textquotedbl instead of " improves compatibility with xeCJK.

```
7945 \newcommand*{\LWR@atbeginverbatim}[2][ ]
7946 {%
```

Stop generating HTML paragraph tags:

```
7947 \LWR@stoppars%
```

Avoid excessive space between lines:

```
7948 \setlength{\parskip}{0ex}%
7949 \setlength{\topsep}{0pt}%
7950 \setlength{\partopsep}{0pt}%
```

Create a new pre of the given class. The tags may temporarily be turned off for internal use, such as loading the MATHJAX script.

```
7951 \ifbool{LWR@verbtags}{%
7952   \LWR@htmltag{pre class=\textquotedbl#2\textquotedbl%
7953     \ifthenelse{equal{#1}{}}{ style=\textquotedbl#1\textquotedbl}%
7954   }%
7955   \par%
7956 }{%}
```

Use a mono-spaced font to preserve horizontal positioning. If horizontal alignment is important for the user, use a mono-spaced font in the css for the verse class.

```
7957 \begingroup%

7958 \LWR@print@normalfont%
7959 \LWR@origttfamily%
7960 \LWR@print@scriptsize%
```

Since inside a <pre>, restore the original list processing:

```
7961 \LWR@restoreoriglists%
```

Turn off babel-french extra space before punctuation:

```
7962 \LWR@FBcancel%
```

Do not produce HTML tags for \hspace inside a verse par. Restore plain L^AT_EX \hspace functionality:

```
7963 \LWR@select@print@hspace%
7964 }
```

`\LWR@afterendverbatim` Finishes enclosing a verbatim environment.

```
7965 \newcommand*{\LWR@afterendverbatim}{%
7966 \endgroup%
7967 \par%
```

At the end of the environment, close the pre:

```
7968 \ifbool{LWR@verbtags}{%
7969   \noindent\LWR@htmltag{/pre}\par% pre
7970 }{%}
```

Resume regular paragraph handling:

```
7971 \LWR@startpars%
7972 }
```

`\verbatiminput` $\{(\textit{filename})\}$

Patch `\verbatiminput` to add HTML tags:

```
7973 \newcommand{\LWR@HTML@verbatim@input}[2]{%
7974   \ifbool{\LWR@verbtags}{\LWR@forcenewpage}{}%
7975   \LWR@atbeginverbatim{Verbatim}%
7976   \LWR@print@verbatim@input{#1}{#2}%
7977   \LWR@afterendverbatim%
7978 }
7979
7980 \LWR@formatted{verbatim@input}
```

Env `verbatim`

```
7981 \AfterEndPreamble{
7982 \LWR@traceinfo{Patching verbatim.}
7983 \AtBeginEnvironment{verbatim}{%
7984   \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}%
7985     {}%
7986     {%
7987       \LWR@forcenewpage%
7988       \LWR@atbeginverbatim{verbatim}%
7989     }%
7990 }
7991 \AfterEndEnvironment{verbatim}{%
7992   \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}%
7993     {}%
7994     {%
7995       \LWR@afterendverbatim%
7996     }%
7997 }
7998 }
```

Env `tabbing` The `tabbing` environment works, except that `svg` math and `lateximages` do not yet work inside the environment.

 **math in tabbing** If math is used inside `tabbing`, place `tabbing` inside a `lateximage` environment, which will render the entire environment as a single `svg` image.

```
7999 \newcommand*{\LWR@HTML@tabbing}{%
8000   \LWR@forcenewpage%
8001   \LWR@atbeginverbatim{tabbing}%
8002   \let\enskip\LWR@origenskip%
8003   \let\quad\LWR@origquad%
8004   \let\qqquad\LWR@origqqquad%
8005   \let~\LWR@origtilde%
8006   \let\,\LWR@origcomma%
```

```

8007 \let\thinspace\LWR@origthinspace%
8008 \let\negthinspace\LWR@orignegthinspace%
8009 \LWR@print@tabbing%
8010 }
8011
8012 \newcommand*\LWR@HTML@endtabbing}{%
8013 \LWR@print@endtabbing%
8014 \LWR@afterendverbatim%
8015 }
8016
8017 \LWR@formatted{tabbing}
8018 \LWR@formatted{endtabbing}

8019 \end{warpHTML}

```

71 Theorems

`\newtheorem` $\langle\text{text}\rangle$ [$\langle\text{counter}\rangle$] — or — [$\langle\text{oldname}\rangle$] $\langle\text{text}\rangle$

A few minor changes are made to supply HTML tags.

- The entire theorem is placed into a `<div>` of class `theoremcontents`.
- The label for each theorem is placed inside a `` of class `theoremlabel`.
- The contents are placed inside a `<div>` of class `theoremcontents`.

for HTML output: 8020 `\begin{warpHTML}`

`\@begintheorem` $\langle\text{name}\rangle$ $\langle\text{number}\rangle$

```

8021 \renewcommand{\@begintheorem}[2]{%
8022 \LWR@forcenewpage
8023 \BlockClass{theoremcontents}
8024 \trivlist
8025 \item[\InlineClass{theoremlabel}{#1\ #2\ }]\itshape
8026 }

```

`\@opargbegintheorem` $\langle\text{name}\rangle$ $\langle\text{number}\rangle$ $\langle\text{oparg}\rangle$

\LaTeX defines this, but `amsthm` `\relaxes` it, so it will not be defined if `amsthm` is loaded before `lwarp`.

```

8027 \ifundef{\@opargbegintheorem}{%
8028 \renewcommand{\@opargbegintheorem}[3]{%
8029 \LWR@forcenewpage
8030 \BlockClass{theoremcontents}
8031 \trivlist
8032 \item[\InlineClass{theoremlabel}{#1\ #2\ (#3)\ }]\itshape
8033 }
8034 }

```



```

\endtheorem

8035 \renewcommand*{\endtheorem}{%
8036 \endtrivlist
8037 \endBlockClass% theoremcontents
8038 }

8039 \end{warpHTML}

```

72 Lists

The environments `itemize`, `enumerate`, and `description` are patched when `lwarp` is started. These patches support the standard \LaTeX environments, as well as those of `enumerate`, `enumitem`, and `paralist`, and at least the French version of `babel`. Additional patches are done on a package-specific basis.

The \LaTeX source for `itemize` and `enumerate` are found in `source2e`, but the source for `description` is found in `article.cls`, etc.


empty item To have an empty item, use `\mbox{}` or a trailing backslash. This forces a new line in print output, matching the new line which will appear in HTML output. Ex:

```

begin{itemize}
item \mbox{}
    \begin{itemize}
...
    \end{itemize}
item \
    \begin{itemize}
...
    \end{itemize}

```

`\makelabel` While inside a list environment, `lwarp` nullifies a number of \TeX horizontal skip and fill commands, allowing the user to define `\makelabel` for print mode while HTML mode ignores those commands.

 **label font** When defining `\makelabel` in a list environment, use `\textbf` etc. instead of `\bfseries`.

72.1 List environment

for HTML output: 8040 `\begin{warpHTML}`

`\LWR@printcloselist` May be locally redefined by `enumerate` or `description`.

```
8041 \newcommand*{\LWR@printcloselist}{\LWR@printcloseitemize}
```

`\LWR@printopenlist` May be locally redefined by `enumerate` or `description`.

```
8042 \newcommand*{\LWR@printopenlist}{ul style="\LWR@print@embox{list-style-type:none}"}
```

`\@mklab` Removes PDF spacing.

```
8043 \AtBeginDocument{
8044 \def\@mklab#1{%
8045 %   \hfil %
8046 %   #1}
8047 \let\makeLabel\@mklab
8048 }
```

`\@donoparitem` Modified for HTML output by replacing T_EX boxes with plain text. Also removes PDF spacing.

```
8049 \def\@donoparitem{%
8050   \@noparitemfalse
8051 %   \global\setbox\@labels\hbox{\hskip -\leftmargin
8052 %                               \unhbox\@labels
8053 %                               \hskip \leftmargin}%
8054 %   \if@minipage\else
8055 %     \@tempskipa\lastskip
8056 %     \vskip -\lastskip
8057 %     \advance\@tempskipa\outerparskip
8058 %     \advance\@tempskipa -\parskip
8059 %     \vskip\@tempskipa
8060 %   \fi
8061 }
```

`\@item` Modified for HTML output by replacing T_EX boxes with plain text. Also removes PDF spacing.

```
8062 \def\LWR@HTML@item[#1]{%
8063 \LWR@traceinfo{@item}
8064   \if@noparitem
8065     \@donoparitem
8066   \else
8067 %     \if@inlabel
8068 %       \indent
8069 %       \par
8070 %     \fi
8071 %     \ifhmode
8072 %       \unskip\unskip
8073 %       \par
8074 %     \fi
8075 %     \if@newlist
8076 %       \if@nobreak
8077 %         \@nbitem
8078 %       \else
8079 %         \addpenalty\@beginparpenalty
8080 %         \addvspace\@topsep
8081 %         \addvspace{-\parskip}%
```

```

8082     \fi
8083     \else
8084 %       \addpenalty\@itempenalty
8085 %       \addvspace\itemsep
8086     \fi
8087     \global\@inlabeltrue
8088     \fi
8089 %     \everypar{%
8090 %       \@minipagefalse
8091 %     \global\@newlistfalse

8092 %     \if@inlabel
8093 %       \global\@inlabelfalse

8094 %     {\setbox\z@\lastbox
8095 %       \ifvoid\z@
8096 %         \kern-\itemindent
8097 %       \fi}%

8098 %     \box\@labels
8099 %     \penalty\z@
8100 %     \fi

8101 %     \if@nobreak
8102 %       \@nobreakfalse
8103 %       \clubpenalty \@M
8104 %     \else
8105 %       \clubpenalty \@clubpenalty
8106 %       \everypar{}}%
8107 %     \fi}%

8108     \if@noitemarg
8109     \@noitemargfalse
8110     \if@nmbulist

8111     \refstepcounter\@listctr
8112     \fi
8113     \fi

8114     \makelabel{#1} % extra space
8115 %     \sbox\@tempboxa{\makelabel{#1}}%
8116 %     \global\setbox\@labels\hbox{%
8117 %       \unhbox\@labels
8118 %       \hskip \itemindent
8119 %       \hskip -\labelwidth
8120 %       \hskip -\labelsep
8121 %       \ifdim \wd\@tempboxa >\labelwidth
8122 %         \box\@tempboxa

8123 %     \else
8124 %       \hbox to\labelwidth {\unhbox\@tempboxa}%
8125 %     \fi
8126 %     \hskip \labelsep}%

```

```
8127 \ignorespaces%
8128 }
```

`\@nbitem`

```
8129 \def\@nbitem{%
8130 % \@tempskipa\@outerparskip
8131 % \advance\@tempskipa -\parskip
8132 % \addvspace\@tempskipa
8133 }
```

`\LWR@listitem` [*label*]

Handles `\item` inside a list, `itemize`, or `enumerate`.

See `\LWR@openparagraph` where extra `\hspace` is used to leave room for the label while inside a list during paragraph construction.

```
8134 \newcommand*\LWR@listitem{%
8135 \LWR@stoppars%
8136 \LWR@startnewdepth{listitem}%
8137 \LWR@htmltag{li}%
8138 \LWR@startpars%
8139 \LWR@origitem%
8140 }
```

`\LWR@nulllistfills` Nullifies various TeX fill commands, in case they are used inside `\makeLabel`. Problems are caused when these are nullified all the time.

```
8141 \newcommand*\LWR@nulllistfills{%
8142 \renewcommand*\hss{}%
8143 \renewcommand*\llap[1]{##1}%
8144 \renewcommand*\rlap[1]{##1}%
8145 \renewcommand*\hfil{}%
8146 \renewcommand*\hfilneg{}%
8147 \renewcommand*\hfill{}%
8148 }
```

Env `list` {*label*} {*commands*}

```
8149 \newcommand*\LWR@liststart{%
8150 \LWR@traceinfo{LWR@liststart}%
8151 \LWR@stoppars%
8152 \LWR@pushoneclose{list}%
8153 \LWR@htmltag{\LWR@printopenlist}\LWR@orignewline%
8154 \LWR@startpars%
8155 \setlength{\topsep}{0pt}%
8156 \setlength{\partopsep}{0pt}%
8157 \setlength{\itemsep}{0pt}%
8158 \setlength{\parsep}{0pt}%
8159 \setlength{\leftmargin}{0pt}%
8160 \setlength{\rightmargin}{0pt}%

```

```

8161 \setlength{\listparindent}{0pt}%
8162 \setlength{\itemindent}{0pt}%
8163 \setlength{\labelsep}{1em}%
8164 \LWR@nulllistfills%
8165 }

8166 \newcommand*\LWR@listend}{%
8167 \LWR@traceinfo{LWR@listend}%
8168 \LWR@stoppars%
8169 \LWR@closeprevious{list}%
8170 \LWR@startpars%
8171 }

```

72.2 Itemize

`\LWR@itemizeitem` [*⟨label⟩*]

Handles `\item` inside an `itemize` or `enumerate`.

See `\LWR@openparagraph` where extra `\hspace` is used to leave room for the label while inside a list during paragraph construction.

```

8172 \newcommand*\LWR@itemizeitem}{%
8173 \LWR@stoppars%
8174 \LWR@startnewdepth{listitem}%
8175 \LWR@htmltag{li}%
8176 \LWR@startpars%
8177 \LWR@origitem%
8178 }

```

Env `itemize` [*⟨options⟩*]

```

8179 \newcommand*\LWR@itemizestart}{%
8180 \renewcommand*\LWR@printcloselist}{\LWR@printcloseitemize}
8181 \renewcommand*\LWR@printopenlist}{ul style="\LWR@print@mbbox{list-style-type:none}}
8182 \let\item\LWR@itemizeitem%
8183 \LWR@nulllistfills%
8184 }

```

72.3 Enumerate

An HTML unordered list is used with customized L^AT_EX-generated labels.

Env `enumerate` [*⟨options⟩*]

```

8185 \newcommand*\LWR@enumeratestart}{%
8186 \renewcommand*\LWR@printcloselist}{\LWR@printcloseitemize}
8187 \renewcommand*\LWR@printopenlist}{ul style="\LWR@print@mbbox{list-style-type:none}}
8188 \let\item\LWR@itemizeitem%
8189 \LWR@nulllistfills%
8190 }

```

72.4 Description

`\LWR@descitem` [*<label>*] Handles an `\item` inside a description.

```
8191 \newcommand*{\LWR@descitem}[1][ ]%
8192 {%
8193 \LWR@stoppars%
8194 \LWR@setlatestname{#1}%
8195 \LWR@startnewdepth{descitem}%
```

While creating the label, encase it inside tags and disable `\hspace`, which is used by the standard classes to add space to the labels.

```
8196 \begingroup%
8197 \let\LWR@orig@desc@makelabel\makelabel
8198 \renewcommand*{\makelabel}[1]{%
8199   \LWR@htmltag{dt}%
8200   \LWR@orig@desc@makelabel{#1}%
8201   \LWR@htmltag{/dt}%
8202 }
8203 \LWR@select@html@nohspace%
8204 \LWR@origitem[#1]%
8205 \endgroup%
8206 \LWR@orignewline%
8207 \LWR@htmltag{dd}%
8208 \LWR@startpars%
8209 }
```

Env `description` [*<options>*]

```
8210 \newcommand*{\LWR@descriptionstart}{%
8211 \renewcommand*{\LWR@printcloselist}{\LWR@printclosedescription}
8212 \renewcommand*{\LWR@printopenlist}{dl}
8213 \let\item\LWR@descitem%
8214 \LWR@nulllistfills%
8215 }
```

72.5 Patching the lists

`\LWR@patchlists` Patches list environments.

`\LWR@patchlists` remembers `\item` as defined by whatever packages have been loaded, then patches the `itemize`, `enumerate`, and `description` environments and `\item`. This works with the native L^AT_EX environments, as well as those provided by `enumitem`, `enumerate`, and `paralist`.

```
8216 \newcommand*{\LWR@patchlists}{%
8217   \LetLtxMacro\item\LWR@listitem%
8218   \LetLtxMacro\@item\LWR@HTML@item%
8219   \renewcommand*{\@trivlist}{%
8220     \LWR@traceinfo{@trivlist start}%
```

```

8221     \LWR@liststart%
8222     \LWR@orig@trivlist%
8223     \LWR@traceinfo{@trivlist done}%
8224 }%
8225 \renewcommand*{\trivlist}{%
8226     \LWR@traceinfo{trivlist}%
8227     \LWR@origtrivlist%
8228 }%
8229 \renewcommand*{\endtrivlist}{%
8230     \LWR@traceinfo{endtrivlist start}%
8231     \LWR@origendtrivlist\LWR@listend%
8232     \LWR@traceinfo{endtrivlist done}%
8233 }%
8234 \renewcommand*{\itemize}{%
8235     \LWR@itemizestart\LWR@origitemize%
8236 }%
8237 \renewcommand*{\enumerate}{%
8238     \LWR@enumeratestart\LWR@origenumerate%
8239 }%
8240 \renewcommand*{\description}{%
8241     \LWR@descriptionstart\LWR@origdescription%
8242 }%
8243 }

```

`\LWR@restoreoriglists` Restores the original `trivlist` environment.

```

8244 \newcommand*{\LWR@restoreoriglists}{%
8245     \LWR@traceinfo{\LWR@restoreoriglists}%
8246     \LetLtxMacro\item\LWR@origitem%
8247     \LetLtxMacro\@item\LWR@orig@item%
8248     \let\@trivlist\LWR@orig@trivlist%
8249     \let\trivlist\LWR@origtrivlist%
8250     \let\endtrivlist\LWR@origendtrivlist%
8251     \LetLtxMacro\itemize\LWR@origitemize%
8252     \LetLtxMacro\enditemize\LWR@origenditemize%
8253     \LetLtxMacro\enumerate\LWR@origenumerate%
8254     \LetLtxMacro\endenumerate\LWR@origendenumerate%
8255     \LetLtxMacro\description\LWR@origdescription%
8256     \LetLtxMacro\enddescription\LWR@origenddescription%
8257     \let\@mklab\LWR@orig@mklab%
8258     \let\makeLabel\LWR@origmakeLabel%
8259     \let\@donoparitem\LWR@orig@donoparitem%
8260     \let\@nbitem\LWR@orig@nbitem%
8261 }

8262 \end{warpHTML}

```

73 Tabular

This is arguably the most complicated part of the entire package. Numerous tricks are employed to handle the syntax of the \LaTeX core and the various tabular-related packages.

73.1 Limitations

Tabular mostly works as expected, but pay special attention to the following, especially if working with environments, macros inside tabulars, multirows, multirows, siunitx S columns, or the packages multirow, longtable, supertabular, or xtab.

Defining macros and environments:

⚠ Misplaced alignment
tab character &

- When defining environments or macros which include `tabular` and instances of the `&` character, it may be necessary to make `&` active before the environment or macro is defined, then restore `&` to its default catcode after, using the following commands. These are ignored in print mode.

```
\StartDefiningTabulars
<define macros or environments using tabular and & here>
\StopDefiningTabulars
```

⚠ floatrow

This includes before and after defining any macro which used `\ttabbox` from `floatrow`.

⚠ tabular inside another
environment

- When creating a new environment which contains a `tabular` environment, `lwarp`'s emulation of the `tabular` does not automatically resume when the containing environment ends, resulting in corrupted HTML rows. To fix this, use `\ResumeTabular` as follows. This is ignored in print mode.

```
\StartDefiningTabulars % (& is used in a definition)
\newenvironment{outerenvironment}
{
  \tabular{cc}
  left & right \\
}
{
  \TabularMacro\ResumeTabular
  left & right \\
  \endtabular
}
\StopDefiningTabulars
```

For developers:


- To automate the use of `\StartDefiningTabulars` and `\EndDefiningTabulars`, these macros may be embedded inside an HTML environment definition to automatically change the catcode of `&` before absorbing the arguments. Another environment may be embedded as well.


```

% Does the work after the catcode has been changed:
\newcommand*{\LWR@HTML@subsomename}[2]{%
  . . .
  \otherenvironmentname [<args>] {<args>} % for example
}
% Change catcode before absorbing arguments:
\newcommand*{\LWR@HTML@somename{%
  \StartDefiningTabulars
  \LWR@HTML@subsomename
}
% Change catcode again at the end:
\newcommand*{\LWR@HTML@endsomename}{%
  . . .
  \endotherenvironmentname % for example
  \StopDefiningTabulars
}
% Combine with the existing print definition:
\LWR@formattedenv{somename}


```

Cell contents:

-  **macro in a table**
- Using a custom macro inside a tabular data cell may result in an extra HTML data cell tag, corrupting the HTML table. To avoid this, use `\TabularMacro` just before the macro. This is ignored in print mode.

```
\TabularMacro\somemacro & more row contents \
```

Column specifiers:

- `@` and `!`
- Only one each of `@` and `!` is used at each column, and they are used in that order.
- `\multirow`
- In `\multirow` cells, the print version may have extra instances of `<`, `>`, `@`, and `!` cells on the second and later rows in the `\multirow` which do not appear in the HTML version.
-  `\newcolumntype`
- `\newcolumntype` is ignored; unknown column types are set to `l`.

Rules:

- vertical rules**
- Doubled `\hlines`, `\midrules`, and vertical rules are supported.
 - Vertical rules next to either side of an `@` or `!` column are displayed on both sides of the column.
- width and trim**
- Width options are honored. Trim options are converted to rounded top corners. Trim corners are not rounded with `@` or `!` columns, and full-width rules ignore trim. When given an optional width, each cell is styled to create the custom border. Without an optional width, the entire row is given a class to assign the standard border.
- combined rules**
- If you wish to use `\cmidrule` followed by `\bottomrule`, it may be necessary to use:


```
\cmidrule{2-3} \[-2ex]
\bottomrule
```

 The optional `-2ex` is ignored in HTML, but improves the visual formatting in the print output.

⚠ `\warpprintonly`
 ⚠ Misplaced `\noalign`

- For `\toprule` and `\bottomrule`, when combined with a `warpprint` or `warppHTML` environment, if a “Misplaced `\noalign`” error occurs, change


```
This & That \endhead
```

 to


```
\warpprintonly{This & That \endhead}
```

 and likewise with the other `\end` headings. Keep the `\endfirsthead` row unchanged, as it is still relevant to HTML output.

Other:

longtable headings

⚠ `S` columns

- `tabularx` ignores the width, but X columns do produce paragraph columns or multicolumns.
- For `longtable`, place headings and footings which do not apply to HTML inside `\warpprintonly{}`.
- For `S` columns (from the `siunitx` package), while producing print output, anything non-numeric must be placed inside `{ }` braces, including commands such as `\multirow`. While producing HTML output, though, anything placed inside braces is not seen by `lwarp`'s tabular handling algorithm. To resolve this problem, make a copy of the row, with one version for print output, containing the extra braces, and another version for HTML output, without the extra braces, such as:


```
\warpprintonly{1 & 2 & {\multirow{2}{2cm}{Text}} & 3 \\}
\warppHTMLonly{1 & 2 & \multirow{2}{2cm}{Text} & 3 \\}
```
- In \LaTeX , a `tabular` may be placed inside a `minipage`, but in HTML a `<table>` may not be inside a ``. If this situation is detected, a warning is printed instructing the user to isolate the `` using `\warpprintonly` or the `warpprint` environment.

for HTML output: `8263 \begin{warppHTML}`

73.2 Temporary package-related macros

These macros are temporary placeholders for macros defined by various packages. If the relevant package is not loaded, these placeholders are used instead.

73.2.1 `arydshln`

Emulated by the original \LaTeX non-dashed versions.

```
8264 \LetLtxMacro\hdashline\hline
8265 \LetLtxMacro\cdashline\cline
8266 \LetLtxMacro\firstdashline\hline
8267 \LetLtxMacro\lastdashline\hline
```

73.3 Token lookahead

Used by `\LWR@futurenonpacelet` to look at the next token.

`\LWR@mynexttoken`

```
8268 \newcommand\LWR@mynexttoken\relax
```

`\futurelet` copies the next token then executes a function to analyze it.

`\LWR@futurenonpacelet` does the same, but ignores intervening white space

Based on the `booktabs` style:

`\LWR@futurenonpacelet`

```
8269 \def\LWR@futurenonpacelet#1{\def\LWR@cs{#1}%
8270 \afterassignment\LWR@fnslone\let\nexttoken= }
8271
8272 \def\LWR@fnslone{\expandafter\futurelet\LWR@cs\LWR@fnsltwo}
8273
8274 \def\LWR@fnsltwo{%
8275 \expandafter\ifx\LWR@cs\@sptoken\let\next=\LWR@fnslthree%
8276 \else\let\next=\nexttoken\fi\next}
8277
8278 \def\LWR@fnslthree{\afterassignment\LWR@fnslone\let\next= }
```

`\LWR@getmynexttoken` Looks ahead and copies the next token into `\LWR@mynexttoken`.

```
8279 \newcommand*\LWR@getmynexttoken}{%
8280   \LWR@traceinfo{\LWR@getmynexttoken}%
8281 % nothing must follow this next line
8282   \LWR@futurenonpacelet\LWR@mynexttoken\LWR@tabledatacolumn tag
8283 }
```

73.4 Tabular variables

In order to support nested tabulars, each of these is used locally. For local counters, `etoolbox`'s `\defcounter` and `lwarp`'s new `\defaddtocounter` are used.

Bool `LWR@startedrow` True if should print a row tag before this column.

```
8284 \newbool{LWR@startedrow}
8285 \boolfalse{LWR@startedrow}
```

Bool `LWR@tabularcelladded` True if have added a data cell for this position.

```
8286 \newbool{LWR@tabularcelladded}
8287 \boolfalse{LWR@tabularcelladded}
```

- Ctr LWR@hlines Number of \hlines or \midrules above the next row.
 8288 \newcounter{LWR@hlines}
- Ctr LWR@hdashedlines Number of \arydshln dashed lines above the next row.
 8289 \newcounter{LWR@hdashedlines}
- Bool LWR@doingtbrule True if the next row will have a top/bottom rule above it.
 8290 \newbool{LWR@doingtbrule}
 8291 \boolfalse{LWR@doingtbrule}
- Bool LWR@doingcmidrule True if the next row will have a cmidrule above it.
 This is used by \LWR@tabularfinishrow to force a final empty row to create the border for the \cmidrule.
 8292 \newbool{LWR@doingcmidrule}
 8293 \boolfalse{LWR@doingcmidrule}
- Bool LWR@tableparcell True if are handling a paragraph inside a table cell, so must close the paragraph tag before moving on.
 8294 \newbool{LWR@tableparcell}
- Bool LWR@skippingmrowcell True if are doing an empty \multirow cell, and thus there is no data tag to close.
 8295 \newbool{LWR@skippingmrowcell}
- Bool LWR@skippingmcolrowcell True if are doing an empty \multicolumnrow cell, and thus there is no data tag to close, and do not print @ and ! columns.
 8296 \newbool{LWR@skippingmcolrowcell}
- Bool LWR@usedmultirow Used to error if used \multirow or \multicolumnrow without using \mrowcell or \mcolrowcell.
 8297 \newbool{LWR@usedmultirow}
- Bool LWR@foundmrowcell Used to error if used \multirow or \multicolumnrow without using \mrowcell or \mcolrowcell.
 8298 \newbool{LWR@foundmrowcell}
- Bool LWR@skipatbang True if just finished a \multicolumn so should not create the trailing @ or ! columns table data cells.
 8299 \newbool{LWR@skipatbang}
- Bool LWR@emptyatbang True if finishing a row and should print empty @ or ! column table data cells.
 8300 \newbool{LWR@emptyatbang}

Bool LWR@intabularmetadata True if are in a tabular but not in a data cell. Used to prevent extra HTML breaks if not inside table data.

```
8301 \newbool{LWR@intabularmetadata}
8302 \boolfalse{LWR@intabularmetadata}
```

Bool LWR@exitingtabular When \end is found, turns off the next opening data tag.

```
8303 \newbool{LWR@exitingtabular}
```

Bool LWR@tabularmutemods Mutes HTML output for @, !, < and >.

This is used while printing the final row to generate \bottomrules.

```
8304 \newbool{LWR@tabularmutemods}
```

Bool LWR@validtablecol True if found a valid table column type.

```
8305 \newbool{LWR@validtablecol}
```

Bool LWR@opttablecol True if found a table column optional argument.

```
8306 \newbool{LWR@opttablecol}
```

Used to add a style to a table data cell:

```
8307 \newbool{LWR@tdhavecellstyle}
```

Ctr LWR@tabularDepth Tracks whether & is being used inside a tabular.

```
8308 \newcounter{LWR@tabulardepth}
8309 \setcounter{LWR@tabulardepth}{0}
```

Ctr LWR@tabularpardepth Tracks whether should look ahead at the next token when encountering a \par while processing tabular contents.

When LWR@tabularpardepth is deeper than LWR@tabulardepth then lwarp has started looking at the contents of the tabular, and thus any \pars encountered must be followed by another token lookahead.

```
8310 \newcounter{LWR@tabularpardepth}
8311 \setcounter{LWR@tabularpardepth}{0}
```

```
8312 \newcommand*{\LWR@colsresult}{}%temp storage for column format results
8313 \newcommand*{\LWR@pposition}{}
8314 \newcommand*{\LWR@pleft}{}
8315 \newcommand*{\LWR@pright}{}

```

LWR@tablecolspec Holds the parsed column specification, of total width LWR@tabletotalLaTeXcols, not counting @ and ! columns.

Will contain a string such as lrrccpc, exactly one letter per L^AT_EX table column, without @, !, >, <, or the vertical bar.

`\LWR@strresult` Holds the result of `Str` functions.

```
8316 \providecommand*\LWR@strresult{}
8317 \providecommand*\LWR@strresulttwo{}
```

`\LWR@origcolspec` Holds the original column specs given to `tabular`.

```
8318 \newcommand*\LWR@origcolspec{}
```

Ctrl `LWR@tablecolspecwidth` Holds the number of tokens in the table columns specification.

This includes one for each `@`, `!`, `<`, `>` column, and also one for each of the parameters of `p`, `@`, `!`, `<`, `>` columns, and three for each `D` column.

(This is not the total # of \LaTeX columns in the table.)

```
8319 \newcounter{LWR@tablecolspecwidth}
```

Ctrl `LWR@tablecolspecindex` While parsing the \LaTeX table column specification, starts at 1 and is incremented per token of the specification.

```
8320 \newcounter{LWR@tablecolspecindex}
```

Ctrl `LWR@tableLaTeXcolindex` While producing the table, resets to 1 at the start of the table and also at each end of line, and is incremented by 1 by each ampersand.

```
8321 \newcounter{LWR@tableLaTeXcolindex}
```

Ctrl `LWR@tabletotalLaTeXcols` While parsing a table column specification, begins at 0 and increments by 1 per \LaTeX table column. Eventually holds the final number of \LaTeX table columns in each row, not counting `@` and `!` columns. (In `HTML`, `@` and `!` cells become their own columns, but are not included in `LWR@tabletotalLaTeXcols`.)

```
8322 \newcounter{LWR@tabletotalLaTeXcols}
```

Ctrl `LWR@tabletotalLaTeXcolsnext` Holds the next \LaTeX table column index while parsing, equal to one more than `LWR@tabletotalLaTeXcols`.

```
8323 \newcounter{LWR@tabletotalLaTeXcolsnext}
```

`LWR@colatspec` A data array of specifications for `@` columns. The leftmost's index is `leftedge`, the others are counter values. See section 41.

`LWR@colbangspec` A data array of specifications for `!` columns. The leftmost's index is `leftedge`, the others are counter values. See section 41.

`LWR@colbeforespec` A data array of specifications for `>` columns.

`LWR@colafterspec` A data array of specifications for `<` columns.

`LWR@colbarspec` A data array of specifications for vertical rules.

Ctrl `LWR@cellcolordepth` Counts how many cell color `<div>`s were added to the current tabular data cell.

```
8324 \newcounter{LWR@cellcolordepth}
```

73.4.1 Multicolumn variables

```
8325 \newcounter{LWR@tablemulticolwidth}
```

Indexes into the multicolumn specification:

```
8326 \newcounter{LWR@tablemulticolspos}
```

Remembers multicolumn vertical rules if found in the column spec.

```
8327 \newcounter{LWR@mccolvertbarsl}
8328 \newcounter{LWR@mccolvertbarsr}
8329 \newcounter{LWR@mccolvertbarsldash}
8330 \newcounter{LWR@mccolvertbarsrdash}
8331 \newbool{LWR@mccolvertbaronleft}
```

73.4.2 Longtable variables

Bool LWR@starredlongtable Per the caption package, step the counter if longtable*.

```
8332 \newbool{LWR@starredlongtable}
8333 \boolfalse{LWR@starredlongtable}
```

73.4.3 Midrule variables

Ctr LWR@midrulecounter Indexes across the LWR@midrules and LWR@trim<l/r>rules data arrays.

```
8334 \newcounter{LWR@midrulecounter}
```

73.5 Handling &, @, !, and bar

For technical discussion regarding problems redefining \&, See:

<http://tex.stackexchange.com/questions/11638/where-do-i-find-futurelets-nasty-behaviour-documented/11860#11860>

\LWR@instertatbangcols

```
8335 \newcommand*{\LWR@insertatbangcols}{%
8336   \ifbool{LWR@skipatbang}%
8337   {}%
8338   {%
8339     \LWR@printatbang[at]{\arabic{LWR@tableLaTeXcolindex}}%
8340     \LWR@printatbang[bang]{\arabic{LWR@tableLaTeXcolindex}}%
8341   }%
8342 }
```

`\LWR@closetabledatacell` If `LWR@skippingmrowcell` or `LWR@skippingmcolrowcell` then there is no data tag to close. Otherwise, close any paragraphs, then close the data tag.

```

8343 \newcommand*{\LWR@closetabledatacell}{%
8344     \booltrue{LWR@intabularmetadata}%
8345     \ifbool{LWR@exitingtabular}%
8346     {%

8347         \LWR@stoppars%
8348     }%
8349     {% not exiting tabular
8350         \ifboolexpr{bool{LWR@skippingmrowcell} or bool{LWR@skippingmcolrowcell}}%
8351         {%

8352             \LWR@stoppars%

```

If not skipping a `\multicolumnrow` cell, insert the @ and ! columns after this non-existent column.

```

8353         \ifbool{LWR@skippingmcolrowcell}%
8354         {}%
8355         {\LWR@insertatbangcols}%
8356     }%
8357     {% not skippingmrowcell

```

Insert any < then any @ and ! column contents, unless muted for the `\bottomrule` or a `\multicolumn`:

```

8358         \unskip%
8359         \ifboolexpr{%
8360             bool{LWR@tabularmutemods} or
8361             bool{LWR@skipatbang} or
8362             bool{LWR@emptyatbang}
8363         }%
8364         {}%
8365         {%
8366             \LWR@getexparray{LWR@colafterspec}%
8367             {\arabic{LWR@tableLaTeXcolindex}}%
8368         }%

```

Close paragraphs:

```

8369         \LWR@stoppars%
8370         \boolfalse{LWR@tableparcell}%

```

Close the table data cell.

Close any color `<div>s`.

```

8371         \whileboolexpr{test {\ifnumcomp{\value{LWR@cellcolordepth}}{>}{0}}}{%
8372             \LWR@htmltag{/div}\LWR@originewline%
8373             \defaddtocounter{LWR@cellcolordepth}{-1}%
8374         }%

```


Skip the @ and ! cells if are closing a multicolumn cell.

```

8375         \leavevmode\unskip\LWR@htmltag{/td}\LWR@orignewline%
8376         \global\booltrue{LWR@tabularcellladded}%
8377         \LWR@insertatbangcols%
8378     }% not skipping mrowcell
8379 }% not exiting tabular
8380 \boolfalse{LWR@skippingmrowcell}%
8381 \boolfalse{LWR@skippingmcolrowcell}%
8382 \boolfalse{LWR@skipatbang}%

```

Color control. Column is set by >{} for each cell, so it must be cleared here.

```

8383 \def\LWR@cellHTMLcolor{}%
8384 \def\LWR@columnHTMLcolor{}%
8385 \defcounter{LWR@cellcolordepth}{0}%
8386 }

```

When not used inside a tabular, & performs its original function as recorded here (with catcode 4).

```

8387 \let\LWR@origampmacro&
8388 \end{warpHTML}

```

73.5.1 Handling &

for HTML output: 8389 \begin{warpHTML}

& Will behave depending on whether it is being used inside tabular.

& is redefined to test whether it is inside a tabular environment, in which case it performs special processing for HTML conversion. If not, it behaves normally.

```

8390 \newcommand*{\LWR@tabularampersand}{%
8391     \LWR@traceinfo{LWR@tabularampersand}%
8392     \ifnumcomp{\value{LWR@tabulardepth}}{>}{0}%
8393     {%

```

If not skipping a multirow cell, close the current data cell.

```

8394         \unskip%
8395         \LWR@closetabledatacell%

```

Move to the next column.

```

8396         \defaddtocounter{LWR@tableLaTeXcolindex}{1}%

```

Have not yet added data in this column:

```

8397         \global\boolfalse{LWR@tabularcellladded}%

```

Look at the next token to decide multi or single column data tag.

```
8398     \LWR@getmynexttoken%
8399   }%
```

If not inside a tabular, performs the original action:

```
8400   {%
8401     \LWR@origampmacro%
8402   }%
8403 }
```

& is left with its original catcode for now.

tikz package seems to require & be left alone until after tikz has been loaded. Also, cleveref uses the ampersand in one of its options.

& is made active inside a tabular.

& is left alone when in math alignments.

73.5.2 Filling an unfinished row

`\LWR@tabularfinishrow` Adds empty table cells if necessary to finish the row.

At the end of the table, if any bottom rules are requested then an empty row must be generated to form the borders which show the rules.

```
8404 \newcommand*{\LWR@tabularfinishrow}{%
```

If not exiting the tabular, or doing a rule, or have already started a row, finish this row:

```
8405   \ifboolexpr{%
8406     not bool {LWR@exitingtabular} or%
8407     bool{LWR@doingtbrule} or%
8408     bool{LWR@doingcmidrule} or%
8409     test{\ifnumcomp{\value{LWR@hlines}}{>}{0}} or%
8410     test{\ifnumcomp{\value{LWR@hdashedlines}}{>}{0}} or%
8411     bool{LWR@startedrow}%
8412   }{%
```

To temporarily turn off `LWR@exitingtabular` so that table data tags will still be generated:

If generating a final row for the `\bottomrule` borders, turn off the @, !, <, and > column output:

```
8413   \ifbool{LWR@exitingtabular}{%
8414     \booltrue{LWR@tabularmutemods}%
8415   }{%
8416     \boolfalse{LWR@tabularmutemods}%
8417   }%
```

Locally reenable the table data tags until finished with the final row:

```
8418 \boolfalse{LWR@exitingtabular}%
```

Generate table data tags and ampersands until the right edge:

```
8419 \whileboolexpr{%
8420     test {
8421         \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{<}
8422             {\value{LWR@tabletotalLaTeXcols}}
8423     } or %
8424     (%
8425         bool{LWR@intabularmetadata} and%
8426         not bool{LWR@tabularcellladded} and%
8427         test {
8428             \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{=}
8429                 {\value{LWR@tabletotalLaTeXcols}}
8430         }%
8431     )%
8432 }%
8433 {%
8434     \LWR@tabledatasinglecolumnstag%
```

The following is essentially `\LWR@tabularampersand` with `LWR@emptyatbang` added to empty the following cells:

```
8435 \LWR@closetabledatacell%
8436 \defaddtocounter{LWR@tableLaTeXcolindex}{1}%
8437 \global\boolfalse{LWR@tabularcellladded}%
8438 \booltrue{LWR@emptyatbang}%
```

Starts the next cell:

```
8439 \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{<}
8440     {\value{LWR@tabletotalLaTeXcols}}%
8441     {\LWR@getmynexttoken}%
8442     {}%
8443 }%
```

Reenable the original `LWR@exitingtabular` to close the entire table:

```
8444 \ifbool{LWR@tabularmutemods}{%
8445     \booltrue{LWR@exitingtabular}%
8446 }{%
8447     \boolfalse{LWR@exitingtabular}%
8448 }%
8449 \boolfalse{LWR@tabularmutemods}%

8450 \boolfalse{LWR@emptyatbang}%
8451 }{}% ifboolexpr
8452 }
```

73.6 Handling \\

Inside tabular, \\ is redefined to \LWR@tabularendofline

Throws away options \\[dim] or *

\LWR@tabularendofline

```
8453 \NewDocumentCommand{\LWR@tabularendofline}{s o}{%
```

Finish the row:

```
8454   \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{<}
8455     {\value{LWR@tabletotalLaTeXcols}}%
8456     {\LWR@tabularfinishrow}%
8457     {\LWR@closetabledatacell}%
8458   \LWR@htmltag{/tr}\LWR@orignewline%
```

xcolor row color support:

```
8459   \@rowc@lors%
```

No longer inside a data cell:

```
8460   \booltrue{LWR@intabularmetadata}%
```

Not yet started a table row:

```
8461   \boolfalse{LWR@startedrow}%
```

Additional setup:

```
8462   \defcounter{LWR@hlines}{0}%
8463   \defcounter{LWR@hdashedlines}{0}%
8464   \boolfalse{LWR@doingtbrule}%
8465   \boolfalse{LWR@doingcmidrule}%
8466   \LWR@clearmidrules%
```

```
8467   \def\LWR@rowHTMLcolor{}%
```

Start at first column:

```
8468   \defcounter{LWR@tableLaTeXcolindex}{1}%
```

Have not yet added data in this column:

```
8469   \global\boolfalse{LWR@tabularcelladded}%
```

Allow T_EX to flush the pending paragraph. Not doing so causes a slowdown for very large tables.

```
8470   \LWR@stoppars%
```

```
8471   \LWR@origpar%
```

Look at the next token to decide between single column data tag or a special case:

```
8472 \LWR@getmynexttoken%
8473 }
```

73.7 Looking ahead in the column specifications

`\LWR@columnspeclookahead` {<*offset*>}

Looks *offset* tokens ahead in the column specification, setting `\LWR@strresulttwo`.

The *w* column alignment will be seen as a single unit such as {*c*}.

```
8474 \newcommand*{\LWR@columnspeclookahead}[1]{%
8475 \setcounter{\LWR@tempcountone}{\value{\LWR@tablecolspecindex}}%
8476 \addtocounter{\LWR@tempcountone}{#1}%
8477 \fullexpandarg%
8478 \StrChar{\LWR@origcolspec}{\arabic{\LWR@tempcountone}}[\LWR@strresulttwo]%
```

Get the contents of the first group in `\LWR@strresulttwo`:

```
8479 \exploregroups%
8480 \StrChar{\LWR@strresulttwo}{1}[\LWR@strresulttwo]%
8481 \noexploregroups%
8482 }
```

73.8 Parsing @, >, <, !, bar columns

Holds the parsed argument for @, >, <, or ! columns:

```
8483 \newcommand*{\LWR@colparameter}{}
```

`\LWR@parseatcolumn` Handles @{*text*} columns.

```
8484 \newcommand*{\LWR@parseatcolumn}{%
```

Move to the next token after the '@':

```
8485 \LWR@traceinfo{at column}%
8486 \defaddtocounter{\LWR@tablecolspecindex}{1}%
```

Read the next token into `\LWR@colparameter`, expanding once:

```
8487 \LWR@traceinfo{about to read the next token:}%
8488 \expandarg%
8489 \StrChar{\LWR@origcolspec}%
8490 {\arabic{\LWR@tablecolspecindex}}[\LWR@colparameter]%
8491 \fullexpandarg%
```

Store the result into a data array, expanding once out of `\LWR@colparameter`:

```

8492 \LWR@traceinfo{have now read the next token}%
8493 \ifnumcomp{\value{LWR@tabletotalLaTeXcols}}{=}{0}%
8494 {% left edge of the table:
8495     \LWR@traceinfo{at the left edge}%
8496     \LWR@setexparray{LWR@colatspec}%
8497         {leftedge}%
8498         {\expandafter\@firstofone\LWR@colparameter}%
8499     \LWR@traceinfo{at the left edge: %
8500         \LWR@getexparray{LWR@colatspec}{leftedge}}%
8501     }%
8502 {% not at the left edge:
8503     \LWR@traceinfo{not at the left edge}%
8504     \LWR@setexparray{LWR@colatspec}%
8505         {\arabic{LWR@tabletotalLaTeXcols}}%
8506         {\expandafter\@firstofone\LWR@colparameter}%
8507     \LWR@traceinfo{at \arabic{LWR@tabletotalLaTeXcols}: %
8508         \LWR@getexparray{LWR@colatspec}{\arabic{LWR@tabletotalLaTeXcols}}}%
8509     }%
8510 \let\LWR@colparameter\relax%
8511 \booltrue{LWR@validtablecol}%
8512 }
```

`\LWR@parsebangcolumn` Handles `!{text}` columns.

```
8513 \newcommand*{\LWR@parsebangcolumn}{%
```

Move to the next token after the '!':

```
8514 \LWR@traceinfo{bang column}%
8515 \defaddtocounter{LWR@tablecolspecindex}{1}%
```

Read the next token into `\LWR@colparameter`, expanding once:

```
8516 \LWR@traceinfo{about to read the next token:}%
8517 \expandarg%
8518 \StrChar{\LWR@origcolspec}%
8519     {\arabic{LWR@tablecolspecindex}}[\LWR@colparameter]%
8520 \fullexpandarg%
```

Store the result into a data array, expanding once out of `\LWR@colparameter`:

```

8521 \LWR@traceinfo{have now read the next token}%
8522 \ifnumcomp{\value{LWR@tabletotalLaTeXcols}}{=}{0}%
8523 {% left edge of the table:
8524     \LWR@traceinfo{at the left edge}%
8525     \LWR@setexparray{LWR@colbangspec}%
8526         {leftedge}%
8527         {\expandafter\@firstofone\LWR@colparameter}%
8528     }%
8529 {% not at the left edge:
8530     \LWR@traceinfo{not at the left edge}%
8531     \LWR@setexparray{LWR@colbangspec}%

```

```

8532         {\arabic{LWR@tabletotalLaTeXcols}}%
8533         {\expandafter\@firstofone\LWR@colparameter}%
8534     \LWR@traceinfo{bang \arabic{LWR@tabletotalLaTeXcols}: \LWR@colparameter!}%
8535     }%
8536     \let\LWR@colparameter\relax%
8537     \booltrue{LWR@validtablecol}%
8538 }

```

`\LWR@parsebeforecolumn` Handles `>{text}` columns.

```
8539 \newcommand*{\LWR@parsebeforecolumn}{%
```

Move to the next token after the '>':

```
8540     \defaddtocounter{LWR@tablecolspecindex}{1}%
```

Read the next token, expanding once into `\LWR@colparameter`:

```

8541     \expandarg%
8542     \StrChar{\LWR@origcolspec}%
8543         {\arabic{LWR@tablecolspecindex}}[\LWR@colparameter]%
8544     \fullexpandarg%

```

Store the result into a data array, expanding once out of `\LWR@colparameter`:

```

8545     \LWR@setexparray{LWR@colbeforespec}%
8546         {\arabic{LWR@tabletotalLaTeXcolsnext}}%
8547         {\expandafter\@firstofone\LWR@colparameter}%
8548     \let\LWR@colparameter\relax%
8549     \booltrue{LWR@validtablecol}%
8550 }

```

`\LWR@parseaftercolumn` Handles `<{text}` columns.

```
8551 \newcommand*{\LWR@parseaftercolumn}{%
```

Move to the next token after the '<':

```
8552     \defaddtocounter{LWR@tablecolspecindex}{1}%
```

Read the next token, expanding once into `\LWR@colparameter`:

```

8553     \expandarg%
8554     \StrChar{\LWR@origcolspec}%
8555         {\arabic{LWR@tablecolspecindex}}[\LWR@colparameter]%
8556     \fullexpandarg%

```

Store the result into a data array, expanding once out of `\LWR@colparameter`:

```

8557     \LWR@setexparray{LWR@colafterspec}%
8558         {\arabic{LWR@tabletotalLaTeXcols}}%
8559         {\expandafter\@firstofone\LWR@colparameter}%

```

```

8560 \let\LWR@colparameter\relax%
8561 \booltrue{LWR@validtablecol}%
8562 }

```

`\LWR@parsebarcolumn` Handles vertical rules.

```

8563 \newcommand*{\LWR@parsebarcolumn}{%
8564 \LWR@traceinfo{LWR@parsebarcolumn}%

```

Remember the bar at this position:

```

8565 \ifnumcomp{\value{LWR@tabletotalLaTeXcols}}{=}{0}%
8566 {% left edge of the table:
8567 \edef\LWR@tempone{\LWR@getexparray{LWR@colbarspec}{leftedge}}%
8568 \ifdefstring{\LWR@tempone}{tvertbarl}%
8569 {\LWR@setexparray{LWR@colbarspec}{leftedge}{tvertbarldouble}}%
8570 {\LWR@setexparray{LWR@colbarspec}{leftedge}{tvertbarl}}%
8571 }%
8572 {% not at the left edge:
8573 \edef\LWR@tempone{%
8574 \LWR@getexparray{LWR@colbarspec}{\arabic{LWR@tabletotalLaTeXcols}}%
8575 }%
8576 \ifdefstring{\LWR@tempone}{tvertbarr}%
8577 {%
8578 \LWR@setexparray{LWR@colbarspec}%
8579 {\arabic{LWR@tabletotalLaTeXcols}}{tvertbarrdouble}%
8580 }%
8581 {%
8582 \LWR@setexparray{LWR@colbarspec}%
8583 {\arabic{LWR@tabletotalLaTeXcols}}{tvertbarr}%
8584 }%
8585 }%
8586 \booltrue{LWR@validtablecol}%
8587 }

```

`\LWR@parsecoloncolumn` Handles vertical rules.

```

8588 \newcommand*{\LWR@parsecoloncolumn}{%
8589 \LWR@traceinfo{LWR@parsecoloncolumn}%

```

Remember the bar at this position:

```

8590 \ifnumcomp{\value{LWR@tabletotalLaTeXcols}}{=}{0}%
8591 {% left edge of the table:
8592 \edef\LWR@tempone{\LWR@getexparray{LWR@colbarspec}{leftedge}}%
8593 \ifdefstring{\LWR@tempone}{tvertbarldash}%
8594 {\LWR@setexparray{LWR@colbarspec}{leftedge}{tvertbarldoubledash}}%
8595 {\LWR@setexparray{LWR@colbarspec}{leftedge}{tvertbarldash}}%
8596 }%
8597 {% not at the left edge:
8598 \edef\LWR@tempone{%
8599 \LWR@getexparray{LWR@colbarspec}{\arabic{LWR@tabletotalLaTeXcols}}%
8600 }%

```



```

8601     \ifdefstring{\LWR@tempone}{tvertbarrdash}%
8602     {\LWR@setexparray{\LWR@colbarspec}%
8603       {\arabic{\LWR@tabletotalLaTeXcols}}{tvertbarrdoubledash}}%
8604     {\LWR@setexparray{\LWR@colbarspec}%
8605       {\arabic{\LWR@tabletotalLaTeXcols}}{tvertbarrdash}}%
8606     }%
8607     \booltrue{\LWR@validtablecol}%
8608 }

```

`\LWR@parsesemicoloncolumn` Handles vertical rules.

```
8609 \newcommand*{\LWR@parsesemicoloncolumn}{%
```

Treat ; as a : column:

```
8610     \LWR@parsecoloncolumn%
```

Skip the following width token:

```
8611     \defaddtocounter{\LWR@tablecolspecindex}{1}%
8612 }
```

73.9 Parsing ‘l’, ‘c’, or ‘r’ columns

`\LWR@parsenormalcolumn` `{\langle thiscolumn \rangle}`

Add to the accumulated column specs, advance counters, and pre-clear another column of at, before, and after specs.

```

8613 \newcommand*{\LWR@parsenormalcolumn}[1]{%
8614     \defaddtocounter{\LWR@tabletotalLaTeXcols}{1}%
8615     \defaddtocounter{\LWR@tabletotalLaTeXcolsnext}{1}%

8616     \LWR@setexparray{\LWR@tablecolspec}{\arabic{\LWR@tabletotalLaTeXcols}}{#1}%

8617     \LWR@traceinfo{normal column \arabic{\LWR@tabletotalLaTeXcols}: #1}%
8618     \LWR@setexparray{\LWR@colatspec}{\arabic{\LWR@tabletotalLaTeXcolsnext}}{}%
8619     \LWR@setexparray{\LWR@colbangspec}{\arabic{\LWR@tabletotalLaTeXcolsnext}}{}%
8620     \LWR@setexparray{\LWR@colbeforespec}{\arabic{\LWR@tabletotalLaTeXcolsnext}}{}%
8621     \LWR@setexparray{\LWR@colafterspec}{\arabic{\LWR@tabletotalLaTeXcolsnext}}{}%
8622     \LWR@setexparray{\LWR@colbarspec}{\arabic{\LWR@tabletotalLaTeXcolsnext}}{}%
8623     \booltrue{\LWR@validtablecol}%
8624 }

```

73.10 Parsing ‘p’, ‘m’, or ‘b’ columns

`\LWR@parsepcolumn` `{\langle thiscolumn \rangle}` The width will be ignored.

```
8625 \newcommand*{\LWR@parsepcolumn}[1]{%
```

Converts to the given column type:

```
8626 \LWR@parsenormalcolumn{#1}%
```

Skips the following width token:

```
8627 \defaddtocounter{LWR@tablecolspecindex}{1}%
8628 }
```

73.11 Parsing ‘w’ columns

`\LWR@parsewcolumn` The width will be ignored.

```
8629 \newcommand*{\LWR@parsewcolumn}{%
```

```
8630 \LWR@columnspeclookahead{1}%
```

```
8631 \expandafter\LWR@parsenormalcolumn\expandafter{\LWR@strresulttwo}%
```

Skips the following width and alignment tokens:

```
8632 \defaddtocounter{LWR@tablecolspecindex}{2}%
8633 }
```

73.12 Parsing ‘*’ columns

`\LWR@parsestarcolumn` Star columns should already have been expanded, so this should never be used.

```
8634 \newcommand*{\LWR@parsestarcolumn}{%
```

```
8635 \defaddtocounter{LWR@tablecolspecindex}{2}%
```

```
8636 }
```

73.13 Parsing ‘D’ columns

From the `dcolumn` package.

`\LWR@parseDcolumn` `{\thiscolumn}` The three parameters will be ignored.

```
8637 \newcommand*{\LWR@parseDcolumn}[1]{%
```

Converts to the given column type.

```
8638 \LWR@parsenormalcolumn{#1}%
```

Skips the following three parameters.

```
8639 \defaddtocounter{LWR@tablecolspecindex}{3}%
8640 }
```

73.14 Expanding the star column specifications

Ctrl LWR@starcount Internal count for duplicating star columns.

```
8641 \newcount\LWR@starcount
```

\LWR@expcolspec Temporary storage used to build the expanded column specifier.

```
8642 \newcommand*\LWR@expcolspec{}
```

Ctrl LWR@splitstarindex Indexes into the column specifiers.

```
8643 \newcounter{LWR@splitstarindex}
```

Ctrl LWR@splitstarcopies Number of copies.

```
8644 \newcounter{LWR@splitstarcopies}
```

\LWR@splitstarcontents Contents to duplicate.

```
8645 \newcommand*\LWR@splitstarcontents{}
```

\expandcolspec Expands \LWR@origcolspec for star columns.

```
8646 \newcommand*\expandcolspec{%
```

Find the position of any star token.

```
8647 \StrPosition{\LWR@origcolspec}{*}[\LWR@tempone]%
```

Expand until no stars are found:

```
8648 \whileboolexpr{ test {\ifnumgreater{\LWR@tempone}{0}}}%
```

```
8649 {%
```

Begin with any characters to the left of the star.

```
8650 \setcounter{LWR@splitstarindex}{\LWR@tempone}%
```

```
8651 \addtocounter{LWR@splitstarindex}{-1}%
```

```
8652 \StrLeft{\LWR@origcolspec}{\value{LWR@splitstarindex}}[\LWR@expcolspec]%
```

Move past the star to remember its number of copies.

```
8653 \addtocounter{LWR@splitstarindex}{2}%
```

```
8654 \StrChar{\LWR@origcolspec}{\value{LWR@splitstarindex}}[\LWR@tempone]%
```

```
8655 \setcounter{LWR@splitstarcopies}{\expandafter\@firstofone\LWR@tempone}%
```

Move past the number of copies and remember the contents.

```
8656 \addtocounter{LWR@splitstarindex}{1}%
```

```
8657 \StrChar{\LWR@origcolspec}{\value{LWR@splitstarindex}}[\LWR@splitstarcontents]%
```

Table 12: Tabular baseline

l	p	m	b	r
			bot	
		mid	bot	
l	par	mid	bot	r
	par	mid		
	par			

For each copy, append the contents.

```
8658     \ifnumgreater{\value{LWR@splitstarcopies}}{0}%
8659     {%
8660         \LWR@starcount=\value{LWR@splitstarcopies}%
8661         \loop
8662             \appto\LWR@expcolspec%
```

(Remove the enclosing braces.)

```
8663             \expandafter\@firstofone\LWR@splitstarcontents%
8664         }%
8665         \advance \LWR@starcount -1
8666         \ifnum \LWR@starcount>0 \repeat
8667     }{%
```

Remove any token to the left, and append the rightmost remaining tokens.

```
8668     \StrGobbleLeft{\LWR@origcolspec}{\value{LWR@splitstarindex}}[\colspecremainder]%
8669     \appto{\LWR@expcolspec}{\colspecremainder}%
```

Remember the final result.

```
8670     \edef\LWR@origcolspec{\LWR@expcolspec}%
```

See if more stars exist.

```
8671     \StrPosition{\LWR@origcolspec}{*}[\LWR@tempone]%
8672 }%
8673 }
```

73.15 Parsing the column specifications


 **tabular baselines** HTML CSS cannot exactly match the L^AT_EX concept of a baseline for a table row. Table 12 shows the L^AT_EX results for various vertical-alignment choices, with the baseline of the first column drawn across all the columns for comparison. See the p column specification in table 13 for details.

Table 13 describes how each kind of column is converted to HTML.

Table 13: Tabular HTML column conversions

l, r, c:	Converted to table cells without paragraph tags. Uses css <code>vertical-align:middle</code> so that top or bottom-aligned cells may go above or below this cell.
p:	Converted to table cells with paragraph tags. Ref: Table 12, \LaTeX places the top line of a parbox aligned with the rest of the text line, so css <code>vertical-align:bottom</code> is used to have the HTML result appear with the paragraph extending below the L, R, C cells at the middle, if possible. This may be confusing as a P cell may not top-align with an L,R,C cell in the HTML conversion, especially in the presence of a B cell, and two P cells side-by-side will be aligned at the bottom instead of the top. Some adjustment of the css may be desired, changing <code>td.tdp</code> , <code>td.tdP</code> , <code>td.tdprule</code> , and <code>td.tdPrule</code> to <code>vertical-align: middle</code> . Another possibility is to change L,R,C, and P to <code>vertical-align: top</code> and not worry about the alignment of B and M cells or trying to approximate \LaTeX baselines.
m:	With paragraph tags, css <code>vertical-align:middle</code> .
b:	With paragraph tags, css <code>vertical-align:top</code> so that the bottom of the text is closest to the middle of the text line.
P, M, B:	Horizontally-centered versions.
S:	Converted to 'r'. Ignores optional argument. From the <code>siunitx</code> package.
D:	Converted to 'c'. From the <code>dcolumn</code> package.
@, !, >, <:	One each, in that order.
 :	Vertical rule.
Unknown:	Converted to 'l'.
\newcolumn:	Currently treated as unknown.

```
\LWR@parsetablecols {<colspecs>}
```

Scans the column specification left to right.

Builds `\LWR@tablecolspec` with the final specification, one `LATEX` column per entry. The final number of `LATEX` columns in each row is stored in `LWR@tabletotalLaTeXcols`, which is the number of `&` and `\` in each line, but which does not include `@`, `!`, `<`, `>` specifications in the count.

```
8674 \newcommand*\LWR@parsetablecols[1]{%
8675   \LWR@traceinfo{\LWR@parsetablecols}%
```

Remember the original supplied column spec:

```
8676   \renewcommand*\LWR@origcolspec{#1}%
```

Remove spaces:

```
8677   \expandarg%
8678   \StrSubstitute{\LWR@origcolspec}{ }{[\LWR@origcolspec]}%
```

Expand any star columns:

```
8679   \expandcolspec%
```

The parsed column spec data array, `LWR@tablecolspec`, will be overwritten with new values.

Total number of columns found so far. Also pre-initialize the first several columns of specs:

```
8680   \defcounter{LWR@tabletotalLaTeXcols}{0}%
8681   \defcounter{LWR@tabletotalLaTeXcolsnext}{1}%
8682   \LWR@setexparray{LWR@colatspec}{leftedge}{}%
8683   \LWR@setexparray{LWR@colatspec}{1}{}%
8684   \LWR@setexparray{LWR@colatspec}{2}{}%
8685   \LWR@setexparray{LWR@colatspec}{3}{}%
8686   \LWR@setexparray{LWR@colbangspec}{leftedge}{}%
8687   \LWR@setexparray{LWR@colbangspec}{1}{}%
8688   \LWR@setexparray{LWR@colbangspec}{2}{}%
8689   \LWR@setexparray{LWR@colbangspec}{3}{}%
8690   \LWR@setexparray{LWR@colbeforespec}{1}{}%
8691   \LWR@setexparray{LWR@colbeforespec}{2}{}%
8692   \LWR@setexparray{LWR@colbeforespec}{3}{}%
8693   \LWR@setexparray{LWR@colafterspec}{1}{}%
8694   \LWR@setexparray{LWR@colafterspec}{2}{}%
8695   \LWR@setexparray{LWR@colafterspec}{3}{}%
8696   \LWR@setexparray{LWR@colbarspec}{leftedge}{}%
8697   \LWR@setexparray{LWR@colbarspec}{1}{}%
8698   \LWR@setexparray{LWR@colbarspec}{2}{}%
8699   \LWR@setexparray{LWR@colbarspec}{3}{}%
```

Starting at the first column specification:

```
8700 \defcounter{LWR@tablecolspecindex}{1}%
```

Place the colspecs string length into `\LWR@strresult`, and remember the number of characters in the column specification:

```
8701 \expandarg%
8702 \StrLen{\LWR@origcolspec}[\LWR@strresult]%
8703 \fullexpandarg%
8704 \LWR@traceinfo{original column spec length: \LWR@strresult}%
8705 \defcounter{LWR@tablecolspecwidth}{\LWR@strresult}%
```

Haven't seen any optional arguments so far

```
8706 \boolfalse{LWR@opttablecol}%
```

Scan through the column specifications:

```
8707 \whileboolexpr{%
8708     not test{%
8709         \ifnumcomp{\value{LWR@tablecolspecindex}}{>}%
8710             {\value{LWR@tablecolspecwidth}}%
8711     }%
8712 }%
8713 {%
```

Place the next single-character column type into `\LWR@strresult`:

```
8714 \expandarg%
8715 \StrChar{\LWR@origcolspec}{\arabic{LWR@tablecolspecindex}}[\LWR@strresult]%
8716 \LWR@traceinfo{position \arabic{LWR@tablecolspecindex}: \LWR@strresult}%
8717 \fullexpandarg%
```

Not yet found a valid column type:

```
8718 \boolfalse{LWR@validtablecol}%
```

Skip over any optional arguments, such as siunitx S column:

```
8719 \IfStrEq{\LWR@strresult}{[]}{\booltrue{LWR@opttablecol}}{}%
```

Throw away anything found inside the optional argument:

```
8720 \ifbool{LWR@opttablecol}%
8721 {}% inside an optional argument
8722 {% not an optional tabular argument
```

Not inside an optional argument, so consider the column type:

```
8723 \IfStrEq{\LWR@strresult}{l}{\LWR@parsenormalcolumn{l}}{}%
8724 \IfStrEq{\LWR@strresult}{c}{\LWR@parsenormalcolumn{c}}{}%
8725 \IfStrEq{\LWR@strresult}{r}{\LWR@parsenormalcolumn{r}}{}%
8726 \IfStrEq{\LWR@strresult}{L}{\LWR@parsenormalcolumn{l}}{}%
8727 \IfStrEq{\LWR@strresult}{C}{\LWR@parsenormalcolumn{c}}{}%
```

```

8728 \IfStrEq{\LWR@strresult}{R}{\LWR@parsenormalcolumn{r}}{}%
8729 \IfStrEq{\LWR@strresult}{J}{\LWR@parsenormalcolumn{l}}{}%

8730 \IfStrEq{\LWR@strresult}{S}{\LWR@parsenormalcolumn{c}}{}%
8731 \IfStrEq{\LWR@strresult}{s}{\LWR@parsenormalcolumn{c}}{}%

8732 \IfStrEq{\LWR@strresult}{\detokenize{@}}{\LWR@parseatcolumn}{}%
8733 \IfStrEq{\LWR@strresult}{!}{\LWR@parsebangcolumn}{}%
8734 \IfStrEq{\LWR@strresult}{>}{\LWR@parsebeforecolumn}{}%
8735 \IfStrEq{\LWR@strresult}{<}{\LWR@parseaftercolumn}{}%
8736 \IfStrEq{\LWR@strresult}{|}{\LWR@parsebarcolumn}{}%
8737 \IfStrEq{\LWR@strresult}{:}{\LWR@parsecoloncolumn}{}%
8738 \IfStrEq{\LWR@strresult}{;}{\LWR@parsesemicoloncolumn}{}%

8739 \IfStrEq{\LWR@strresult}{p}{\LWR@parsepcolumn{p}}{}%
8740 \IfStrEq{\LWR@strresult}{m}{\LWR@parsepcolumn{m}}{}%
8741 \IfStrEq{\LWR@strresult}{b}{\LWR@parsepcolumn{b}}{}%

8742 \IfStrEq{\LWR@strresult}{w}{\LWR@parsewcolumn}{}%
8743 \IfStrEq{\LWR@strresult}{W}{\LWR@parsewcolumn}{}%

```

A star column:

```
8744 \IfStrEq{\LWR@strresult}{*}{\LWR@parsestarcolumn}{}%
```

From the dcolumn package:

```
8745 \IfStrEq{\LWR@strresult}{D}{\LWR@parseDcolumn{c}}{}%
```

From the tabularx package. X column has no parameter, but will be given paragraph tags.

```
8746 \IfStrEq{\LWR@strresult}{X}{\LWR@parsenormalcolumn{X}}{}%
```

Many people define centered versions “P”, “M”, and “B”:

```
\newcolumnntype{P}[1]{>{\centering\arraybackslash}p{#1}}
```

```

8747 \IfStrEq{\LWR@strresult}{P}{\LWR@parsepcolumn{P}}{}%
8748 \IfStrEq{\LWR@strresult}{M}{\LWR@parsepcolumn{M}}{}%
8749 \IfStrEq{\LWR@strresult}{B}{\LWR@parsepcolumn{B}}{}%

```

If this column was an invalid column type, convert it to an l column:

```

8750 \ifbool{LWR@validtablecol}{}%
8751   \LWR@traceinfo{invalid column type: \LWR@strresult}%
8752   \LWR@parsenormalcolumn{l}%
8753 }%
8754 }% not an optional column argument

```


If read the closing bracket, no longer inside the optional argument:

```
8755 \IfStrEq{\LWR@strresult}{]}\boolfalse{\LWR@opttablecol}}{}%
```

Move to the next character:

```
8756 \defaddtocounter{\LWR@tablecolspecindex}{1}%
8757 }% whiledo
8758 }%
```

73.16 colortbl and xcolor tabular color support

These macros provide a minimal emulation of some colortbl macros which might appear between table cells. If colortbl is loaded, these macros will be replaced with functional versions.

For each of the HTML colors below, the text for the HTML color is set if requested, but the macro is empty if none has been set.

`\rownum` Reserve a counter register.

```
8759 \@ifundefined{\rownum}{\newcount\rownum}{}
```

`\@rowcolors` Emulated in case xcolor is not used.

```
8760 \newcommand*\@rowcolors{}
```

`\@rowc@lors` Emulated in case xcolor is not used.

```
8761 \newcommand*\@rowc@lors{}
```

`\LWR@xcolorrowHTMLcolor` Emulated xcolor row color.

```
8762 \newcommand*\LWR@xcolorrowHTMLcolor{}
```

`\LWR@columnHTMLcolor` HTMLstyle code for the column color.

```
8763 \def\LWR@columnHTMLcolor{}
```

`\LWR@rowHTMLcolor` HTMLstyle code for the row color.

```
8764 \def\LWR@rowHTMLcolor{}
```

`\LWR@cellHTMLcolor` HTMLstyle code for the cell color.

```
8765 \def\LWR@cellHTMLcolor{}
```

`\LWR@ruleHTMLcolor` HTMLstyle code for the rule color.

```
8766 \newcommand*{\LWR@ruleHTMLcolor}{}
```

`\rowcolor` [*model*] {*color*} [*left overhang*] [*right overhang*] Print version. The HTML version is in `lwarp-colortbl`. Used before starting a tabular data cell, thus `\LWR@getmynexttoken`.

```
8767 \newcommand*{\rowcolor}{\LWR@getmynexttoken}%
```

`\arrayrulecolor` [*model*] {*color*}

`\arrayrulecolornexttoken` [*model*] {*color*}

Print versions for use outside and inside a tabular:

```
8768 \newcommand{\arrayrulecolor}[2][named]{}
8769 \newcommand{\arrayrulecolornexttoken}[2][named]{\LWR@getmynexttoken}
```

`\doublerulesepcolor` [*model*] {*color*}

`\doublerulesepcolornexttoken` [*model*] {*color*}

Print versions for use inside and outside a tabular:

```
8770 \newcommand{\doublerulesepcolor}[2][named]{}
8771 \newcommand{\doublerulesepcolornexttoken}[2][named]{\LWR@getmynexttoken}
```

73.17 Starting a new row

`\LWR@maybenewtablerow` If have not yet started a new table row, begin one now. Creates a new row tag, adding a class for `hline` or `tbrule` if necessary.

```
8772 \newcommand*{\LWR@maybenewtablerow}
8773 {%
8774   \ifbool{LWR@startedrow}%
8775   {}% started the row
8776   {% not started the row
```

Remember that now have started the row:

```
8777   \booltrue{LWR@startedrow}%
```

Create the row tag, with a class if necessary.

```
8778   \booltrue{LWR@intabularmetadata}%
8779   \ifboolexpr{%
8780     test{\ifnumcomp{\value{LWR@hlines}}{>}{0}} or%
8781     test{\ifnumcomp{\value{LWR@hdashedlines}}{>}{0}}%
8782   }%
```

```

8783     {%
8784         \LWR@htmltag{tr class="hline" }%
8785         \LWR@orignewline%
8786     }%
8787     {% not doing hline
8788         \ifbool{LWR@doingtbrule}%
8789         {%
8790             \ifdefvoid{\LWR@ruleHTMLcolor}{%
8791                 \LWR@htmltag{tr class="tbrule"}%
8792             }{%
8793                 \LWR@htmltag{%
8794                     tr class="tbrule" % space
8795                     style="border-top: 1px solid % space
8796                     \LWR@origpound\LWR@ruleHTMLcolor "%
8797                 }%
8798             }%
8799             \LWR@orignewline%
8800         }%
8801         {\LWR@htmltag{tr}\LWR@orignewline}%
8802     }% end of not doing hline
8803 }% end of not started the row
8804 }

```

73.18 Printing vertical bar tags

`\LWR@printbartag` $\{\langle index \rangle\}$

Adds to a tabular data cell an HTML class name for a left/right vertical bar.

```

8805 \newcommand*{\LWR@printbartag}[1]{%
8806     \LWR@traceinfo{\LWR@printbartag !#1}%
8807     \ifboolexpr{bool{LWR@tabularmutemods} or bool{LWR@emptyatbang}}%
8808     }{% muting or empty
8809     }{% not muting
8810         \edef\LWR@tempone{\LWR@getexparray{LWR@colbarspec}{#1}}%
8811         \ifdefempty{\LWR@tempone}{\LWR@tempone}%
8812     }% not muting
8813     \LWR@traceinfo{\LWR@printbartag done}%
8814 }

```

73.19 Printing @ or ! tags

`\LWR@printatbang` $\{\langle at \text{ — } or \text{ — } bang \rangle\} \{\langle index \rangle\}$

```

8815 \newcommand*{\LWR@printatbang}[2]{%

```

Fetch the column at or bang spec:

```

8816     \xdef\LWR@atbangspec{\LWR@getexparray{LWR@col#1spec}{#2}}%
8817     \LWR@traceinfo{atbang: #2 !\LWR@atbangspec!}%

```

Only generate if is not empty;

```

8818 \ifdefempty{\LWR@atbangspec}%
8819 {}%
8820 {% not empty
8821   \LWR@htmltag{%
8822     td class="td#1%
8823     \LWR@subaddcmidruletrim{}}{}%
8824     \LWR@printbartag{#2}%
8825     "%
8826     \LWR@tdstartstyles%
8827     \LWR@addcmidrulewidth%
8828     \LWR@addcdashline%
8829     \LWR@addtabularrulecolors%
8830     \LWR@tdendstyles%
8831   }%

```

Create an empty cell if muting for the \bottomrule:

```

8832 \ifboolexpr{bool{\LWR@tabularmutemods} or bool{\LWR@emptyatbang}}%
8833 {}%
8834 {\LWR@atbangspec}%
8835 %
8836 \LWR@htmltag{/td}\LWR@orignewline%
8837 \global\booltrue{\LWR@tabularcelladded}%
8838 }% not empty
8839 }%

```

\LWR@addleftmostbartag

```

8840 \newcommand*\LWR@addleftmostbartag{%
8841   \ifnumcomp{\value{\LWR@tableLaTeXcolindex}}{=}{1}{%
8842     \LWR@printbartag{leftedge}%
8843   }{}%
8844 }

```

\LWR@tabularleftedge

```

8845 \newcommand*\LWR@tabularleftedge{%
8846   \ifnumcomp{\value{\LWR@tableLaTeXcolindex}}{=}{1}%
8847   {%
8848     \LWR@printatbang{at}{leftedge}%
8849     \LWR@printatbang{bang}{leftedge}%
8850   }% left edge
8851   {}% not left edge
8852 }

```

73.20 Data opening tag

\LWR@thiscolspec Temporary storage.

```

8853 \newcommand*\LWR@thiscolspec{}

```

`\LWR@tabledatasinglecolumn` tag Print a table data opening tag with style for alignment and color.

```
8854 \newcommand*{\LWR@tabledatasinglecolumn}{%
8855 {%
8856   \LWR@traceinfo{\LWR@tabledatasinglecolumn}%
8857   \LWR@maybenewtablerow%
```

Don't start a new paragraph tag if have already started one:

```
8858   \ifbool{\LWR@intabularmetadata}%
8859   {%
```

If have found the end of tabular command, do not create the next data cell:

```
8860     \ifbool{\LWR@exitingtabular}{}%
8861     {% not exiting tabular
```

Print the @ and ! contents before first column:

```
8862         \LWR@tabularleftedge%
```

Fetch the current column's alignment character into `\LWR@strresult`:

```
8863         \xdef\LWR@strresult{%
8864         \LWR@getexparray{\LWR@tablecolspec}{\arabic{\LWR@tableLaTeXcolindex}}%
8865         }%
```

print the start of a new table data cell:

```
8866         \LWR@traceinfo{\LWR@tabledatasinglecolumn: about to print td tag}%
8867         \LWR@htmltag{%
8868             td class="td%
```

append this column's spec:

```
8869             \LWR@strresult%
```

If this column has a `cmidrule`, add "rule" to the end of the HTML class tag. Also add vertical bar tags.

```
8870             \LWR@addcmidruletrim%
8871             \LWR@addleftmostbartag%
8872             \LWR@printbartag{\arabic{\LWR@tableLaTeXcolindex}}%
8873             "%
```

Add styles for rules, alignment:

```
8874             \LWR@tdstartstyles%
8875             \LWR@addcmidrulewidth%
8876             \LWR@addcdashline%
```

```
8877         \xdef\LWR@thiscolspec{%
```

```

8878             \LWR@getexpparray{LWR@tablecolspec}%
8879             {\arabic{LWR@tableLaTeXcolindex}}%
8880         }%
8881         \LWR@addformatwppalignment{\LWR@thiscolspec}%

```

Add styles for cell and rule colors:

```

8882             \LWR@addtabulararrowcolor%
8883             \LWR@addtabularrulecolors%

8884             \LWR@tdendstyles%
8885         }% HTML td
8886         \LWR@traceinfo{LWR@tabledatasinglecolumntag: done printing td tag}%

```

If this is a p, m, b, or X column, allow paragraphs:

```

8887         \ifboolexpr{%
8888             test{ \ifdefstring{\LWR@strresult}{p} } or
8889             test{ \ifdefstring{\LWR@strresult}{m} } or
8890             test{ \ifdefstring{\LWR@strresult}{b} } or
8891             test{ \ifdefstring{\LWR@strresult}{P} } or
8892             test{ \ifdefstring{\LWR@strresult}{M} } or
8893             test{ \ifdefstring{\LWR@strresult}{B} } or
8894             test{ \ifdefstring{\LWR@strresult}{X} }
8895         }%
8896         {% allow pars
8897         \LWR@traceinfo{LWR@tabledatasinglecolumntag: about to LWR@startpars}%
8898             \booltrue{LWR@tableparcell}%
8899             \LWR@startpars%
8900         \LWR@traceinfo{LWR@tabledatasinglecolumntag: done with LWR@startpars}%
8901         }% allow pars
8902         }% no pars

```

Print the > contents unless muted for the \bottomrule:

```

8903         \ifboolexpr{bool{LWR@tabularmutemods} or bool{LWR@emptyatbang}}%
8904         {}%
8905         {%
8906         \LWR@getexpparray{LWR@colbefore-spec}{\arabic{LWR@tableLaTeXcolindex}}%
8907         }%
8908         \boolfalse{LWR@intabularmetadata}%
8909         }% not exiting tabular
8910     }{}% in tabular metadata
8911     \LWR@traceinfo{LWR@tabledatasinglecolumntag: done}%
8912 }%

```

73.21 Midrules

`LWR@midrules` `LWR@midrules` is a data array (section 41) of columns each containing a non-zero width if a midrule should be created for this column.

`LWR@trimlrules` `LWR@trimlrules` is a data array (section 41) of columns containing l if a midrule

should be left trimmed for each column.

`LWR@trimrrules` `LWR@trimrrules` is a data array (section 41) of columns containing `r` if a midrule should be right trimmed for each column.

`LWR@cdashlines` `LWR@cdashlines` is a data array (section 41) of columns each containing a `Y` if an `arydshln` package "cdashed line" should be created for this column.

`Len \LWR@heavyrulewidth` The default width of the rule.

```
8913 \newlength{\LWR@heavyrulewidth}
8914 \setlength{\LWR@heavyrulewidth}{.08em}
```

`Len \LWR@lightrulewidth` The default width of the rule.

```
8915 \newlength{\LWR@lightrulewidth}
8916 \setlength{\LWR@lightrulewidth}{.05em}
```

`Len \LWR@cmidrulewidth` The default width of the rule.

```
8917 \newlength{\LWR@cmidrulewidth}
8918 \setlength{\LWR@cmidrulewidth}{.03em}
```

`Len \LWR@thiscmidrulewidth` The width of the next rule, defaulting to `\LWR@cmidrulewidth`.

If not `\LWR@cmidrulewidth`, a style will be used to generate the custom width.

Assigned from the `LWR@midrules` array.

```
8919 \newlength{\LWR@thiscmidrulewidth}
8920 \setlength{\LWR@thiscmidrulewidth}{\LWR@cmidrulewidth}
```

`\LWR@clearmidrules` Start new midrules. Called at beginning of `tabular` and also at `\`.

Clears all `LWR@midrules` and `LWR@trimrules` markers for this line.

```
8921 \newcommand*{\LWR@clearmidrules}
8922 {%
8923   \defcounter{LWR@midrulecounter}{1}%
8924   \whileboolexpr{%
8925     not test{%
8926       \ifnumcomp{\value{LWR@midrulecounter}}{>}%
8927         {\value{LWR@tabletotalLaTeXcols}}%
8928     }%
8929   }%
8930   {%
8931     \LWR@setexparray{LWR@midrules}{\arabic{LWR@midrulecounter}}{0pt}%
8932     \setlength{\LWR@thiscmidrulewidth}{\LWR@cmidrulewidth}%
8933     \LWR@setexparray{LWR@trimlrules}{\arabic{LWR@midrulecounter}}{%
8934     \LWR@setexparray{LWR@trimrrules}{\arabic{LWR@midrulecounter}}{%
8935     \LWR@setexparray{LWR@cdashlines}{\arabic{LWR@midrulecounter}}{N}%
8936     \defaddtocounter{LWR@midrulecounter}{1}%
8937   }%
8938 }
```

`\LWR@subcmidrule` $\{\langle width \rangle\} \{\langle trim \rangle\} \{\langle leftcolumn \rangle\} \{\langle rightcolumn \rangle\}$

Marks `LWR@midrules` data array elements to be non-zero widths from left to right columns. Also marks trimming for the L and/or R columns.

`LWR@doingcmidrule` is set to force an empty row at the end of the tabular to create the rule.

```
8939 \newcommand*\LWR@subcmidrule}[4]{%
8940   \defcounter{LWR@midrulecounter}{#3}%
8941   \whileboolexpr{%
8942     not test {%
8943       \ifnumcomp{\value{LWR@midrulecounter}}{>}{#4}%
8944     }%
8945   }%
8946   {%
8947     \LWR@setexparray{LWR@midrules}{\arabic{LWR@midrulecounter}}{#1}%
8948     \defaddtocounter{LWR@midrulecounter}{1}%
8949   }% whiledo
8950   \IfSubStr{#2}{l}{\LWR@setexparray{LWR@trimlrules}{#3}{l}}{%
8951   \IfSubStr{#2}{r}{\LWR@setexparray{LWR@trimrrules}{#4}{r}}{%
8952   \booltrue{LWR@doingcmidrule}%
8953 }
```

`\LWR@docmidrule` $[\langle width \rangle] (\langle trim \rangle) \{\langle leftcolumn-rightcolumn \rangle\}$

Marks `LWR@midrules` array elements to be a non-zero width from left to right columns. Also marks trimming for the L and/or R columns.

```
8954 \NewDocumentCommand{\LWR@docmidrule}
8955   {O{\LWR@cmidrulewidth} D()}{>\SplitArgument{1}{-}}m
8956   {\LWR@subcmidrule{#1}{#2}#3}
```

`\LWR@subcdashline` $\{\langle leftcolumn \rangle\} \{\langle rightcolumn \rangle\}$

Marks `LWR@cdashlines` data array elements to be Y from left to right columns.

`LWR@doingcmidrule` is set to force an empty row at the end of the tabular to create the rule.

```
8957 \newcommand*\LWR@subcdashline}[2]{%
8958   \defcounter{LWR@midrulecounter}{#1}%
8959   \whileboolexpr{%
8960     not test {%
8961       \ifnumcomp{\value{LWR@midrulecounter}}{>}{#2}%
8962     }%
8963   }%
8964   {%
8965     \LWR@setexparray{LWR@cdashlines}{\arabic{LWR@midrulecounter}}{Y}%
8966     \defaddtocounter{LWR@midrulecounter}{1}%
8967   }% whiledo
8968   \booltrue{LWR@doingcmidrule}%
8969 }
```


`\LWR@docdashline` $\{\langle leftcolumn-rightcolumn \rangle\}$

Marks `LWR@cdashlines` data array elements to be Y from left to right columns.

```
8970 \NewDocumentCommand{\LWR@docdashline}
8971   {>\SplitArgument{1}{-}m}%
8972   {%
8973     \LWR@subcdashline#1%
8974   }
```

`\LWR@tdstartstyles` Begins possibly adding a table data cell style.

```
8975 \newcommand*{\LWR@tdstartstyles}{\boolfalse\LWR@tdhavecellstyle}}
```

`\LWR@tdaddstyle` Starts adding a table data cell style.

```
8976 \newcommand*{\LWR@tdaddstyle}{%
8977   \ifbool{\LWR@tdhavecellstyle}%
8978     {; }%
8979     { style="}%
8980   \booltrue{\LWR@tdhavecellstyle}%
8981 }
```

`\LWR@tdendstyles` Finishes possibly adding a table data cell style. Prints the closing quote.

```
8982 \newcommand*{\LWR@tdendstyles}{%
8983   \ifbool{\LWR@tdhavecellstyle}%
8984     {%
8985       "%
8986       \boolfalse{\LWR@tdhavecellstyle}%
8987     }{%
8988 }
```

`\LWR@subaddcmidruletrim` $\{\langle lefttrim \rangle\} \{\langle righttrim \rangle\}$ Adds a `\cmidrule` with optional trim.

```
8989 \newcommand*{\LWR@subaddcmidruletrim}[2]{%
8990   \setlength{\LWR@templengthone}{%
8991     \LWR@getexparray{\LWR@midrules}{\arabic{\LWR@tableLaTeXcolindex}}%
8992   }%
8993   \ifdimcomp{\LWR@templengthone}{>}{0pt}%
8994     {%
```

Print the class with left and right trim letters appended:

```
8995     \LWR@origtilde tdrule#1#2%
```

Remember the width of the rule:

```
8996     \setlength{\LWR@thiscmidrulewidth}{\LWR@templengthone}%
8997     }%
8998     {%
```

```

8999         \setlength{\LWR@thiscmidrulewidth}{0pt}%
9000     }%
9001 }

```

`\LWR@addcmidruletrim` Adds left or right trim to a `\cmidrule`.

```

9002 \newcommand*\LWR@addcmidruletrim{%
9003     \LWR@subaddcmidruletrim%
9004     {\LWR@getexparray{\LWR@trimlrules}{\arabic{\LWR@tableLaTeXcolindex}}}%
9005     {\LWR@getexparray{\LWR@trimrrules}{\arabic{\LWR@tableLaTeXcolindex}}}%
9006 }

```

`\LWR@addrulewidth` `{\langle thiswidth \rangle}` `{\langle defaultwidth \rangle}`

If not default width, add a custom style with width and color depending on `thiswidth`.

Must be placed between `\LWR@tdstartstyles` and `\LWR@tdendstyles`.

```

9007 \newcommand{\LWR@addrulewidth}[2]{%

```

Only add a custom width if `thiswidth` is different than the `defaultwidth`, or if a color is being used:

```

9008     \ifboolexpr{%
9009         test{\ifdimcomp{#1}{=}{0pt}} or
9010         (
9011             ( test{\ifdimcomp{#1}{=}{#2}} and not bool{FormatWP} )
9012             and ( test {\ifdefvoid{\LWR@ruleHTMLcolor}} )
9013         )
9014     }%
9015     {}% default width and color
9016     {% custom width and/or color

```

Ensure that the width is wide enough to display in the browser:

```

9017         \LWR@forceminwidth{#1}%

```

Begin adding another style:

```

9018         \LWR@tdaddstyle%

```

The style itself:

```

9019         border-top:\LWR@printlength{\LWR@atleastonept} solid % space

```

If default gray, the darkness of the color depends on the thickness of the rule:

```

9020         \ifdefvoid{\LWR@ruleHTMLcolor}{%
9021             \ifdimcomp{#1}{<}{\LWR@lightrulewidth}%
9022             {\LWR@origpound{A0A0A0}}%
9023             {% lightrule or heavier
9024                 \ifdimcomp{#1}{<}{\LWR@heavyrulewidth}%

```

```

9025         {\LWR@origpound{ }808080}%
9026         {black}%
9027     }% lightrule or heavier
9028     }{%
9029         \LWR@origpound\LWR@ruleHTMLcolor%
9030     }%
9031     }% custom width and/or color
9032 }

```

`\LWR@addcmidrulewidth` Adds a style for the rule width.

Must be placed between `\LWR@tdstartstyles` and `\LWR@tdendstyles`.

```

9033 \newcommand{\LWR@addcmidrulewidth}{%
9034     \LWR@addrulewidth{\LWR@thiscmidrulewidth}{\LWR@cmidrulewidth}%
9035 }

```

`\LWR@addcdashline` Must be placed between `\LWR@tdstartstyles` and `\LWR@tdendstyles`.

```

9036 \newcommand{\LWR@addcdashline}{%
9037     \edef\LWR@tempone{%
9038         \LWR@getexparray{\LWR@cdashlines}{\arabic{\LWR@tableLaTeXcolindex}}%
9039     }%
9040     \ifdefstring{\LWR@tempone}{Y}{%
9041         \LWR@tdaddstyle%
9042         border-top: 1pt dashed %
9043         \ifdefvoid{\LWR@ruleHTMLcolor}%
9044             {black}%
9045             {\LWR@origpound\LWR@ruleHTMLcolor}%
9046     }{%
9047 }

```

`\LWR@WPcell` `{\langle text-align \rangle}` `{\langle vertical-align \rangle}`

```

9048 \newcommand*{\LWR@WPcell}[2]{%
9049     \LWR@tdaddstyle%
9050     \LWR@print@mbx{text-align:#1}; \LWR@print@mbx{vertical-align:#2}%
9051 }

```

`\LWR@addformatwpalignment` If `FormatWP`, adds a style for the alignment.

Must be placed between `\LWR@tdstartstyles` and `\LWR@tdendstyles`.

```

9052 \newcommand*{\LWR@addformatwpalignment}[1]{%
9053     \ifbool{FormatWP}{%
9054         \IfSubStr{#1}{l}{\LWR@WPcell{left}{middle}}{%
9055         \IfSubStr{#1}{c}{\LWR@WPcell{center}{middle}}{%
9056         \IfSubStr{#1}{r}{\LWR@WPcell{right}{middle}}{%
9057         \IfSubStr{#1}{p}{\LWR@WPcell{left}{bottom}}{%
9058         \IfSubStr{#1}{m}{\LWR@WPcell{left}{middle}}{%
9059         \IfSubStr{#1}{b}{\LWR@WPcell{left}{top}}{%
9060         \IfSubStr{#1}{P}{\LWR@WPcell{center}{bottom}}{%

```

```

9061     \IfSubStr{#1}{M}{\LWR@WPcell{center}{middle}}{%
9062     \IfSubStr{#1}{B}{\LWR@WPcell{center}{top}}{%
9063     }{%
9064 }

```

73.22 Cell colors

`\LWR@addtabularrowcolor` Adds a cell's row color style, if needed.

No color is added for the final row of empty cells which finishes each tabular.

```

9065 \newcommand*{\LWR@addtabularrowcolor}{%
9066     \ifbool{LWR@tabularmutemods}{%
9067         \ifdefvoid{\LWR@rowHTMLcolor}{%
9068             \ifdefvoid{\LWR@xcolorrowHTMLcolor}{%
9069                 {% xcolor row color
9070                     \LWR@tdaddstyle%
9071                     background:\LWR@origpound\LWR@xcolorrowHTMLcolor%
9072                 }%
9073             }%
9074             {% explicit row color
9075                 \LWR@tdaddstyle%
9076                 background:\LWR@origpound\LWR@rowHTMLcolor%
9077             }%
9078         }%
9079 }

```

`\LWR@addtabularhrulecolor` Adds a cell's horizontal rule color style, if needed.

```

9080 \newcommand*{\LWR@addtabularhrulecolor}{%

```

If either form of horizontal rule is requested:

```

9081     \ifboolexpr{%
9082         test{\ifnumcomp{\value{LWR@hlines}}{>}{0}} or%
9083         test{\ifnumcomp{\value{LWR@hdashedlines}}{>}{0}} or%
9084         bool{LWR@doingtbrule}%
9085     }{%

```

If there is a no custom color:

```

9086     \ifdefvoid{\LWR@ruleHTMLcolor}%
9087     {%
9088         \ifnumcomp{\value{LWR@hlines}}{>}{1}%
9089         {%
9090             \LWR@tdaddstyle%
9091             border-top: 4px double%
9092         }% else
9093         \ifnumcomp{\value{LWR@hdashedlines}}{>}{1}%
9094         {%
9095             \LWR@tdaddstyle%
9096             border-top: 2px dashed%

```

```

9097         }{% else
9098         \ifnumcomp{\value{LWR@hdashedlines}}{=}{1}%
9099         {%
9100             \LWR@tdaddstyle%
9101             border-top: 1px dashed%
9102         }{}}}%

```

If no color and not doubled or dashed, then add nothing, since a simpler rule is the default.

```

9103     }%

```

If there is a custom color:

```

9104     {%
9105     \ifnumcomp{\value{LWR@hlines}}{>}{1}%
9106     {%
9107         \LWR@tdaddstyle%
9108         border-top: 4px double \LWR@origpound\LWR@ruleHTMLcolor%
9109     }{% else
9110     \ifnumcomp{\value{LWR@hdashedlines}}{>}{1}%
9111     {%
9112         \LWR@tdaddstyle%
9113         border-top: 2px dashed \LWR@origpound\LWR@ruleHTMLcolor%
9114     }{% else
9115     \ifnumcomp{\value{LWR@hdashedlines}}{=}{1}%
9116     {%
9117         \LWR@tdaddstyle%
9118         border-top: 1px dashed \LWR@origpound\LWR@ruleHTMLcolor%
9119     }{% else
9120         \LWR@tdaddstyle%
9121         border-top: 1px solid \LWR@origpound\LWR@ruleHTMLcolor%
9122     }{}}%
9123     }%
9124     }{}}%
9125 }

```

`\LWR@addtabularrulecolors` Adds a cell's rule color styles, if needed.

No color is added for the final row of empty cells which finishes each tabular.

```

9126 \newcommand*{\LWR@addtabularrulecolors}{%

```

Custom horizontal rule color:

```

9127     \LWR@addtabularhrulecolor%

```

No vertical rules if finishing the tabular with a row of empty cells:

```

9128     \ifbool{LWR@tabularmutemods}{}%

```

If at the leftmost cell, possibly add a leftmost vertical rule:

```

9129         \ifnumequal{\value{LWR@tableLaTeXcolindex}}{1}{%

```

Fetch the left edge's vertical bar specification:

```
9130         \edef\LWR@tempone{\LWR@getexpparray{\LWR@colbarspec}{leftedge}}%
```

Add a custom style if a vertical bar was requested:

```
9131         \ifdefstring{\LWR@tempone}{tvertbarl}{%
9132             \LWR@tdaddstyle%
9133             border-left: 1px solid % space
9134             \LWR@vertruleHTMLcolor%
9135         }{}%
9136         \ifdefstring{\LWR@tempone}{tvertbarldouble}{%
9137             \LWR@tdaddstyle%
9138             border-left: 4px double % space
9139             \LWR@vertruleHTMLcolor%
9140         }{}%
9141         \ifdefstring{\LWR@tempone}{tvertbarldash}{%
9142             \LWR@tdaddstyle%
9143             border-left: 1px dashed % space
9144             \LWR@vertruleHTMLcolor%
9145         }{}%
9146         \ifdefstring{\LWR@tempone}{tvertbarldoubledash}{%
9147             \LWR@tdaddstyle%
9148             border-left: 2px dashed % space
9149             \LWR@vertruleHTMLcolor%
9150         }{}%
9151     }{}%
```

Possibly add a right vertical rule for this cell:

```
9152     \edef\LWR@tempone{%
9153         \LWR@getexpparray{\LWR@colbarspec}{\arabic{\LWR@tableLaTeXcolindex}}%
9154     }%
9155     \ifdefstring{\LWR@tempone}{tvertbarr}{%
```

Add a custom style if a vertical bar was requested:

```
9156         \LWR@tdaddstyle%
9157         border-right: 1px solid \LWR@vertruleHTMLcolor%
9158     }{}%
9159     \ifdefstring{\LWR@tempone}{tvertbarrdouble}{%
9160         \LWR@tdaddstyle%
9161         border-right: 4px double \LWR@vertruleHTMLcolor%
9162     }{}%
9163     \ifdefstring{\LWR@tempone}{tvertbarrdash}{%
9164         \LWR@tdaddstyle%
9165         border-right: 1px dashed \LWR@vertruleHTMLcolor%
9166     }{}%
9167     \ifdefstring{\LWR@tempone}{tvertbarrdoubledash}{%
9168         \LWR@tdaddstyle%
9169         border-right: 2px dashed \LWR@vertruleHTMLcolor%
9170     }{}%
9171 }%
9172 }
```

`\LWR@subaddtabularcellcolor` {*<HTML color>*}

```

9173 \newcommand*{\LWR@subaddtabularcellcolor}[1]{%
9174   \LWR@htmltag{div class="cellcolor" style="%
9175     background:\LWR@origpound{ }{ }#1 %
9176     " }%
9177   \defaddtocounter{LWR@cellcolordepth}{1}%
9178 }
```

`\LWR@addtabularcellcolor` Adds a cell color style, if needed.

```

9179 \newcommand*{\LWR@addtabularcellcolor}{%
9180   \ifdefvoid{\LWR@cellHTMLcolor}%
9181   {%
9182     \ifdefvoid{\LWR@rowHTMLcolor}%
9183     {%
9184       \ifdefvoid{\LWR@xcolorrowHTMLcolor}%
9185       {%
9186         \ifdefvoid{\LWR@columnHTMLcolor}%
9187         {}%
9188         {\LWR@subaddtabularcellcolor{\LWR@columnHTMLcolor}}%
9189       }%
9190       {\LWR@subaddtabularcellcolor{\LWR@xcolorrowHTMLcolor}}%
9191     }%
9192     {\LWR@subaddtabularcellcolor{\LWR@rowHTMLcolor}}%
9193   }%
9194   {\LWR@subaddtabularcellcolor{\LWR@cellHTMLcolor}}%
9195 }
```

73.23 Multicolumns

73.23.1 Parsing multicolumns

`\LWR@printmccoltype` {*<colspec>*} Print any valid column type found. Does not print @, !, >, or < columns or their associated tokens.

This is printed as part of the table data tag's class.

```

9196 \newcommand*{\LWR@printmccoltype}[1]{%
9197   \LWR@traceinfo{lwr@printmccoltype -#1-%}
```

Get one token of the column spec:

```

9198   \StrChar{#1}{\arabic{LWR@tablemulticolspost}}[\LWR@strresult]%
```

Add to the HTML tag depending on which column type is found:

```

9199   \IfStrEq{\LWR@strresult}{l}{l}{l}%
9200   \IfStrEq{\LWR@strresult}{c}{c}{c}%
9201   \IfStrEq{\LWR@strresult}{r}{r}{r}%
9202   \IfStrEq{\LWR@strresult}{p}{p}{p}%
```

```

9203 \IfStrEq{\LWR@strresult}{m}{m}{}%
9204 \IfStrEq{\LWR@strresult}{b}{b}{}%
9205 \IfStrEq{\LWR@strresult}{P}{P}{}%
9206 \IfStrEq{\LWR@strresult}{M}{M}{}%
9207 \IfStrEq{\LWR@strresult}{B}{B}{}%

9208 \IfStrEq{\LWR@strresult}{w}{w}{}%
9209 \IfStrEq{\LWR@strresult}{W}{W}{}%

9210 \IfStrEq{\LWR@strresult}{S}{c}{}%
9211 \IfStrEq{\LWR@strresult}{s}{c}{}%

9212 \IfStrEq{\LWR@strresult}{X}{p}{}%

9213 \IfStrEq{\LWR@strresult}{|}{}%
9214 {%
9215   \ifbool{LWR@mcolvertbaronleft}%
9216     {\defaddtocounter{LWR@mcolvertbarsl}{1}}% left edge
9217     {\defaddtocounter{LWR@mcolvertbarsr}{1}}% not left edge
9218 }%
9219 {%
9220   \IfStrEq{\LWR@strresult}{:}{}%
9221   {%
9222     \ifbool{LWR@mcolvertbaronleft}%
9223       {\defaddtocounter{LWR@mcolvertbarsldash}{1}}% left edge
9224       {\defaddtocounter{LWR@mcolvertbarsrdash}{1}}% not left edge
9225   }%
9226   {%
9227     \IfStrEq{\LWR@strresult}{;}{}%
9228     {%
9229       \ifbool{LWR@mcolvertbaronleft}%
9230         {\defaddtocounter{LWR@mcolvertbarsldash}{1}}% left edge
9231         {\defaddtocounter{LWR@mcolvertbarsrdash}{1}}% not left edge
9232     }%
9233     {\boolfalse{LWR@mcolvertbaronleft}}%
9234   }%
9235 }%
9236 \LWR@traceinfo{lwr@printmccoltype done}%
9237 }

```

`\LWR@multicolpartext` $\langle num\ parameters \rangle$ Print the data with paragraph tags, advance to bypass the given number of parameters.

```

9238 \newcommand*{\LWR@multicolpartext}[1]{}%
9239   \LWR@startpars%
9240   \LWR@multicoltext%
9241   \defaddtocounter{LWR@tablemulticolspos}{#1}%
9242   \LWR@stoppars%
9243 }

```

`\LWR@multicolother` $\langle colspec \rangle$ For @, !, >, <, print the next token without paragraph tags:


```

9244 \newcommand*{\LWR@multicolother}[1]{%
9245     \defaddtocounter{LWR@tablemulticolspos}{1}%
9246     \StrChar{#1}{\arabic{LWR@tablemulticolspos}}[\LWR@strresult]%
9247     \LWR@strresult%

```

A valid column data type was found:

```

9248     \booltrue{LWR@validtablecol}%
9249 }

```

`\LWR@multicolskip` Nothing to print for this column type.

```

9250 \newcommand*{\LWR@multicolskip}{%

```

A valid column data type was found:

```

9251     \booltrue{LWR@validtablecol}%
9252 }

```

`\LWR@printmccoldata` `{\colspec}` Print the data for any valid column type found.

```

9253 \newcommand*{\LWR@printmccoldata}[1]{%
9254     \LWR@traceinfo{lwr@printmccoldata -#1}%

```

Not yet found a valid column type:

```

9255     \boolfalse{LWR@validtablecol}%

```

Get one token of the column spec, into a local copy in case nested.

```

9256     \StrChar{#1}{\arabic{LWR@tablemulticolspos}}[\LWR@strresult]%
9257     \edef\LWR@printmccoldataatoken{\LWR@strresult}%

```

Print the text depending on which column type is found. Also handles @, >, < as it comes to them.

```

9258     \IfStrEq{\LWR@printmccoldataatoken}{l}{\LWR@multicoltext}{}%
9259     \IfStrEq{\LWR@printmccoldataatoken}{c}{\LWR@multicoltext}{}%
9260     \IfStrEq{\LWR@printmccoldataatoken}{r}{\LWR@multicoltext}{}%
9261     \IfStrEq{\LWR@printmccoldataatoken}{D}{}%
9262         \defaddtocounter{LWR@tablemulticolspos}{3}% skip parameters
9263         \LWR@multicoltext%
9264     }{}%

```

```

9265     \IfStrEq{\LWR@printmccoldataatoken}{p}{\LWR@multicolparttext{2}}{}%
9266     \IfStrEq{\LWR@printmccoldataatoken}{m}{\LWR@multicolparttext{2}}{}%
9267     \IfStrEq{\LWR@printmccoldataatoken}{b}{\LWR@multicolparttext{2}}{}%
9268     \IfStrEq{\LWR@printmccoldataatoken}{P}{\LWR@multicolparttext{2}}{}%
9269     \IfStrEq{\LWR@printmccoldataatoken}{M}{\LWR@multicolparttext{2}}{}%
9270     \IfStrEq{\LWR@printmccoldataatoken}{B}{\LWR@multicolparttext{2}}{}%

```

```

9271 \IfStrEq{\LWR@printmccoldata token}{w}{\LWR@multicolpartext{3}}{}%
9272 \IfStrEq{\LWR@printmccoldata token}{W}{\LWR@multicolpartext{3}}{}%

9273 \IfStrEq{\LWR@printmccoldata token}{S}{\LWR@multicoltext}{}%
9274 \IfStrEq{\LWR@printmccoldata token}{s}{\LWR@multicoltext}{}%

9275 \IfStrEq{\LWR@printmccoldata token}{X}{\LWR@multicolpartext{1}}{}%
9276 \IfStrEq{\LWR@printmccoldata token}{|}{\LWR@multicolskip}{}%
9277 \IfStrEq{\LWR@printmccoldata token}{:}{\LWR@multicolskip}{}%
9278 \IfStrEq{\LWR@printmccoldata token}{;}{;}%
9279 \LWR@multicolskip%
9280 \defaddtocounter{LWR@tablemulticolspos}{1}% skip parameter
9281 }{}%
9282 \IfStrEq{\LWR@printmccoldata token}{\detokenize{@}}{\LWR@multicolother{#1}}{}%
9283 \IfStrEq{\LWR@printmccoldata token}{\detokenize{!}}{\LWR@multicolother{#1}}{}%
9284 \IfStrEq{\LWR@printmccoldata token}{\detokenize{>}}{\LWR@multicolother{#1}}{}%
9285 \IfStrEq{\LWR@printmccoldata token}{\detokenize{<}}{\LWR@multicolother{#1}}{}%

```

If an invalid column type:

```

9286 \ifbool{LWR@validtablecol}{}{\LWR@multicoltext}{}%

```

Tracing:

```

9287 \LWR@traceinfo{lwarp@printmccoldata done}%
9288 }

```

```
\parsemulticolumnalignment {<1: colspec>} {<2: printresults>}
```

Scan the multicolumn specification and execute the printfunction for each entry.

Note that the spec for a p{spec} column, or @, >, <, is a token list which will NOT match l, c, r, or p.

```

9289 \newcommand*{\LWR@parsemulticolumnalignment}[2]{%
9290 \defcounter{LWR@tablemulticolspos}{1}%
9291 \StrLen{#1}[\LWR@strresult]%
9292 \defcounter{LWR@tablemulticolwidth}{\LWR@strresult}%

```

Scan across the tokens in the column spec:

```

9293 \whilebool{expr}{%
9294 not test {%
9295 \ifnumcomp{\value{LWR@tablemulticolspos}}{>}%
9296 {\value{LWR@tablemulticolwidth}}%
9297 }%
9298 }%
9299 {%

```

Execute the assigned print function for each token in the column spec:

```

9300 #2{#1}%

```

Move to the next token in the column spec:

```
9301     \defaddtocounter{LWR@tablemulticolspos}{1}%
9302   }%
9303 }
```

73.23.2 Multicolumn factored code

`\LWR@addmulticolvertrulecolor`

```
9304 \newcommand*{\LWR@addmulticolvertrulecolor}{%
```

No vertical rules if finishing the tabular with a row of empty cells:

```
9305   \ifbool{LWR@tabularmutemods}{}{%
```

Left side:

```
9306     \ifnumcomp{\value{LWR@mcolvertbarsl}}{=}{1}{%
9307       \LWR@tdaddstyle%
9308       border-left: 1px solid \LWR@vertruleHTMLcolor%
9309     }{}%
9310     \ifnumcomp{\value{LWR@mcolvertbarsl}}{>}{1}{%
9311       \LWR@tdaddstyle%
9312       border-left: 4px double \LWR@vertruleHTMLcolor%
9313     }{}%
9314     \ifnumcomp{\value{LWR@mcolvertbarsldash}}{=}{1}{%
9315       \LWR@tdaddstyle%
9316       border-left: 1px dashed \LWR@vertruleHTMLcolor%
9317     }{}%
9318     \ifnumcomp{\value{LWR@mcolvertbarsldash}}{>}{1}{%
9319       \LWR@tdaddstyle%
9320       border-left: 2px dashed \LWR@vertruleHTMLcolor%
9321     }{}%
```

Right side:

```
9322     \ifnumcomp{\value{LWR@mcolvertbarsr}}{=}{1}{%
9323       \LWR@tdaddstyle%
9324       border-right: 1px solid \LWR@vertruleHTMLcolor%
9325     }{}%
9326     \ifnumcomp{\value{LWR@mcolvertbarsr}}{>}{1}{%
9327       \LWR@tdaddstyle%
9328       border-right: 4px double \LWR@vertruleHTMLcolor%
9329     }{}%
9330     \ifnumcomp{\value{LWR@mcolvertbarsrdash}}{=}{1}{%
9331       \LWR@tdaddstyle%
9332       border-right: 1px dashed \LWR@vertruleHTMLcolor%
9333     }{}%
9334     \ifnumcomp{\value{LWR@mcolvertbarsrdash}}{>}{1}{%
9335       \LWR@tdaddstyle%
9336       border-right: 2px dashed \LWR@vertruleHTMLcolor%
9337     }{}%
```

```
9338 }%
9339 }
```

```
9340 \newcommand{\LWR@multicoltext}{}%
```

To find multicolumn right trim:

```
9341 \newcounter{LWR@lastmulticolumn}
```

```
\LWR@domulticolumn [1: vpos] [2: #rows] {3: numLaTeXcols} {4: numHTMLcols} {5: colspec}
{6: text}
```

```
9342 \NewDocumentCommand{\LWR@domulticolumn}{o o m m m +m}{%
```

```
9343 \LWR@traceinfo{LWR@domulticolumn -#1- -#2- -#4- -#5-}%
```

Remember the text to be inserted, and remember that a valid column type was found:

```
9344 \renewcommand{\LWR@multicoltext}{%
9345 #6%
9346 \booltrue{LWR@validtablecol}%
9347 }%
```

Compute the rightmost column to be included. This is used to create the right trim.

```
9348 \defcounter{LWR@lastmulticolumn}{\value{LWR@tableLaTeXcolindex}}%
9349 \defaddtocounter{LWR@lastmulticolumn}{#3}%
9350 \defaddtocounter{LWR@lastmulticolumn}{-1}%
```

Row processing:

```
9351 \LWR@maybenewtablerow%
```

Begin the opening table data tag:

```
9352 \LWR@htmltag{%
9353 td colspan="#4" %

9354 \IfValueT{#2}{ % rows?
9355 rowspan="#2" %
9356 }%

9357 class="td%
```

Print the column type and vertical bars:

```
9358 \defcounter{LWR@mcolvertbodybarsl}{0}%
9359 \defcounter{LWR@mcolvertbodybarsr}{0}%
9360 \defcounter{LWR@mcolvertbodybarsldash}{0}%
9361 \defcounter{LWR@mcolvertbodybarsrdash}{0}%
9362 \booltrue{LWR@mcolvertbodybaronleft}%
9363 \LWR@parsemulticolumnalignment{#5}{\LWR@printmccoltype}%
```

If this column has a `cmidrule`, add “rule” to the end of the HTML class tag.

If this position had a “Y” then add “rule” for a horizontal rule:

```

9364      \LWR@subaddcmidruletrim%
9365          {%
9366              \LWR@getexparray{LWR@trimlrules}%
9367                  {\arabic{LWR@tableLaTeXcolindex}}%
9368          }%
9369          {%
9370              \LWR@getexparray{LWR@trimrrules}%
9371                  {\arabic{LWR@lastmulticolumn}}%
9372          }%

```

Also add vertical bar class.

```

9373      \ifnumcomp{\value{LWR@mcolvertbarsl}}{=}{1}{ tvertbarl}{}%
9374      \ifnumcomp{\value{LWR@mcolvertbarsl}}{>}{1}{ tvertbarldouble}{}%
9375      \ifnumcomp{\value{LWR@mcolvertbarsr}}{=}{1}{ tvertbarr}{}%
9376      \ifnumcomp{\value{LWR@mcolvertbarsr}}{>}{1}{ tvertbarrdouble}{}%
9377      \ifnumcomp{\value{LWR@mcolvertbarsldash}}{=}{1}{ tvertbarldash}{}%
9378      \ifnumcomp{\value{LWR@mcolvertbarsldash}}{>}{1}{
9379          { tvertbarldoubledash}{}%
9380      \ifnumcomp{\value{LWR@mcolvertbarsrdash}}{=}{1}{ tvertbarrdash}{}%
9381      \ifnumcomp{\value{LWR@mcolvertbarsrdash}}{>}{1}{
9382          { tvertbarrdoubledash}{}%

```

Close the class tag’s opening quote:

```

9383      "%
9384      \LWR@tdstartstyles%

```

Style for vertical position:

```

9385      \IfValueT{#1}{% vpos?
9386          \ifstrequal{#1}{b}%
9387              {%
9388                  \LWR@tdaddstyle%
9389                  \LWR@print@mbbox{vertical-align:bottom}%
9390              }{%
9391          \ifstrequal{#1}{t}%
9392              {%
9393                  \LWR@tdaddstyle%
9394                  \LWR@print@mbbox{vertical-align:top}%
9395              }{%
9396          }% vpos?

```

Style for row colors:

```

9397      \LWR@addtabulararrowcolor%

```

Other styles:

```

9398     \LWR@addcmidrulewidth%
9399     \LWR@addcdashline%
9400     \LWR@addtabularhrulecolor%
9401     \LWR@addmulticolvertrulecolor%
9402     \LWR@addformatwppalignment{#5}%
9403     \LWR@tdendstyles%
9404     }% end of the opening table data tag
9405     \boolfalse{LWR@intabularmetadata}%
9406     \LWR@parsemulticolumnalignment{#5}{\LWR@printmccoldata}%
9407 }

```

73.23.3 Multicolumn

`\LWR@htmlmulticolumn` {<*numcols*>} {<*alignment*>} {<*text*>}

```

9408 \NewDocumentCommand{\LWR@htmlmulticolumn}{m m +m}%
9409 {%

```

Figure out how many extra HTML columns to add for @ and ! columns:

```

9410     \LWR@tabularhtmlcolumns{\arabic{LWR@tableLaTeXcolindex}}{#1}%

```

Create the multicolumn tag:

```

9411     \LWR@domulticolumn{#1}{\arabic{LWR@tabhtmlcoltotal}}{#2}{#3}%

```

Move to the next L^AT_EX column:

```

9412     \defaddtocounter{LWR@tableLaTeXcolindex}{#1}%
9413     \defaddtocounter{LWR@tableLaTeXcolindex}{-1}%

```

Skip any trailing @ or ! columns for this cell:

```

9414     \booltrue{LWR@skipatbang}%
9415 }

```

73.23.4 Longtable captions

longtable captions use `\multicolumn`.

Per the caption package. User-redefinable float type.

```

9416 \providecommand*\LTcaptiontype{table}

```

`\LWR@longtabledatacaptiontag` * [<*toc entry*>] {<*caption*>}

```

9417 \NewDocumentCommand{\LWR@longtabledatacaptiontag}{s o +m}
9418 {%

```

Remember the latest name for \nameref:

```

9419 \IfValueTF{#2}{% optional given?
9420 \ifblank{#2}% optional empty?
9421 {\LWR@setlatestname{#3}}% empty
9422 {\LWR@setlatestname{#2}}% given and non-empty
9423 }% optional given
9424 {\LWR@setlatestname{#3}}% no optional

```

Create a multicolumn across all the columns:

Figure out how many extra HTML columns to add for @ and ! columns found between the first and the last column:

```

9425 \LWR@tabularhtmlcolumns{1}{\arabic{LWR@tabletotalLaTeXcols}}%

```

Create the multicolumn tag:

```

9426 \LWR@domulticolumn{\arabic{LWR@tabletotalLaTeXcols}}%
9427 {\arabic{LWR@tabhtmlcoltotal}}%
9428 {P}%
9429 {% \LWR@domulticolumn
9430 \IfBooleanTF{#1}% star?

```

Star version, show a caption but do not make a LOT entry:

```

9431 {% yes star
9432 \LWR@figcaption%
9433 \LWR@isolate{#3}%
9434 \endLWR@figcaption%
9435 }%
9436 {% No star:

```

Not the star version:

Don't step the counter if \caption[] {A caption.}

```

9437 \ifbool{LWR@starredlongtable}%
9438 {%
9439 \ifblank{#2}% TOC entry
9440 {}%
9441 {%
9442 \refstepcounter{LTcaption}%
9443 \protected@edef\@currentlabel{%
9444 \@nameuse{p@LTcaption}\@nameuse{theLTcaption}%
9445 }%
9446 }%
9447 }{}%

```

Create an HTML caption. Afterwards, maybe make a LOT entry.

```

9448 \LWR@figcaption%
9449 \LWR@isolate{\@nameuse{fnum@LTcaption}}%
9450 \CaptionSeparator%

```

```
9451 \LWR@isolate{#3}%
9452 \endLWR@figcaption%
```

See if an optional caption was given:

```
9453 \ifblank{#2}% TOC entry empty
```

if the optional caption was given, but empty, do not form a TOC entry

```
9454 {}%
```

If the optional caption was given, but might only be []:

```
9455 {% TOC entry not empty
9456 \IfNoValueTF{#2}% No TOC entry?
```

The optional caption is []:

```
9457 {% No TOC entry
9458 \addcontentsline%
9459 {\@nameuse{ext@LTcaption}}%
9460 {LTcaption}%
9461 {%
9462 \protect\numberline%
9463 {\LWR@isolate{\@nameuse{p@LTcaption}}\@nameuse{theLTcaption}}%
9464 {\ignorespaces \LWR@isolate{#3}\protect\relax}%
9465 }%
9466 }% end of No TOC entry
```

The optional caption has text enclosed:

```
9467 {% yes TOC entry
9468 \addcontentsline%
9469 {\@nameuse{ext@LTcaption}}%
9470 {LTcaption}%
9471 {%
9472 \protect\numberline%
9473 {\LWR@isolate{\@nameuse{p@LTcaption}}\@nameuse{theLTcaption}}%
9474 {\ignorespaces \LWR@isolate{#2}\protect\relax}%
9475 }%
9476 }% end of yes TOC entry
9477 }% end of TOC entry not empty
9478 }% end of no star
```

Skip any trailing @ or ! columns for this cell:

```
9479 \booltrue{LWR@skipatbang}%
9480 }% end of \LWR@domulticolumn
9481 \defaddtocounter{LWR@tableLaTeXcolindex}{\value{LWR@tabletotalLaTeXcols}}%
9482 \defaddtocounter{LWR@tableLaTeXcolindex}{-1}
9483
9484 }
```


73.23.5 Counting HTML tabular columns

The \LaTeX specification for a table includes a number of columns separated by the & character. These columns differ in content from line to line. Additional virtual columns may be specified by the special @ and ! columns. These columns are identical from line to line, but may be skipped during a multicolumn cell.

For HTML output, @ and ! columns are placed into their own tabular columns. Thus, a \LaTeX `\multicolumn` command may span several additional @ and ! columns in HTML output. These additional columns must be added to the total number of columns spanned by an HTML multi-column data cell.

```
9485 \newcounter{LWR@tabhtmlcolindex}
9486 \newcounter{LWR@tabhtmlcolend}
9487 \newcounter{LWR@tabhtmlcoltotal}
```

```
\LWR@subtabularhtmlcolumns {<index>}
```

Factored from `\LWR@tabularhtmlcolumns`, which follows.

```
9488 \newcommand*{\LWR@subtabularhtmlcolumns}[1]{%
```

Temporarily define a macro equal to the @ specification for this column:

```
9489   \edef\LWR@atbangspec{\LWR@getexparray{LWR@colatspec}{#1}}%
```

If the @ specification is not empty, add to the count:

```
9490   \ifdefempty{\LWR@atbangspec}%
9491     {}%
9492     {\defaddtocounter{LWR@tabhtmlcoltotal}{1}}%
```

Likewise for the ! columns:

```
9493   \edef\LWR@atbangspec{\LWR@getexparray{LWR@colbangspec}{#1}}%
9494   \ifdefempty{\LWR@atbangspec}%
9495     {}%
9496     {\defaddtocounter{LWR@tabhtmlcoltotal}{1}}%
9497 }
```

```
\LWR@tabularhtmlcolumns {<starting  $\LaTeX$  column>} {<number  $\LaTeX$  columns>}
```

Compute the total number of HTML columns being spanned, considering the starting \LaTeX table column and the number of \LaTeX tabular columns being spanned. Any @ and ! columns within this span are included in the total count. The resulting number of HTML columns is returned in the counter `LWR@tabhtmlcoltotal`.

```
9498 \newcommand*{\LWR@tabularhtmlcolumns}[2]{%
```

Count the starting index, compute ending index, and begin with the count being the \LaTeX span, to which additional @ and ! columns may be added:

```

9499 \defcounter{LWR@tabhtmlcolindex}{#1}%
9500 \defcounter{LWR@tabhtmlcoltotal}{#2}%
9501 \defcounter{LWR@tabhtmlcolend}{#1}%
9502 \defaddtocounter{LWR@tabhtmlcolend}{#2}%

```

If at the left edge, add the at/bang columns for the left edge:

```

9503 \ifnumcomp{\value{LWR@tabhtmlcolindex}}{=}{1}{%
9504 \LWR@subtabularhtmlcolumns{leftedge}%
9505 }{}%

```

Walk across the L^AT_EX columns looking for @ and ! columns:

```

9506 \whileboolexpr{%
9507     test {%
9508         \ifnumcomp{\value{LWR@tabhtmlcolindex}}{<}{\value{LWR@tabhtmlcolend}}%
9509     }%
9510 }%
9511 {%
9512     \LWR@subtabularhtmlcolumns{\arabic{LWR@tabhtmlcolindex}}%
9513     \defaddtocounter{LWR@tabhtmlcolindex}{1}%
9514 }% whiledo
9515 }

9516 \end{warpHTML}

```

73.24 Multirow if not loaded

A default definition in case multirow is not loaded. This is used during table parsing.

```

9517 \begin{warpHTML}
9518 \newcommand{\multirow}[2][c]{}
9519 \end{warpHTML}

```

73.25 Multicolumnrow

A print-mode version is defined here, and is also used during HTML output while inside a lateximage.

See section 405 for the HTML versions.

for HTML & PRINT: 9520 \begin{warpall}

```

\multicolumnrow {<1:cols>} {<2:halign>} [<3:vpos>] {<4:numrows>} [<5:bigstruts>] {<6:width>} [<7:fixup>]
{<8:text>}

```

For discussion of the use of \DeclareExpandableDocumentCommand, see:

<https://tex.stackexchange.com/questions/168434/problem-with-abbreviation-of-multirow-and-multicolumn-latex>

`\AtBeginDocument` to adjust after the user may have loaded `multirow`, which requires several tests to determine which version is loaded and thus which options are available.

```
9521 \AtBeginDocument{
```

`\ifundefined{@xmultirow}` determines if `multirow` was never loaded.

Null action if not loaded:

```
9522 \@ifundefined{@xmultirow}
9523 {
9524 \DeclareExpandableDocumentCommand{\LWR@print@multicolumnrow}%
9525   {+m +m +O{c} +m +O{0} +m +O{0pt} +m}%
9526   {}%
9527 }% no version of multirow was loaded
9528 {% \@xmultirow defined, so some version of multirow was loaded
```

`\ifpackageloaded{multirow}` determines if v2.0 or later of `multirow` was used, which included the `\ProvidesPackage` macro.

The print version:

```
9529 \@ifpackageloaded{multirow}{% v2.0 or newer
9530 \@ifpackagelater{multirow}{2016/09/01}% 2016/09/27 for v2.0
9531 {% v2.0+:
9532 \DeclareExpandableDocumentCommand{\LWR@print@multicolumnrow}%
9533   {+m +m +O{c} +m +O{0} +m +O{0pt} +m}%
9534   {\multicolumn{#1}{#2}{\@xmultirow[#3][#4][#5][#6][#7][#8]}}%
9535 }
9536 {% loaded but older, probably not executed:
9537 \DeclareExpandableDocumentCommand{\LWR@print@multicolumnrow}%
9538   {+m +m +O{c} +m +O{0} +m +O{0pt} +m}%
9539   {\multicolumn{#1}{#2}{\@xmultirow{#4}[#5][#6][#7][#8]}}%
9540 }
9541 }% packageloaded{multirow}
```

If not `\ifpackageloaded{multirow}` but `\@xmultirow` is defined, then this must be v1.6 or earlier, which did not `\ProvidesPackage{multirow}`, and did not have the `vposn` option.

```
9542 {% v1.6 or older did not \ProvidePackage
9543 \DeclareExpandableDocumentCommand{\LWR@print@multicolumnrow}%
9544   {+m +m +O{c} +m +O{0} +m +O{0pt} +m}%
9545   {\multicolumn{#1}{#2}{\@xmultirow{#4}[#5][#6][#7][#8]}}%
9546 }
9547
9548 }% \@ifundefined{@xmultirow}
9549
9550 \providecommand*\multicolumnrow{\LWR@print@multicolumnrow}
9551
9552 }% AtBeginDocument
```

```
9553 \end{warpall}
```

73.26 Utility macros inside a table

for HTML output: 9554 `\begin{warpHTML}`

Used to prevent opening a tabular data cell if the following token is one which does not create tabular data:

```
9555 \newcommand*{\LWR@donothing}{}

```

In case `array` is not loaded:

```
9556 \let\firsthline\relax
9557 \let\lasthline\relax
9558 \newcommand*{\firsthline}{}
9559 \newcommand*{\lasthline}{}

```

In case `bigdelim` is not loaded:

```
9560 \newcommand*{\ldelim}{}
9561 \newcommand*{\rdelim}{}

```

```
9562 \end{warpHTML}

```

73.27 Special-case tabular markers

for HTML & PRINT: 9563 `\begin{warpall}`

`\TabularMacro` Place this just before inserting a custom macro in a table data cell. Doing so tells `lwarp` not to automatically start a new HTML table data cell yet. See section [8.10.1](#).


```
9564 \newcommand*{\TabularMacro}{}

```

```
9565 \end{warpall}

```

`\ResumeTabular` Used to resume tabular entries after resuming an environment.

 **tabular inside another environment** When creating a new environment which contains a tabular environment, `lwarp`'s emulation of the tabular does not automatically resume when the containing environment ends, resulting in corrupted HTML rows. To fix this, use `\ResumeTabular` as follows. This is ignored in print mode.

```

\StartDefiningTabulars % (& is used in a definition)
\newenvironment{outhernenvironment}
{
  \tabular{cc}
  left & right \\
}
{
  \TabularMacro\ResumeTabular
  left & right \\
  \endtabular
}
\StopDefiningTabulars

```

for HTML output: 9566 \begin{warpHTML}

```

9567 \newcommand*\ResumeTabular{%
9568   \boolfalse{LWR@exitingtabular}%
9569   \boolfalse{LWR@tabularmutemods}%
9570   \LWR@getmynexttoken%
9571 }

```

```

9572 \end{warpHTML}

```

for PRINT output: 9573 \begin{warpprint}

```

9574 \newcommand*\ResumeTabular{}

```

```

9575 \end{warpprint}

```

73.28 Checking for a new table cell

for HTML output: 9576 \begin{warpHTML}

`\LWR@tabledatacolumnstag` Open a new HTML table cell unless the next token is for a macro which does not create data, such as `\hline`, `\toprule`, etc:

```

9577 \newcommand*\LWR@tabledatacolumnstag%
9578 {%
9579   \LWR@traceinfo{LWR@tabledatacolumnstag}%

```

```

\show\LWR@mynexttoken to see what tokens to look for

```

If not any of the below, start a new table cell:

```

9580   \global\let\LWR@mynextaction\LWR@tabledatasinglecolumnstag%

```

If exiting the tabular:

```

9581   \ifdefequal{\LWR@mynexttoken}{\end}%
9582     {\booltrue{LWR@exitingtabular}}{}%

```

longtable can have a caption in a cell

```
9583 \ifdefequal{\LWR@mynexttoken}{\caption}%
9584 {\global\let\LWR@mynextaction\LWR@doanything}{}%
```

Look for other things which would not start a table cell:

```
9585 \ifdefequal{\LWR@mynexttoken}{\multicolumn}%
9586 {\global\let\LWR@mynextaction\LWR@doanything}{}%
9587 \ifdefequal{\LWR@mynexttoken}{\multirow}%
9588 {\global\let\LWR@mynextaction\LWR@doanything}{}%
9589 \ifdefequal{\LWR@mynexttoken}{\multicolumnrow}%
9590 {\global\let\LWR@mynextaction\LWR@doanything}{}%
9591 \ifdefequal{\LWR@mynexttoken}{\noalign}%
9592 {\global\let\LWR@mynextaction\LWR@doanything}{}%
```

If an `\mrowcell`, this is a cell to be skipped over:

```
9593 \ifdefequal{\LWR@mynexttoken}{\mrowcell}%
9594 {\global\let\LWR@mynextaction\LWR@doanything}{}%
```

If an `\mcolrowcell`, this is a cell to be skipped over:

```
9595 \ifdefequal{\LWR@mynexttoken}{\mcolrowcell}%
9596 {\global\let\LWR@mynextaction\LWR@doanything}{}%
```

```
9597 \ifdefequal{\LWR@mynexttoken}{\TabularMacro}%
9598 {\global\let\LWR@mynextaction\LWR@doanything}{}%
```

```
9599 \ifdefequal{\LWR@mynexttoken}{\hline}%
9600 {\global\let\LWR@mynextaction\LWR@doanything}{}%
```

```
9601 \ifdefequal{\LWR@mynexttoken}{\firsthline}%
9602 {\global\let\LWR@mynextaction\LWR@doanything}{}%
```

```
9603 \ifdefequal{\LWR@mynexttoken}{\lasthline}%
9604 {\global\let\LWR@mynextaction\LWR@doanything}{}%
```

```
9605 \ifdefequal{\LWR@mynexttoken}{\toprule}%
9606 {\global\let\LWR@mynextaction\LWR@doanything}{}%
```

```
9607 \ifdefequal{\LWR@mynexttoken}{\midrule}%
9608 {\global\let\LWR@mynextaction\LWR@doanything}{}%
```

```
9609 \ifdefequal{\LWR@mynexttoken}{\cmidrule}%
9610 {\global\let\LWR@mynextaction\LWR@doanything}{}%
```

```
9611 \ifdefequal{\LWR@mynexttoken}{\morecmidrulers}%
9612 {\global\let\LWR@mynextaction\LWR@doanything}{}%
```

```
9613 \ifdefequal{\LWR@mynexttoken}{\specialrule}%
9614 {\global\let\LWR@mynextaction\LWR@doanything}{}%
```

```

9615 \ifdefequal{\LWR@mynexttoken}{\cline}%
9616     {\global\let\LWR@mynextaction\LWR@donothing}{}%

9617 \ifdefequal{\LWR@mynexttoken}{\bottomrule}%
9618     {\global\let\LWR@mynextaction\LWR@donothing}{}%

9619 \ifdefequal{\LWR@mynexttoken}{\hhline}%
9620     {\global\let\LWR@mynextaction\LWR@donothing}{}%

9621 \ifdefequal{\LWR@mynexttoken}{\rowcolor}%
9622     {\global\let\LWR@mynextaction\LWR@donothing}{}%

9623 \ifdefequal{\LWR@mynexttoken}{\arrayrulecolor}%
9624     {\global\let\LWR@mynextaction\LWR@donothing}{}%

9625 \ifdefequal{\LWR@mynexttoken}{\doublerulesepcolor}%
9626     {\global\let\LWR@mynextaction\LWR@donothing}{}%

9627 \ifdefequal{\LWR@mynexttoken}{\warpprintonly}%
9628     {\global\let\LWR@mynextaction\LWR@donothing}{}%

9629 \ifdefequal{\LWR@mynexttoken}{\warpHTMLonly}%
9630     {\global\let\LWR@mynextaction\LWR@donothing}{}%

9631 \ifdefequal{\LWR@mynexttoken}{\ldelim}%
9632     {\global\let\LWR@mynextaction\LWR@donothing}{}%

9633 \ifdefequal{\LWR@mynexttoken}{\rdelim}%
9634     {\global\let\LWR@mynextaction\LWR@donothing}{}%

```

For arydshln:

```

9635 \ifdefequal{\LWR@mynexttoken}{\hdashline}%
9636     {\global\let\LWR@mynextaction\LWR@donothing}{}%

9637 \ifdefequal{\LWR@mynexttoken}{\cdashline}%
9638     {\global\let\LWR@mynextaction\LWR@donothing}{}%

9639 \ifdefequal{\LWR@mynexttoken}{\firsthdashline}%
9640     {\global\let\LWR@mynextaction\LWR@donothing}{}%

9641 \ifdefequal{\LWR@mynexttoken}{\lasthdashline}%
9642     {\global\let\LWR@mynextaction\LWR@donothing}{}%

```

Ignore an empty line between rows:

```

9643 \ifdefequal{\LWR@mynexttoken}{\par}%
9644     {\global\let\LWR@mynextaction\LWR@donothing}{}%

```

No action for an \end token.

Add similar to the above for any other non-data tokens which might appear in the table.


Start the new table cell if was not any of the above:

```
9645 \LWR@traceinfo{LWR@tabledatacolumnntag: about to do mynext}%
9646 \LWR@mynextaction%
9647 \LWR@traceinfo{LWR@tabledatacolumnntag: done}%
9648 }

9649 \end{warpHTML}
```

73.29 \mrowcell

for HTML & PRINT: 9650 \begin{warpall}


 **multirow cells** \mrowcell The user must insert \mrowcell into any \multirow cells which must be skipped. This command has no action during print output.

```
9651 \newcommand*{\mrowcell}{}

9652 \end{warpall}
```

73.30 \mcolrowcell

for HTML & PRINT: 9653 \begin{warpall}

 **multirow cells** \mcolrowcell The user must insert \mcolrowcell into any \multicolumnrow cells which must be skipped. This command has no action during print output.

```
9654 \newcommand*{\mcolrowcell}{}

9655 \end{warpall}
```

73.31 HTML tabular environment

for HTML output: 9656 \begin{warpHTML}

These are default definitions in case `booktabs` is not loaded, and are not expected to used, but must exist as placeholders. `memoir` may have already loaded `booktabs`.

```
9657 \providecommand*\toprule[1][1]{\hline}
9658 \providecommand*\midrule[1][1]{\hline}
9659 \providecommand*\cmidrule{\cline}
9660 \providecommand*\bottomrule[1][1]{\hline}
9661 \providecommand*\addlinespace[1][1]{ }
9662 \providecommand*\morecmidrules{}
9663 \providecommand*\specialrule[3]{\hline}
```


`\noalign` $\langle text \rangle$ Redefined for use inside tabular.

```

9664 \LetLtxMacro\LWR@orignoalign\noalign
9665
9666 \newcommand{\LWR@tabularnoalign}[1]{%
9667   \advance\rownum\m@ne%
9668   \LetLtxMacro\LWR@save@xcolorrowHTMLcolor\LWR@xcolorrowHTMLcolor%
9669   \renewcommand*\LWR@xcolorrowHTMLcolor}{}%
9670   \multicolumn{\value{\LWR@tabletotalLaTeXcols}}{\l}{#1} \\\
9671   \LetLtxMacro\LWR@xcolorrowHTMLcolor\LWR@save@xcolorrowHTMLcolor%
9672   % \@rowcolors%
9673   \LWR@getmynexttoken%
9674 }
```

`\LWR@HTMLhline` The definition of `\hline` depends on whether `tabls` has been loaded. If so, optional space below the line may be specified, but will be ignored.

```

9675 \AtBeginDocument{
9676
9677 \ifpackageloaded{lwarp-tabls}
9678 {
9679   \newcommand*\LWR@HTMLhline}[1][{}]{%
9680     \ifbool{FormatWP}%
9681       {\LWR@docmidrule{1-\arabic{\LWR@tabletotalLaTeXcols}}}%
9682       {\defaddtocounter{\LWR@hlines}{1}}%
9683     \LWR@getmynexttoken}%
9684 }
9685 {
9686   \newcommand*\LWR@HTMLhline}{%
9687     \ifbool{FormatWP}%
9688       {\LWR@docmidrule{1-\arabic{\LWR@tabletotalLaTeXcols}}}%
9689       {\defaddtocounter{\LWR@hlines}{1}}%
9690     \LWR@getmynexttoken}%
9691 }
9692
9693 }% AtBeginDocument
```

`\LWR@HTMLcline` $\langle columns \rangle$

```

9694 \NewDocumentCommand{\LWR@HTMLcline}{m}%
9695   {\LWR@docmidrule{#1}\LWR@getmynexttoken}%
```

`\LWR@tabular@warpprintonly` $\langle contents \rangle$

Only process the contents if producing printed output. Modified inside a `tabular` to grab the next token.

```

9696 \newcommand{\LWR@tabular@warpprintonly}[1]{%
9697   \ifbool{warpingprint}{#1}{}%
9698   \LWR@getmynexttoken%
9699 }
```

`\LWR@nullifyNoAutoSpacing` For `babel-french`, turn off auto spacing at the start of the `tabular`, then nullify the autospacing commands inside the `tabular`, since they were not compatible with the `tabular` column parsing code, which uses `xstring`.

```

9700 \AtBeginDocument{
9701 \ifundefined{NoAutoSpacing}%
9702 {% no babel-french
9703   \newcommand*\LWR@nullifyNoAutoSpacing{}
9704 }% no babel-french
9705 {% yes babel-french
9706   \newcommand*\LWR@nullifyNoAutoSpacing{%
9707     \NoAutoSpacing%
9708     \renewcommand*\NoAutoSpacing{}%
9709     \renewcommand*\LWR@FBcancel{}%
9710   }
9711 }% yes babel-french
9712 }% AtBeginDocument

```


Env `tabular` `<direction> [(<verticalposition>)] {(<colspecs>)}`

The `<direction>` is from `plext` for Japanese documents, and is ignored.

```

9713 \StartDefiningTabulars
9714
9715 \NewDocumentCommand{\LWR@HTML@tabular}{d<> o m}
9716 {%
9717   \LWR@traceinfo{\LWR@HTML@tabular started}%

```

 `<table>` inside `` In `LATEX`, a `tabular` may be placed inside a `minipage`, but in `HTML` a `<table>` may not be inside a ``. Since there may be several nested ``s, with an unknown number of other objects between, it is hard to undo all these ``s before the `<table>` then redo them after. The browser probably compensates for this situation, but formatting may be lost inside the `<table>` because several things are neutralized inside a ``. Furthermore, in the `HTML` output, the entire `<table>` is placed on a single line of `HTML` code, since the line breaking commands are neutralized inside a ``. Since this is such a sloppy situation, a warning is issued here instructing the user to please isolate the `` to print-only.

```

9718   \LWR@spanwarnformat{tabular}%
9719   \addtocounter{\LWR@tabulardepth}{1}%

```

Not yet started a table row:

```

9720   \boolfalse{\LWR@startedrow}%

```

Not yet doing any rules:

```

9721   \defcounter{\LWR@hlines}{0}%
9722   \defcounter{\LWR@hdashedlines}{0}%
9723   \boolfalse{\LWR@doingtbrule}%
9724   \boolfalse{\LWR@doingcmidrule}%

```

For `babel-french`, turn off auto spacing one time, then nullify the autospacing commands since were not compatible with the tabular parsing code.

```
9725 \LWR@nullifyNoAutoSpacing%
```

Have not yet found the end of tabular command. Unmute the @ and ! columns.

```
9726 \boolfalse{LWR@exitingtabular}%
9727 \boolfalse{LWR@tabularmutemods}%
```

Error if failed to use `\mrowcell` or `\mcolrowcell` when needed.

```
9728 \boolfalse{LWR@usedmultirow}%
9729 \boolfalse{LWR@foundmrowcell}%

9730 \renewcommand*{\LWR@multicoltext}{}%
```

Create the table tag:

```
9731 \booltrue{LWR@intabularmetadata}%
9732 \LWR@traceinfo{LWR@tabular: About to LWR@forecnewpage.}%
9733 \LWR@forcenewpage
9734 \LWR@htmlblocktag{table}%
```

Parse the table columns:

```
9735 \LWR@parsetablecols{#3}%
```

Table col spec is: `\LWR@tablecolspec` which is a string of `llccrr`, etc.

Do not place the table inside a paragraph:

```
9736 \LWR@stoppars%
```

Track column #:

```
9737 \defcounter{LWR@tableLaTeXcolindex}{1}%
```

Have not yet added data in this column:

```
9738 \global\boolfalse{LWR@tabularcelladded}%
```

Start looking for midrules:

```
9739 \LWR@clearmidrules%
```

`\` becomes a macro to end the table row:

```
9740 \LetLtxMacro{\}{\LWR@tabularendofline}%
```

`\warpprintonly` inside a tabular must grab the next token.

```
9741 \LetLtxMacro\warpprintonly\LWR@tabular@warpprintonly%
```

The following adjust for colortbl.

```

9742 \LetLtxMacro\arrayrulecolor\arrayrulecolornexttoken%
9743 \LetLtxMacro\doublerulesepcolor\doublerulesepcolornexttoken%
9744 \def\LWR@columnHTMLcolor{}%
9745 \def\LWR@rowHTMLcolor{}%
9746 \def\LWR@cellHTMLcolor{}%
9747 \@rowcolors%

```

The vertical rules are set to the color active at the start of the tabular. `\arrayrulecolor` will then affect horizontal rules inside the tabular, but not the vertical rules.

```

9748 \ifdefvoid{\LWR@ruleHTMLcolor}%
9749     {\edef\LWR@vertruleHTMLcolor{black}}%
9750     {\edef\LWR@vertruleHTMLcolor{\LWR@origpound\LWR@ruleHTMLcolor}}%

```

Tracking the depth of cell color <div>s:

```

9751 \defcounter{LWR@cellcolordepth}{0}%

```

The following may appear before a data cell is created, so after doing their actions, we look ahead with `\LWR@getmynexttoken` to see if the next token might create a new data cell:

The optional parameter for `\hline` supports the `tabs` package.

```

9752 \LWR@traceinfo{LWR@HTML@tabular: redefining macros}%
9753 \LetLtxMacro\noalign\LWR@tabularnoalign%
9754 \LetLtxMacro\hline\LWR@HTMLhline%
9755 \LetLtxMacro\cline\LWR@HTMLcline%

9756 \DeclareDocumentCommand{\hdashline}{o}{%
9757     \ifbool{FormatWP}%
9758         {\LWR@docdashline{1-\arabic{LWR@tabletotalLaTeXcols}}}%
9759         {\defaddtocounter{LWR@hdashedlines}{1}}%
9760     \LWR@getmynexttoken%
9761 }%

9762 \DeclareDocumentCommand{\cdashline}{m}{%
9763     \LWR@docdashline{##1}\LWR@getmynexttoken%
9764 }%

9765 \DeclareDocumentCommand{\firsthdashline}{o}{%
9766     \ifbool{FormatWP}%
9767         {\LWR@docdashline{1-\arabic{LWR@tabletotalLaTeXcols}}}%
9768         {\defaddtocounter{LWR@hdashedlines}{1}}%
9769     \LWR@getmynexttoken%
9770 }%

9771 \DeclareDocumentCommand{\lasthdashline}{o}{%
9772     \ifbool{FormatWP}%
9773         {\LWR@docdashline{1-\arabic{LWR@tabletotalLaTeXcols}}}%
9774         {\defaddtocounter{LWR@hdashedlines}{1}}%

```

```
9775     \LWR@getmynexttoken%
9776   }%
```

The following create data cells and will have no more data in this cell, so we do not want to look ahead for a possible data cell, so do not want to use \LWR@getmynexttoken.

```
9777   \renewcommand{\multicolumn}{\LWR@htmlmulticolumn}%
9778   \renewcommand*\mrowcell{%
9779     \LWR@maybenewtablerow%
9780     \LWR@tabularleftedge%
9781     \booltrue{LWR@skippingmrowcell}%
9782     \booltrue{LWR@foundmrowcell}%
9783   }%
9784   \renewcommand*\mcolrowcell{%
9785     \LWR@maybenewtablerow%
9786     \booltrue{LWR@skippingmcolrowcell}%
9787     \booltrue{LWR@foundmrowcell}%
9788   }%
9789   \LetLtxMacro\caption\LWR@longtabledatacaptiontag%
```

Reset for new processing:

```
9790   \boolfalse{LWR@tableparcell}%
9791   \boolfalse{LWR@skippingmrowcell}%
9792   \boolfalse{LWR@skippingmcolrowcell}%
9793   \boolfalse{LWR@skipatbang}%
9794   \boolfalse{LWR@emptyatbang}%
```

Set & for its special meaning inside the tabular:

```
9795   \StartDefiningTabulars%
9796   \protected\gdef&{\LWR@tabularampersand}%
```

Locally force any minipages to be fullwidth, until the end of the tabular:

```
9797   \booltrue{LWR@forceminipagefullwidth}%
```

Nest one level deeper of tabular paragraph handling:

```
9798   \addtocounter{LWR@tabularpardepth}{1}%
```

Look ahead for a possible table data cell:

```
9799   \LWR@traceinfo{LWR@@HTML@tabular: about to LWR@getmynexttoken}%
9800   \LWR@getmynexttoken%
9801 }%
```

Ending the environment:

```
9802 \newcommand*\LWR@HTML@endtabular}
9803 {%
9804   \LWR@traceinfo{LWR@HTML@endtabular}%
```

Unnest one level of tabular paragraph handling:

```

9805 \addtocounter{LWR@tabularpardepth}{-1}%
9806 \ifboolexpr{%
9807   test {%
9808     \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{<}%
9809     {\value{LWR@tabletotalLaTeXcols}}
9810   } or %
9811   (%
9812     bool{LWR@intabularmetadata} and%
9813     not bool{LWR@tabularcellladed} and%
9814     test {%
9815       \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{=}%
9816       {\value{LWR@tabletotalLaTeXcols}}%
9817     }%
9818   )%
9819 }%
9820 {%
9821   \LWR@tabularfinishrow%
9822 }%
9823 {%
9824   \LWR@closetabledatacell%
9825 }%
9826 \LWR@htmlblocktag{/tr}%

```

xcolor row color support:

```

9827 \@rowc@lors%

9828 \LWR@htmlblocktag{/table}%
9829 \boolfalse{LWR@intabularmetadata}%

```

Unnest one level of tabular:

```

9830 \addtocounter{LWR@tabulardepth}{-1}%

```

Restore & to its usual meaning:

```

9831 \ifnumequal{\value{LWR@tabulardepth}}{0}{%
9832   \protected\gdef&{\LWR@origampmacro}%
9833   \StopDefiningTabulars%
9834 }{%

```

Error if used `\multirow` or `\multicolumnrow` without using `\mrowcell` or `\mcolrowcell`.

```

9835 \ifbool{LWR@usedmultirow}{%
9836   \ifbool{LWR@foundmrowcell}%
9837   {\relax}%
9838   {%
9839     \PackageError{lwarp}%
9840     {%
9841       When using \protect\multirow, \protect\multicolumnrow, \MessageBreak
9842       or the bigdelim package, \MessageBreak

```

```

9843         place \protect\mrowcell\space or \protect\mcolrowcell\MessageBreak
9844             in empty cells which are to be skipped.\MessageBreak
9845             See the Lwarp package documentation:\MessageBreak
9846             "Special cases and limitations" -> "Tabular"
9847         }%
9848     {%
9849         See the Lwarp package documentation:\MessageBreak
9850         "Special cases and limitations" -> "Tabular".
9851     }%
9852 }%
9853 }{}%

9854 \LWR@traceinfo{LWR@HTML@endtabular finished}%
9855 }
9856
9857 \csletcs{LWR@HTML@endtabular*}{LWR@HTML@endtabular}
9858
9859 \StopDefiningTabulars

```

siunitx may redefine tabular, so set the following later:

```

9860 \AtBeginDocument{
9861     \LetLtxMacro\LWR@origendtabular\endtabular
9862     \csletcs{LWR@origendtabular*}{endtabular*}
9863     \LWR@formatted{@tabular}
9864     \LWR@formatted{endtabular}
9865     \LWR@formatted{endtabular*}
9866 }

9867 \end{warpHTML}

```

74 Cross-references

Sectioning commands have been emulated from scratch, so the cross-referencing commands are custom-written for them. Emulating both avoids several layers of patches.

File `*_html.aux` A new entry in `*_html.aux` is used to remember section name, file, and lateximage depth and number for each label:

```

\newlabel{<labelname>@lwarp}{{<section name>}{<filename>}
    {<limgedepth>}{<limagenumber>}}

```

Table 14 shows the data structures related to cross-referencing.

for HTML output: 9868 \begin{warpHTML}

Table 14: Cross-referencing data structures

Original L^AT_EX:	(print and HTML)
<p>\refstepcounter: Steps the counter and sets \@currentlabel.</p> <p>\@currentlabel: \p@<ctr>\the<ctr> Updated by \refstepcounter.</p> <p>\label: Writes to the .aux file: <code>\newlabel{<label>}{\@currentlabel}{\thepage}}</code></p> <p>\newlabel: When the .aux file is read, sets \r@<label>.</p> <p>\r@<label>: Set to: <code>{\@currentlabel}{\thepage}</code></p> <p>\ref: Returns the first part of \r@<label>.</p> <p>\pageref: Returns the second part of \r@<label>.</p>	
Added by lwarp:	(HTML only)
<p>\label: Adds HTML tags (section 74.3), and another .aux entry (section 74.2). If memoir is used, its \@mem@old@label points to lwarp's version, and cleveref patches.</p> <p>\newlabel: Unchanged. When the .aux file is read, sets \r@<label>@lwarp.</p> <p>\r@<label>@lwarp: Set to <code>{{section_name}{file_name}{depth}{number}}</code>:</p> <p>\LWR@nameref: The section name for this label.</p> <p>\LWR@htmlfileref: The filename or name for this label.</p> <p>\LWR@lateximagedepthref: The lateximagedepth for this label.</p> <p>\LWR@lateximagenumberref: The lateximagenumber for this label.</p> <p>\nameref: Emulated from hyperref for lwarp. See section 74.4.</p> <p>\ref and \nameref: Adds HTML tags. See section 74.4.</p>	
Added by amsmath:	(print and HTML)
<p>\label: Execution is delayed until the math environment is completed.</p> <p>\ltx@label: L^AT_EX \label, (HTML: patched by lwarp,) later patched by cleveref.</p>	
Added by cleveref:	(print and HTML)
<p>\refstepcounter: Added: sets \cref@currentlabel.</p> <p>\cref@currentlabel: (<type>=<ctr> unless an alias is used): <code>[<type>][\arabic{<ctr>}][<parent ctrs>]{\p@<ctr>\the<ctr>}</code> Also see section 59.4 for use with footnotes.</p> <p>\label: Writes to the .aux file: <code>\newlabel{<label>@cref}{\cref@currentlabel}{\thepage}}</code></p> <p>\newlabel: Unchanged. When the .aux file is read, sets \r@<label>@cref.</p> <p>\r@<label>@cref: Set to: <code>{\cref@currentlabel}{\thepage}</code></p> <p>Utility functions: See \cref@getlabel, \cref@gettype, \cref@getcounter, \cref@getprefix.</p> <p>Cross-referencing names: \crefname and \Crefname assign human-readable names for references to this counter type.</p>	
Additionally patched by lwarp:	(HTML only)
<p>\cref, etc.: Modified for lwarp. See section 194.</p> <p>\label inside math: See section 81.7.1.</p>	
Footnotes: See \noteentry in section 59.4.	

74.1 Setup

`\@currentlabelname` To remember the most recently defined section name, description, or caption, for `\nameref`.

```
9869 \def\@currentlabelname{\linkhomename}%
```

`\LWR@stripperperiod` $\{\langle text \rangle\} [\langle . \rangle]$

Removes a trailing period.

```
9870 \def\LWR@stripperperiod#1.\ltx@empty#2\@nil{#1}%
```

`\LWR@setlatestname` $\{\langle object name \rangle\}$

Removes `\label`, strips any final period, and remembers the result.

```
9871 \newcommand*\LWR@setlatestname[1]{%
```

Remove `\label` and other commands from the name, the strip any final period. See `getttitlestring`.

```
9872   \GetTitleStringExpand{#1}%
9873   \edef\@currentlabelname{\detokenize\expandafter{\GetTitleStringResult}}%
9874   \edef\@currentlabelname{%
9875     \expandafter\LWR@stripperperiod\@currentlabelname%
9876     \ltx@empty.\ltx@empty\@nil%
9877   }%
9878 }
```

74.2 New lwarp labels.

File `*_html.aux` A new entry in `*_html.aux` is used to remember section name, file, and lateximage depth and number for each label:

```
\newlabel{<labelname>@lwarp}{{<section name>}{<filename>}
{<limagedepth>}{<limagenumber>}}
```

See:

<http://tex.stackexchange.com/questions/57194/extract-section-number-from-equation-reference>

`\LWR@setref` $\{\langle args list \rangle\} \{\langle selector \rangle\} \{\langle label \rangle\}$

`\@setref` without the `\null` (`\hbox`), and without the warning messages. Each caused problems with `lwarp` references. The regular reference will cause the warning.

```
9879 \def\LWR@setref#1#2#3{%
9880   \ifx#1\relax%
```

```

9881   ??%
9882   \else%
9883   \expandafter#2#1%
9884   \fi}

```

`\LWR@nameref` $\langle label \rangle$ Returns the section name for this label:

```

9885 \newcommand*\LWR@nameref}[1]{%
9886   \expandafter\LWR@setref\csname r@#1@lwarp\endcsname\LWR@firstoffour{#1}%
9887 }

```

`\LWR@htmlfileref` $\langle label \rangle$ Returns the file number or name for this label:

```

9888 \newcommand*\LWR@htmlfileref}[1]{%
9889   \expandafter\LWR@setref\csname r@#1@lwarp\endcsname\LWR@secondoffour{#1}%
9890 }

```

`\LWR@lateximagedepthref` $\langle label \rangle$ Returns the lateximagedepth for this label:

```

9891 \newcommand*\LWR@lateximagedepthref}[1]{%
9892   \expandafter\LWR@setref\csname r@#1@lwarp\endcsname\LWR@thirdoffour{#1}%
9893 }

```

`\LWR@lateximagenumberref` $\langle label \rangle$ Returns the lateximagenumber for this label:

```

9894 \newcommand*\LWR@lateximagenumberref}[1]{%
9895   \expandafter\LWR@setref\csname r@#1@lwarp\endcsname\LWR@fourthoffour{#1}%
9896 }

```

`\LWR@write@lwarplabel` $\langle label \rangle$ Sanitize the name and then creates the label:

```

9897 \newcommand*\LWR@write@lwarplabel}[1]{%
9898   \LWR@traceinfo{LWR@write@lwarplabel !#1!}%
9899   \LWR@setlatestname{\@currentlabelname}%
9900   \@bsphack%
9901   \protected@write\@auxout{%
9902     {%
9903       \string\newlabel{#1@lwarp}{%
9904         {\@currentlabelname}%
9905         {%
9906           \ifbool{FileSectionNames}%
9907             {\LWR@thisfilename}%
9908             {\arabic{LWR@htmlfilenumber}}%
9909         }%
9910         {\arabic{LWR@lateximagedepth}}%
9911         {\arabic{LWR@lateximagenumber}}%
9912       }%
9913     }%
9914   \@esphack%
9915 }

```

74.3 Labels

`\LWR@label@subcreatetag` Creates the tag from `\LWR@sanitized`.

```
9916 \newcommand*\LWR@label@subcreatetag{%
9917   \LWR@htmltag{a \LWR@print@mbx{id="\LWR@sanitized"}}%
9918   \LWR@htmltag{/a}%
9919 }
```

`\LWR@label@inmathcomment`

```
9920 \newcommand*\LWR@label@inmathcomment{%
9921   \ifbool{mathjax} or ( bool{FormatWP} and bool{WPMarkMath} ) %
9922   {%
```

The combined \LaTeX & HTML label is printed in a `\mbox` field:

```
9923   \mbox{%
```

Shift the label over to the right side of the environment to avoid over-printing the math:

```
9924   \ifdef{\totwidth@}{\ifbool{LWR@amsmultline}{\hspace*{\totwidth@}}{}}{%
```

Temporarily end the HTML comment, insert the \LaTeX & HTML label, then resume the HTML comment. `\@firstofone` is required to remove extra braces introduced by the `amsmath` package.)

```
9925   \LWR@htmlclosecomment%
9926   \LWR@label@subcreatetag%
9927   \LWR@htmlopencomment%
9928   }% mbox
9929 }% mathjax
9930 {%
9931   \LWR@label@subcreatetag%
9932 }%
9933 }
```

`\LWR@label@createtag` `{\langle label \rangle}` Creates an HTML id tag.

Used by `\LWR@new@label` and `\hyperdef`.

`\detokenize` is used to allow underscores in the labels.

```
9934 \newcommand*\LWR@label@createtag[1]{%
9935   \LWR@traceinfo{LWR@label@createtag !#1!}%
```

Create an HTML id tag unless are inside a `lateximage`, since it would appear in the image:

```
9936   \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
9937   }%
9938   {% not lateximage
```

If not doing a lateximage, create an HTML ID tag.

```

9939     \LWR@sanitize{#1}%
9940     \ifbool{LWR@insidemathcomment}%
9941     {% inside HTML math comment
9942         \LWR@label@inmathcomment%
9943     }% inside HTML math comment
9944     {% not inside HTML math comment
9945         \ifbool{LWR@doingstartpars}%
9946         {% pars allowed
9947             \ifbool{LWR@doingapar}%
9948             {% par started
9949                 \LWR@label@subcreatetag%
9950             }% par started
9951             {% par not started
9952                 \LWR@stoppars%
9953                 \LWR@label@subcreatetag%
9954                 \LWR@startpars%
9955             }% par not started
9956         }% pars allowed
9957         {% pars not allowed
9958             \LWR@label@subcreatetag%
9959         }% pars not allowed
9960     }% not inside HTML math comment
9961 }% not lateximage
9962 }
```

`\LWR@new@label` $\{\langle label \rangle\}$

`\label` during HTML output when not in SVG math mode, removing extra spaces around the label, as done by a regular L^AT_EX `\label`.

This is also used during a lateximage, including SVG math, since the special label handling is required, but `\LWR@label@createtag` does not generate HTML tags inside a lateximage.

If memoir is used, it's `\@mem@old@label` is pointed here.

`cleveref` later encases this to add its own cross-referencing, and also patches memoir.

```

9963 \NewDocumentCommand{\LWR@new@label}{m}{%
9964     \LWR@traceinfo{LWR@new@label: starting}%
9965     \LWR@traceinfo{LWR@new@label: !#1!}%
9966 % \@bsphack%
```

Create a traditional L^AT_EX label, as modified by `cleveref`:

```

9967     \LWR@orig@label{#1}%
```

Create a special label which holds the section number, `LWR@htmlfilenumber`, `LWR@lateximagedepth`, and `LWR@lateximagenumber`:

```

9968     \LWR@traceinfo{%
9969         LWR@new@label: filesectionnames is %
```

```

9970     \ifbool{FileSectionNames}{true}{false}%
9971   }%
9972   \LWR@traceinfo{%
9973     LWR@new@label: LWR@thisfilename is !\LWR@thisfilename!%
9974   }%
9975   \LWR@traceinfo{%
9976     LWR@new@label: LWR@htmlfilenumber is \arabic{LWR@htmlfilenumber}%
9977   }%
9978   \LWR@write@lwarplabel{#1}%
9979   \LWR@label@createtag{#1}%
9980   % \@esphack%
9981   \LWR@traceinfo{LWR@new@label: done}%
9982 }

```

74.4 References

\LWR@addlinktitle

```

9983 \newcommand*{\LWR@addlinktitle}{%
9984   \ifdefvoid{\LWR@ThisAltText}{ }{ % space
9985     title="\LWR@ThisAltText" % space
9986     \gdef\LWR@ThisAltText{}}%
9987   }%
9988 }

```

\LWR@startref *{<label>}* (Common code for \ref and \nameref.)

Open an HTML tag reference to a filename, # character, and a label.

```

9989 \newcommand*{\LWR@startref}[1]
9990 {%
9991   \LWR@sanitize{#1}%
9992   \LWR@traceinfo{LWR@startref A: !#1!}%

```

Create the filename part of the link:

```

9993   \LWR@htmltag{a href="%
9994   \LWR@traceinfo{LWR@startref B}%
9995   \LWR@print@mbox{\LWR@htmlrefsectionfilename{#1}}%
9996   \LWR@traceinfo{LWR@startref C}%
9997   \LWR@origpound%

```

Create the destination id:

See if LWR@lateximagedepth is unknown:

```

9998   \LWR@traceinfo{LWR@startref D: !#1!}%
9999   \ifcsundef{r@#1@lwarp}%

```

“??” if LWR@lateximagedepth is unknown, so create a link with an unknown destination:

```

10000   {%
10001     \LWR@traceinfo{LWR@startref D0: ??}%
10002     ??%
10003   }%

```

If `LWR@lateximagedepth` is known. Use a `lateximage` if the depth is greater than zero, or a regular link otherwise:

```

10004   {%
10005     \ifthenelse{\cinttest{\LWR@lateximagedepthref{#1}}{>}{0}}%
10006     {%
10007         lateximage-\BaseJobname-\LWR@lateximagenumberref{#1}%
10008     }%
10009     {%
10010         \LWR@traceinfo{LWR@startref D3}%

```

`\detokenize` is used to allow underscores in the labels:

```

10011         \LWR@print@mbbox{\LWR@sanitized}%
10012     }%
10013 }%
10014 \LWR@traceinfo{LWR@startref E}%

```

Closing quote:

```

10015   "%

```

Maybe add a title:

```

10016     \LWR@addlinktitle%
10017   }%
10018     \LWR@traceinfo{LWR@startref F}%
10019 }

```

`\LWR@subnewref` `{<label>} {<label or sub@label>}`

Factored for the `subfig` package. Uses the original label for the hyper-reference, but prints its own text, such as “1(b)”.

```

10020 \NewDocumentCommand{\LWR@subnewref}{m m}{%
10021     \LWR@traceinfo{LWR@subnewref #1 #2}%
10022     \LWR@startref{#1}%
10023     \LWR@print@ref{#2}%
10024     \LWR@htmltag{/a}%
10025 }

```

`\ref` * `<label>` `\ref` is redefined to `\LWR@HTML@ref`, except inside the text part of a `\hyperref`, where it is redefined to `\LWR@ref@ignorestar`.

`\LWR@HTML@ref` * `<label>` Create an internal document reference link, or without a link if starred per `hyperref`.

`hyperref` defines a starred version. Since `hyperref` is only emulated, the starred version is defined here for print mode, in case `\ref` is used inside `svg math`:

```
10026 \LWR@absorbstar{ref}%
```

The HTML version:

```
10027 \NewDocumentCommand{\LWR@HTML@ref}{s m}{%
10028   \LWR@traceinfo{\LWR@HTML@ref !#2!}%
10029   \IfBooleanTF{#1}%
10030     {\LWR@print@ref{#2}}%
10031     {\LWR@subnewref{#2}{#2}}%
10032 }
10033
10034 \LWR@formatted{ref}
```

For MATHJAX:

```
10035 \CustomizeMathJax{\let\LWRref\ref}
10036 \CustomizeMathJax{\renewcommand{\ref}{\ifstar\LWRref\LWRref}}
```

`\pagerefPageFor` Text for page references.

```
10037 \newcommand*{\pagerefPageFor}{see }
```

`\pageref` * `{<label>}` Create an internal document reference, or just the unlinked number if starred, per `hyperref`.

```
10038 \NewDocumentCommand{\LWR@new@pageref}{s m}{%
10039   \IfBooleanTF{#1}%
10040     {(\pagerefPageFor\LWR@print@ref{#2})}%
10041     {(\cpageref{#2})}%
10042 }
```

`\nameref` `{<label>}`

```
10043 \newrobustcmd*{\nameref}[1]{%
10044   \LWR@traceinfo{nameref}%
10045   \LWR@startref{#1}%
10046   \LWR@traceinfo{nameref B}%
10047   \LWR@nameref{#1}%
10048   \LWR@traceinfo{nameref C}%
10049   \LWR@htmltag{/a}%
10050   \LWR@traceinfo{nameref: done}%
10051 }
```

`\Nameref` `{<label>}` In print, adds the page number. In HTML, does not.

```
10052 \LetLtxMacro\Nameref\nameref
```

74.5 Hyper-references

⚠ Note that the code currently only sanitizes the underscore character. Additional characters should be rendered inert as well. See the `hyperref.sty` definition of `\gdef\hyper@normalise` for an example.

Pkg hyperref

⚠ Do not tell other packages that `hyperref` is emulated. Some packages patch various commands if `hyperref` is present, which will probably break something, and the emulation already handles whatever may be emulated anyhow.

```
10053 % DO NOT TELL OTHER PACKAGES TO ASSUME HYPERREF, lest they attempt to patch it:
10054 % \EmulatesPackage{hyperref}[2015/08/01]% Disabled. Do not do this.
```

Emulates `hyperref`:

`\@currentHref` Added to support `backref`.

```
10055 \AtBeginDocument{
10056   \def\@currentHref{\BaseJobname-autopage-\theLWR@currentautosec}
10057 }
```

`\LWR@linkcatcodes` Sets catcodes before processing macros which have hyperlinks as arguments.

```
10058 \newcommand*\LWR@linkcatcodes{%
10059   \catcode'\#=12%
10060   \catcode'\%=12%
10061   \catcode'\&=12%
10062   \catcode'\~=12%
10063   \catcode'\_ =12%
```

For `babel-french`:

```
10064   \LWR@FBcancel%
10065 }
```

`\LWR@linkmediacatcodes` Sets catcodes before processing macros which have hyperlinks as arguments. Modified for multimedia links.

```
10066 \newcommand*\LWR@linkmediacatcodes{%
10067   \catcode'\#=12%
10068   \catcode'\%=12%
10069 %   \catcode'\&=12% left alone for splitting flash variables
10070   \catcode'\~=12%
10071   \catcode'\_ =12%
```

For `babel-french`:

```
10072   \LWR@FBcancel%
10073 }
```


`\LWR@subhyperref` $\{\langle URL \rangle\}$

Starts a link for `\LWR@hrefb`. A group must have been opened first, with nullified catcodes. The text name is printed afterwards, after the group is closed and catcodes restored.

```

10074 \NewDocumentCommand{\LWR@subhyperref}{m}{%
10075   \LWR@traceinfo{\LWR@subhyperref !#1!}%
10076   \LWR@sanitize{#1}%
10077   \LWR@htmltag{%
10078     a href="\LWR@sanitized" % space
10079     \LWR@addlinktitle % space
10080     target="\_{}blank" % space
10081   }%
10082 }
```

`\LWR@subhyperreftext` $\{\langle text \rangle\}$

Finishes the hyperref for `\LWR@hrefb`. Catcodes must have been restored already. To be used after `\LWR@subhyperref`, and after its group has been closed.

```

10083 \newcommand{\LWR@subhyperreftext}[1]{%
10084   #1%
10085   \LWR@htmltag{/a}%
10086   \LWR@ensuredoingapar%
10087 }
```

`\LWR@subhyperrefclass` $\{\langle URL \rangle\} \{\langle text \rangle\} \{\langle htmlclass \rangle\}$

```

10088 \NewDocumentCommand{\LWR@subhyperrefclass}{m +m m}{%
10089   \LWR@htmltag{%
10090     a % space
10091     href="\begingroup\@sanitize#1@endgroup" % space
10092     class="#3" % space
10093     \LWR@addlinktitle % space
10094   }\LWR@orignewline%
10095   #2%
10096   \LWR@htmltag{/a}%
10097   \LWR@ensuredoingapar%
10098 }
```

`\LWR@href` $[\langle options \rangle] \{\langle URL \rangle\}$

Create a link with accompanying text:

```

10099 \DeclareDocumentCommand{\LWR@hrefb}{O{} m}{%
10100   \LWR@ensuredoingapar%
10101   \LWR@subhyperref{#2}%
10102   \endgroup% restore catcodes
10103   \LWR@subhyperreftext%
10104 }
10105
10106 \newrobustcmd*{\LWR@href}{%
```

```

10107 \begingroup%
10108 \LWR@linkcatcodes%
10109 \LWR@hrefb%
10110 }

```

`\LWR@nolinkurl` $\{\langle URL \rangle\}$

Print the name of the link without creating the link:

```

10111 \newcommand*\LWR@nolinkurlb}[1]{%
10112 \LWR@ensuredoingapar%
10113 \def\LWR@templink{#1}%
10114 \@onelevel@sanitize\LWR@templink%
10115 \LWR@templink%
10116 \endgroup%
10117 }
10118
10119 \newrobustcmd*\LWR@nolinkurl}{%
10120 \begingroup%
10121 \LWR@linkcatcodes%
10122 \LWR@nolinkurlb%
10123 }

```

`\LWR@url` $\{\langle URL \rangle\}$

Create a link whose text name is the address of the link.

The `url` package may redefine `\url`, so it is `\let` to `\LWR@urlahere` and also redefined by `lwarp-url`.

```

10124 \DeclareDocumentCommand{\LWR@urlb}{m}{%
10125 \LWR@ensuredoingapar%
10126 \def\LWR@templink{#1}%
10127 \@onelevel@sanitize\LWR@templink%
10128 \LWR@href{\LWR@templink}{\LWR@templink}%
10129 \endgroup%
10130 }
10131
10132 \newrobustcmd*\LWR@url}{%
10133 \begingroup%
10134 \LWR@linkcatcodes%
10135 \LWR@urlb%
10136 }

```

`\LWR@subinlineimage` $\{\langle \text{alt} \rangle \text{tag}\} \{\langle \text{class} \rangle\} \{\langle \text{filename} \rangle\} \{\langle \text{extension} \rangle\} \{\langle \text{CSS style} \rangle\}$

Factored from `lateximage`.

```

10137 \newcommand*\LWR@subinlineimage}[5]{%
10138 \ifblank{#1}%
10139 {}%
10140 \LWR@htmltag{img \LWR@indentHTML
10141 src="#3.#4" \LWR@indentHTML

```

```
10142         alt="#3" \LWR@indentHTML
10143         style="#5" \LWR@indentHTML
10144         class="#2" \LWR@orignewline
10145     }%
10146 }%
10147 {%
10148     \LWR@htmltag{img \LWR@indentHTML
10149         src="#3.#4" \LWR@indentHTML
10150         alt="#1" \LWR@indentHTML
10151         style="#5" \LWR@indentHTML
10152         class="#2" \LWR@orignewline
10153     }%
10154 }%
10155 }

10156 \end{warpHTML}
```

Table 15: Float data structures

For each <type> of float (figure, table, etc.) there exists the following:

- counter <type>:** A counter called <type>, such as figure, table.
 - \<type>name:** Name. \figurename prints “Figure”, etc.
 - \ext@<type>:** File extension. \ext@figure prints “lof”, etc.
 - \fps@<type>:** Placement.
 - \the<type>:** Number. \thetable prints the number of the table, etc.
 - \p@<type>:** Parent’s number. Prints the number of the [within] figure, etc.
 - \fnum@<type>:** Prints the figure number for the caption.
 <type>name \the<type>, “Figure 123”.
 - \<type>:** Starts the float environment. \figure or \begin{figure}
 - \end<type>:** Ends the float environment. \endfigure or \end{figure}
 - \tf@<ext>:** The L^AT_EX file identifier for the output file.
 - LWR@have<type>:** A boolean remembering whether a \listof was requested for a float of this type.
 - File with extension lo<f, t, a-z>:** An output file containing the commands to build the \listof<type> “table-of-contents” structure.
 - Cross-referencing names:** For cleveref’s \cref and related, \crefname and \Crefname assign human-readable names for references to this float type.
-

75 Floats

Floats are supported, although partially through emulation.

Table 15 shows the data structure associated with each <type> of float.

75.1 Float environment

for HTML output: 10157 \begin{warpHTML}

\LWR@floatbegin {<type>} [<placement>] Begins a \newfloat environment.

10158 \NewDocumentCommand{\LWR@floatbegin}{m o}{%

Warn if starting a float inside a :

10159 \LWR@spanwarninvalid{float}%

```
10160 \ifbool{FormatWP}{\newline}{}%
10161 \LWR@stoppars%
```

There is a new float, so increment the unique float counter:

```
10162 \addtocounter{LWR@thisautoid}{1}%
10163 \booltrue{LWR@freezethisautoid}%

10164 \begingroup%
```

Settings while inside the environment:

```
10165 \LWR@print@raggedright%
```

Open an HTML figure tag. The figure is assigned a class equal to its type, and another class according to the float package style, if used. Note that `\csuse` returns an empty string if `\LWR@floatstyle@<type>` is not defined.

```
10166 \LWR@htmltag{%
10167     figure id="\LWR@print@mbox{autoid-\arabic{LWR@thisautoid}}" % space
10168     class="#1 \@nameuse{LWR@floatstyle@#1}"%
10169 }%
10170 \ifbool{FormatWP}{%
10171     \LWR@orignewLine%
10172     \LWR@BlockClassWP}{\wp#1}%
10173 }{}%
```

Update the caption type:

```
10174 \renewcommand*\@capttype{#1}%
```

Mark the float for a word processor conversion:

```
10175 \LWR@startpars%
10176 \ifboolexpr{bool{FormatWP} and bool{WPMarkFloats}}{%
10177
10178     === begin #1 ===
10179
10180 }{}%
```

After each `\LWR@floatbegin`, look for `\centering`, etc next, using `\LWR@floatalignment`.

```
10181 }
```

For koma-script. The following does not work for tables.

```
10182 \AtBeginDocument{
10183
10184 \@ifpackageloaded{tocbasic}{
10185
10186 \appto\figure@atbegin{%
10187     \LWR@futurenonSPACElet\LWR@mynexttoken\LWR@floatalignment%
```

```

10188 }
10189
10190 }{}% tocbasic
10191
10192 }% AtBeginDocument

```

`\@xfloat` Support packages which create floats directly.
`\@xdblfloat` Look for `\centering`, etc using `\LWR@floatalignment`.

```

10193 \AtBeginDocument{
10194   \def\@xfloat #1[#2]{%
10195     \LWR@floatbegin{#1}[#2]
10196     \LWR@futurenonspacel\@LWR@mynexttoken\LWR@floatalignment%
10197   }
10198   \def\@xdblfloat #1[#2]{%
10199     \LWR@floatbegin{#1}[#2]
10200     \LWR@futurenonspacel\@LWR@mynexttoken\LWR@floatalignment%
10201   }
10202 }

```

`\LWR@floatend` Ends a `\newfloat` environment.

```
10203 \newcommand*{\LWR@floatend}{%
```

If saw a `\centering`, finish the center environment:

```
10204   \LWR@endfloatalignment%
```

Mark the float end for a word processor conversion:

```

10205   \ifboolexpr{bool{FormatWP} and bool{WPMarkFloats}}{%
10206
10207   === end ===
10208
10209   }{}%
10210   \LWR@stoppars%

```

Close an HTML figure tag:

```

10211   \ifbool{FormatWP}{\endLWR@BlockClassWP}{}%
10212   \LWR@html\elementend{figure}%
10213   \endgroup%
10214   \boolfalse{LWR@freezethisautoid}%
10215   \LWR@startpars%
10216   \ifbool{FormatWP}{\newline}{}%
10217 }

```

`\end@float` Support packages which create floats directly.
`\end@dblfloat`

```

10218 \AtBeginDocument{
10219   \let\end@float\LWR@floatend
10220   \let\end@dblfloat\LWR@floatend
10221 }

```

75.2 Float tracking

Ctr LWR@thisautoid A sequential counter for all floats and theorems. This is used to identify the float or theorem then reference it from the List of Figures and List of Tables.

```
10222 \newcounter{LWR@thisautoid}
```

Ctr LWR@thisautoidWP A sequential counter for all word processor conversion <div>s. This is used to convince LIBREOffice to form a frame around this element.

```
10223 \newcounter{LWR@thisautoidWP}
```

Bool LWR@freezethisautoid Prevents multiple increments of \LWR@thisautoid inside a float.

```
10224 \newbool{LWR@freezethisautoid}
10225 \boolfalse{LWR@freezethisautoid}
```

\LWR@forcenewautoidanchor Adds a new <autoid> anchor.

```
10226 \newcommand*{\LWR@forcenewautoidanchor}{%
10227   \addtocounter{LWR@thisautoid}{1}%
10228   \ifbool{LWR@doingapar}%
10229   {%
10230     \LWR@htmltag{a id="\LWR@print@mbx{autoid-\arabic{LWR@thisautoid}}" }%
10231     \LWR@htmltag{/a }%
10232   }%
10233   {%
10234     \LWR@stoppars%
10235     \LWR@htmltag{a id="\LWR@print@mbx{autoid-\arabic{LWR@thisautoid}}" }%
10236     \LWR@htmltag{/a }%
10237     \LWR@startpars%
10238   }%
10239 }
```

\LWR@newautoidanchor Sometimes adds a new <autoid> anchor.

```
10240 \newcommand*{\LWR@newautoidanchor}{%
10241   \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
10242   {}%
10243   {\ifbool{LWR@freezethisautoid}}{\LWR@forcenewautoidanchor}}%
10244 }
```

\@capttype Remembers which float type is in use.

```
10245 \newcommand*{\@capttype}{}
```

\LWR@floatalignmentname Set to center, flushleft, or flushright if saw \centering, \raggedright, or \raggedleft.

```
10246 \newcommand*{\LWR@floatalignmentname}{}
```

`\LWR@floatalignment` If sees a `\centering`, `\raggedleft`, or `\raggedright`, creates a center, flushright, or flushleft environment.

```

10247 \newcommand*\LWR@floatalignment{%
10248     \ifdefstrequal{\LWR@mynexttoken}{\centering}{%
10249         \center%
10250         \renewcommand*\LWR@floatalignmentname}{center}%
10251     }{}%
10252     \ifdefstrequal{\LWR@mynexttoken}{\raggedright}{%
10253         \flushleft%
10254         \renewcommand*\LWR@floatalignmentname}{flushleft}%
10255     }{}%
10256     \ifdefstrequal{\LWR@mynexttoken}{\raggedleft}{%
10257         \flushright%
10258         \renewcommand*\LWR@floatalignmentname}{flushright}%
10259     }{}%
10260 }
```

`\LWR@endfloatalignment` Closes an environment from `\LWR@floatalignment`.

```

10261 \newcommand*\LWR@endfloatalignment{%
10262     \ifdefvoid{\LWR@floatalignmentname}%
10263     {}%
10264     {\@nameuse{end\LWR@floatalignmentname}}%
10265     \renewcommand*\LWR@floatalignmentname{}%
10266 }
```

75.3 Caption inside a float environment

`\CaptionSeparator` How to separate the float number and the caption text, if not defined by the user. In most cases, `caption`'s settings are used instead.

```
10267 \AtBeginDocument{\providecommand*\CaptionSeparator}{:~}}
```

`\@caption` $\langle posn \rangle$ [$\langle name \rangle$] [$\langle long name \rangle$]

`\@makecaption` [$\langle name and num \rangle$] [$\langle text \rangle$]

Prints the float type and number, the caption separator, and the caption text.

`\@caption` is provided here in case `caption` is not loaded, and is based on the `nameref` package.

```

10268 \AtBeginDocument{
10269     \ifpackageloaded{caption}{}{
10270         \let\LWR@orig@caption\@caption%
10271         \long\def\@caption#1[#2]{%
```

Warn if using a caption inside a ``:

```
10272         \LWR@spanwarnformat{caption}%
```



```

10273         \LWR@setlatestname{#2}%
10274         \LWR@orig@caption{#1}[{#2}]% also takes third argument
10275     }%
10276
10277     \renewcommand{\@makecaption}[2]{%
10278         \LWR@traceinfo{\@makecaption}%
10279         \caption@begin{\@capttype}%
10280         \LWR@isolate{#1}%
10281         \edef\LWR@tempone{#1}%
10282         \ifdefvoid{\LWR@tempone}{\CaptionSeparator}%
10283         \LWR@isolate{#2}%
10284         \caption@end%
10285         \LWR@traceinfo{\@makecaption: done}%
10286     }%
10287 }
10288 }

```

75.4 Caption and LOF linking and tracking

When a new HTML file is marked in the L^AT_EX PDF file, or at the start of a new section, the L^AT_EX page number at that point is stored in LWR@latestautopage, (and the associated filename is remembered by the special L^AT_EX labels). This page number is used to generate an autopage HTML <id> in the HTML output at the start of the new HTML file or section. Meanwhile, there is a float counter used to generate an HTML autoid <id> at the start of the float itself in the HTML file. The autopage and autoid values to use for each float are written to the .lof, etc. files just before each float's entry. These values are used by \l@figure, etc. to create the HTML links in the List of Figures, etc.

Ctrl LWR@nextautoid Tracks autoid for floats. Tracks autopage for floats.
Ctrl LWR@nextautopage These are updated per float as the .lof, .lot file is read.

```

10289 \newcounter{LWR@nextautoid}
10290 \newcounter{LWR@nextautopage}

```

```
\LWRsetnextfloat {<autopage>} {<float autoid>}
```

File *_html.lof This is written to the *_html.lof or *_html.lot file just before each float's usual entry. The autopage and the float's autoid are remembered for \l@figure to use when creating the HTML links.
File *_html.lot

```

10291 \newcommand*\LWRsetnextfloat}[2]{%
10292     \setcounter{LWR@nextautopage}{#1}%
10293     \setcounter{LWR@nextautoid}{#2}%
10294 }

```

Ctrl LWR@latestautopage The HTML output's PDF page number at the start of a new HTML file or section.

\LWRsetnextfloat is written with this and the autoid by the modified \addcontentsline just before each float's entry.

```
10295 \newcounter{LWR@latestautopage}
10296 \setcounter{LWR@latestautopage}{1}
```

Env LWR@figcaption An HTML `<figcaption>` is not allowed in places where \LaTeX does allow a figure caption, such as inside a `longtable` where the `tabular` has already started, or inside a `center` environment. Therefore, a `<div>` of class `figurecaption` is used instead.

```
10297 \newenvironment*{LWR@figcaption}
10298   {%
10299     \ifbool{FormatWP}{%
10300       \BlockClass[font-style:italic]{figurecaption}%
10301     %       \LWR@print@vspace*{\baselineskip}
10302     }{%
10303       \BlockClass{figurecaption}%
10304     }%
10305   }%
10306   {\endBlockClass}
```

```
\LWR@HTML@caption@begin {<type>}
```

Low-level code to create HTML tags for captions.

The print versions are from the `caption` package, if loaded.

```
10307 \newcommand*{\LWR@HTML@caption@begin}[1]
10308 {%
10309   \LWR@traceinfo{LWR@HTML@caption@begin}%
```

Keep `par` and `minipage` changes local:

```
10310   \begingroup%
```

No need for a `minipage` or `\parbox` inside the caption:

```
10311   \RenewDocumentEnvironment{minipage}{O{t} o O{t} m}{\}{\}%
10312   \RenewDocumentCommand{\parbox}{O{t} O{} O{t} m +m}{##5}%
```

Enclose the original caption code inside an HTML tag:

```
10313   \LWR@figcaption%
10314   \LWR@traceinfo{LWR@HTML@caption@begin: about to LWR@origcaption@begin}%
10315   \LWR@print@caption@begin{#1}%
10316   \LWR@traceinfo{LWR@HTML@caption@begin: done}%
10317 }
```

\LWR@HTML@caption@end Low-level patches to create HTML tags for captions.

```
10318 \newcommand*{\LWR@HTML@caption@end}
10319 {%
10320   \LWR@traceinfo{LWR@HTML@caption@end}%
10321   \LWR@print@caption@end%
```

Closing tag:

```
10322 \endLWR@figcaption%
10323 \endgroup%
10324 % \leavevmode% avoid bad space factor (0) error
10325 \LWR@traceinfo{LWR@HTML@caption@end: done}%
10326 }
```

`\caption@begin` Low-level patches to create HTML tags for captions. These are assigned `\AtBeginDocument` so that other packages which modify captions will have already been loaded before saving the print-mode version.

Print versions are provided here in case `caption` is not loaded.

```
10327 \AtBeginDocument{
10328 \providecommand{\caption@begin}[1]{}
10329 \LWR@formatted{caption@begin}
10330
10331 \providecommand{\caption@end}{}
10332 \LWR@formatted{caption@end}
10333 }
```

`\captionlistentry` Tracks the float number for this caption used outside a float. Patched to create an HTML anchor.

```
10334 \AtBeginDocument{%
10335 \@ifpackageloaded{caption}{
10336 \let\LWR@origcaptionlistentry\captionlistentry
10337
10338 \renewcommand*{\captionlistentry}{%
10339 \LWR@ensuredoingapar%
10340 \LWR@origcaptionlistentry%
10341 }

10342 \def\LWR@LTcaptionlistentry{%
10343 \LWR@ensuredoingapar%
10344 \LWR@forcenewautoanchor%
10345 \bgroup%
10346 \@ifstar{\egroup\LWR@LT@captionlistentry}% gobble *
10347 {\egroup\LWR@LT@captionlistentry}%
10348 }%
10349
10350 \def\LWR@LT@captionlistentry#1{%
10351 \caption@listentry\@firstoftwo[LTcaption]{#1}%
10352 }%
10353 }% caption loaded
10354 {% caption not loaded
10355 \newcommand{\captionlistentry}[2]{}%
10356 \newcommand{\LWR@LT@captionlistentry}[2]{}%
10357 }
10358 }% AtBeginDocument
```

`\addcontentsline` Patched to write the autopage and autoid before each float's entry. No changes if writing `.toc`. For a theorem, automatically defines `\ext@<type>` as needed, to mimic and reuse the float mechanism.

f

```

10359 \let\LWR@origaddcontentsline\addcontentsline
10360
10361 \renewcommand*{\addcontentsline}[3]{%
10362     \ifstrequal{#1}{toc}{}% not TOC

10363     \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
10364         {}%
10365         {\LWR@newautoidanchor}%

10366     \ifcsvoid{ext@#2}{\csdef{ext@#2}{#1}}{%

10367         \addtocontents{\@nameuse{ext@#2}}{%
10368             \protect\LWRsetnextfloat%
10369             {\arabic{LWR@latestautopage}}%
10370             {\arabic{LWR@thisautoid}}%
10371         }%
10372     }% not TOC
10373     \LWR@origaddcontentsline{#1}{#2}{#3}%
10374 }
```

Pkg `capt-of` Either package provides `\captionof`, which is later patched at the beginning of the document.
Pkg `caption`

`\captionof` Patched to handle paragraph tags.

```

10375 \RequirePackage{capt-of}
10376
10377 \AtBeginDocument{
10378     \let\LWR@origcaptionof\captionof
10379
10380     \renewcommand*{\captionof}{%
10381         \LWR@stoppars%
10382         \LWR@origcaptionof%
10383     }
10384 }% AtBeginDocument

10385 \end{warpHTML}
```

76 Table of Contents, LOF, LOT

This section controls the generation of the TOC, LOF, and LOT.

The `.toc`, `.lof`, and `.lot` files are named by the source code `\jobname`.

In HTML, the printed tables are placed inside a `<div>` of class `toc`, `lof`, or `lot`.

A “`sidetoc`” is provided which prints a subset of the TOC on the side of each page other than the homepage.

The regular L^AT_EX infrastructure is used for TOC, along with some patches to generate HTML output.

for HTML output: 10386 `\begin{warpHTML}`

76.1 Reading and printing the toc

`\LWR@myshorttoc` `{\toc/lof/lot/sidetoc}`

Reads in and prints the TOC/LOF/LOT at the current position. While doing so, makes the @ character into a normal letter to allow formatting commands in the section names.

Unlike in regular L^AT_EX, the file is not reset after being read, since the `sidetoc` may be referred to again in each HTML page.

```
10387 \newcommand*\LWR@myshorttoc[1]{%
10388   \LWR@traceinfo{LWR@myshorttoc: #1}%
10389   \LWR@ensuredoingapar%
```

Only if the file exists:

```
10390   \IfFileExists{\jobname.#1}{%
10391     \LWR@traceinfo{LWR@myshorttoc: loading}%
```



Many of the commands in the file will have @ characters in them, so @ must be made a regular letter.

```
10392     \begingroup%
10393     \makeatletter%
```

Disable CJK xpinyin while generating the `sidetoc`.

```
10394     \LWR@disablepinyin%
```

Read in the toc file:

```
10395     \@input{\jobname.#1}%
10396     \endgroup%
10397   }%
10398   {%
10399   \LWR@traceinfo{LWR@myshorttoc: done}%
10400 }
```

`\LWR@subtableofcontents` `{\toc/lof/lot} {\sectionstarname}`

Places a TOC/LOF/LOT at the current position.

```
10401 \NewDocumentCommand{\LWR@subtableofcontents}{m m}{%
```

Closes previous levels:

```
10402   \@ifundefined{chapter}%
10403     {\LWR@closeprevious{section}}%
10404     {\LWR@closeprevious{chapter}}%
```

Prints any pending footnotes so that they appear above the potentially large toc:

```
10405   \LWR@printpendingfootnotes%
```

Place the list into its own chapter (if defined) or section:

```
10406   \@ifundefined{chapter}{\section*{#2}}{\chapter*{#2}}%
```

Create a new HTML nav containing the TOC/LOF/LOT:

```
10407   \LWR@htmlclass{nav}{#1}%
```

Create the actual list:

```
10408   \LWR@myshorttoc{#1}%
```

Close the nav:

```
10409   \LWR@htmlclassend{nav}{#1}%
10410 }
```

```
\@starttoc {<ext>}
```

Patch \@starttoc to encapsulate the toc inside HTML tags:

```
10411 \let\LWR@orig@starttoc\@starttoc
10412
10413 \renewcommand{\@starttoc}[1]{
10414   \LWR@htmlclass{nav}{#1}%
10415   \LWR@orig@starttoc{#1}%
10416   \LWR@htmlclassend{nav}{#1}%
10417 }
```

Bool LWR@copiedsidetoc Used to only copy the toc file to the sidetoc a single time.

(listings and perhaps other packages would re-use \tableofcontents for their own purposes, causing the sidetoc to be copied more than once, and thus end up empty.)

```
10418 \newbool{LWR@copiedsidetoc}
10419 \boolfalse{LWR@copiedsidetoc}
```

\tableofcontents Patch \tableofcontents, etc. to print footnotes first. **newfloat** uses \listoffigures for all future float types.

```

10420 \AtBeginDocument{
10421
10422 \let\LWR@origtableofcontents\tableofcontents
10423
10424 \renewcommand*\tableofcontents}{%

```

Do not print the table of contents if formatting for a word processor, which will presumably auto-generate its own updated table of contents:

```

10425     \ifboolexpr{bool{FormatWP} and bool{WPMarkTOC}}{
10426
10427     === table of contents ===
10428
10429     }
10430     {

```

Copy the .toc file to .sidetoc for printing the sideroc. The original .toc file is renewed when \tableofcontents is finished.

```

10431         \ifbool{LWR@copiedsidetoc}{}{%
10432             \LWR@copyfile{\jobname.toc}{\jobname.sidetoc}%
10433             \booltrue{LWR@copiedsidetoc}%
10434         }%
10435         \LWR@printpendingfootnotes
10436         \LWR@origtableofcontents
10437     }
10438 }% \tableofcontents
10439
10440 }% AtBeginDocument

```

\listoffigures

```

10441 \let\LWR@origlistoffigures\listoffigures
10442
10443 \renewcommand*\listoffigures{
10444     \ifboolexpr{bool{FormatWP} and bool{WPMarkLOFT}}{
10445
10446     === list of figures ===
10447
10448     }
10449     {
10450         \LWR@printpendingfootnotes
10451         \LWR@origlistoffigures
10452     }
10453 }

```

\listoftables

```

10454 \let\LWR@origlistoftables\listoftables
10455
10456 \renewcommand*\listoftables{
10457     \ifboolexpr{bool{FormatWP} and bool{WPMarkLOFT}}{
10458

```

```

10459    === list of tables ===
10460
10461    }
10462    {
10463        \LWR@printpendingfootnotes
10464        \LWR@origlistoftables
10465    }
10466 }

```

76.2 High-level toc commands

`\listof` $\{\langle type \rangle\} \{\langle title \rangle\}$

Emulate the `\listof` command from the `float` package (section 264). Used to create lists of custom float types. Also used to redefine the standard L^AT_EX `\listoffigures` and `\listoftables` commands.

```

10467 \NewDocumentCommand{\listof}{m +m}{%
10468     \ifundefined{l@#1}{%
10469         \csdef{l@#1}##1##2{\hypertocfloat{1}{#1}{\@nameuse{ext@#1}}{##1}{##2}}%
10470     }{ }%
10471     \LWR@subtableofcontents{\@nameuse{ext@#1}}{#2}%
10472     \expandafter\newwrite\csname tf@\csname ext@#1\endcsname\endcsname%
10473     \immediate\openout \csname tf@\csname ext@#1\endcsname\endcsname%
10474         \jobname.\@nameuse{ext@#1}\relax%
10475 }

```

76.3 Side toc

The “side toc” is a table-of-contents positioned to the side.

It may be renamed by redefining `\sidetocname`, and may contain paragraphs.

Per table 16, `css` may be used to format the sideroc.

Table 16: CSS related to the sideroc

div.sidetoccontainer: The entire sideroc.

div.sidetoctitle: The title.

div.sidetoccontents: The table of contents.

```
10476 \end{warpHTML}
```

for HTML & PRINT: 10477 `\begin{warpall}`

Ctrl SideTOCDepth Controls how deep the side-TOC gets. Use a standard L^AT_EX section level similar to `tocdepth`. Warn if parts of the website may be inaccessible.

```
10478 \newcounter{SideTOCDepth}
```



```

10479 \setcounter{SideTOCDepth}{1}
10480
10481 \AtEndDocument{%
10482     \ifnumcomp{\value{SideTOCDepth}}{<}{\value{FileDepth}}{
10483         \PackageWarningNoLine{lwarp}
10484         {%
10485             SideTOCDepth is less than FileDepth,\MessageBreak
10486             so some website pages may be inaccessible%
10487         }
10488     }{}
10489 }

```

`\sidedtocname` Holds the default name for the sideroc.

```

10490 \newcommand{\sidedtocname}{Contents}

10491 \end{warpall}

```

for HTML output: 10492 `\begin{warpHTML}`

`\LWR@sidedtoc` Creates the actual side-TOC.

```

10493 \newcommand*{\LWR@sidedtoc}{%
10494     \LWR@forcenewpage
10495     \LWR@stoppars
10496 }

```

The entire sideroc is placed into a nav of class sidedtoc.

```

10497     \LWR@htmlclass{div}{sidedtoccontainer}
10498     \LWR@htmlclass{nav}{sidedtoc}
10499
10500     \setcounter{tocdepth}{\value{SideTOCDepth}}
10501 }

```

The title is placed into a `<div>` of class sidedtoctitle, and may contain paragraphs.

```

10502     \begin{BlockClass}{sidedtoctitle}
10503     \ifcvoid{thetitle}{}{\InlineClass{sidedtocthetitle}{\thetitle}\par}
10504     \sidedtocname
10505     \end{BlockClass}

```

The table of contents is placed into a `<div>` of class sidedtoccontents.

```

10506     \begin{BlockClass}{sidedtoccontents}
10507     \LinkHome
10508
10509     \LWR@myshorttoc{sidedtoc}
10510     \end{BlockClass}
10511     \LWR@htmlclassend{nav}{sidedtoc}
10512     \LWR@htmlclassend{div}{sidedtoccontainer}
10513 }

```

76.4 Low-level toc line formatting

`\numberline` $\{\langle number \rangle\}$

(Called from each line in the .aux, .lof files.)

Record this section number for further use:

```
10514 \newcommand*\LWR@numberline[1]{%
10515   \LWR@sectionnumber{#1}\quad%
10516 }
10517
10518 \LetLtxMacro\numberline\LWR@numberline
```

`\LWR@maybetocdata` Replaced by `tocdata`. Adds author name.

```
10519 \newcommand*\LWR@maybetocdata{}
```

`\hypertoc` $\{\langle 1: depth \rangle\} \{\langle 2: type \rangle\} \{\langle 3: name \rangle\} \{\langle 4: page \rangle\}$

Called by `\l@section`, etc. to create a hyperlink to a section.

The autopage label is always created just after the section opens.

#1 is depth

#2 is section, subsection, etc.

#3 the text of the caption

#4 page number

```
10520 \NewDocumentCommand{\hypertoc}{m m +m m}{%
10521   \LWR@traceinfo{hypertoc !#1!#2!#3!#4!}%
```

Respond to `tocdepth`:

```
10522   \ifnumcomp{#1}{>}{\value{tocdepth}}%
10523     {}%
10524     {%
10525     \LWR@startpars%
```

Create an HTML link to `<filename>#autosec-(page)`, with the name, of the given HTML class.

`\BaseJobname` is added to the label in case `xr` or `xr-hyper` are used.

```
10526   \LWR@subhyperrefclass{%
10527     \LWR@htmlrefsectionfilename{\BaseJobname-autopage-#4}%
10528     \LWR@origpound\LWR@print@box{autosec-#4}%
10529   }{#3}{toc#2}%
```

```

10530          \LWR@maybetocdata%

10531          \LWR@stoppars%
10532      }%
10533      \LWR@traceinfo{hypertoc done}%
10534  }

```

Ctrl lofdepth TOC depth for figures.

```

10535 \@ifclassloaded{memoir}{%
10536     \newcounter{lofdepth}
10537     \setcounter{lofdepth}{1}
10538 }

```

Ctrl lotdepth TOC depth for tables.

```

10539 \@ifclassloaded{memoir}{%
10540     \newcounter{lotdepth}
10541     \setcounter{lotdepth}{1}
10542 }

```

`\hypertocfloat` {<1: depth>} {<2: type>} {<3: ext of parent>} {<4: caption>} {<5: page>}

#1 is depth

#2 is figure, table, etc.

#3 is lof, lot, of the parent.

#4 the text of the caption

#5 page number

```

10543 \newcommand{\hypertocfloat}[5]{%

```

If some float-creation package has not yet defined the float type's lofdepth counter, etc, define it here:

```

10544     \@ifundefined{c@#3depth}{%
10545         \newcounter{#3depth}%
10546         \setcounter{#3depth}{1}%
10547     }{}%

```

Respond to lofdepth, etc.:

```

10548     \LWR@traceinfo{hypertocfloat depth is #1 #3depth is \arabic{#3depth}}%
10549     \ifthenelse{\cnttest{#1}{<=}}{\arabic{#3depth}}{}%
10550     {%
10551         \LWR@startpars%

```

Create an HTML link to filename#autoid-(float number), with text of the caption, of the given HTML class.

\BaseJobname is added to the label in case xr or xr-hyper are used.

```

10552         \LWR@subhyperrefclass{%
10553         \LWR@htmlrefsectionfilename{%
10554             \BaseJobname-autopage-\arabic{LWR@nextautopage}%
10555         }%
10556         \LWR@origpound\LWR@print@embox{autoid-\arabic{LWR@nextautoid}}}%
10557         {#4}{toc#2}%

10558         \LWR@maybetocdata%

10559         \LWR@stoppars%
10560     }%
10561     {}%
10562 }
```

Automatically called by \contentsline:

```
\l@book {<name>} {<page>}
```

Uses \DeclareDocumentCommand in case the class does not happen to have a \book.

```
10563 \DeclareDocumentCommand{\l@book}{m m}{\hypertoc{-2}{book}{#1}{#2}}
```

```
\l@part {<name>} {<page>}
```

Uses \DeclareDocumentCommand in case the class does not happen to have a \part.

```
10564 \DeclareDocumentCommand{\l@part}{m m}{\hypertoc{-1}{part}{#1}{#2}}
```

```
\l@chapter {<name>} {<page>}
```

Uses \DeclareDocumentCommand in case the class does not happen to have a \chapter.

```

10565 \@ifundefined{chapter}
10566 {}
10567 {
10568 \DeclareDocumentCommand{\l@chapter}{m m}
10569     {\hypertoc{0}{chapter}{#1}{#2}}
10570 }
```

```
\l@section {<name>} {<page>}
```

```
10571 \renewcommand{\l@section}[2]{\hypertoc{1}{section}{#1}{#2}}
```

```
\l@subsection {<name>} {<page>}
```

```
10572 \renewcommand{\l@subsection}[2]{\hypertoc{2}{subsection}{#1}{#2}}
```

```

\l@subsubsection {<name>} {<page>}

10573 \renewcommand{\l@subsubsection}[2]{\hypertoc{3}{subsubsection}{#1}{#2}}

\l@paragraph {<name>} {<page>}

10574 \renewcommand{\l@paragraph}[2]{\hypertoc{4}{paragraph}{#1}{#2}}

\l@subparagraph {<name>} {<page>}

10575 \renewcommand{\l@subparagraph}[2]{\hypertoc{5}{subparagraph}{#1}{#2}}

\l@figure {<name>} {<page>}

10576 \renewcommand{\l@figure}[2]{\hypertocfloat{1}{figure}{lof}{#1}{#2}}

\l@table {<name>} {<page>}

10577 \renewcommand{\l@table}[2]{\hypertocfloat{1}{table}{lot}{#1}{#2}}

10578 \end{warpHTML}

```

77 Index and glossary

See:

<http://tex.stackexchange.com/questions/187038/how-to-mention-section-number-in-index-created-by-imakeidx>

Index links are tracked by the counter `LWR@autoindex`. This counter is used to create a label for each index entry, and a reference to this label for each entry in the index listing. This method allows each index entry to link directly to its exact position in the document.

```

for HTML output: 10579 \begin{warpHTML}

10580 \newcounter{LWR@autoindex}
10581 \setcounter{LWR@autoindex}{0}
10582
10583 \newcounter{LWR@autoglossary}
10584 \setcounter{LWR@autoglossary}{0}

```

```

\IndexPageSeparator User-adjustable delimiters for page and range separators in the *.ind files.
\IndexRangeSeparator

10585 \newcommand*\IndexPageSeparator}{, }
10586 \newcommand*\IndexRangeSeparator}{--}

```

Env theindex

```

10587 \@ifundefined{chapter}
10588   {\newcommand*\LWR@indexsection[1]{\section*{#1}}}
10589   {\newcommand*\LWR@indexsection[1]{\chapter*{#1}}}
10590
10591
10592 \AtBeginDocument{
10593
10594 \renewenvironment*{theindex}{%
10595   \LWR@indexsection{\indexname}%
10596   \let\item\LWR@indexitem%
10597   \let\subitem\LWR@indexsubitem%
10598   \let\subsubitem\LWR@indexsubsubitem%
10599 }{}
10600
10601 }% AtBeginDocument

```

`\LWR@indexitem` [*(index key)*] The optional argument is added to support `repeatindex`.

```

10602 \newcommand{\LWR@indexitem}[1][\@empty]{
10603
10604   \InlineClass{indexitem}{\LWR@htmlcomment{}}#1%
10605 }

```

`\LWR@indexsubitem`

```

10606 \newcommand{\LWR@indexsubitem}{
10607
10608   \InlineClass{indexsubitem}{\LWR@htmlcomment{}}%
10609 }

```

`\LWR@indexsubsubitem`

```

10610 \newcommand{\LWR@indexsubsubitem}{
10611
10612   \InlineClass{indexsubsubitem}{\LWR@htmlcomment{}}%
10613 }

```

`\LWR@index@modifyentry` {*(indexing term)*}

If using *xindex*, modifies the pipe character to become `\hyperindexformat`. The indexing term is split into two argument at the pipe, then fed to `\LWR@index@modifyentrysub`.

```

10614 \NewDocumentCommand{\LWR@index@modifyentry}{>{\SplitArgument{1}{|}}m}
10615   {\LWR@index@modifyentrysub#1}

```

Handle left and right parenthesis range argument, or add a `hyperindexformat` clause.

```

10616 \newcommand*\LWR@index@modifyentrysub[2]{%
10617   \edef\LWR@tempone{#1}%
10618   \edef\LWR@temptwo{#2}%

```

```

10619 \IfValueTF{#2}{%
10620   \ifx#2(%
10621     \appto\LWR@tempone{|}%
10622   \else%
10623     \ifx#2)%
10624     \appto\LWR@tempone{|}%
10625   \else%
10626     \appto\LWR@tempone{%
10627       |hyperindexformat\LWRleftbrace%
10628       \LWRbackslash#2%
10629       \LWRrightbrace%
10630     }%
10631   \fi%
10632 \fi%
10633 }%
10634 {}%
10635 }

```

`\@wrindex {<indexing term>}` Redefined to write the LWR@autoindex counter instead of page.

If using *xindex*, the first line is a comment including a special phrase which tricks *xindex* into thinking that *hyperref* was used.

```

10636 \newbool{LWR@xindex@tricked}
10637 \boolfalse{LWR@xindex@tricked}
10638
10639 \def\LWR@wrindex#1{%
10640   \ifbool{LWR@xindex}{%
10641     \ifbool{LWR@xindex@tricked}{%
10642       \protected@write\@indexfile{%
10643         {%
10644           \LWRpercent\space hyperpage\LWRrightbrace%
10645           \LWRpercent\space trick xindex to assume hyperref%
10646         }%
10647       \global\booltrue{LWR@xindex@tricked}%
10648     }%
10649     \LWR@xindex@modifyentry{#1}%
10650   }{%
10651     \def\LWR@tempone{#1}%
10652   }%
10653   \addtocounter{LWR@autoindex}{1}%
10654   \label{LWRindex-\arabic{LWR@autoindex}}%
10655   \protected@write\@indexfile{%
10656     {\string\indexentry{\LWR@tempone}{\arabic{LWR@autoindex}}}%
10657   \endgroup%
10658   \@esphack%
10659 }
10660
10661 \AtBeginDocument{
10662 \let\@wrindex\LWR@wrindex
10663 }

```

`\@wrglossary {<term>}` Redefined to write the LWR@latestautopage counter instead of page.

```

10664 \def\@wrglossary#1{%
10665     \addtocounter{LWR@autoglossary}{1}%
10666     \LWR@new@label{LWRglossary-\theLWR@autoglossary}%
10667     \protected@write\@glossaryfile{%
10668       {\string\glossaryentry{#1}{\theLWR@autoglossary}}%
10669     \endgroup%
10670     \@esphack%
10671 }

```

`\LWR@indexnameref@anonref` $\langle LWR@autoindex \rangle$

Displays a reference link where there no `\ref` available.

```

10672 \newcommand*\LWR@indexnameref@anonref}[1]{%
10673     \LWR@startref{LWRindex-#1}%
10674     (*)%
10675     \LWR@htmltag{/a}%
10676 }

```

`\LWR@indexnameref@ref` $\langle LWR@autoindex \rangle$

Creates `\ref`-style index references. To avoid an unwanted space if there is nothing to reference, the reference is checked first.

```

10677 \newcommand*\LWR@indexnameref@ref}[1]{%
10678     \edef\LWR@thisref{\csuse{r@LWRindex-#1}}%
10679     \ifdefvoid{\LWR@thisref}{}%
10680         \edef\LWR@thisref{\expandafter\@firstoftwo\LWR@thisref}%
10681         \ifdefvoid{\LWR@thisref}%
10682             {\LWR@indexnameref@anonref{#1}}%
10683             {\ref{LWRindex-#1}}%
10684     }%
10685 }

```

`\LWR@indexnameref@refnameref` $\langle LWR@autoindex \rangle$

Creates `\ref`-style index references. To avoid an unwanted space if there is nothing to reference, the reference is checked first. For links to starred or ?? objects, only the name is used.

```

10686 \newcommand*\LWR@indexnameref@refnameref}[1]{%
10687     \edef\LWR@thisref{\csuse{r@LWRindex-#1}}%
10688     \ifdefvoid{\LWR@thisref}{}%
10689         \edef\LWR@thisref{\expandafter\@firstoftwo\LWR@thisref}%
10690         \ifdefvoid{\LWR@thisref}{}%
10691             \ifdefstring{\LWR@thisref}{(*)}%
10692             {}%
10693             {\ref{LWRindex-#1} }% space
10694     }%
10695 }%
10696 \nameref{LWRindex-#1}%
10697 }

```


`\LWR@indexnameref@cref` $\langle LWR@autoindex \rangle$

Creates `\cref`-style index references. If no numbered reference is available, a `\nameref` is used instead. If the reference is `??`, which will be changed by `\LWR@indexnameref` to become `(*)`, then the link is changed to show `(*)`.

```

10698 \newcommand*{\LWR@indexnameref@cref}[1]{%
10699   \edef\LWR@thisref{\csuse{r@LWRindex-#1}}%
10700   \ifdefvoid{\LWR@thisref}{%
10701     \nameref{LWRindex-#1}%
10702   }{%
10703     \edef\LWR@thisref{\expandafter\@firstoftwo\LWR@thisref}%
10704     \ifdefvoid{\LWR@thisref}{%
10705       \nameref{LWRindex-#1}%
10706     }{%
10707       \ifdefstring{\LWR@thisref}{(*)}{%
10708         \LWR@indexnameref@anonref{#1}%
10709       }{%
10710         \cref{LWRindex-#1}%
10711       }%
10712     }%
10713   }%
10714 }

```

`\LWR@indexnameref@crefnameref` $\langle LWR@autoindex \rangle$

Creates `\cref`-style index references. If no numbered reference is available, a `\nameref` is used instead. If the reference is `??`, which will be changed by `\LWR@indexnameref` to become `(*)`, then the link is changed to show only the name.

```

10715 \newcommand*{\LWR@indexnameref@crefnameref}[1]{%
10716   \edef\LWR@thisref{\csuse{r@LWRindex-#1}}%
10717   \ifdefvoid{\LWR@thisref}%
10718     {}%
10719     {%
10720     \edef\LWR@thisref{\expandafter\@firstoftwo\LWR@thisref}%
10721     \ifdefvoid{\LWR@thisref}%
10722       {}%
10723       {%
10724         \ifdefstring{\LWR@thisref}{(*)}%
10725         {}%
10726         {\cref{LWRindex-#1}} % space
10727       }%
10728     }%
10729   \nameref{LWRindex-#1}%
10730 }

```

`\LWR@indexnameref` $\langle LWR@autoindex \rangle$

Creates a hyperlink based on the given entry's autoindex.

```

10731 \newcommand*{\LWR@indexnameref}[1]{%
10732   {% group

```

Temporarily redefine `\caption@xref` because it was printing ?? in the indexes, and also causing error on expansion:

```

10733 \ifdef{\caption@xref}{%
10734   \renewcommand*\caption@xref}[2]{(*)}%
10735 }{%

10736 \ifdefstring{\LWR@IndexRef}{ref}{%
10737   \LWR@indexnameref@ref{#1}%
10738 }{%
10739 \ifdefstring{\LWR@IndexRef}{nameref}{%
10740   \nameref{\LWRindex-#1}%
10741 }{%
10742 \ifdefstring{\LWR@IndexRef}{refnameref}{%
10743   \LWR@indexnameref@refnameref{#1}%
10744 }{%
10745 \ifdefstring{\LWR@IndexRef}{cref}{%
10746   \LWR@indexnameref@cref{#1}%
10747 }{%
10748 \ifdefstring{\LWR@IndexRef}{crefnameref}{%
10749   \LWR@indexnameref@crefnameref{#1}%
10750 }{%
10751 \ifdefstring{\LWR@IndexRef}{autoref}{%
10752   \LWR@indexnameref@cref{#1}%
10753 }{% text string
10754   \LWR@startref{\LWRindex-#1}%
10755   \LWR@IndexRef%
10756   \LWR@htmltag{/a}%
10757   }}}}%
10758 }% group
10759 }

```

`\LWR@doindexentrysubsub` {<range start: *LWR@autoindex*, or macros.>} {<range end or blank>}

Creates a hyperlink, or handles `\see`, `\textbf`, etc.

```

10760 \newrobustcmd{\LWR@doindexentrysubsub}[2]{%
10761   \IfInteger{#1}%
10762     {\LWR@indexnameref{#1}}%
10763     {#1}%
10764   \IfValueT{#2}{%
10765     \IndexRangeSeparator%
10766     \IfInteger{#2}%
10767       {\LWR@indexnameref{#2}}%
10768       {#2}%
10769   }%
10770 }

```

`\LWR@doindexentrysub` {<range delimiter>} {<*LWR@autoindex* or macros, possible a range>}

```


10771 \NewDocumentCommand{\LWR@doindexentrysub}{m >{\SplitArgument{1}{#1}}m}
10772   {\LWR@doindexentrysubsub#2}

```

`\LWR@doindexentry` {*<LWR@autoindex or macros, possible a range>*}

```
10773 \newcommand*{\LWR@doindexentry}[1]{%
10774     \relax% required
10775     \expandafter\LWR@doindexentrysub\expandafter{\IndexRangeSeparator}{#1}%
10776 }
```

`\LWR@hyperindexrefnullified` Handles macros commonly seen inside an `\index` entry. Each macro is redefined to create and format a link to its entry.

 **index formatting** To handle additional macros:

```
\appto\LWR@hyperindexrefnullified{...}
```

```
10777 \newcommand{\LWR@hyperindexrefnullified}{%
10778     \renewrobustcmd{\emph}[1]{\LWR@HTML@emph{\LWR@doindexentry{##1}}}%
10779     \renewrobustcmd{\textbf}[1]{\LWR@HTML@textbf{\LWR@doindexentry{##1}}}%
10780     \renewrobustcmd{\texteb}[1]{\LWR@HTML@texteb{\LWR@doindexentry{##1}}}%
10781     \renewrobustcmd{\textlg}[1]{\LWR@HTML@textlg{\LWR@doindexentry{##1}}}%
10782     \renewrobustcmd{\textrm}[1]{\LWR@HTML@textrm{\LWR@doindexentry{##1}}}%
10783     \renewrobustcmd{\textsf}[1]{\LWR@HTML@textsf{\LWR@doindexentry{##1}}}%
10784     \renewrobustcmd{\texttt}[1]{\LWR@HTML@texttt{\LWR@doindexentry{##1}}}%
10785     \renewrobustcmd{\textup}[1]{\LWR@HTML@textup{\LWR@doindexentry{##1}}}%
10786     \renewrobustcmd{\textsc}[1]{\LWR@HTML@textsc{\LWR@doindexentry{##1}}}%
10787     \renewrobustcmd{\textulc}[1]{\LWR@HTML@textulc{\LWR@doindexentry{##1}}}%
10788     \renewrobustcmd{\textsi}[1]{\LWR@HTML@textsi{\LWR@doindexentry{##1}}}%
10789     \renewrobustcmd{\textit}[1]{\LWR@HTML@textit{\LWR@doindexentry{##1}}}%
10790     \renewrobustcmd{\textsl}[1]{\LWR@HTML@textsl{\LWR@doindexentry{##1}}}%
10791 }
```

`\hyperindexref` {*<list of LWR@autoindex, commas, and ranges>*}

`\hyperindexref{LWR@autoindex}` is inserted into `*.ind` by the *makeindex* style file `lwarp.ist` or the *xindy* style file `lwarp.xdy`. For *xindex*, `\hyperpage` is inserted, which is `\let` to `\hyperindexref`. For *gindex*, `\addindexitem` and related are inserted, which are defined to use `\hyperindexref`.

The argument is split at commas, and also for ranges, then passed to `\LWR@hyperindexrefsub`.

```
10792 \newcommand*{\hyperindexref}[1]{%
10793     \relax% required
10794     \expandafter\LWR@hyperindexref@comma\expandafter{\IndexPageSeparator}{#1}%
10795 }
```

`\LWR@hyperindexref@comma` {*<separator>*} {*<list of args>*}

The list is split at commas, and passed to `\LWR@hyperindexref@comma`.

```
10796 \NewDocumentCommand{\LWR@hyperindexref@comma}
10797     {m >{\SplitList{##1}} m}
10798     {%
```

Used to place the separator between each entry, but not before the first.

```
10799 \def\LWR@hyperindexref@thiscomma{}%
10800 \def\LWR@hyperindexref@nextcomma{#1}%
```

Each comma-delimited entry is now passed individually to \LWR@hyperindexref@@comma.

```
10801 \ProcessList{#2}\LWR@hyperindexref@@comma%
10802 }
```

\LWR@hyperindexref@@comma {<*arg, perhaps with a range*>}

A comma separator is placed if not the first item, then the range is parsed.

```
10803 \newcommand*{\LWR@hyperindexref@@comma}[1]{%
10804 \LWR@hyperindexref@thiscomma%
10805 \renewcommand{\LWR@hyperindexref@thiscomma}{\LWR@hyperindexref@nextcomma}%
10806 \expandafter\LWR@hyperindexref@range\expandafter{\IndexRangeSeparator}{#1}%
10807 }
```

\LWR@hyperindexref@range {<*range delimiter*>} {<*arg*>}

```
10808 \NewDocumentCommand{\LWR@hyperindexref@range}
10809 {m >{\SplitArgument{1}{#1}} m}
10810 {\LWR@hyperindexrefsub#2}
```

\LWR@hyperindexrefsub {<*range start: LWR@autoindex*>} {<*range end, or -NoValue-*>}

Handles the start and end of a range, if applicable.

```
10811 \newcommand*{\LWR@hyperindexrefsub}[2]{%
10812 \LWR@hyperindexrefsubtwo{#1}%
10813 \IfValueT{#2}{%
10814 \IndexRangeSeparator%
10815 \LWR@hyperindexrefsubtwo{#2}%
10816 }%
10817 }
```

\LWR@hyperindexrefsubtwo {<*LWR@autoindex*>}

```
10818 \newcommand*{\LWR@hyperindexrefsubtwo}[1]{%
```

In long index lines with numerous entries, *makeindex* can insert a newline before the page number, resulting in an extra space before the first digit. If the first character is a space, remove it first.

```
10819 \edef\LWR@tempone{#1}%
10820 \IfBeginWith{\LWR@tempone}{ }{%
10821 \StrGobbleLeft{\LWR@tempone}{1}[\LWR@tempone]%
10822 }{}}%
```

If a numeric entry, create a link. If not numeric, such as `\see`, use the entry as-is. `\emph`, `\textit`, etc. have been redefined above to create and format the entry.

```

10823   \IfInteger{\LWR@tempone}%
10824     {\LWR@indexnameref{\LWR@tempone}}%
10825     {%
10826       \begingroup%
10827       \LWR@hyperindexrefnullified%
10828       #1%
10829       \endgroup%
10830     }%
10831 }
```

`\hyperpage` Emulate `hyperref`.

```
10832 \LetLtxMacro\hyperpage\hyperindexref
```

`\nohyperpage` Emulate `hyperref`.

```
10833 \def\nohyperpage#1{}
```

`\hyperindexformat` Emulate `hyperref`.

```

10834 \def\hyperindexformat#1#2{%
10835   #1{\hyperpage{#2}}%
10836 }%
```

```
10837 \end{warpHTML}
```

for PRINT output: A null command for print mode, in case `hyperref` was not used:

```

10838 \begin{warpprint}
10839 \newcommand{\hyperindexref}[1]{#1}
10840 \end{warpprint}
```

for HTML & PRINT: For the `glossaries` package, try to prevent an error where `\glo@name` was not found:

```

10841 \begin{warpall}
10842 \providecommand{\glo@name}{}
10843 \end{warpall}
```

78 Bibliography presentation

for HTML output: `10844 \begin{warpHTML}`

`\bibliography` `{\filenames}` At one time this was modified to read `\BaseJobname.bbl`, which meant the HTML version could not resolve until the print version was also present. This also confused `multibib`. It has been reverted to the original to use `\jobname.bbl`.

`\@biblabel` { \langle *text-refnumber* \rangle }

```
10845 \renewcommand{\@biblabel}[1][[#1]\quad}
```

Env `thebibliography` To emphasize document titles in the bibliography, the following redefines `\em` inside `thebibliography` to gather everything until the next closing brace, then display these tokens with `\textit`.

Adapted from `embracedef.sty`, which is by TAKAYUKI YATO:

<https://gist.github.com/zr-tex8r/b72555e3e7ad2f0a37f1>

```
10846 \AtBeginDocument{
10847
10848 \AtBeginEnvironment{thebibliography}{
10849
10850 \providecommand*\LWR@newem}[1]{\textit{#1}}
10851
10852 \renewrobustcmd{\em}{%
10853   \begingroup
10854     \gdef\LWR@em@after{\LWR@em@finish\LWR@newem}%
10855     \afterassignment\LWR@em@after
10856     \toks@\bgroup
10857 }
10858
10859 \def\LWR@em@finish#1{%
10860   \xdef\LWR@em@after{\noexpand#1{\the\toks@}}%
10861   \endgroup
10862   \LWR@em@after\egroup
10863 }
10864
10865 }% \AtBeginEnvironment{thebibliography}
10866
10867 }% \AtBeginDocument

10868 \end{warpHTML}
```

79 Restoring original formatting

for HTML output: `10869 \begin{warpHTML}`

`\LWR@restoreMathJaxformatting` A few macros (ref: `tcolorbox`) must be treated separately while printing the HTML comment for a MATHJAX expression. These are set here, to which other functions may be appended.

```
10870 \newcommand*\LWR@restoreMathJaxformatting{}
```

`\LWR@restoreorigformatting` Used to temporarily restore the print-mode meaning of a number of formatting, graphics, and symbols-related macros while generating SVG math or a `lateximage`.

Must be used inside a group.

Sets `\LWR@formatting` to print until the end of the group.

A number of packages will `\appto` additional actions to this macro.

Various packages add to this macro using `\appto`.

```
10871 \newcommand*\LWR@restoreorigformatting}{%
10872   \LWR@traceinfo{\LWR@restoreorigformatting}%
```

Numerous macros change their print/HTML meaning depending on `\LWR@formatting`:

```
10873   \renewcommand*\LWR@formatting}{print}%
10874   \linespread{1}%

10875   \let\par\LWR@origpar%

10876   \LWR@select@print@hspace%

10877   \LetLtxMacro\hfil\LWR@origfil%
10878   \let\hss\LWR@orighss%
10879   \let\llap\LWR@origllap%
10880   \let\rlap\LWR@origrlap%
10881   \let\hfilneg\LWR@origfilneg%

10882   \let\,\LWR@origcomma% disable HTML short unbreakable space
10883   \let\thinspace\LWR@origthinspace% disable HTML short unbreakable space
10884   \let\negthinspace\LWR@orignegthinspace% disable HTML negative short unbreakable space
10885   \let\textellipsis\LWR@origtextellipsis%

10886   \let\vdots\LWR@origvdots%

10887   \let\textless\LWR@origtextless%
10888   \let\textgreater\LWR@origtextgreater%

10889   \let\&\LWR@origampersand%

10890   \LetLtxMacro\em\LWR@origem%
10891   \LetLtxMacro\normalfont\LWR@orignormalfont%
10892   \let\sp\LWR@origsp%
10893   \let\sb\LWR@origsb%
10894   \LetLtxMacro\underline\LWR@origunderline%
10895   \let~\LWR@origtilde%
10896   \let\enskip\LWR@origenskip%
10897   \let\quad\LWR@origquad%
10898   \let\qqquad\LWR@origqqquad%
```

`\endtabular` must be restored to its original, instead of relying on `lwarp`'s `\LWR@formatted` mechanism:

```
10899   \LetLtxMacro\endtabular\LWR@origendtabular%
10900   \csletcs{endtabular*}{\LWR@origendtabular*}%
```

```

10901 \LetLtxMacro\noalign\LWR@orignoalign%
10902 \LetLtxMacro\hline\LWR@orighline%

10903 \let\newline\LWR@orignewline%
10904 \LetLtxMacro\includegraphics\LWR@origincludegraphics%

10905 \LetLtxMacro\@ensuredmath\LWR@origensuredmath%

10906 \let\math\LWR@orig@math%
10907 \let\endmath\LWR@orig@endmath%
10908 \let\displaymath\LWR@orig@displaymath%
10909 \let\enddisplaymath\LWR@orig@enddisplaymath%
10910 %
10911 \LWR@restoreorigaccents%
10912 \LWR@restoreoriglists%
10913 %
10914 \LWR@FBcancel%

```

To enable MATHJAX-specific nullification, used for tcolorbox:

```

10915 \ifboolexpr{bool{mathjax} or ( bool{FormatWP} and bool{WPMarkMath} ) }%
10916     {\LWR@restoreMathJaxformatting}%
10917     {}%
10918 }

10919 \end{warpHTML}

```

80 Nullifying filename formatting

The following are used to nullify certain macros and environments while converting section names to file names.

for HTML output: 10920 \begin{warpHTML}

Also commonly used are \@empty, \@gobble, and \@firstofone.

```
10921 \newcommand*{\LWR@dash}{-}
```

\LWR@nullfonts Removes formatting during filename operations, file references, and HTML comments.

 **Use only inside a group.**

The following are *not* made robust, since they must be expanded to their nullified versions.

```

10922 \catcode'\$=\active% redefining $ below
10923 \catcode'\_ =12% redefining \_ below
10924 \newcommand*{\LWR@nullfonts}{%

```


Various built-in symbols.

```

10925 \renewcommand*{\$}{-}%
10926 \renewcommand*{\%}{-}%
10927 \renewcommand*{\_}{-}%
10928 \renewcommand*{\}{-}%
10929 \renewcommand*{\{ }{-}%
10930 \renewcommand*{\&}{-}% used to be 'and'
10931 \renewcommand*{\#}{-}%
10932 \renewcommand*{\,}{-}%
10933 \renewcommand*{\~}{-}%
10934 %
10935 % accents:
10936 \renewcommand*{\`}[1]{##1}%
10937 \renewcommand*{\'}[1]{##1}%
10938 \renewcommand*{\^}[1]{##1}%
10939 \renewcommand*{\~}[1]{##1}%
10940 \renewcommand*{\=}[1]{##1}%
10941 \renewcommand*{\u}[1]{##1}%
10942 \renewcommand*{\.}[1]{##1}%
10943 \renewcommand*{\"}[1]{##1}%
10944 \renewcommand*{\H}[1]{##1}%
10945 \renewcommand*{\v}[1]{##1}%
10946 \renewcommand*{\d}[1]{##1}%
10947 \renewcommand*{\c}[1]{##1}%
10948 \renewcommand*{\b}[1]{##1}%
10949 \renewcommand*{\t}[1]{##1}%
10950 %
10951 \let\newline\LWR@dash%
10952 \let\textasciicircum\LWR@dash%
10953 \let\textasciitilde\LWR@dash%
10954 \let\textasteriskcentered\LWR@dash%
10955 \let\textbackslash\LWR@dash%
10956 \let\textbar\LWR@dash%
10957 \let\textbardbl\LWR@dash%
10958 \let\textbigcircle\LWR@dash%
10959 \let\textbraceleft\LWR@dash%
10960 \let\textbraceright\LWR@dash%
10961 \let\textbullet\LWR@dash%
10962 \let\textcopyright\LWR@dash%
10963 \let\textdagger\LWR@dash%
10964 \let\textdaggerdbl\LWR@dash%
10965 \let\textdollar\LWR@dash%
10966 \let\textellipsis\LWR@dash%
10967 \let\textemdash\LWR@dash%
10968 \let\textendash\LWR@dash%
10969 \let\textexclamdown\LWR@dash%
10970 \let\textgreater\LWR@dash%
10971 \let\textless\LWR@dash%
10972 \let\textordfeminine\LWR@dash%
10973 \let\textordmasculine\LWR@dash%
10974 \let\textparagraph\LWR@dash%
10975 \let\textperiodcentered\LWR@dash%
10976 \let\textpertenthousand\LWR@dash%
10977 \let\textperthousand\LWR@dash%

```

```

10978 \let\textquestiondown\LWR@dash%
10979 \let\textquotedblleft\LWR@dash%
10980 \let\textquotedblright\LWR@dash%
10981 \let\textquoteleft\LWR@dash%
10982 \let\textquoteright\LWR@dash%
10983 \let\textregistered\LWR@dash%
10984 \let\textsection\LWR@dash%
10985 \let\textsterling\LWR@dash%
10986 \let\texttrademark\LWR@dash%
10987 \let\textunderscore\LWR@dash%
10988 \let\textvisiblespace\LWR@dash%
10989 \let\copyright\LWR@dash%
10990 \let\dag\LWR@dash%
10991 \let\ddag\LWR@dash%
10992 \let\dots\LWR@dash%
10993 \let\P\LWR@dash%
10994 \let\pounds\LWR@dash%
10995 \let\S\LWR@dash%
10996 %
10997 \renewcommand*\aa}{a}%
10998 \renewcommand*\AA}{A}%
10999 \renewcommand*\AE}{AE}%
11000 \renewcommand*\ae}{ae}%
11001 \renewcommand*\dh}{d}%
11002 \renewcommand*\DH}{D}%
11003 \renewcommand*\DJ}{D}%
11004 \renewcommand*\dj}{d}%
11005 \renewcommand*\IJ}{IJ}%
11006 \renewcommand*\ij}{ij}%
11007 \renewcommand*\L}{L}%
11008 \renewcommand*\l}{l}%
11009 \renewcommand*\NG}{NG}%
11010 \renewcommand*\ng}{ng}%
11011 \renewcommand*\O}{O}%
11012 \renewcommand*\o}{o}%
11013 \renewcommand*\oe}{oe}%
11014 \renewcommand*\OE}{OE}%
11015 \renewcommand*\ss}{ss}%
11016 \renewcommand*\SS}{SS}%
11017 \renewcommand*\th}{th}%
11018 \renewcommand*\TH}{TH}%
11019 %
11020 \let\guillemotleft\@empty%
11021 \let\guilsinglleft\@empty%
11022 \let\quotedblbase\@empty%
11023 \let\textquotedbl\@empty%
11024 \let\guillemotright\@empty%
11025 \let\guilsinglright\@empty%
11026 \let\quotesinglbase\@empty%

11027 \renewcommand*\HTMLunicode}[1]{}%
11028 \renewcommand*\HTMLentity}[1]{}%

11029 \renewcommand{\textsuperscript}[1]{##1}%
11030 \renewcommand{\textsubscript}[1]{##1}%

```

```

11031 \renewcommand{\underline}[1]{##1}%
11032 \RenewDocumentCommand{\hspace}{s m}{}%
11033 \RenewDocumentCommand{\LWR@htmlspanclass}{o m +m}{##3}%
11034 \DeclareExpandableDocumentCommand{\InlineClass}{D{({})}{ } o m +m}{##4}%

```

Nullify math macros.

```

11035 \def\(&##1\){}%
11036 \def\[&##1\]{}%
11037 \RenewDocumentCommand{\LWR@subsingledollar}{s m m m}{}%

```

Nullify logos:

```

11038 \renewcommand*\TeX{\TeX}%
11039 \renewcommand*\LaTeX{\LaTeX}%
11040 \renewcommand*\LaTeXe{\LaTeXe}%
11041 \renewcommand*\LuaTeX{\LuaTeX}%
11042 \renewcommand*\LuaLaTeX{\LuaLaTeX}%
11043 \renewcommand*\XeTeX{\XeTeX}%
11044 \renewcommand*\XeLaTeX{\XeLaTeX}%
11045 \renewcommand*\ConTeXt{\ConTeXt}%
11046 \renewcommand*\BibTeX{\BibTeX}%
11047 \renewcommand*\MakeIndex{\MakeIndex}%
11048 \renewcommand*\AmS{\AmS}%
11049 \renewcommand*\MiKTeX{\MiKTeX}%
11050 \renewcommand*\LyX{\LyX}%

```

Use the simpler form with `\texorpdfstring`:

```

11051 \def\texorpdfstring{\expandafter\@secondoftwo}%
11052 }
11053 \catcode'\$=3%
11054 \catcode'\_ =8%

```

`\FilenameNullify` *{(redefinitions)}*

Adds more nullifying definitions for filename generation.

```

11055 \newcommand*\FilenameNullify}[1]{%
11056 \appto{\LWR@nullfonts}{#1}%
11057 }
11058 \end{warpHTML}

```

81 Math

81.1 Limitations

See [Math](#), section 8.7.

81.2 HTML alt tag names

Redefinable names for the HTML alt tags, for translation according to the reader's native language.

for HTML & PRINT: 11059 \begin{warpall}

`\AltTextOpen` The opening part of HTML alt tag for an image. The default is a left parenthesis.
Default: (

```
11060 \newcommand*\AltTextOpen}{(}
```

`\AltTextClose` The closing part of HTML alt tag for an image. The default is a right parenthesis.
Default:)

```
11061 \newcommand*\AltTextClose}{)}
```

`\ImageAltText` The HTML alt tag for an image.
Default: image

```
11062 \newcommand*\ImageAltText}{image}
```

`\MathImageAltText` The HTML alt tag for an SVG math image.
Default: "math image"

```
11063 \newcommand*\MathImageAltText}{math image}
```

`\LWR@ThisAltText` The HTML alt tag for the next image. Cleared after use, and also after each `lateximage`, `\LWR@subsingledollar`, and each use of `MATHJAX`.

```
11064 \newcommand*\LWR@ThisAltText}{}
```

`\ThisAltText` $\{<text>\}$

Assigns the HTML alt tag for the next image generated by `lwarp`, such as a `lateximage`, `picture`, or `svg math`.

```
11065 \newcommand*\ThisAltText[1]{%
11066   \renewcommand{\LWR@ThisAltText}{#1}%
11067 }
```

`\PackageDiagramAltText` Appended to the `lateximage` HTML alt tag for the images generated by many packages.
Default: "diagram"

```
11068 \newcommand*\PackageDiagramAltText}{diagram}
```

```
11069 \end{warpall}
```

81.3 Inline and display math

for HTML output: 11070 `\begin{warpHTML}`

Ctrl `LWR@externalfilecnt` Counter for the external files which are generated and then referenced from the HTML:

11071 `\newcounter{LWR@externalfilecnt}`

Bool `LWR@indisplaymathimage` True if processing display math for svg output. Inside a `lateximage`, display math is only set to print-mode output if `LWR@indisplaymathimage` is false. Used to avoid nullifying display math before it has been completed.

11072 `\newbool{LWR@indisplaymathimage}`

Bool `LWR@insidemathcomment` True while inside an HTML comment which is displaying a math environment. Used to undo the comment for a moment while creating a `\label`, so that the label's HTML tags will be seen by HTML.

11073 `\newbool{LWR@insidemathcomment}`

11074 `\boolfalse{LWR@insidemathcomment}`

Bool `LWR@xfakebold` True if `xfakebold \setBold` is in use.

11075 `\newbool{LWR@xfakebold}`

11076 `\boolfalse{LWR@xfakebold}`

`\LWR@orig@setBold` Redefined by `lwarp-xfakebold`.

11077 `\newcommand*{\LWR@orig@setBold}{}`

`\LWR@orig@unsetBold` Redefined by `lwarp-xfakebold`.

11078 `\newcommand*{\LWR@orig@unsetBold}{}`

`\LWR@applyxfakebold` Redefined by `lwarp-xfakebold`.

11079 `\newcommand*{\LWR@applyxfakebold}{}`

`\LWR@setcurrentfont` Sets the actual L^AT_EX font to that which was selected for HTML output. Ex: In HTML mode, `\bfseries` sets `\LWR@f@series` to “bf”. This sets the PDF output here for use inside a `lateximage`.

11080 `\newcommand*{\LWR@setcurrentfont}{%`

11081 `\LWR@traceinfo{Using font family \LWR@f@family}%`

11082 `\@nameuse{LWR@print@\LWR@f@family family}%`

11083 `\LWR@traceinfo{Using font series \LWR@f@series}%`

11084 `\@nameuse{LWR@print@\LWR@f@series series}%`

11085 `\LWR@traceinfo{Using font shape \LWR@f@shape}%`

11086 `\@nameuse{LWR@print@\LWR@f@shape shape}%`

11087 `\LWR@traceinfo{Using font caps shape \LWR@f@shapecaps}%`

11088 `\@nameuse{LWR@print@\LWR@f@shapecaps shape}%`

11089 }

\backslash \$ Plain dollar signs appearing in the HTML output may be interpreted by MATHJAX to be math shifts. For a plain text dollar \backslash \$, use an HTML entity to avoid it being interpreted by MATHJAX, unless are inside a lateximage, in which case it will not be seen by MATHJAX.

```
11090 \let\LWR@origtextdollar\backslash$
11091
11092 \renewcommand*{\backslash$}{%
11093   \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
11094   {\LWR@origtextdollar}%
11095   {\HTMLUnicode{00024}}%
11096 }
```

File *A marker to be used to help pdfcrop identify the inline math baseline and width. If lwarp_baseline_marker.png either graphicx or graphics is loaded, this marker is placed at the lower left and lower right corners of the inline math. pdfcrop is then able to identify the width of the image, and also the height of an image such as a horizontal dash which does not otherwise touch the baseline.*

File *and also the height of an image such as a horizontal dash which does not otherwise touch the baseline.*

lwarp_baseline_marker.eps

A marker with alpha or opacity of 0% is not registered by *pdfcrop*, so the marker is a small square block of 1% alpha, which seems to work while still being effectively invisible in the final SVG image.

If *graphicx* is loaded, this marker is sized as a tiny 1 sp square. If *graphics* is loaded, this marker is used at its default size of around .25 pt. If neither *graphics* package is loaded, the marker is replaced by a 10 sp horizontal space, and there is no assistance for determining baseline or width of the inline math image. The best results are obtained when using *graphicx*.

\backslash LWR@addbaselinemarker Places a small marker in an svg inline image. If *graphics* or *graphicx* are loaded, the marker is a mostly transparent image. If neither is loaded, no marker is used.

```
11097 \AtBeginDocument{
11098
11099 \ifpdf
11100   \newcommand*\LWR@baselinename}{lwarp_baseline_marker.png}
11101 \else
11102   \ifXeTeX
11103     \newcommand*\LWR@baselinename}{lwarp_baseline_marker.png}
11104   \else
11105     \newcommand*\LWR@baselinename}{lwarp_baseline_marker.eps}
11106   \fi
11107 \fi
11108
11109 \IfFileExists{\LWR@baselinename}%
11110 {
11111   \@ifpackageloaded{graphicx}{
11112     \newcommand*\LWR@addbaselinemarker}{%
11113       \LWR@originincludegraphics{\LWR@baselinename}%
11114     }
11115   }{
11116     \@ifpackageloaded{graphics}{
11117       \newcommand*\LWR@addbaselinemarker}{%
11118         \LWR@originincludegraphics{\LWR@baselinename}%

```

```

11119     }
11120   }{
11121     \newcommand*\LWR@addbaselinemarker}{%
11122       \global\booltrue{LWR@warnbaselinemarker}%
11123     }
11124     \AtEndDocument{
11125       \ifbool{LWR@warnbaselinemarker}{
11126         \PackageWarningNoLine{lwarp}{%
11127           Load graphicx or graphics for improved\MessageBreak
11128             SVG math sizing and baselines%
11129         }
11130       }{}
11131     }
11132   }
11133 }
11134 }{% lwarp_baseline_marker.png or .eps is not present
11135   \newcommand*\LWR@addbaselinemarker}{%
11136     \global\booltrue{LWR@warnbaselinemarker}%
11137   }
11138   \AtEndDocument{
11139     \ifbool{LWR@warnbaselinemarker}{
11140       \PackageWarningNoLine{lwarp}{%
11141         File \LWR@baselinename\space is not installed\MessageBreak
11142         alongside the lwarp-*.sty files, so\MessageBreak
11143         SVG math sizing and baselines may not be accurate}
11144     }{}
11145   }
11146 }
11147
11148 }% AtBeginDocument

```

Bool LWR@warnbaselinemarker True if the math baseline marker was ever called for, but `graphics` or `graphicx` were not loaded.

```

11149 \newbool{LWR@warnbaselinemarker}
11150 \boolfalse{LWR@warnbaselinemarker}

```

Bool LWR@unknownmathsize If `Tikz` or other objects are used inside math mode, the resulting image may exceed the `TEX` box, resulting in an incorrect measurement of the size of the resulting image. If this is so, the `HTML` styles for image size and depth will be neutralized.

```

11151 \newbool{LWR@unknownmathsize}

```

`\LWR@singledollarmeasure` $\langle\textit{math expression}\rangle$

Measures the size of the image of the math expression.

(In some circumstances `svg math` is used even if `MATHJAX` is preferred.)

SVG math: `\LWR@origensuredmath` is part of argument #4.

SVG math \ensuremath: `\LWR@origensuredmath` is part of argument #4.

SVG dynamic math: `\LWR@origensuredmath` is part of argument #4.

Mathjax: Argument #4 is the contents of the math expression without `\LWR@origensuredmath`. This case is handled above.

Mathjax \ensuremath: `\LWR@origensuredmath` is part of argument #4.

Mathjax dynamic math: Argument #4 is the contents of the math expression without `\LWR@origensuredmath`, so `\LWR@origensuredmath` is added below.

\ifmmode: Included “just in case”.

Factored from `\LWR@subsingledollarsvg`.

```
11152 \newcommand*{\LWR@singledollarmeasure}[1]{%
11153   \begingroup%
```

Temporarily disable formatting while measuring the image parameters:

```
11154   \LWR@restoreorigformatting%
11155   \RenewDocumentEnvironment{lateximage}{s o s o}{\}{\}% inside group
11156   \LWR@print@normalsize%
```

Temporarily set font for the HTML PDF output:

```
11157   \LWR@setcurrentfont%
```

`lateximagedepth` must be nested to avoid generating paragraph tags. $\mathcal{A}\mathcal{M}\mathcal{S}$ math modifies the `\text` macro such that `\addtocounter` does not always occur as expected. Lower-level code is used instead.

```
11158   \global\advance\c@LWR@lateximagedepth 1\relax%
```

Typeset the math in a box. While doing so, some macros or environments may set `LWR@unknownmathsize`, in which case this will be used to cancel the HTML styles being generated here.

```
11159   \boolfalse{LWR@unknownmathsize}%
11160   \ifmmode%
11161     \global\sbox{\LWR@singledollarbox}{#1}%
11162   \else%
11163     \ifbool{LWR@dynamicmath}{%
11164       \ifbool{mathjax}{%
11165         \global\sbox{\LWR@singledollarbox}%
11166           {\LWR@origensuredmath{#1}}%
11167       }{%
11168         \global\sbox{\LWR@singledollarbox}{#1}%
11169       }%
11170     }{%
11171       \global\sbox{\LWR@singledollarbox}{#1}%
11172     }%
11173   \fi%
```

Add a small and almost transparent marker at the depth of the image.

A math minus sign has the same depth as a plus, even though it does not draw anything below the baseline. This means that *pdfcrop* would crop the image without depth. The marker below the baseline is seen by *pdfcrop* and preserves the depth.

```
11174 \global\sbox{\LWR@singledollarbox}{%
11175 \usebox{\LWR@singledollarbox}%
11176 \raisebox{-\dp\LWR@singledollarbox}{%
11177 \LWR@addbaselinemarker%
11178 }%
11179 }%
```

More low-level code to undo the counter change.

```
11180 \global\advance\c@LWR@lateximagedepth -1\relax% Due to AmS \text macro.
```

Measure the depth:

```
11181 \setlength{\LWR@singledollardepth}{%
11182 \LateximageFontScale\dp\LWR@singledollarbox%
11183 }%
```

Make the length a global change:

```
11184 \global\LWR@singledollardepth=\LWR@singledollardepth%
```

Likewise for width:

```
11185 \setlength{\LWR@singledollarwidth}{%
11186 \LateximageFontScale\wd\LWR@singledollarbox%
11187 }%
11188 \global\LWR@singledollarwidth=\LWR@singledollarwidth%
```

Likewise for total height:

```
11189 \setlength{\LWR@singledollarheight}{%
11190 \LateximageFontScale\ht\LWR@singledollarbox%
11191 }%
11192 \addtolength{\LWR@singledollarheight}{%
11193 \LateximageFontScale\dp\LWR@singledollarbox%
11194 }%
11195 \global\LWR@singledollarheight=\LWR@singledollarheight%

11196 \endgroup%
11197 }
```

```
\LWR@subsingledollarsvg * {<2: alt text>} {<3: add'l hashing>} {<4: math expression>}
```

For inline math. Uses svg math. The image is measured and adjusted to the baseline of the HTML output, and placed inside a `lateximage`.

(In some circumstances svg math is used even if MATHJAX is preferred.)

Factored from `\LWR@subsingledollar`.

```
11198 \newcommand*\LWR@subsingledollarsvg}[4]{%
```

Measure the depth, width, and height of the math image:

```
11199   \LWR@singledollarmeasure{#4}%
```

Set a style for the the height or width. The em unit is used so that the math scales according to the user's selected font size.

Start with the greater of the width or the height, biased towards the width:

```
11200   \ifdimgreater{\LWR@singledollarwidth}{.7\LWR@singledollarheight}{%
11201     \def\LWR@singledollarstyle{%
11202       width:\LWR@convertto{em}{\the\LWR@singledollarwidth} em%
11203     }%
11204   }{%
11205     \def\LWR@singledollarstyle{%
11206       height:\LWR@convertto{em}{\the\LWR@singledollarheight} em%
11207     }%
11208   }%
```

If a very narrow width, use the height.

```
11209   \ifdimless{\LWR@singledollarwidth}{.2em}%
11210   {%
11211     \def\LWR@singledollarstyle{%
11212       height:\LWR@convertto{em}{\the\LWR@singledollarheight} em%
11213     }%
11214   }%
11215   {}%
```

If very wide and short, use the width:

```
11216   \ifdimless{\LWR@singledollarheight}{.2em}%
11217   {%
11218     \def\LWR@singledollarstyle{%
11219       width:\LWR@convertto{em}{\the\LWR@singledollarwidth} em%
11220     }%
11221   }%
11222   {}%
```

If there is significant text depth, add the depth to the style.

```
11223   \ifdimgreater{\LWR@singledollardepth}{0.05ex}{%
11224     \def\LWR@singledollardepthstyle{%
11225       \ ; % extra space
11226       \LWR@print@mbx{%
11227         vertical-align:-\LWR@convertto{em}{\the\LWR@singledollardepth} em%
11228       } % extra space
11229     }%
11230   }{%
11231     \def\LWR@singledollardepthstyle{%
11232     }%
```

If using certain Tikz actions inside math, the resulting image may exceed the T_EX boundaries, so the HTML size styles may be incorrect, and must be neutralized.

```

11233   \ifbool{LWR@unknownmathsize}{%
11234     \def\LWR@singledollarstyle{}%
11235     \def\LWR@singledollardepthstyle{}%
11236   }{}%
```

Create the `lateximage` using the alternate tag and the computed size and depth. The star causes `lateximage` to use an MD5 hash as the filename. When hashing, also include the current font and color in the hash.

```

11237   \ifbool{LWR@dynamicmath}{%
11238     \LWR@traceinfo{subsingledollar: dynamic}%
11239     \begin{lateximage}% no hashing
11240       [\MathImageAltText]% alt tag
11241       []% no add'l hashing
11242       [\LWR@singledollarstyle \LWR@singledollardepthstyle]% CSS
11243   }{% not dynamic math
11244     \LWR@traceinfo{subsingledollar: static}%
11245     \IfValueTF{#1}{% #1 True
11246       \LWR@findcurrenttextcolor% sets \LWR@tempcolor
```

Support for `xfakebold`:

```

11247       \ifbool{LWR@xfakebold}%
11248         {\def\LWR@tempone{Y}}%
11249         {\def\LWR@tempone{N}}%

11250       \begin{lateximage}*% use hashing
11251         [#2]% alt
11252         *% do not add open/closing braces
11253         [% addl' hashing
11254           #3%
11255           FM\LWR@f@family%
11256           SR\LWR@f@series%
11257           SH\LWR@f@shape%
11258           SHC\LWR@f@shapecaps%
11259           CL\LWR@tempcolor%
11260           FB\LWR@tempone% xfakebold
11261         ]%
11262         [\LWR@singledollarstyle \LWR@singledollardepthstyle]% CSS
11263       }{% #1 False
11264         \begin{lateximage}% no hashing
11265           [#2]% alt
11266           []% no add'l hashing
11267           [\LWR@singledollarstyle \LWR@singledollardepthstyle]% CSS
11268         }%
11269       }% not dynamic math
```

Place small and almost transparent markers on the baseline at the left and right edges of the image. These markers are seen by *pdfcrop*, and force vertically-centered objects such as a dash to be raised off the baseline in the cropped image, and also force the total width and left/right margins to be correct. (Except that in some fonts a

character may exceed the bounding box, and thus may appear wider than expected when converted to an image.)

11270 `\LWR@addbaselinemarker%`

Support for `xfakebold`:

11271 `\LWR@applyxfakebold%`

Typeset the contents:

11272 `\usebox{\LWR@singledollarbox}%`

The closing baseline marker:

11273 `\LWR@addbaselinemarker%`

11274 `\end{lateximage}%`

11275 `%`

11276 `}`

`\LWR@subsingledollar * {<2: alt text>} {<3: add'l hashing>} {<4: math expression>}`

For inline math. Uses MathJax, or for SVG math the image is measured and adjusted to the baseline of the HTML output, and placed inside a `lateximage`.

SVG math: `\LWR@origensuredmath` is part of argument #4.

SVG math \ensuremath: `\LWR@origensuredmath` is part of argument #4.

SVG dynamic math: `\LWR@origensuredmath` is part of argument #4.

Mathjax: Argument #4 is the contents of the math expression without `\LWR@origensuredmath`. This case is handled above.

Mathjax \ensuremath: `\LWR@origensuredmath` is part of argument #4.

Mathjax dynamic math: Argument #4 is the contents of the math expression without `\LWR@origensuredmath`, so `\LWR@origensuredmath` is added below.

[image filename hashing](#) If starred, a hashed filename is used. If so, the hash is based on the `alt` tag and also the additional hashing argument.

This may be used to provide an expression with a simple `alt` tag but also enough additional information to provide a unique hash.

An example is when the expression is a complicated TEX expression, which would not copy/paste well. A simplified tag may be used, while the complicated expression is duplicated in the additional hashing argument.

Another example is when the expression is simple, but the image depends on options. These options may be decoded into text form and included in the additional hashing

argument in order to make the hash unique according to the set of options, even if the simple alt tag is still the same.

```

11277 \newlength{\LWR@singledollarwidth}
11278 \newlength{\LWR@singledollarheight}
11279 \newlength{\LWR@singledollardepth}
11280
11281 \newsavebox{\LWR@singledollarbox}
11282
11283 \NewDocumentCommand{\LWR@subsingledollar}{s m m}{%
11284   \LWR@traceinfo{\LWR@subsingledollar}%

11285   \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}%
11286   {%
11287     \LWR@traceinfo{\LWR@subsingledollar: already in a lateximage}%
11288     #4% contents
11289   }%
11290   {% not in a lateximage
11291     \begingroup%
```

Support for xfakebold:

```

11292   \LWR@applyxfakebold%
```

MathJax cannot parse the often complicated TEX expressions which appear in the various uses of `\ensuredmath`. `\ensuredmath` forces the alt tag to “(math image)”, as translated according to `\MathImageAltText`. If this is the case, force the use of a `lateximage` even if MathJax. Likewise for `siunitx` if `parse-numbers=false`.

If MathJax, or if formatting math for a word processor, and not `\ensuredmath`, and not a dynamic math expression, print the math expression:

```

11293   \ifboolexpr{%
11294     (
11295       bool{mathjax} or
11296       ( bool{FormatWP} and bool{WPMarkMath} )
11297     ) and
11298     ( not test {
11299       \ifstrequal {#2}% from \ensuredmath
11300         {\AltTextOpen\MathImageAltText\AltTextClose}
11301     }
11302     ) and
11303     ( not bool{\LWR@dynamicmath} )
11304   }%
```

For MATHJAX, print the math between `\(` and `\)`:

```

11305   {%
11306     \LWR@traceinfo{\LWR@subsingledollar: Mathjax}%
11307   {%
11308     \textbackslash(%
11309     {%
```

`\ifmmode` to avoid error about `\ttfamily` inside math mode in the case of nested math, ex. equation with `tcolorbox` with math.

```

11310             \ifmmode\else\LWR@print@ttfamily\fi%
11311             \LWR@HTMLsanitize{#4}%
11312             }%
11313             \textbackslash)%
11314             }%
11315     }% mathjax

```

For SVG, print the math inside a `lateximage`, with an `<alt>` tag of the \LaTeX code, and a `css` style to control the baseline adjustment.

```

11316     {% not mathjax
11317         \LWR@traceinfo{%
11318             LWR@subsingledollar: NOT mathjax, or is ensuremath, or is dynamic%
11319         }%
11320         \LWR@subsingledollarsvg{#1}{#2}{#3}{#4}%
11321     }% not mathjax
11322     \endgroup%
11323 }% not in a lateximage

```

Clear the single-use `alt` text:

```

11324     \gdef\LWR@ThisAltText{}%
11325     \LWR@traceinfo{LWR@subsingledollar: done}%
11326 }

```

```

11327 \LetLtxMacro\LWR@origdollar$
11328 \LetLtxMacro\LWR@secondorigdollar$% balance for editor syntax highlighting

```

```

11329 \LetLtxMacro\LWR@origopenparen\(  

11330 \LetLtxMacro\LWR@origcloseparen\  

11331 \LetLtxMacro\LWR@origopenbracket\  

11332 \LetLtxMacro\LWR@origclosebracket\]

```

\$ Redefine the dollar sign to place math inside a `lateximage`, or use `MATHJAX`:
\$\$

```

11333 \begingroup
11334 \catcode'\$=\active%
11335 \protected\gdef$\{\ifnextchar$\LWR@doubledollar\LWR@singledollar}%

```

Used by `chemformula` to escape single-dollar math:

```

11336 \protected\gdef\LWR@newsingledollar{\ifnextchar$\LWR@doubledollar\LWR@singledollar}%

```

`\LWR@doubledollar` Redefine the double dollar sign to place math inside a `lateximage`, or use `MATHJAX`:

```

11337 \protected\gdef\LWR@doubledollar$#1$${%

```

If `MATHJAX` or formatting for a word processor, print the \LaTeX expression:

```

11338 \ifboolexpr{bool{mathjax} or ( bool{FormatWP} and bool{WPMarkMath} ) }%

```

For MATHJAX, print the math between `\[` and `\]`:

```
11339 {
11340
11341   \textbackslash[%
11342   {\LWR@print@ttfamily\LWR@HTMLsanitize{#1}}%
11343   \textbackslash]
11344
11345 }% mathjax
```

For SVG, print the math inside a `lateximage`, with an `<alt>` tag of the L^AT_EX code:

```
11346 {% not mathjax
11347   \begin{BlockClass}{displaymath}%
11348   \LWR@newautoidanchor%
11349   \booltrue{LWR@indisplaymathimage}%
11350   \begin{lateximage}%
11351   [%
11352     \textbackslash{[} % extra space
11353     \LWR@HTMLsanitize{#1} % extra space
11354     \textbackslash{]}%
11355   ]%
11356   *% do not add open/closing braces
```

Support for `xfakebold`:

```
11357   \LWR@applyxfakebold%

11358   \LWR@origdollar\LWR@origdollar#1\LWR@origdollar\LWR@origdollar%
11359   \end{lateximage}%
11360   \end{BlockClass}%
11361 }% not mathjax
```

Clear the single-use `alt` text:

```
11362 \gdef\LWR@ThisAltText{}%
11363 }%
```

`\LWR@singledollar` `{<alt text>}{<math expression>}`

```
11364 \protected\gdef\LWR@singledollar#1${%
11365 \ifbool{mathjax}{%
11366   \LWR@subsingledollar*%
11367   {% alt tag
11368     \textbackslash( %
11369     \LWR@HTMLsanitize{#1} % extra space
11370     \textbackslash)%
11371   }%
11372   {singledollar}% add'l hashing
11373   {#1}% contents
11374 }{% not mathjax
11375   \LWR@subsingledollar*%
11376   {% alt tag
11377     \textbackslash( %
```

```

11378     \LWR@HTMLsanitize{#1} % extra space
11379     \textbackslash)%
11380   }%
11381   {singledollar}% add'l hashing
11382   {\LWR@origensuredmath{#1}}% contents
11383 }% not mathjax

```

Clear the single-use alt text:

```

11384 \gdef\LWR@ThisAltText{}%
11385 }

```

\(Redefine to the above dollar macros.

```

\[
11386 \AtBeginDocument{
11387   \protected\gdef\(#1\){$#1$}
11388   \protected\gdef\[#1\]{$$#1$$}
11389 }
11390
11391 \endgroup% active $

```

```

11392 \AtBeginDocument{
11393 \LetLtxMacro\LWR@openbracketnormal\[
11394 \LetLtxMacro\LWR@closebracketnormal\]
11395 }

```

\@ensuredmath {*expression*}

If MathJax, a `lateximage` is used, since `\ensuremath` is often used for complex TeX expressions which MathJax may not render. If `svg math`, a hashed file is used with a simple alt tag, but additional hashing provided by the contents.

```

11396 \LetLtxMacro\LWR@origensuredmath\@ensuredmath
11397
11398 \renewcommand{\@ensuredmath}[1]{%
11399   \ifbool{mathjax}{%
11400     \LWR@subsingledollar*\AltTextOpen\MathImageAltText\AltTextClose}%
11401     {%
11402       \protect\LWR@HTMLsanitize{\detokenize\expandafter{#1}}%
11403     }%
11404     {%
11405       \relax%
11406       \LWR@origensuredmath{#1}%
11407     }%
11408   }{% SVG math

```

If already inside a `lateximage` in math mode, continue as-is.

```

11409   \ifmmode%
11410     \LWR@origensuredmath{#1}%
11411   \else%

```


Create an inline math `lateximage` with a simple `alt` tag and additional hashing according to the contents.

```

11412         \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
11413         {\LWR@origensuredmath{#1}}%
11414         {%
11415             \LWR@subsingledollar*%
11416             {\AltTextOpen\MathImageAltText\AltTextClose}%
11417             {\protect\LWR@HTMLsanitize{\detokenize\expandafter{#1}}}%
11418             {\LWR@origensuredmath{#1}}%
11419         }%
11420     \fi%
11421 }%
```

Clear the single-use `alt` text:

```

11422     \gdef\LWR@ThisAltText{}%
11423 }
```

Remember then remove the old `math` and `displaymath` environments:

```

11424 \let\LWR@orig@math\math
11425 \let\LWR@orig@endmath\endmath
11426 \let\LWR@orig@displaymath\displaymath
11427 \let\LWR@orig@enddisplaymath\enddisplaymath
11428
11429 \let\math\relax
11430 \let\endmath\relax
11431 \let\displaymath\relax
11432 \let\enddisplaymath\relax
```

Env `math` Set `math` mode then typeset the body of what was between the `begin/end`. See the `environ` package for `\BODY`.

```

11433 \NewEnviron{math}{\expandafter\(\BODY\)}
```

Env `LWR@displaymathnormal` Set `math` mode then typeset the body of what was between the `begin/end`. See the `environ` package for `\BODY`.

```

11434 \NewEnviron{LWR@displaymathnormal}{\expandafter\[\BODY\]\ignoretrue}
```

Set the default `displaymath` to the normal version:

```

11435 \LetLtxMacro\displaymath\LWR@displaymathnormal%
11436 \LetLtxMacro\enddisplaymath\endLWR@displaymathnormal%
```

Env `LWR@displaymathother` A version of `displaymath` which can handle complicated objects, but does not supply `MATHJAX` or `HTML alt` tags.

```

11437 \newenvironment{LWR@displaymathother}
11438 {%
```

```

11439 \begin{BlockClass}{displaymath}%
11440 \LWR@newautoidanchor%
11441 \booltrue{LWR@indisplaymathimage}%
11442 \begin{lateximage}%
11443 [\MathImageAltText]%
11444 \LWR@origdollar\LWR@origdollar%
11445 }
11446 {%
11447 \LWR@origdollar\LWR@origdollar%
11448 \end{lateximage}%
11449 \end{BlockClass}%
11450 }

```

Env LWR@equationother A version of `displaymath` which can handle complicated objects, but does not supply MATHJAX or HTML alt tags.

```

11451 \newenvironment{LWR@equationother}
11452 {%
11453 \begin{BlockClass}{displaymathnumbered}%
11454 \LWR@newautoidanchor%
11455 \booltrue{LWR@indisplaymathimage}%
11456 \begin{lateximage}[\MathImageAltText]%
11457 \LWR@origequation%
11458 }
11459 {%
11460 \LWR@origendequation%
11461 \end{lateximage}%
11462 \end{BlockClass}%
11463 }

```

81.4 MATHJAX support

Ctrl LWR@nextequation Used to add one to compute the next equation number.

```
11464 \newcounter{LWR@nextequation}
```

Determining how to set MATHJAX section and equation numbers. Adjusts for various kinds of `\theequation` to determine `\theMathJaxsection` and `\theMathJaxequation`.

```

11465 \newcommand\LWR@article@theequation{\@arabic\c@equation}
11466
11467 \newcommand\LWR@book@theequation
11468 {\ifnum \c@chapter>\z@ \thechapter.\fi \@arabic\c@equation}
11469
11470
11471 \newcommand\LWR@chapter@theequation{\thechapter.\arabic{equation}}
11472 \newcommand\LWR@section@theequation{\thesection.\arabic{equation}}
11473 \newcommand\LWR@subsection@theequation{\thesubsection.\arabic{equation}}
11474
11475 \AtBeginDocument{
11476 % default per article class:
11477 \newcommand*\theMathJaxsubequations{\0}

```

```

11478 \newcommand*\theMathJaxsection{}
11479 \newcommand*\theMathJaxequation{\arabic{equation}}
11480
11481 \ifdefstrequal{\theequation}{\LWR@article@theequation}
11482 {}{
11483 \ifdefstrequal{\theequation}{\LWR@book@theequation}{
11484 \renewcommand*\theMathJaxsection{\ifnum \c@chapter>\z@ \thechapter.\fi}
11485 }{
11486 \ifdefstrequal{\theequation}{\LWR@subsection@theequation}{
11487 \renewcommand*\theMathJaxsection{\thesubsection{.}}
11488 }{
11489 \ifdefstrequal{\theequation}{\LWR@section@theequation}{
11490 \renewcommand*\theMathJaxsection{\thesection{.}}
11491 }{
11492 \ifdefstrequal{\theequation}{\LWR@chapter@theequation}{
11493 \renewcommand*\theMathJaxsection{\thechapter{.}}
11494 }{% unknown format
11495 \PackageWarningNoLine{lwarp}
11496 {%
11497 Unknown equation tag format for \protect\theequation.\MessageBreak
11498 Article-style equation numbering will be used%
11499 }
11500 }}}}
11501 }

```

`\LWR@syncmathjax` Sets the MATHJAX equation format and number for the following equations.

These MATHJAX commands are printed inside “\{” and “\}” characters. They are printed to HTML output, not interpreted by L^AT_EX.

```
11502 \newcommand*\LWR@syncmathjax}{%
```

Tell MATHJAX that the next equation number is the current L^AT_EX equation number.

Before each equation, lwarp inserts into the HTML code:

```
\seteqnumber{subequations?}{section}{number}
```

subequations? is 0 usually, 1 if inside `amsmath` subequations.

section is a string printed as-is, or empty.

number is auto-incremented by MATHJAX between equations.

Place the MATHJAX command inside “\{” and “\}” characters, to be printed to HTML, not interpreted by L^AT_EX.

```

11503 \LWR@stoppars%
11504 \InlineClass{hidden}{
11505 \textbackslash(%
11506 \textbackslash{}seteqnumber%
11507 \{\theMathJaxsubequations\}%
11508 \{\theMathJaxsection\}%

```

```

11509         \{\theMathJaxequation\}%
11510         \textbackslash)%
11511     }
11512     \LWR@startpars%
11513 }

```

`\LWR@hidelatexequation` $\langle environment \rangle$ $\langle contents \rangle$

Creates the L^AT_EX version of the equation inside an HTML comment.

```
11514 \NewDocumentCommand{\LWR@hidelatexequation}{m +m}{%
```

Stop HTML paragraph handling and open an HTML comment:

```

11515     \LWR@stoppars
11516     \LWR@htmlopencomment
11517

```

Start the L^AT_EX math environment inside the HTML comment:

```

11518     \begingroup
11519     \@nameuse{LWR@orig#1}

```

While in the math environment, restore various commands to their L^AT_EX meanings.

```

11520     \LWR@restoreorigformatting
11521     \booltrue{LWR@insidemathcomment}

```

See `\LWR@htmlmathlabel` in section 81.7.1.

Print the contents of the equation:

```
11522     #2
```

End the L^AT_EX math environment inside the HTML comment:

```

11523     \@nameuse{LWR@origend#1}
11524     \endgroup
11525

```

Close the HTML comment and resume HTML paragraph handling:

```

11526     \LWR@htmlclosecomment
11527     \boolfalse{LWR@insidemathcomment}
11528     \LWR@startpars
11529 }

```

`\LWR@addmathjax` $\langle environment \rangle$ $\langle contents \rangle$

Given the name of a math environment and its contents, create a MATHJAX instance. The contents are printed to HTML output, not interpreted by L^AT_EX.

```
11530 \NewDocumentCommand{\LWR@addmathjax}{m +m}{%
```

Enclose the MATHJAX environment inside printed “\ (“ and “\)” characters.

```
11531 \LWR@origtilde\LWR@orignewline
```

Print the environment name and contents, sanitizing for HTML special characters.

```
11532 {%
11533 \LWR@print@ttfamily%
11534 \textbackslash{}begin\{#1\}
11535 \LWR@orignewline%
11536 \LWR@HTMLsanitizeexpand{\detokenize\expandafter{#2}}%
11537 \LWR@orignewline%
11538 \textbackslash{}end\{#1\}
11539 }%

11540 \LWR@orignewline
11541 }
```

81.5 Equation environment

Remember existing equation environment, after redefined by amsmath, if loaded.

```
11542 \AtBeginDocument{
11543 \let\LWR@origequation\equation
11544 \let\LWR@origendequation\endequation
11545 \csletcs{LWR@origequation*}{equation*}
11546 \csletcs{LWR@origendequation*}{endequation*}
11547 }
```

```
\LWR@doequation {<env contents>} {<env name>}
```

For SVG math output, the contents are typeset using the original equation inside a `lateximage`, along with an `<alt>` tag containing a detokenized copy of the \LaTeX source for the math.

For MATHJAX output, the contents are typeset in an original equation environment placed inside a HTML comment, with special processing for `\labels`. The contents are also printed to the HTML output for processing by the MATHJAX script.

```
11548 \newcommand*{\LWR@doequation}[2]{%
11549
```

If `mathjax` or `FormatWP`, print the \LaTeX expression:

```
11550 \ifboolexpr{bool{mathjax} or ( bool{FormatWP} and bool{WPMarkMath} ) }%
```

MATHJAX output:

```
11551 {
```

Print commands to synchronize MATHJAX's equation number and format to the current L^AT_EX chapter/section and equation number:

```
11552      \LWR@syncmathjax%
```

Print the L^AT_EX math inside an HTML comment:

```
11553      \LWR@hidelatexequation{#2}{#1}
11554    }
```

SVG output: Create the lateximage along with an HTML <alt> tag having an equation number, the L^AT_EX equation environment commands, and the contents of the environment's \BODY.

```
11555    {% not mathjax
```

Begin the lateximage with an <alt> tag containing the math source:

```
11556      \ifstrequal{#2}{equation*}{%
11557        \begin{BlockClass}{displaymath}%
11558      }{%
11559        \begin{BlockClass}{displaymathnumbered}%
11560      }%
11561      \LWR@newautoidanchor%
11562      \booltrue{LWR@indisplaymathimage}%
11563      \begin{lateximage}[%
11564        \ifstrequal{#2}{equation*}{%
11565          \ifdefequal{\LWR@equationtag}{\theequation}{%
11566            %                               no tag was given
11567          }{%
11568            (\LWR@equationtag) % tag was given
11569          }%
11570        }{%
11571          (\LWR@equationtag) % automatic numbering
11572        }%
11573        \textbackslash{begin\{#2\}} % extra space
11574        \LWR@HTMLsanitizeexpand{\detokenize\expandafter{#1}} % extra space
11575        \textbackslash{end\{#2\}}%
11576      ]*% alt tag
```

Support for xfakebold:

```
11577      \LWR@applyxfakebold%
```

Create the actual L^AT_EX-formatted equation inside the lateximage using the contents of the environment.

```
11578      \@nameuse{LWR@orig#2}%
11579      #1 contents collected by \collect@body
11580      \@nameuse{LWR@origend#2}%
11581      \end{lateximage}%
11582      \end{BlockClass}%
11583    }% not mathjax
```

Clear the single-use alt text:

```
11584 \gdef\LWR@ThisAltText{}%
11585 }
```

After the environment, if MATHJAX, print the math to the HTML output for MATHJAX processing. If a footnote is used, sync the footnote counter before, then unsync after for non-equation environments, as defined next.

```
11586 \newcommand*\LWR@doendequation}[1]{%
11587   \ifboolexpr{bool{mathjax} or ( bool{FormatWP} and bool{WPMarkMath} ) }%
11588   {%
11589     \IfSubStr{\detokenize\expandafter{\BODY}}{\detokenize{note}}{%
11590       \InlineClass{hidden}{\LWR@syncnotenumbers}%
11591       \LWR@addmathjax{#1}{\BODY}%
11592       \InlineClass{hidden}{\LWR@syncnotenames}%
11593     }{%
11594       \LWR@addmathjax{#1}{\BODY}%
11595     }%
11596   }{%
11597 }
```

Clear the single-use alt text:

```
11598 \gdef\LWR@ThisAltText{}%
11599 }
```

The following are used to synchronize footnote marks and related to MATHJAX if **note** is used inside the MATHJAX expression. The counter is read from L^AT_EX then defined into MATHJAX for use during the following equation. After the equation, the MATHJAX value is returned to the text from `\footnotename`. Other notes may be added by appending to `\LWR@syncnotenumbers` and `\LWR@syncnotenames`.

`\LWR@synconenotenum` {*MATHJAX variable*} {*mark*}

```
11600 \newcommand*\LWR@synconenotenum}[2]{%
11601   \textbackslash(
11602   \textbackslash{def\textbackslash{#1}\{#2\}
11603   \textbackslash)
11604 }
```

`\LWR@syncnotenumbers` Assignments to make.

```
11605 \newcommand*\LWR@syncnotenumbers{\LWR@synconenotenum{\LWRfootnote}{\thefootnote}}
```

`\LWR@synconenotename` {*MATHJAX variable*} {*text*}

```
11606 \newcommand*\LWR@synconenotename}[2]{%
11607   \textbackslash(
11608   \textbackslash{def\textbackslash{#1}\{#2\}
11609   \textbackslash)
11610 }
```

`\LWR@syncnotenames` Assignments to make.

```
11611 \newcommand*\LWR@syncnotenames{\LWR@synconenotename\LWRfootnote}{\footnotename}}
```

Remove existing equation environment:

```
11612 \AtBeginDocument{
11613   \let\equation\relax
11614   \let\endequation\relax
11615   \csletcs{equation*}{relax}
11616   \csletcs{endequation*}{relax}
11617 }
```

Env `equation` The new equation environment is created with `\NewEnviron` (from the `environ` package), which stores the contents of its environment in a macro called `\BODY`.

```
11618 \AtBeginDocument{
11619   \NewEnviron{equation}%
11620     {\LWR@doequation{\BODY}{equation}}%
11621     [\LWR@doendequation{equation}]
11622
11623   \LetLtxMacro\LWR@equationnormal\equation
11624   \LetLtxMacro\endLWR@equationnormal\endequation
11625 }% AtBeginDocument
```

Env `equation*`

```
11626 \AtBeginDocument{
11627   \NewEnviron{equation*}%
11628     {\LWR@doequation{\BODY}{equation*}}%
11629     [\LWR@doendequation{equation*}]
11630
11631   \csletcs{LWR@equationnormalstar}{equation*}
11632   \csletcs{LWR@endequationnormalstar}{endequation*}
11633 }% AtBeginDocument
```

Remember the “less” version of `equation`, which uses `MATHJAX` and `alt` tags, but does not support complicated contents such as some `Tikz` expressions.

```
11634 \AtBeginDocument{
11635   \LetLtxMacro\LWR@equationless\equation
11636   \LetLtxMacro\endLWR@equationless\endequation
11637   \csletcs{LWR@equationlessstar}{equation*}
11638   \csletcs{LWR@endequationlessstar}{endequation*}
11639 }
```

81.6 `\displaymathnormal` and `\displaymathother`

`\displaymathnormal` By default, or when selecting `\displaymathnormal`, `MATHJAX` math display environments print their contents as text into `HTML` for `MATHJAX` to interpret, and `svg` display

math environments render their contents as SVG images and use their contents as the alt tag of HTML output. To do so, the contents are loaded into a macro for reuse. In some cases, such as complicated Tikz pictures, compilation will fail.

`\displaymathother` When selecting `\displaymathother`, it is assumed that the contents are more complicated than “pure” math. An example is an elaborate Tikz picture, which will not render in MATHJAX and will not make sense as an HTML alt tag. In this mode, MATHJAX is turned off, math display environments become SVG images, even if MATHJAX is selected, and the HTML alt tags become simple messages. The contents are internally processed as an environment instead of a macro argument, so complicated objects such as Tikz pictures are more likely to compile successfully.

`\displaymathnormal` Use when display math environments have simple math which is to sent to MATHJAX
simple math objects or included in HTML alt tags.

```
11640 \newcommand*{\displaymathnormal}{%
11641   \ifbool{LWR@origmathjax}{\booltrue{mathjax}}{\boolfalse{mathjax}}%
11642   \LetLtxMacro\[\LWR@openbracketnormal%
11643   \LetLtxMacro\]\LWR@closebracketnormal%
11644   \LetLtxMacro\displaymath\LWR@displaymathnormal%
11645   \LetLtxMacro\enddisplaymath\endLWR@displaymathnormal%
11646   \LetLtxMacro\equation\LWR@equationnormal%
11647   \LetLtxMacro\endequation\endLWR@equationnormal%
11648   \csletcs{equation*}{LWR@equationnormalstar}%
11649   \csletcs{endequation*}{LWR@endequationnormalstar}%
11650 }
```

`\displaymathother` Use when display math environments have complicated objects which will not work
complicated math objects with MathJax or should not be included in HTML alt tags. Complicated contents are more likely to compile correctly.

```
11651 \newcommand*{\displaymathother}{%
11652   \boolfalse{mathjax}%
11653   \LetLtxMacro\displaymath\LWR@displaymathother%
11654   \LetLtxMacro\enddisplaymath\endLWR@displaymathother%
11655   \LetLtxMacro\[\LWR@displaymathother%
11656   \LetLtxMacro\]\endLWR@displaymathother%
11657   \LetLtxMacro\equation\LWR@equationother%
11658   \LetLtxMacro\endequation\endLWR@equationother%
11659   \csletcs{equation*}{displaymath}%
11660   \csletcs{endequation*}{enddisplaymath}%
11661 }
```

```
11662 \end{warpHTML}
```

for PRINT output: 11663 \begin{warpprint}

Print-mode versions:

```
11664 \newcommand*{\displaymathnormal}{%
11665 \newcommand*{\displaymathother}{%}
```

```
11666 \end{warpprint}
```

for HTML output: 11667 \begin{warpHTML}

81.7 AMS Math environments

81.7.1 Support macros

Bool LWR@amsmultline True if processing a multiline environment.

To compensate for multiline-specific code, LWR@amsmultline is used to add extra horizontal space in \LWR@htmlmathlabel if is used in an amsmath environment which is not a multiline environment and not an equation.

```
11668 \newbool{LWR@amsmultline}
11669 \boolfalse{LWR@amsmultline}
```

\LWR@beginhideamsmath Starts hiding L^AT_EX math inside an HTML comment.

```
11670 \newcommand*{\LWR@beginhideamsmath}{
11671   \LWR@stoppars
11672   \LWR@origtilde\LWR@orignewline
11673   \LWR@htmlopencomment
11674
11675   \begingroup
11676   \LWR@restoreorigformatting
11677   \booltrue{LWR@insidemathcomment}
11678 }
```

\LWR@endhideamsmath Ends hiding L^AT_EX math inside an HTML comment.

```
11679 \newcommand*{\LWR@endhideamsmath}{
11680   \endgroup
11681
11682   \LWR@htmlclosecomment
11683   \boolfalse{LWR@insidemathcomment}
11684   \LWR@orignewline
11685   \LWR@startpars
11686 }
```

81.7.2 Environment patches

The amsmath environments already collect their contents in \@envbody for further processing. eqnarray is not an \mathcal{AMS} package, and thus requires special handling.

For SVG math: Each environment is encapsulated inside a lateximage environment, along with a special optional argument of \LWR@amsmathbody or \LWR@amsmathbodynumbered telling lateximage to use as the HTML <alt> tag the environment's contents which were automatically captured by the \mathcal{AMS} environment.

For MATHJAX: Each environment is syched with L^AT_EX's equation numbers, typeset with L^AT_EX inside an HTML comment, then printed to HTML output for MATHJAX to process.

Env eqnarray This environmnet is not an $\mathcal{A}\mathcal{M}\mathcal{S}$ environment and thus its body is not automatically captured, so the `environ` package is used to capture the environment into `\BODY`.

```
11687 \let\LWR@origeqnarray\eqnarray
11688 \let\LWR@origendeqnarray\endeqnarray
```

To remember whether the starred environment was used, and thus whether to number the equations:

```
11689 \newbool{LWR@numbereqnarray}
11690 \booltrue{LWR@numbereqnarray}
```

Common code used by eqnarray and Beqnarray (from fancybox):

```
11691 \newcommand{\LWR@eqnarrayfactor}{%
```

If mathjax or FormatWP, print the L^AT_EX expression:

```
11692 \ifboolexpr{bool{mathjax} or ( bool{FormatWP} and bool{WPMarkMath} ) }%
11693 {%
```

If MATHJAX, the environment contents (the `\BODY`) are executed in a HTML comment to trigger the correct equation number increment (if not starred), then are included verbatim in the output for MATHJAX to interpret:

```
11694 \LWR@syncmathjax%
11695 \boolfalse{LWR@amsmultline}%
11696 \ifbool{LWR@numbereqnarray}%
11697 {%
```

If numbering the equations, execute a copy inside an HTML comment block:

```
11698 \LWR@beginhideamsmath%
11699 \LWR@origeqnarray%
11700 \BODY%
11701 \LWR@origendeqnarray%
11702 \LWR@endhideamsmath%
```

Then print the (sanitized) contents to the output for MATHJAX to interpret:

```
11703 \LWR@addmathjax{eqnarray}{\BODY}%
11704 }%
11705 {% not LWR@numbereqnarray
```

If not numbering equations, just create the contents for MATHJAX:

```
11706 \LWR@addmathjax{eqnarray*}{\BODY}%
11707 }% LWR@numbereqnarray
```

```

11708   }% mathjax
11709   {% not mathjax
11710     \ifbool{LWR@numbreqnarray}%
11711     {%

```

For numbered svg equations, first create a `lateximage` with an `alt` attribute containing sanitized copy of the source code:

```

11712         \begin{BlockClass}{displaymathnumbered}%
11713         \LWR@newautoidanchor%
11714         \booltrue{LWR@indisplaymathimage}%
11715         \begin{lateximage}[(\LWR@startingequationtag\textendash\LWR@equationtag)%
11716         \LWR@addmathjax{eqnarray}{\BODY}]*%

```

Support for `xfakebold`:

```

11717         \LWR@applyxfakebold%

```

Create the image contents using an actual `eqnarray`:

```

11718         \LWR@origeqnarray%
11719         \BODY%
11720         \LWR@origendeqnarray%
11721         \end{lateximage}%
11722         \end{BlockClass}%
11723     }%
11724   {% not LWR@numbreqnarray

```

If not numbered, do the same, but an extra `\nonumber` seems to be required:

```

11725         \begin{BlockClass}{displaymath}%
11726         \LWR@newautoidanchor%
11727         \booltrue{LWR@indisplaymathimage}%
11728         \begin{lateximage}[(\LWR@addmathjax{eqnarray*}{\BODY})*%

```

Support for `xfakebold`:

```

11729         \LWR@applyxfakebold%

11730         \def\@eqnrcr{\nonumber\@seqnrcr}
11731         \csuse{LWR@origeqnarray}%
11732         \BODY%
11733         \nonumber\csuse{LWR@origendeqnarray}%
11734         \end{lateximage}%
11735         \end{BlockClass}%
11736     }% LWR@numbreqnarray
11737   }% not mathjax

```

Default to number equations in the future:

```

11738     \booltrue{LWR@numbreqnarray}%

```

Clear the single-use `alt` text:

```
11739 \gdef\LWR@ThisAltText{%
11740 }
```

eqnarray itself is made with a blank line before and after to force it to be on its own line:

```
11741 \RenewEnviron{eqnarray}
11742 {%
11743
11744 \LWR@eqnarrayfactor
11745
11746 }
```

The starred version is patched to turn off the numbering:

```
11747 \csgpreto{eqnarray*}{\boolfalse{LWR@numbereqnarray}}
11748 \end{warpHTML}
```

82 Lateximages

82.1 Description

Env `lateximage` A `lateximage` is a piece of the document which is typeset in \LaTeX then included in the HTML output as an image. This is used for math if `svg math` is chosen, and also for the `picture`, `tikzpicture`, and other environments.

Before typesetting the `lateximage` a large number of formatting, graphics, and symbols-related macros are temporarily restored to their print-mode meaning by `\LWR@restoreorigformatting`. (See section 79.)

A `lateximage` is typeset on its own PDF page inside an HTML comment which starts on the preceding page and ends on following page, and instructions are written to `lateximage.txt` for `lwarpmk` to extract the `lateximage` from the page of the PDF file then generate an accompanying `.svg` file image file. Meanwhile, instructions to show this image are placed into the HTML file after the comment.

An HTML `` is created to hold both the HTML comment, which will have the `pdfotext` conversion, and also the link to the final `.svg` image.

A \LaTeX label is used to remember which PDF page has the image. A label is used because footnotes, endnotes, and pagenotes may cause the image to appear at a later time. The label is declared along with the image, and so it correctly remembers where the image finally ended up.

HTML alt tag The HTML `alt` tag is set to the \LaTeX source for `svg math`, some chemistry expressions, and perhaps some other expressions which make sense for text copy/paste. In some other cases, the `alt` tag is set according to the package name.

When creating an `svg math` image, its HTML `alt` tag may be set to the math expression, which may be hashed for image reuse. In the case of `\ensuremath` or after

`\inlinemathother`, where the contents require a unique image for each instance of the same expression, the `alt` tag is set to `\MathImageAltText`, along with `\AltTextOpen` and `\AltTextClose`, and the image is not reused.

This `alt` expression is visible in the browser if images are not loaded, and appears when the text is copied and pasted. The default is “math image”, and it may be changed according to the document’s language. This may be set in the preamble, or changed as necessary inside the document, where it will affect the following `svg` math images.

For many packages, the output is placed inside a `lateximage` with an `HTML alt` tag set to the package name followed by `\PackageDiagramAltText`. For example:

```
(-xy- diagram)
```

This expression is visible in the browser if images are not loaded, and appears when the text is copied and pasted. The default is “diagram”, and may it be changed according to the document’s language. This may be set in the preamble, or changed as necessary inside the document, where it will affect the following package diagrams.

svg image font size For the `lateximage` environment, the size of the math and text used in the `svg` image may be adjusted by setting `\LateximageFontSizeName` to a font size name — *without the backslash*, which defaults to:

```
\renewcommand{\LateximageFontSizeName}{normalsize}
```

For inline `svg` math, font size is instead controlled by `\LateximageFontScale`, which defaults to:

```
\newcommand*{\LateximageFontScale}{.75}
```

82.2 Support counters and macros

for HTML output: 11749 `\begin{warpHTML}`

Ctrl LWR@`lateximagenumber` Sequence the images.

```
11750 \newcounter{LWR@lateximagenumber}
11751 \setcounter{LWR@lateximagenumber}{0}
```

Ctrl LWR@`lateximagedepth` Do not create `\lateximage` inside of `\lateximage`.

```
11752 \newcounter{LWR@lateximagedepth}
11753 \setcounter{LWR@lateximagedepth}{0}
```

A few utility macros to write special characters:

```
11754 \edef\LWR@hashmark{\string#} % for use in \write
11755 \edef\LWR@percent{\@percentchar} % for use in \write
```

Ctrl LWR@`LIPage` Used to reference the PDF page number of a `lateximage` to be written into `<project>-images.txt`.


```
11756 \newcounter{LWR@LIPage}
```

```
11757 \end{warpHTML}
```

82.3 Font size

for HTML & PRINT: 11758 \begin{warpall}

`\LateximageFontSizeName` Declares how large to write text in `\lateximages`. The `.svg` file text size should blend well with the surrounding HTML text size.

 **no backslash** *Do not include the leading backslash in the name.*

```
11759 \newcommand*{\LateximageFontSizeName}{normalsize}
```

`\LateximageFontScale` Declares how large to scale inline SVG math images. The `.svg` file text size should blend well with the surrounding HTML text size. The default is 1, but it may be redefined as needed depending on the HTML font.

```
11760 \newcommand*{\LateximageFontScale}{1}
```

```
11761 \end{warpall}
```

82.4 Equation numbers

for HTML output: 11762 \begin{warpHTML}

`Ctrl LWR@startingequation` For use with `lateximage` and multi-line numbered equations. Remembers the next equation number so that it may be printed in the alt tag.

```
11763 \newcounter{LWR@startingequation}
11764
11765 \@ifundefined{chapter}
11766 {
11767 \renewcommand{\theLWR@startingequation}{%
11768   \arabic{LWR@startingequation}%
11769 }
11770 }
11771 {% chapter defined
11772 \renewcommand{\theLWR@startingequation}{%
11773   \ifnumcomp{\value{chapter}}{>}{0}{\arabic{chapter}.}{}%
11774   \arabic{LWR@startingequation}%
11775 }
11776 }
```

`Bool LWR@isstartingequation` True for the first equation tag, false for later tags in the same environment.

```
11777 \newbool{LWR@isstartingequation}
```

`\LWR@startingequationtag` Prints the starting equation number or tag.

```
11778 \let\LWR@startingequationtag\theLWR@startingequation
```

`\LWR@equationtag` Prints the ending equation number or tag.

This is reset by `lateximage`, may be temporarily overwritten by `\tag` calling `\LWR@remembertag`.

```
11779 \newcommand*\LWR@equationtag{}
```

Only if `svg math`, patch `\tag` after packages have loaded, in case someone else modified `\tag`.

```
11780 \AtBeginDocument{
11781
11782 \ifbool{mathjax}{}{% not mathjax
```

`\LWR@remembertag` `{<tag>}`

For use inside the math environments while using `svg math`. Sets `\theLWR@startingequation` and `\theequation` to the given tag.

```
11783 \NewDocumentCommand{\LWR@remembertag}{m}{%
11784   \ifbool{LWR@isstartingequation}%
11785   {%
11786     \global\boolfalse{LWR@isstartingequation}%
11787     \xdef\LWR@startingequationtag{#1}%
11788   }{%
11789     \xdef\LWR@equationtag{#1}%
11790 }%

11791 }% not mathjax
11792 }% AtBeginDocument
```

82.5 HTML alt tags

`\LWR@amsmathbody` `{<envname>}` For use inside the optional argument to a `lateximage` to add the contents of a AMS math environment to the `<alt>` tag.

```
11793 \newcommand*\LWR@amsmathbody[1]
11794 {%
11795   \textbackslash\{begin\}\{#1\} % extra space
11796   \LWR@HTMLSanitizeExpand{\detokenize\expandafter{\the\@envbody}}%
11797   \textbackslash\{end\}\{#1\}%
11798 }
```

`\LWR@amsmathbodynumbered` `{<envname>}` For use inside the optional argument to a `lateximage` to add the contents of a AMS math environment to the `alt` tag, prefixed by the equation numbers.


```

11799 \newcommand*{\LWR@amsmathbodynumbered}[1]
11800 {%
11801     \ifnumcomp{\value{LWR@startingequation}}{=}{\value{equation}}%
11802         {(\LWR@equationtag)}%
11803         {(\LWR@startingequationtag\textendash\LWR@equationtag)} % extra space
11804     \LWR@amsmathbody{#1} % extra space
11805 }

```

82.6 lateximage environment

`\LWR@lateximage@oneimageb` $\langle 1: alt\ text \rangle \langle 2: filename \rangle \langle 3: CSS\ style \rangle$ Creates the image for the lateximage.

```

11806 \newcommand{\LWR@lateximage@oneimageb}[3]{%
11807     \LWR@subinlineimage{#1}{lateximage}%
11808     {%
11809         \LWR@print@mbox{%
11810             \LWR@ImagesDirectory\OSPathSymbol%
11811             #2%
11812         }%
11813     }{svg}{#3}%
11814 }

```

`\LWR@lateximage@oneimage` $\langle 1: alt\ text \rangle \langle 2: filename \rangle \langle 3: css\ style \rangle \langle 4: delimit? \rangle$

Creates an image for the lateximage, whose alt text depends on the circumstances.

```

11815 \newcommand{\LWR@lateximage@oneimage}[4]{%
11816     \ifdefvoid{\LWR@ThisAltText}{%
11817         \IfBooleanTF{#4}{%
11818             \LWR@lateximage@oneimageb{#1}{#2}{#3}%
11819         }{%
11820             \LWR@lateximage@oneimageb%
11821                 {\AltTextOpen#1\AltTextClose}%
11822                 {#2}{#3}%
11823         }%
11824     }{%
11825         \LWR@lateximage@oneimageb%
11826             {\AltTextOpen\LWR@ThisAltText\AltTextClose}%
11827             {#2}{#3}%
11828     }%
11829 }

```

Env `lateximage` * $\langle 2: <alt>\ tag \rangle$ * $\langle 4: add'l\ hashing \rangle$ $\langle 5: css\ style \rangle$

Typesets the contents and then renders the result as an svg file. Star #1 causes the image to be hashed for reuse. Star #3 causes the alt tag to not include `\AltTextOpen` and `\AltTextClose`, for use with math expressions.

The optional `<alt>` tag is included in the HTML code for use with copy/paste.

[image filename hashing](#) If starred, a hashed filename is used. If so, the hash is based on the alt tag and also the additional hashing argument.

This may be used to provide an expression with a simple `alt` tag but also enough additional information to provide a unique hash.

An example is when the expression is a complicated `TEX` expression, which would not copy/paste well. A simplified tag may be used, while the complicated expression is duplicated in the additional hashing argument.

Another example is when the expression is simple, but the image depends on options. These options may be decoded into text form and included in the additional hashing argument in order to make the hash unique according to the set of options, even if the simple `alt` tag is still the same.

File `*_html.aux` A new label is placed into the file `*_html.aux`:

```
\newlabel{LWRlateximage-<BaseJobname>-<number>}{{<x>}{<y>}}
```

This is used to find the image in the `PDF` file, according to its name.

File `*-images.txt` A list of images to generate is created in `<jobname>-images.txt`. Each line has three pipe-delimited fields, containing the `PDF` page number from `<jobname>_html.pdf`, where the image is located, a boolean indicating whether the image is hashed, and the filename of the image. The last line has “end” in each field, and is used to detect an incomplete compile.

```
11830 \catcode'\$=\active%
11831
11832 \NewDocumentEnvironment{lateximage}{s O{\ImageAltText} s O{} O{}}
11833 {%
11834 \LWR@traceinfo{lateximage: starting on \jobname.pdf page \arabic{page}}%
11835 \LWR@traceinfo{lateximage: entering depth is \arabic{LWR@lateximagedepth}}%
```

Nested `lateximages` remain one large `lateximage`:

```
11836 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
```

If nesting inside an already-existing `lateximage`, simply record one more level. *AMS* packages redefine `\addtocounter` to do nothing if inside a `\text`, so lower-level `TEX` macros are used for tracking nested `lateximages`.

```
11837 {%
11838 % \addtocounter{LWR@lateximagedepth}{1}%
11839 \global\advance\c@LWR@lateximagedepth 1\relax% Due to AmS \text macro.
11840 }%
```

Otherwise, this is the outer-most `lateximage`:

```
11841 {% start of outer-most lateximage
```

Remember the next equation number to be allocated, in case it must be printed in a multi-equation environment:

```
11842 \LWR@traceinfo{lateximage: starting outer-most lateximage}%
```

```

11843 \setcounter{LWR@startingequation}{\value{equation}}%
11844 \addtocounter{LWR@startingequation}{1}%
11845 \booltrue{LWR@isstartingequation}%
11846 \let\LWR@startingequationtag\theLWR@startingequation%

```

The default equation tag, unless overwritten by `\tag`:

```

11847 \let\LWR@equationtag\theequation%

```

Starting a new lateximage:

```

11848 \addtocounter{LWR@lateximagenumber}{1}%
11849 \LWR@traceinfo{lateximage: LWR@lateximagenumber is \arabic{LWR@lateximagenumber}}%

```

While inside a lateximage, locally do not use mathjax:

```

11850 \boolfalse{mathjax}%

```

Be sure that are doing a paragraph:

```

11851 \LWR@ensuredoingapar%

```

Next file:

```

11852 \addtocounter{LWR@externalfilecnt}{1}%
11853 \LWR@traceinfo{lateximage: LWR@externalfilecnt is \arabic{LWR@externalfilecnt}}%

```

Figure out what the next page number will be. `\setcounterpageref` assigns `LWR@LIpage` to the page number for the reference `LWR\lateximage-BaseJobname-XXX`:

```

11854 \setcounterpageref{LWR@LIpage}{%
11855     LWR\lateximage-\BaseJobname-\arabic{LWR@lateximagenumber}%
11856 }%
11857 \LWR@traceinfo{lateximage: LWR@LIpage is \arabic{LWR@LIpage}}%

```

Create an HTML span which will hold the comment which contains the *pdftotext* translation of the image's page, and also will hold the link to the .svg file:

```

11858 \LWR@htmltag{span\LWR@indentHTML%
11859     id="lateximage-\BaseJobname-\arabic{LWR@lateximagenumber}"\LWR@indentHTML
11860     class="lateximagesource"\LWR@originewline
11861 }%

```

Write instructions to the `<ImagesDirectory>.txt` file:

```

11862 \LWR@traceinfo{lateximage: about to write to \BaseJobname-images.txt}%
11863 \IfBooleanTF{#1}% starred
11864 {% hash

```

Compute and save the hashed file name for later use:

```

11865 \ifdefvoid{\LWR@ThisAltText}{%
11866     \IfBooleanTF{#3}{%

```

```

11867         \edef\LWR@hashedname{%
11868             \LWR@mdfive{\detokenize\expandafter{#2}-!-#4}%
11869         }%
11870     }{%
11871         \edef\LWR@hashedname{%
11872             \LWR@mdfive{\detokenize\expandafter{\AltTextOpen#2\AltTextClose}-!-#4}%
11873         }%
11874     }%
11875 }{%
11876     \edef\LWR@hashedname{%
11877         \LWR@mdfive{\detokenize\expandafter{\AltTextOpen\LWR@ThisAltText\AltTextClose}-!-#4}%
11878     }%
11879 }%
11880 \LWR@traceinfo{lateximage: hash is \LWR@hashedname}%

```

Write the page, hashing, and hashed name:

```

11881     \immediate\write\LWR@lateximagesfile{%
11882         |\arabic{LWR@LPage}|true|\LWR@hashedname|%
11883     }%
11884 }% hash
11885 {% no hash

```

No hash, so write the page, no hashing, and the image number:

```

11886     \LWR@traceinfo{lateximage: hash false}%
11887     \immediate\write\LWR@lateximagesfile{%
11888         |\arabic{LWR@LPage}|false|\LWR@ImagesName\arabic{LWR@externalfilecnt}|}%
11889     }%
11890 }% no hash

```

Place an open comment tag. This will hide any traces of the lateximage PDF page which were picked up by *pdftotext*.

```

11891     \LWR@traceinfo{lateximage: about to create open comment}%
11892     \LWR@htmlopencomment%

```

One level deeper. At this outer-most lateximage, it is known that this is not being used inside an \mathcal{AMS} \text, since the outer-most level will never be in math mode.

```

11893     \addtocounter{LWR@lateximagedepth}{1}%

```

Start the new PDF page:

```

11894     \LWR@traceinfo{lateximage: about to create a new page}%
11895     \LWR@maybe@orignewpage%

```

If the current page is larger, typeset the image in a “standard” width page and font size:

```

11896     \LWR@traceinfo{lateximage: about to create minipage}%
11897     \ifdimless{\linewidth}{6in}{%
11898         \LWR@print@minipage{\linewidth}%
11899     }{%

```

```

11900     \LWR@print@minipage{6in}%
11901     }%
11902     \@nameuse{LWR@print@LateximageFontSizeName}%

```

Temporarily restore formatting to its PDF definitions: Do not produce HTML tags for \hspace, etc. inside a lateximage.

```

11903     \LWR@traceinfo{lateximage: about to temporarily restore formatting}%
11904     \LWR@restoreorigformatting%

```

Use full-page footnotes instead of minipage footnotes. These become HTML footnotes.

```

11905     \def\@mpfn{footnote}%
11906     \def\thempfn{\thefootnote}%
11907     \LetLtxMacro\@footnotetext\LWR@footnotetext%

```

Create the LWRlateximage<number> label:

```

11908     \LWR@traceinfo{lateximage: about to create label}%
11909     \LWR@orig@label{LWRlateximage-BaseJobname-\arabic{LWR@lateximagenumber}}%
11910     \LWR@traceinfo{lateximage: finished creating the label}%

```

Adjust the rule color to match HTML:

```

11911     \ifdefvoid{\LWR@ruleHTMLcolor}{}{%
11912         \LWR@print@arrayrulecolor[HTML]{\LWR@ruleHTMLcolor}%
11913     }%

```

Enable print-mode math functions:

```

11914     \LetLtxMacro$\LWR@origdollar%
11915     \catcode'\$=3% math shift
11916     \LetLtxMacro\(\LWR@origopenparen%
11917     \LetLtxMacro\)\LWR@origcloseparen%

```

Only enable print-mode display math if are not already inside display math:

```

11918     \ifbool{LWR@indisplaymathimage}{}{% not in display math
11919         \LetLtxMacro\[\LWR@origopenbracket%
11920         \LetLtxMacro\]\LWR@origclosebracket%
11921         \let\equation\LWR@origequation%
11922         \let\endequation\LWR@origendequation%
11923         \csletcs{equation*}{LWR@origequation*}%
11924         \csletcs{endequation*}{LWR@origendequation*}%
11925     }% not in display math

```

For chemformula:

```

11926     \LetLtxMacro\LWR@newsingledollar$%
11927     \LetLtxMacro\LWR@newsingledollar$% syntax highlighting

```

```

11928 }% end of outer-most lateximage
11929 \LWR@traceinfo{lateximage: finished start of environment}%
11930 }% end of \begin{lateximage}

```

`\endlateximage` When the environment closes:

```
11931 {% start of \end{lateximage}
11932 \LWR@traceinfo{lateximage: starting end of lateximage}%
```

Nested more than one deep?

```
11933 \LWR@traceinfo{lateximage: internal depth was \arabic{LWR@lateximagedepth}}%
11934 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{1}%
```

If nesting inside an already existing lateximage, simply record one less level. Uses a lower-level T_EX macro due to *A_MS* \text change of `\addtocounter`.

```
11935 {%
11936   \LWR@traceinfo{lateximage: unnesting}%
11937   \global\advance\c@LWR@lateximagedepth -1\relax%
11938 }%
```

If this is the outer-most lateximage:

```
11939 {% end of outer-most lateximage
```

Finish the lateximage minipage and start a new PDF page:

```
11940 \LWR@traceinfo{lateximage: ending outer-most lateximage}%
11941   \endLWR@print@minipage%
11942   \LWR@maybe@orignewpage%
```

Close the HTML comment which encapsulated any traces of the lateximage picked up by *pdftotext*:

```
11943   \LWR@print@vspace*{.5\baselineskip}%
11944   \LWR@htmlclosecomment%
11945   \LWR@traceinfo{lateximage: The page after the image is \arabic{page}}%
```

Create a link to the lateximage, allowing its natural height:

```
11946   \IfBooleanTF{#1}% starred
11947   {% hash
11948     \LWR@lateximage@oneimage{#2}{\LWR@hashedname}{#5}{#3}%
11949   }% hash
11950   {% no hash
11951     \LWR@lateximage@oneimage{#2}{\LWR@ImagesName\theLWR@externalfilecnt}{#5}{#3}%
11952   }% no hash
```

Be sure that are doing a paragraph:

```
11953   \LWR@ensuredoingapar%
```

Close the HTML span which has the *pdftotext* comment and also the link to the .svg image:

```
11954   \LWR@htmltag{/span}%
```

```

11955 \ifbool{HTMLDebugComments}{%
11956   \LWR@htmlcomment{End of lateximage}%
11957 }{}%

```

Undo one lateximage level. This is not inside an \mathcal{AMS} \text, so regular \addtocounter may be used here.

```

11958 \addtocounter{LWR@lateximagedepth}{-1}%

```

Clear the single-use alt text:

```

11959 \gdef\LWR@ThisAltText{}%
11960}% end of outer-most lateximage
11961 \LWR@traceinfo{lateximage: exiting depth is \arabic{LWR@lateximagedepth}}%
11962 \LWR@traceinfo{lateximage: done}%
11963}%
11964 \catcode'\$=3% math shift
11965 \end{warpHTML}

```

for PRINT output: 11966 \begin{warpprint}

Env lateximage * [\langle alt tag \rangle] * [*add'l hashing*] [*css style*]

varwidth is used to create a box of the natural width of its contents.

```

11967 \NewDocumentEnvironment{lateximage}{s o s o o}
11968   {\begin{varwidth}[b]{\linewidth}}
11969   {\end{varwidth}}

```

```

11970 \end{warpprint}

```

83 center, flushleft, flushright

for HTML output: 11971 \begin{warpHTML}

Env center Replace center functionality with css tags:

```

11972 \newenvironment*{LWR@HTML@center}
11973 {
11974   \LWR@forcenewpage
11975   \ifbool{FormatWP}
11976     {\BlockClass[LWR@print@mbbox{text-align:center}]{center}}
11977     {\BlockClass{center}}
11978 }
11979 {\endBlockClass}
11980
11981 \LWR@formattedenv{center}

```

Env flushright

```

11982 \newenvironment*{LWR@HTML@flushright}
11983 {
11984     \LWR@forcenewpage
11985     \ifbool{FormatWP}
11986         {\BlockClass[\LWR@print@mbbox{text-align:right}]{flushright}}
11987         {\BlockClass{flushright}}
11988 }
11989 {\endBlockClass}
11990
11991 \LWR@formattedenv{flushright}

```

Env flushleft

```

11992 \newenvironment*{LWR@HTML@flushleft}
11993 {
11994     \LWR@forcenewpage
11995     \ifbool{FormatWP}
11996         {\BlockClass[\LWR@print@mbbox{text-align:left}]{flushleft}}
11997         {\BlockClass{flushleft}}
11998 }
11999 {\endBlockClass}
12000
12001 \LWR@formattedenv{flushleft}

```

`\centering`, `\raggedleft`, and `\raggedright` usually have no effect on the HTML output, but they may be used to compare with the next token to identify their use at the start of a float. See `\LWR@floatalignment`.

`\centering`

```

12002 \newcommand*{\LWR@HTML@centering}{%
12003     \ifbool{HTMLDebugComments}{%
12004         \LWR@htmlcomment{centering}%
12005     }{}%
12006 }
12007 \LWR@formatted{centering}

```

`\raggedleft`

```

12008 \newcommand*{\LWR@HTML@raggedleft}{%
12009     \ifbool{HTMLDebugComments}{%
12010         \LWR@htmlcomment{raggedleft}%
12011     }{}%
12012 }
12013 \LWR@formatted{raggedleft}

```

`\raggedright`

```

12014 \newcommand*{\LWR@HTML@raggedright}{%

```



```

12015 \ifbool{HTMLDebugComments}{%
12016 \LWR@htmlcomment{raggedright}%
12017 }{}%
12018 }
12019 \LWR@formatted{raggedright}

```

`\leftline` $\{\langle text \rangle\}$

```
12020 \renewcommand{\leftline}[1]{\begin{flushleft}#1\end{flushleft}}
```

`\centerline` $\{\langle text \rangle\}$

```
12021 \renewcommand{\centerline}[1]{\begin{center}#1\end{center}}
```

`\rightline` $\{\langle text \rangle\}$

```
12022 \renewcommand{\rightline}[1]{\begin{flushright}#1\end{flushright}}
```

```
12023 \end{warpHTML}
```

84 Preloaded packages

for HTML output: 12024 `\begin{warpHTML}`

If the given package was loaded before or by lwarp, load the lwarp version as well.

`\LWR@PreloadedPackage` $\{\langle packagename \rangle\}$

```

12025 \newcommand*\LWR@PreloadedPackage[1]{%
12026 \ifpackageloaded{#1}%
12027 {%
12028 \AtBeginDocument{
12029 \LWR@origRequirePackage{lwarp-#1}%
12030 }
12031 }%
12032 }%
12033 }

```

If `inputtrc` was loaded before lwarp, as is usually done, explicitly load the lwarp patches now:

```
12034 \LWR@PreloadedPackage{inputtrc}
```

If `textcomp` was loaded before lwarp, perhaps as part of the font-related packages, explicitly load the lwarp patches now:

```
12035 \LWR@PreloadedPackage{textcomp}
```

If `xunicode` was loaded before `lwarp`, perhaps as part of the font-related packages, explicitly load the `lwarp` patches now:

```
12036 \LWR@PreloadedPackage{xunicode}
```

If `graphics` or `graphicx` were loaded before `lwarp`, perhaps by `xunicode`, explicitly load the `lwarp` patches now:

```
12037 \LWR@PreloadedPackage{graphics}
```

```
12038 \LWR@PreloadedPackage{graphicx}
```

`scalegnt` may have been preloaded by `babel`

```
12039 \LWR@PreloadedPackage{scalegnt}
```

`fontaxes` must be preloaded so that `lwarp` may patch it for `HTML`.

```
12040 \LWR@PreloadedPackage{fontaxes}
```

Various font packages which may be loaded before `lwarp`:

```
12041 \LWR@PreloadedPackage{cmbright}
```

```
12042 \LWR@PreloadedPackage{fourier}
```

```
12043 \LWR@PreloadedPackage{kpfonts}
```

```
12044 \LWR@PreloadedPackage{kpfonts-otf}
```

```
12045 \LWR@PreloadedPackage{libertinust1math}
```

```
12046 \LWR@PreloadedPackage{pxfonts}
```

```
12047 \LWR@PreloadedPackage{txfonts}
```

```
12048 \LWR@PreloadedPackage{txgreek}
```

```
12049 \LWR@PreloadedPackage{newpxmath}
```

```
12050 \LWR@PreloadedPackage{newtxmath}
```

```
12051 \LWR@PreloadedPackage{newtxsf}
```

```
12052 \LWR@PreloadedPackage{mathalpha}
```

```
12053 \LWR@PreloadedPackage{unicode-math}
```

`nfssex-cfr` may be preloaded by `cfm-lm` or related font packages.

```
12054 \LWR@PreloadedPackage{nfssex-cfr}
```

`ulem` may be preloaded by `ctex`, `ctexart`, and related classes.

```
12055 \LWR@PreloadedPackage{ulem}
```

`xetexko-vertical` may be preloaded by `xetexko`.

```
12056 \LWR@PreloadedPackage{xetexko-vertical}
```

`geometry` is preloaded by `lwarp`, and perhaps by various classes.

```
12057 \LWR@PreloadedPackage{geometry}
```

`plext` is preloaded by some CJK classes.

```
12058 \LWR@PreloadedPackage{plext}
```

stfloats is preloaded by ltj* classes.

```
12059 \LWR@PreloadedPackage{stfloats}
```

lltjext is preloaded by ltj* classes.

```
12060 \LWR@PreloadedPackage{lltjext}
```

luatexko must be loaded before lwarp.


```
12061 \LWR@PreloadedPackage{luatexko}
```


```
12062 \end{warpHTML}
```


85 siunitx

Pkg siunitx The lwarp core passes a few options to siunitx.

fractions Due to *pdftotext* limitations, fraction output is replaced by symbol output for per-mode and quotient-mode.

 **math mode required** Some units will require that the expression be placed inside math mode.


 **tabular** Tabular S columns are rendered as simple c columns, and tabular s columns are not supported. These may be replaced by c columns with each cell contained in \num or \si.


 **MathJax** For math mode with svg display, the original siunitx code is used while generating the svg image. For text mode, lwarp uses an emulation which provides a very effective HTML interpretation of siunitx. For math expressions while using MATHJAX, a limited emulation is used. Most functions work reasonably well, but many options cannot be emulated. siunitx macros with more than one optional value cannot absorb the second optional value, and complicated parsing such as for \ang is not supported. The result usually looks fine, and otherwise is enough to get the meaning across.

lwarp's MATHJAX emulation for siunitx is meant to be a stop-gap measure until an extension is included in MATHJAX. As of this writing, the third-party siunitx extension for MATHJAX is not currently hosted at any public CDN, thus siunitx is not usable with this extension unless a local copy of this extension is created first. See \MathJaxFilename to select a custom MathJax script, but lwarp's emulation would have to be disabled as well.

Document modifications required for MATHJAX:

custom units • Custom units may be added with \CustomizeMathJax. See the lwarp-siunitx code for examples.

 **unit spacing** • Units work better using ~ between units instead of using periods.

 **\square, \cubic** • To square or cube compound units, enclose the following compound units in braces:

```
\cubic{\centi\meter}
```

Single units do not require braces.

Also see **MATHJAX option**, section 8.7.4.

for HTML output: 12063 \begin{warpHTML}


Options for siunitx:

```
12064 \newrobustcmd{\LWR@siunitx@textcelsius}{\HTMLentity{deg}C}
12065 \newrobustcmd{\LWR@siunitx@textdegree}{\HTMLentity{deg}}
12066 \newrobustcmd{\LWR@siunitx@textprime}{\HTMLunicode{2032}}
12067 \newrobustcmd{\LWR@siunitx@textdblprime}{\HTMLunicode{2033}}
12068 \newrobustcmd{\LWR@siunitx@textplanckbar}{\text{\textit{\HTMLunicode{210F}}}}
12069
12070 \appto\LWR@restoreorigformatting{%
12071 \renewrobustcmd{\LWR@siunitx@textcelsius}{\text{\ensuremath{^\circ}C}}%
12072 \renewrobustcmd{\LWR@siunitx@textdegree}{\text{\ensuremath{^\circ}}}%
12073 \renewrobustcmd{\LWR@siunitx@textprime}{\text{\ensuremath{^\prime}}}%
12074 \renewrobustcmd{\LWR@siunitx@textdblprime}{\text{\ensuremath{^\prime\prime}}}%
12075 \renewrobustcmd{\LWR@siunitx@textplanckbar}{\text{\ensuremath{\hbar}}}%
12076 }
12077
12078 \PassOptionsToPackage{
12079     detect-mode=true,
12080     per-mode=symbol,% fraction is not seen by pdftotext
12081     text-celsius = {\LWR@siunitx@textcelsius},
12082     text-degree = {\LWR@siunitx@textdegree},
12083     text-arcminute = {\LWR@siunitx@textprime} ,
12084     text-arcsecond = {\LWR@siunitx@textdblprime} ,
12085 }{siunitx}

12086 \end{warpHTML}
```

86 Graphics print-mode modifications

86.1 General limitations

 **scale** Avoid using the `\includegraphics scale` option. Change:

```
\includegraphics[scale=<xx>]{...}
```

to:

```
\includegraphics[width=<yy>\linewidth]{...}
```

\includegraphics file formats For `\includegraphics` with `.pdf` or `.eps` files, the user must provide a `.pdf` or `.eps` image file for use in print mode, and also a `.svg`, `.png`, or `.jpg` version of the same image for use in HTML.

```
\includegraphics{filename} % print:.pdf/.eps HTML:.svg, etc.
```

For print output, `lwarp` will automatically choose the `.pdf` or `.eps` format if available, or some other format otherwise. For HTML, one of the other formats is used instead.

If a `.pdf` or `.eps` image is referred to with its file extension, the extension will be changed to `.svg` for HTML:

```
\includegraphics{filename.pdf} % uses .svg in html
\includegraphics{filename.eps} % uses .svg in html
```

Prog `pdftocairo` To convert a PDF image to SVG, use the utility *pdftocairo*:

PDF to SVG

Enter ⇒ **`pdftocairo -svg filename.pdf`**

Prog `lwarpmk pdftosvg` For a large number of images, use *lwarpmk*:

Enter ⇒ **`lwarpmk pdftosvg *.pdf`** (or a list of filenames)

Prog `lwarpmk epstopdf` For EPS images converted to PDF using the package `epstopdf`, use

Prog `epstopdf`

`epstopdf` package

Enter ⇒ **`lwarpmk pdftosvg *.PDF`**

to convert to SVG images.

DVI latex When using DVI *latex*, it is necessary to convert EPS to PDF and then to SVG:

Enter ⇒ **`lwarpmk epstopdf *.eps`** (or a list of filenames)

Enter ⇒ **`lwarpmk pdftosvg *.pdf`** (or a list of filenames)

PNG and JPG For PNG or JPG while using *pdflatex*, *lualatex*, or *xelatex*, the same file may be used in both print or HTML versions, and may be used with a file extension, but will also be used without the file extension if it is the only file of its base name.

GIF GIF files may be used for HTML, but another format must also be provided for print output.

file extension priorities If a file extension is not used, for HTML the file extension priorities are: SVG, GIF, PNG, then JPG.

△ **graphics vs. graphicx** If using the older `graphics` syntax, use both optional arguments for `\includegraphics`. A single optional parameter is interpreted as the newer `graphicx` syntax. Note that viewports are not supported by `lwarp`—the entire image will be shown.

△ **viewport**

△ **viewport units**

For `\includegraphics`, avoid `px` and `%` units for width and height, or enclose them inside `warpHTML` environments. For font-proportional image sizes, use `ex` or `em`. For fixed-sized images, use `cm`, `mm`, `in`, `pt`, or `pc`. Use the keys `width=.5\linewidth`, or similar for `\textwidth` or `\textheight` to give fixed-sized images proportional to a 6 by 9 inch text area. Do not use the `scale` option, since it is not well supported by HTML browsers.


options `\includegraphics` accepts `width` and `height`, `origin`, `rotate` and `scale`, plus `new class` and `alt` keys.

HTML class With HTML output, `\includegraphics` accepts an optional `class=xyz` keyval combi-

nation, and if this is given then the HTML output will include that class for the image. The class is ignored for print output.

HTML alt tags Likewise, the `\includegraphics alt` key adds an HTML alt tag to an image, and is ignored for print output. If not assigned, each image is given an alt tag according to `\ImageAltText`.

`\rotatebox` `\rotatebox` accepts the optional origin key.

 **browser support** `\rotatebox`, `\scalebox`, and `\reflectbox` depend on modern browser support. The CSS3 standard declares that when an object is transformed the whitespace which they occupied is preserved, unlike L^AT_EX, so expect some ugly results for scaling and rotating.

86.2 Print-mode modifications

for PRINT output: For print output, accept and then discard the new class key:

```
12087 \begin{warpprint}
12088 \define@key{Gin}{class}{}
12089 \define@key{Gin}{alt}{}

```

Print-mode additions for the `overpic` package. See section 434 for the HTML version.

```
12090 \AtBeginDocument{
12091 \ifpackageloaded{overpic}{
12092 \newcommand*\overpicfontsize{12}
12093 \newcommand*\overpicfontskip{14}
12094 }{}
12095 }
12096 \end{warpprint}

```

87 xcolor boxes

Pkg `xcolor` A few new definitions are provided for enhanced HTML colored boxes, and `\fcolorbox` is slightly modified. Print-mode version are also provided.

Print-mode versions of new `xcolor` definitions. These are defined inside `warppall` because they are also used for HTML while inside a `lateximage`. They are defined `\AtBeginDocument` so that the `xcolor` originals may first be loaded and saved for reuse.

The framed versions are modified to allow a background color of none, in which case only the frame is drawn, allowing the background page color to show.

for HTML & PRINT: `12097 \begin{warppall}`

After xparse may have been loaded ...

```
12098 \AtBeginDocument{

```

... and *only* if xcolor was loaded:

```
12099 \@ifpackageloaded{xcolor}{
12100 \LWR@traceinfo{patching xcolor}
```

The print version:

`\colorboxBlock` `\colorboxBlock` is the same as `\colorbox`:

```
12101 \LetLtxMacro\colorboxBlock\colorbox
```

The original definition is reused by the new versions:

```
12102 \LetLtxMacro\LWR@orig@print@fcolorbox\fcolorbox
```

```
\fcolorbox [framemodel] [framecolor] [boxmodel] [boxcolor] [text]
```

In print mode, `\fcolorbox` is modified to accept a background color of none.

(`\fcolorbox` is particular about its optional arguments, thus the elaborate combinations of `\ifthenelse`.)

```
12103 \newsavebox{\LWR@colorminipagebox}
12104
12105 \NewDocumentCommand{\LWR@print@fcolorbox}{o m o m +m}{%
12106 \LWR@traceinfo{\LWR@print@fcolorbox #2 #4}%
```

Pre-load the contents into an LR box so that they can be used inside a `\fcolorbox`:

```
12107 \begin{lrbox}{\LWR@colorminipagebox}%
12108 #5%
12109 \end{lrbox}%
```

Sort out the various optional arguments and the background color of none. In each case, the LRbox is placed inside a `\fcolorbox`.

The current color is remembered, then set to the frame, then the current color is used for the contents.

```
12110 \ifstrequal{#4}{none}%
12111 {% #4 none
12112   \LWR@traceinfo{background is none}%
12113   {% scope the \colorlet
12114     \colorlet{\LWR@currentcolor}{.}%
12115     \color{#2}%
12116     \fbox{%
12117       \color{\LWR@currentcolor}%
12118       \usebox{\LWR@colorminipagebox}%
12119     }% fbox
12120   }% colorlet
12121 }% #4 none
12122 {% #4 not none
12123 \LWR@traceinfo{background not none}%
```

```

12124 \IfValueTF{#1}%
12125 {%
12126   \IfValueTF{#3}%
12127   {\LWR@orig@print@fcolorbox[#1][#2][#3][#4]{\usebox{\LWR@colorminipagebox}}}%
12128   {\LWR@orig@print@fcolorbox[#1][#2][#4]{\usebox{\LWR@colorminipagebox}}}%
12129 }%
12130 {% no value #1
12131   \IfValueTF{#3}%
12132   {\LWR@orig@print@fcolorbox[#2][#3][#4]{\usebox{\LWR@colorminipagebox}}}%
12133   {\LWR@orig@print@fcolorbox[#2][#4]{\usebox{\LWR@colorminipagebox}}}%
12134 }% no value #1
12135 }% #4 not none
12136 \LWR@traceinfo{\LWR@print@fcolorbox done}%
12137 }

```

```

12138 \renewrobustcmd*{\fcolorbox}{\LWR@print@fcolorbox}%

```

`\fcolorboxBlock` [*framemodel*] [*framecolor*] [*boxmodel*] [*boxcolor*] [*text*]

In print mode, `\fcolorboxBlock` is the same as `\fcolorbox`.

```

12139 \newcommand*{\LWR@print@fcolorboxBlock}{\LWR@print@fcolorbox}

```

```

12140 \newrobustcmd*{\fcolorboxBlock}{\LWR@print@fcolorboxBlock}

```

Env `fcolorminipage` [*1:framemodel*] [*2:framecolor*] [*3:boxmodel*] [*4:boxcolor*] [*5:align*] [*6:height*] [*7:inner-align*] [*8:width*]

In print mode, becomes a `\fcolorbox` containing a minipage:

```

12141 \NewDocumentEnvironment{LWR@print@fcolorminipage}{o m o m O{c} O{ } o m}
12142 {%
12143 \LWR@traceinfo{*** fcolorminipage: #2 #4 #8}%

```

Pre-load the contents into an LR box so that they can be used inside a `\fcolorbox`:

```

12144 \begin{lrbox}{\LWR@colorminipagebox}%

```

If inner alignment is not given, use the outer alignment instead:

```

12145 \IfValueTF{#7}%
12146 {\begin{minipage}[#5][#6][#7]{#8}}%
12147 {\begin{minipage}[#5][#6][#5]{#8}}%
12148 }%
12149 {%
12150 \end{minipage}%
12151 \end{lrbox}%
12152 \LWR@traceinfo{*** starting end fcolorminipage #1 #2 #3 #4 #8}%

```

Sort out the various optional arguments and the background color of none. In each case, the LRbox is placed inside a `\fcolorbox`.

The current color is remembered, then set to the frame, then the current color is used for the contents.

```

12153 \ifstrequal{#4}{none}%
12154 {% #4 none
12155     {% scope the \colorlet
12156         \colorlet{LWR@currentcolor}{.}%
12157         \color{#2}%
12158         \fbox{%
12159             \color{LWR@currentcolor}%
12160             \usebox{LWR@colorminipagebox}%
12161         }% fbox
12162     }% colorlet
12163 }% #4 none
12164 {% #4 not none
12165     \IfValueTF{#1}%
12166     {%
12167         \IfValueTF{#3}%
12168         {\LWR@orig@print@fcolorbox[#1][#2][#3][#4]{\usebox{LWR@colorminipagebox}}}%
12169         {\LWR@orig@print@fcolorbox[#1][#2][#4]{\usebox{LWR@colorminipagebox}}}%
12170     }%
12171     {% no value #1
12172         \IfValueTF{#3}%
12173         {\LWR@orig@print@fcolorbox[#2][#3][#4]{\usebox{LWR@colorminipagebox}}}%
12174         {\LWR@orig@print@fcolorbox[#2][#4]{\usebox{LWR@colorminipagebox}}}%
12175     }% no value #1
12176 }% #4 not none
12177 \LWR@traceinfo{*** finished end fcolorminipage}%
12178 }

12179 \NewDocumentEnvironment{fcolorminipage}{}
12180     {\LWR@print@fcolorminipage}
12181     {\endLWR@print@fcolorminipage}

12182 \LWR@traceinfo{xcolor patches done}
12183 }{% xcolor loaded
12184 }% AtBeginDocument

12185 \end{warppall}

```

88 chemmacros environments

`\makepolymerdelims` and redox reactions must be enclosed in a `lateximage` during HTML output. These environments are provided here in print mode, and in the `chemmacros` code in HTML mode, as a high-level semantic syntax which automatically embeds the contents in a `lateximage` with an appropriate `alt` tag.

for PRINT output: 12186 `\begin{warpprint}`

```

12187 \AtBeginDocument{
12188 \ifpackageloaded{chemmacros}{

```

Env polymerdelims

```
12189 \DeclareDocumentEnvironment{polymerdelims}{}
12190   {}{}
```

Env redoxreaction $\{\langle space above \rangle\} \{\langle space below \rangle\}$

For print output, extra space is include above and below the image, and a `lateximage` is not necessary. This extra space must be enforced, even inside a float, so zero-width rules are used.

For the HTML version, see section 186.4.

```
12191 \DeclareDocumentEnvironment{redoxreaction}{m m}
12192   {\rule{0pt}{#1}}{\rule[-#2]{0pt}{#2}}

12193 }{}% chemmacros
12194 }% AtBeginDocument

12195 \end{warpprint}
```

89 cleveref

loading order `cleveref` and `lwarp-cleveref` with its associated macro patches are automatically preloaded at the end of the preamble via `\AtEndPreamble` and `\AfterEndPreamble`. This is done because the HTML conversion requires `cleveref`. The user's document may not require `cleveref`, thus the user may never explicitly load it, so during HTML output `lwarp` loads it last. If the user's document preamble uses `cleveref` options, or functions such as `\crefname`, then `cleveref` may be loaded in the user's preamble near the end, and `lwarp`'s additional loading of `cleveref` will have no effect.

`\AtEndPreamble` forces `cleveref` to be loaded last, if it has not yet been loaded by the user.

```
for HTML output: 12196 \begin{warppHTML}
12197
12198 \AtEndPreamble{
12199   \RequirePackage{cleveref}
12200 }
12201
12202 \end{warppHTML}
```

90 Preexisting label and reference definitions

Remember and patch some label-related definitions. These will be further encased and patched by other packages later.

`\label` and `\pageref` do NOT change their behavior according to print or HTML output, and thus do not use the `\LWR@formatted` system.

for HTML output: 12203 `\begin{warpHTML}`
 12204
 12205 `\LetLtxMacro\LWR@orig@label\label% includes memoir, before cleveref`
 12206 `\LetLtxMacro\label\LWR@new@label`
 12207
 12208 `\LetLtxMacro\LWR@orig@pageref\pageref`
 12209 `\LetLtxMacro\pageref\LWR@new@pageref`
 12210
 12211 `\end{warpHTML}`

91 picture environment

Env `picture` The picture environment is enclosed inside a `\lateximage`.

for HTML output: 12212 `\begin{warpHTML}`


Env `picture`

```
12213 \BeforeBeginEnvironment{picture}{\begin{lateximage}[picture]}
12214
12215 \AfterEndEnvironment{picture}{\end{lateximage}}

12216 \end{warpHTML}
```


92 Minipages and Boxes


A css flexbox is used for minipages and parboxes, allowing external and internal vertical positioning.

 **inline** A line of text with an inline minipage or `\parbox` will have the minipage or `\parbox` placed onto its own line, because a paragraph is a block element and cannot be made inline-block.

placement minipages and `\parboxes` will be placed side-by-side in HTML unless you place a `\newline` between them.

side-by-side Side-by-side minipages may be separated by `\quad`, `\qquad`, `\enskip`, `\hspace`, `\hfill`, or a `\rule`. When inside a center environment, the result is similar in print and HTML. Paragraph tags are suppressed between side-by-side minipages and these spacing commands, but not at the start or end of the paragraph.

 **minipage in a span** There is limited support for minipages inside an HTML ``. An HTML `<div>` cannot appear inside a ``. While in a ``, minipages, and `\parboxes`, and any enclosed lists have limited HTML tags, resulting in an “inline” format, without markup except for HTML breaks. Use `\newline` or `\par` for an HTML break.

 **minipage size** When using minipage, `\parbox`, and `fminipage`, a virtual 6 × 9 inch text area is used for `\linewidth`, `\textwidth`, and `\textheight`, both for sizing the minipage, and also for its contents.

- if width is `\linewidth`** If a `minipage` or `\parbox` is assigned a width of exactly `\linewidth`, in HTML it is automatically given no HTML width, thus allowed to fill the line as needed, similar to how it appears in print output.
- full-width if HTML** A new macro `\minipagefullwidth` requests that, during HTML output, the next single `minipage` or `\parbox` be generated without an HTML width attribute, allowing it to be the full width of the display rather than the declared print-output width. This may be useful where the printed version's width makes no sense in HTML.
- ⚠ tabular, multicols** Inside a `tabular` or `multicols` environment, where the width depends on the browser window, `\minipagefullwidth` is effectively used by default for every `minipage` or `\parbox` inside the environment. `\UseMinipageWidths` may be used to tell `lwarp` to honor the specified widths of all following `minipages` and `\parboxes` until the end of the local scope, and `\IgnoreMinipageWidths` may be used to tell `lwarp` to ignore the specified widths.
- `\UseMinipageWidths`
`\IgnoreMinipageWidths`
- ⚠ multicol** Inside a `multicols`, `\linewidth` is divided by the specified number of columns.
- ⚠ text alignment** Nested `minipages` adopt their parent's text alignment in HTML, whereas in regular L^AT_EX PDF output they do not. Use a `flushleft` or similar environment in the child `minipage` to force a text alignment.
- for HTML output:** 12217 `\begin{warpHTML}`

92.1 Computed lengths

- Len `\LWR@minipagewidth`** Used to convert the width into printable units.
- ```
12218 \newlength{\LWR@minipagewidth}
```
- Len `\LWR@minipageheight`** Used to convert the height into printable units.
- ```
12219 \newlength{\LWR@minipageheight}
```

92.2 Virtual page size

- Ctr `LWR@virtualpagedepth`** Used to only reset the line width at the outermost `minipage`.
- ```
12220 \newcounter{LWR@virtualpagedepth}
12221 \setcounter{LWR@virtualpagedepth}{0}
```

- Env `LWR@setvirtualpage`** \* [`<columns>`]

If not nesting a `minipage`, adjust `\linewidth`, `\textwidth`, and `\textheight` for a virtual  $6 \times 9$  page, and start on a new PDF page to help prevent page overflows.

If starred, force a new page in the PDF before generating more HTML. This may be done to reduce the chance of page overflow when starting a new `minipage`.

The optional number of columns defaults to 1.

```

12222 \NewDocumentEnvironment{LWR@setvirtualpage}{s O{1}}{%
12223 \ifnumequal{\value{LWR@virtualpagedepth}}{0}{%
12224 \IfBooleanT{#1}{\LWR@maybe@orignewpage}%
12225 \setlength{\linewidth}{6in/#2}%
12226 \setlength{\textwidth}{6in}%
12227 \setlength{\textheight}{9in}%
12228 }{%
12229 \addtocounter{LWR@virtualpagedepth}{1}%
12230 }
12231 {\addtocounter{LWR@virtualpagedepth}{-1}}

```

### 92.3 Footnote handling

Also see section 59 for other forms of footnotes. Minipage footnotes are gathered in section 59.5, and then placed into the document in section 92.4.

### 92.4 Minipage handling

Bool LWR@minipagefullwidth Should the next minipage have no HTML width?

```

12232 \newbool{LWR@minipagefullwidth}
12233 \boolfalse{LWR@minipagefullwidth}

```

Bool LWR@forceminipagefullwidth Should the next minipage have no HTML width? Used to force full width for all minipages in an environment such as tabular or multicols, where the actual width depends on the browser width. Controlled by \useminipagewidths and \ignoreminipagewidths.

```

12234 \newbool{LWR@forceminipagefullwidth}
12235 \boolfalse{LWR@forceminipagefullwidth}

```

\minipagefullwidth Requests that the next minipage have no width tag in HTML:

**for HTML output:** 12236 \newcommand\*{\minipagefullwidth}{\global\booltrue{LWR@minipagefullwidth}}

\UseMinipageWidths Locally requests that minipage widths be honored.

```

12237 \newcommand*{\UseMinipageWidths}{\boolfalse{LWR@forceminipagefullwidth}}

```

\IgnoreMinipageWidths Locally requests that minipage widths be ignored.

```

12238 \newcommand*{\IgnoreMinipageWidths}{\booltrue{LWR@forceminipagefullwidth}}
12239 \end{warppHTML}

```

**for PRINT output:** 12240 \begin{warpprint}

```

12241 \newcommand*\minipagefullwidth{}
12242 \newcommand*\UseMinipageWidths{}
12243 \newcommand*\IgnoreMinipageWidths{}
12244 \end{warpprint}

```

**for HTML output:** 12245 \begin{warpHTML}

Bool LWR@minipagethispar Has a minipage been seen this paragraph? If true, prevents paragraph tags around horizontal space between minipages.

```

12246 \newbool{LWR@minipagethispar}
12247 \boolfalse{LWR@minipagethispar}

```

Env minipage [*<vert position>*] [*<height>*] [*<inner vert position>*] {*<width>*}

The vertical positions may be 'c', 't', or 'b'. The inner position may also be 's'.

When using \linewidth, \textwidth, or \textheight, these are scaled proportionally to a 6×9 inch text area.

```

12248 \NewDocumentEnvironment{LWR@HTML@sub@minipage}{m m m m}
12249 {%
12250 \LWR@traceinfo{minipage}%

```

Start an environment, in which width and height is computed based on a virtual page size instead of the extra-large PDF page used during HTML tag generation.

```
12251 \begin{LWR@setvirtualpage}*
```

Save the requested width now that \linewidth, etc. are adjusted to virtual size.

```

12252 \setlength{\LWR@minipagewidth}{#4}%
12253 \ifnumequal{\value{LWR@virtualpagedepth}}{1}{%
12254 \addtolength{\LWR@minipagewidth}{3em}% room for frames
12255 }{}%
12256 \LWR@traceinfo{computed width is \LWR@printlength{\LWR@minipagewidth}}%

```

Compute height:

```

12257 \setlength{\LWR@minipageheight}{\textheight}% default unless specified
12258 \ifblank{#2}{\setlength{\LWR@minipageheight}{#2}}%

```

L<sup>A</sup>T<sub>E</sub>X wants to start a paragraph for the virtual minipage, then start a paragraph again for the contents of the minipage, so cancel the paragraph tag handling until the minipage has begun.

```

12259 \ifbool{FormatWP}{\newline}{}%
12260 \LWR@stoppars%

```

If FormatWP, add a text frame:

```
12261 \ifbool{FormatWP}{%
```

```

12262
12263 \addtocounter{LWR@thisautoidWP}{1}%
12264 \LWR@htmltag{%
12265 div id="\LWR@print@mbbox{autoidWP-\arabic{LWR@thisautoidWP}}" %
12266 class="wpmnipage"%
12267 }%
12268
12269 }{}%

```

Create the <div> tag with optional alignment style:

```

12270 \LWR@traceinfo{minipage: creating div class}%
12271 \LWR@htmltag{div class="minipage" style="%
12272 \ifthenelse{equal{#1}{t}}{\LWR@print@mbbox{vertical-align:bottom} ; }{}%
12273 \ifthenelse{equal{#1}{c}}{\LWR@print@mbbox{vertical-align:middle} ; }{}%
12274 \ifthenelse{equal{#1}{b}}{\LWR@print@mbbox{vertical-align:top} ; }{}%
12275 \ifthenelse{equal{#3}{t}}{\LWR@print@mbbox{justify-content:flex-start} ; }{}%
12276 \ifthenelse{equal{#3}{c}}{\LWR@print@mbbox{justify-content:center} ; }{}%
12277 \ifthenelse{equal{#3}{b}}{\LWR@print@mbbox{justify-content:flex-end} ; }{}%
12278 \ifthenelse{equal{#3}{s}}{\LWR@print@mbbox{justify-content:space-between} ; }{}%

```

Print the width and optional height styles:

```

12279 \LWR@traceinfo{minipage: about to print the width of \LWR@printlength{\LWR@minipagewidth}}%
12280 \ifbool{LWR@minipagefullwidth}%
12281 {\global\boolfalse{LWR@minipagefullwidth}}%
12282 {%
12283 \ifbool{LWR@forceminipagefullwidth}%
12284 {}%
12285 {%
12286 \ifdimequal{#4}{\linewidth}%
12287 {}%
12288 {width:\LWR@printlength{\LWR@minipagewidth} ; }%
12289 }%
12290 }%
12291 \LWR@traceinfo{minipage: about to print the height}%
12292 \ifblank{#2}{\height:\LWR@printlength{\LWR@minipageheight} ; }%
12293 "%}

```

Finish with an empty line to start the contents on a new line.

```

12294
12295 % The preceding empty line is required.

```

Set the user-accessible line and text width and height values inside the virtual minipage. These do not affect the actual size of the PDF output, but are used by any reference to `\linewidth`, etc. inside the virtual minipage being created here. `\LWR@minipagewidth` was the original then padded by 3em, which is restored here. This is done instead of settings back to #4, in case #4 was `\linewidth`, which was changed to 6in above.

```

12296 \ifnumequal{\value{LWR@virtualpagedepth}}{1}{%
12297 \addtolength{\LWR@minipagewidth}{-3em}% undo frame padding
12298 }{}%
12299 \setlength{\linewidth}{\LWR@minipagewidth}%

```

`\raggedright` cancels hyphenation, which will be done by HTML instead.

```
12300 \LWR@print@raggedright%
```

Set minipage footnotes:

```
12301 \def\@mpfn{mpfootnote}%
12302 \def\thempfn{\thempfootnote}\c@mpfootnote\z@%
12303 \let\@footnotetext\@mpfootnotetext%
```

Resume paragraph tag handling for the contents of the minipage:

```
12304 \LWR@startpars%
12305 \ifboolexpr{bool{FormatWP} and bool{WPMarkMinipages}}{%
12306
12307 === begin minipage ===
12308
12309 }{%
12310 \LWR@traceinfo{minipage: finished starting the minipage}%
12311 }% finished \minipage
12312 {% \endminipage
```

Print pending minipage footnotes:

```
12313 \LWR@printpendingmpfootnotes%
```

End the environment with closing tag:

```
12314 \ifboolexpr{bool{FormatWP} and bool{WPMarkMinipages}}{%
12315
12316 === end minipage ===
12317
12318 }{%
12319 \LWR@stoppars%
12320
12321 \ifbool{FormatWP}{%
12322
12323 \LWR@htmlElementend{div}%
12324
12325 }{%
12326 \LWR@htmldivclassend{minipage}%
12327
12328 \end{LWR@setvirtualpage}%
12329 \LWR@startpars%
12330 \ifbool{FormatWP}{\newline}{}%
```

Prevent paragraph tags around horizontal white space until the start of the next paragraph:

```
12331 \global\booltrue{LWR@minipagethispar}%
12332 \LWR@traceinfo{LWR@minipage: done}%
12333 }
12334
12335 \NewDocumentEnvironment{LWR@HTML@minipage}{0{t} 0{} 0{t} m}
```



```

12336 {\LWR@HTML@sub@minipage{#1}{#2}{#3}{#4}}
12337 {\endLWR@HTML@sub@minipage}
12338
12339 \LWR@formattedenv{minipage}

```

## 92.5 \parbox, \mbox, \makebox, \framebox, \fbox, \raisebox

for HTML output:

```
\parbox [pos] [height] [inner-pos] {width} {text}
```

A parbox uses the minipage code:

```

12340 \NewDocumentCommand{\LWR@HTML@parbox}{O{t} O{t} O{t} m +m}
12341 {
12342 \LWR@traceinfo{parbox of width #4}%
12343 \begin{minipage}[#1][#2][#3]{#4}%
12344 #5
12345 \end{minipage}%
12346 }
12347
12348 \LWR@formatted{parbox}

```

```
\mbox {text} Nullified for HTML.
```

```

12349 \newcommand*{\LWR@HTML@mbox}[1]{#1}
12350
12351 \LWR@formatted{mbox}

```

```
\LWR@makebox@paren {width}, {height}
```

Adds to the style in \LWR@temptwo.

```

12352 \NewDocumentCommand{\LWR@makebox@paren}{m m}{%
12353 \IfValueTF{#2}{%
12354 \setlength{\LWR@tempwidth}{#1\unitlength}%
12355 \setlength{\LWR@tempheight}{#2\unitlength}%
12356 \appto{\LWR@temptwo}{%
12357 \LWR@print@mbox{width:\LWR@printlength{\LWR@tempwidth}} ; % space
12358 \LWR@print@mbox{height:\LWR@printlength{\LWR@tempheight}} ; % space
12359 }%
12360 }{%
12361 \PackageError{lwarp}%
12362 {(width,height) is missing a comma ',' character}%
12363 {\protect\makebox\space and \protect\framebox\space accept
12364 a size in the format (width,height).}%
12365 }%
12366 }

```

```
\LWR@makebox@align {alignment character}
```

Adds to the style in \LWR@temptwo.

```

12367 \newcommand*\LWR@makebox@align[1]{%
12368 \def\LWR@align{center}%
12369 \ifstrequal{#1}{l}{\def\LWR@align{left}}{}%
12370 \ifstrequal{#1}{r}{\def\LWR@align{right}}{}%
12371 \ifstrequal{#1}{s}{\def\LWR@align{justify}}{}%
12372 \appto{\LWR@temptwo}{%
12373 \LWR@print@mbx{text-align:\LWR@align} ; %
12374 }%
12375 }

```

\makebox (*(width,height)*) [*[width]*] [*[pos]*] {*<text>*}

```

12376 \NewDocumentCommand{\LWR@HTML@makebox}>{\SplitArgument{1}{,}}d(o o +m){%

```

Build the style depending on arguments:

```

12377 \begin{LWR@setvirtualpage}%
12378 \def\LWR@temptwo{}%
12379 \IfValueTF{#1}%
12380 {% (width,height) ..
12381 \LWR@makebox@paren #1%
12382 \IfValueT{#2}%
12383 {% (width,height) [posn]
12384 \LWR@makebox@align{#2}%
12385 }%
12386 }%
12387 {% [width]
12388 \IfValueT{#2}% [width]
12389 {%
12390 \setlength{\LWR@tempwidth}{#2}%
12391 \ifdimgreater{\LWR@tempwidth}{0pt}{%
12392 \appto{\LWR@temptwo}{%
12393 width:\LWR@printlength{\LWR@tempwidth} ; % space
12394 }%
12395 }{}%
12396 }%
12397 }%
12398 \IfValueT{#3}%
12399 {% [width] [posn]
12400 \LWR@makebox@align{#3}%
12401 }%
12402 \InlineClass[%
12403 \LWR@print@mbx{display:inline-block} ; %
12404 \LWR@temptwo%
12405]%
12406 {makebox}%
12407 {#4}%
12408 \end{LWR@setvirtualpage}%
12409 }
12410 \LWR@formatted{makebox}

```

`\framebox` ( $\langle width, height \rangle$ ) [ $\langle width \rangle$ ] [ $\langle pos \rangle$ ] { $\langle text \rangle$ }

```
12411 \NewDocumentCommand{\LWR@HTML@framebox}{d() o o +m}{%
12412 \fbox{\makebox(#1)[#2][#3][#4]}%
12413 }
12414
12415 \LWR@formatted{framebox}
```

`\LWR@forceminwidth` { $\langle length \rangle$ }

Sets `\LWR@atleastonept` to be at least 1pt.

```
12416 \newlength{\LWR@atleastonept}
12417
12418 \newcommand*{\LWR@forceminwidth}[1]{%
12419 \setlength{\LWR@atleastonept}{#1}%
12420 \ifthenelse{%
12421 \lengthtest{\LWR@atleastonept>0pt}\AND%
12422 \lengthtest{\LWR@atleastonept<1pt}%
12423 }%
12424 {\setlength{\LWR@atleastonept}{1pt}}%
12425 }%
12426 }
```

`\LWR@fboxstyle` Prints the HTML attributes for a black border and padding.

`\LWR@forceminwidth` must be used first in order to set the border width.

```
12427 \newcommand*{\LWR@fboxstyle}{%
12428 \LWR@findcurrenttextcolor%
12429 border:\LWR@printlength{\LWR@atleastonept} solid \LWR@origpound\LWR@tempcolor ; %
12430 padding:\LWR@printlength{\fboxsep} ; %
12431 color:\LWR@origpound\LWR@tempcolor%
12432 }
```

`\fbox` { $\langle text \rangle$ }

Creates a framed inline span enclosing the text.

Create a new HTML version, but don't use it until after `xcolor` may have loaded:

```
12433 \newcommand{\LWR@HTML@fbox}[1]{%
12434 \LWR@traceinfo{HTML fbox}%
12435 \LWR@forceminwidth{\fboxrule}%
12436 \InlineClass[%
12437 \LWR@print@ebox{display:inline-block} ; %
12438 \LWR@fboxstyle%
12439]{fbox}{#1}%
12440 }
```

`xcolor` \ lets things to `\fbox` when it is loaded, and this must remain even for HTML output while in a `lateximage`, so `\fbox` is not modified until `\AtBeginDocument`:

```
12441 \AtBeginDocument{\LWR@formatted{fbox}}
```

`\fboxBlock`  $\{\langle text \rangle\}$  Creates a framed HTML `<div>` of the text.

First, a print-mode version. This is newly defined for print mode, so it is defined inside `warpall`.

**for HTML & PRINT:** 12442 `\end{warpHTML}`  
 12443 `\begin{warpall}`  
 12444 `\let\fboxBlock\fbox`  
 12445 `\end{warpall}`  
 12446  
 12447 `\begin{warpHTML}`

**for HTML output:** Next, an HTML version:

```
12448 \newcommand{\LWR@HTML@fboxBlock}[1]{%
12449 \LWR@forceminwidth{\fboxrule}%
12450 \LWR@stoppars%
12451 \begin{BlockClass}[%
12452 \LWR@fboxstyle%
12453]{fboxBlock}
12454 #1
12455 \end{BlockClass}
12456 \LWR@startpars%
12457 }
12458
12459 \LWR@formatted{fboxBlock}
12460
12461 \end{warpHTML}
```

Env `fminipage`  $[\langle align \rangle] [\langle height \rangle] [\langle align \rangle] \{\langle width \rangle\}$

Creates a framed HTML `<div>` around its contents.

**for HTML & PRINT:** Print version:

```
12462 \begin{warpall}
12463
12464 \newsavebox{\LWR@fminipagebox}
12465
12466 \NewDocumentEnvironment{\LWR@print@fminipage}{0{t} o 0{t} m}
12467 {%
```

An outer `minipage` will be used for vertical alignment. An inner `minipage` will be framed with `\fbox`.

If the optional inner alignment is not given, use the outer instead:

```
12468 \IfValueTF{#3}%
12469 {\def\LWR@thisalign{#3}}
12470 {\def\LWR@thisalign{#1}}%
```

Form the outer `minipage` depending on whether a height was given. Make the outer `minipage` larger to compensate for the frame.

```
12471 \IfValueTF{#2}%
```

```
12472 {\minipage[#1][#2+2\fbboxsep+2\fbboxrule][\LWR@thisalign]{#4+2\fbboxsep+2\fbboxrule}}%
12473 {\minipage[#1]{#4+2\fbboxsep+2\fbboxrule}}%
```

Capture the contents of the environment:

```
12474 \begin{lrbox}{\LWR@fminipagebox}%
```

Nest the contents inside an inner minipage of the desired size:

```
12475 \IfValueTF{#2}%
12476 {\minipage[#1][#2][\LWR@thisalign]{#4}}%
12477 {\minipage[#1]{#4}}%
12478 }
12479 {%
```

Close the inner minipage and the LR box with the contents:

```
12480 \endminipage%
12481 \end{lrbox}%
```

Create a frame around the contents of the environment:

```
12482 \fbox{\usebox{\LWR@fminipagebox}}%
```

The entire thing is placed inside the outer minipage:

```
12483 \endminipage%
12484 }
12485
12486 \LetLtxMacro\fminipage\LWR@print@fminipage
12487 \LetLtxMacro\endfminipage\endLWR@print@fminipage
12488 % \newenvironment{fminipage}{\LWR@print@fminipage}{\endLWR@print@fminipage}
12489
12490 \end{warpall}
```

HTML version:

**for HTML output:**

```
12491 \begin{warpHTML}
12492
12493 \NewDocumentEnvironment{LWR@HTML@fminipage}{0{t} o 0{t} m}
12494 {%
12495 \LWR@traceinfo{fminipage #1 #2 #3 #4}%
```

Locally change to the virtual page size before processing the requested sizes:

```
12496 \begin{LWR@setvirtualpage}*%
12497 \setlength{\LWR@tempwidth}{#4}%
12498 \IfValueTF{#2}{\setlength{\LWR@tempheight}{#2}}%
```

Use a rule of at least one pixel in width:

```
12499 \LWR@forceminwidth{\fbboxrule}%
```

```
12500 \LWR@stoppars%
```

```

12501 \begin{BlockClass}[%
12502 \LWR@fboxstyle ; %
12503 \IfValueT{#2}{height:\LWR@printlength{\LWR@tempheight} ; }%
12504 \ifbool{\LWR@minipagefullwidth}%
12505 {\global\boolfalse{\LWR@minipagefullwidth}}%
12506 {%
12507 \ifbool{\LWR@forceminipagefullwidth}%
12508 {}%
12509 {%
12510 \ifdimequal{\LWR@tempwidth}{\linewidth}%
12511 {}%
12512 {width:\LWR@printlength{\LWR@tempwidth} ; }%
12513 }%
12514 }%
12515]{fminipage}%
12516 }
12517 {%
12518 \end{BlockClass}%
12519 \end{\LWR@setvirtualpage}%

```

Prevent paragraph tags around horizontal white space until the start of the next paragraph:

```

12520 \global\booltrue{\LWR@minipagethispar}%
12521 \LWR@traceinfo{fminipage done}%
12522 }
12523
12524 \LWR@formattedenv{fminipage}

```

`\raisebox`  $\langle\textit{raiselen}\rangle$  [ $\langle\textit{height}\rangle$ ] [ $\langle\textit{depth}\rangle$ ]  $\langle\textit{text}\rangle$


```


12525 \NewDocumentCommand{\LWR@HTML@raisebox}{m o o m}{%
12526 #4%
12527 }
12528
12529 \LWR@formatted{raisebox}

12530 \end{warpHTML}

```

## 93 Direct formatting

 **\bfseries, etc.** `\textbf`, etc. are supported, but `\bfseries`, etc. work only in some situations.

 **HTML special chars** `&`, `<`, and `>` have special meanings in HTML. If `\&`, `\textless`, and `\textgreater` are used, proper HTML entities will be used, but there may be HTML parsing problems if these special characters occur unescaped in program listings or other verbatim text.

**program listings** For program listings, the `listings` package is supported, and its `literate` option is used to convert `&`, `<`, and `>` to proper HTML entities.

**verbatim** The various `verbatim`-related environments do not convert `&`, `<`, and `>`, so care must

be taken to avoid accidentally including valid HTML code inside these environments. Adding a space on either side may be sufficient.

For high-level block and inline custom CSS classes, see section 51.9.

**for HTML & PRINT:** 12531 \begin{warpall}

Bool FixSmallCaps User may set FixSmallCaps to true if small caps are being incorrectly rendered as all caps.

```
12532 \newbool{FixSmallCaps}
12533 \boolfalse{FixSmallCaps}
```

```
12534 \end{warpall}
```

**for HTML output:** 12535 \begin{warpHTML}

\emph {<text>}

```
12536 \DeclareRobustCommand{\LWR@HTML@emph}[1]{%
12537 {%
12538 \LWR@HTML@itshape%
12539 \LWR@htmlspan{em}{#1}%
12540 }%
12541 }
12542
12543 \LWR@formatted{emph}
```

\textmd {<text>}

```
12544 \DeclareRobustCommand{\LWR@HTML@textmd}[1]{%
12545 {%
12546 \LWR@HTML@mdseries%
12547 \InlineClass(font-weight:normal){textmd}{#1}%
12548 }%
12549 }
12550
12551 \LWR@formatted{textmd}
```

\textbf {<text>}

```
12552 \DeclareRobustCommand{\LWR@HTML@textbf}[1]{%
12553 {%
12554 \LWR@HTML@bfseries%
12555 \LWR@htmlspan{b}{#1}%
12556 }%
12557 }
12558
12559 \LWR@formatted{textbf}
```

\texteb {<text>} From nfssect-cfr.

```

12560 \DeclareRobustCommand{\LWR@HTML@texteb}[1]{%
12561 {%
12562 \LWR@HTML@ebweight%
12563 \InlineClass{texteb}{#1}%
12564 }%
12565 }
12566
12567 \LWR@formatted{texteb}

```

`\textlg`  $\{<text>\}$  From `nfssect-cfr`.

```

12568 \DeclareRobustCommand{\LWR@HTML@textlg}[1]{%
12569 {%
12570 \LWR@HTML@lgweight%
12571 \InlineClass{textlg}{#1}%
12572 }%
12573 }
12574
12575 \LWR@formatted{textlg}

```

`\textrm`  $\{<text>\}$

```

12576 \DeclareRobustCommand{\LWR@HTML@textrm}[1]{%
12577 {%
12578 \LWR@HTML@rmfamily%
12579 \InlineClass(font-family:serif){textrm}{#1}%
12580 }%
12581 }
12582
12583 \LWR@formatted{textrm}

```

`\textsf`  $\{<text>\}$

```

12584 \DeclareRobustCommand{\LWR@HTML@textsf}[1]{%
12585 {%
12586 \LWR@HTML@sffamily%
12587 \InlineClass(font-family:sans){textsf}{#1}%
12588 }%
12589 }
12590
12591 \LWR@formatted{textsf}

```

`\texttt`  $\{<text>\}$

```

12592 \DeclareRobustCommand{\LWR@HTML@texttt}[1]{%
12593 {%
12594 \LWR@HTML@ttfamily%
12595 \LWR@htmlspan{kbd}{#1}%
12596 }%
12597 }
12598
12599 \LWR@formatted{texttt}

```



`\textup {<text>}`

```

12600 \DeclareRobustCommand{\LWR@HTML@textup}[1]{%
12601 {%
12602 \LWR@HTML@upshape%
12603 \InlineClass(font-style:normal){textup}{#1}%
12604 }%
12605 }
12606
12607 \LWR@formatted{textup}

```

`\textit {<text>}`

```

12608 \DeclareRobustCommand{\LWR@HTML@textit}[1]{%
12609 {%
12610 \LWR@HTML@itshape%
12611 \LWR@htmlspan{i}{#1}%
12612 }%
12613 }
12614
12615 \LWR@formatted{textit}

```

`\textsc {<text>}`

```

12616 \DeclareRobustCommand{\LWR@HTML@textsc}[1]{%
12617 {%
12618 \LWR@HTML@scshape%
12619 \InlineClass{textsc}{#1}%
12620 }%
12621 }
12622
12623 \LWR@formatted{textsc}

```

`\textulc {<text>}`      From fontaxes.

```

12624 \DeclareRobustCommand{\LWR@HTML@textulc}[1]{%
12625 {%
12626 \LWR@HTML@ulcshape%
12627 \InlineClass{textulc}{#1}%
12628 }%
12629 }
12630
12631 \LWR@formatted{textulc}

```

`\textsi {<text>}`

```

12632 \@ifundefined{textsi}{
12633 \LetLtxMacro\LWR@print@textsi\LWR@print@textsc
12634 }{}
12635
12636 \DeclareRobustCommand{\LWR@HTML@textsi}[1]{%
12637 {%

```

```

12638 \LWR@HTML@sishape%
12639 \textsc{\textit{#1}}%
12640 % \InlineClass(
12641 % font-style: italic;
12642 % font-variant: small-caps ;
12643 % font-variant-numeric: oldstyle-nums ;
12644 %){textsi}{#1}%
12645)%
12646 }
12647
12648 \LWR@formatted{textsi}

```

`\textsl`  $\{<text>\}$

```

12649 \DeclareRobustCommand{\LWR@HTML@textsl}[1]{%
12650 {%
12651 \slshape%
12652 \InlineClass(font-style:oblique){textsl}{#1}%
12653 }%
12654 }
12655
12656 \LWR@formatted{textsl}

```

`\textssc`  $\{<text>\}$

```

12657 \newrobustcmd{\LWR@HTML@textssc}[1]{\textsc{#1}}
12658 \LWR@formatted{textssc}

```

`\textnormal`  $\{<text>\}$

```

12659 \DeclareRobustCommand{\LWR@HTML@textnormal}[1]{\textmd{\textrm{\textup{#1}}}}
12660
12661 \LWR@formatted{textnormal}

```

```

12662 \FilenameNullify{%
12663 \LetLtxMacro\emph\@firstofone%
12664 \LetLtxMacro\textmd\@firstofone%
12665 \LetLtxMacro\textbf\@firstofone%
12666 \LetLtxMacro\texteb\@firstofone%
12667 \LetLtxMacro\textlg\@firstofone%
12668 \LetLtxMacro\textrm\@firstofone%
12669 \LetLtxMacro\textsf\@firstofone%
12670 \LetLtxMacro\texttt\@firstofone%
12671 \LetLtxMacro\textup\@firstofone%
12672 \LetLtxMacro\textit\@firstofone%
12673 \LetLtxMacro\textsc\@firstofone%
12674 \LetLtxMacro\textulc\@firstofone%
12675 \LetLtxMacro\textsi\@firstofone%
12676 \LetLtxMacro\textsl\@firstofone%
12677 \LetLtxMacro\textssc\@firstofone%
12678 \LetLtxMacro\textnormal\@firstofone%
12679 }

```

Remembers the current font family, series, and shape. fontaxes support is integrated here.

```
12680 \newcommand*{\LWR@family}{rm}
12681 \newcommand*{\LWR@series}{md}
12682 \newcommand*{\LWR@shape}{up}
12683 \newcommand*{\LWR@shapecaps}{ulc}
```

`\LWR@textcurrentfont` {<*text*>}

Prints the text with the current font choices. Avoids nesting repeated font selections.

```
12684 \newcounter{LWR@textcurrentfontdepth}
12685 \setcounter{LWR@textcurrentfontdepth}{0}
12686
12687 \newcommand*{\LWR@textcurrentfont}[1]{%
12688 \ifnumcomp{\value{LWR@textcurrentfontdepth}}{>}{0}%
12689 {%
12690 \addtocounter{LWR@textcurrentfontdepth}{1}%
12691 #1%
12692 \addtocounter{LWR@textcurrentfontdepth}{-1}%
12693 }%
12694 {%
12695 \addtocounter{LWR@textcurrentfontdepth}{1}%
12696 \InlineClass{%
12697 text\LWR@family\LWR@origtilde{%
12698 text\LWR@series\LWR@origtilde{%
12699 text\LWR@shape\LWR@origtilde{%
12700 text\LWR@shapecaps%
12701 }%
12702 {#1}%
12703 \addtocounter{LWR@textcurrentfontdepth}{-1}%
12704 }%
12705 }
```

Env `LWR@blocktextcurrentfont` Prints the contents with the current font choices.

```
12706 \newenvironment*{LWR@blocktextcurrentfont}{%
12707 \LWR@stoppars%
12708 \BlockClass{%
12709 text\LWR@family\LWR@origtilde{%
12710 text\LWR@series\LWR@origtilde{%
12711 text\LWR@shape\LWR@origtilde{%
12712 text\LWR@shapecaps%
12713 }%
12714 }}{\endBlockClass\LWR@startpars}
```

`\mdseries`

```
12715 \newrobustcmd*{\LWR@HTML@mdseries}{%
12716 \LWR@print@mdseries%
12717 \renewcommand*{\LWR@series}{md}%
```

```
12718 }
12719 \LWR@formatted{mdseries}
```

### \bfseries

```
12720 \newrobustcmd*{\LWR@HTML@bfseries}{%
12721 \LWR@print@bfseries%
12722 \renewcommand*{\LWR@f@series}{bf}%
12723 }
12724 \LWR@formatted{bfseries}
```

### \ebweight From nfssex-cfr.

```
12725 \newrobustcmd*{\LWR@HTML@ebweight}{%
12726 \LWR@print@ebweight%
12727 \renewcommand*{\LWR@f@series}{eb}%
12728 }
12729 \LWR@formatted{ebweight}
```

### \lgweight From nfssex-cfr.

```
12730 \newrobustcmd*{\LWR@HTML@lgweight}{%
12731 \LWR@print@lgweight%
12732 \renewcommand*{\LWR@f@series}{lg}%
12733 }
12734 \LWR@formatted{lgweight}
```

### \rmfamily

```
12735 \newrobustcmd*{\LWR@HTML@rmfamily}{%
12736 \LWR@print@rmfamily%
12737 \renewcommand*{\LWR@f@family}{rm}%
12738 }
12739 \LWR@formatted{rmfamily}
```

### \sffamily

```
12740 \newrobustcmd*{\LWR@HTML@sffamily}{%
12741 \LWR@print@sffamily%
12742 \renewcommand*{\LWR@f@family}{sf}%
12743 }
12744 \LWR@formatted{sffamily}
```

### \ttfamily

```
12745 \newrobustcmd*{\LWR@HTML@ttfamily}{%
12746 \LWR@print@ttfamily%
12747 \renewcommand*{\LWR@f@family}{tt}%
12748 }
12749 \LWR@formatted{ttfamily}
```

The following use `\AtBeginDocument` due to the L<sup>A</sup>T<sub>E</sub>X core `\reinstall@nfss@defs`, which redefines these `\AtBeginDocument`. See **texdoc source2e**.

`\upshape`

```
12750 \newrobustcmd*{\LWR@HTML@upshape}{%
12751 \LWR@print@upshape%
12752 \renewcommand*{\LWR@f@shape}{up}%
12753 }
12754 \AtBeginDocument{\LWR@formatted{upshape}}
```

`\itshape`

```
12755 \newrobustcmd*{\LWR@HTML@itshape}{%
12756 \LWR@print@itshape%
12757 \renewcommand*{\LWR@f@shape}{it}%
12758 }
12759 \AtBeginDocument{\LWR@formatted{itshape}}
```

`\scshape` Note: `\LWR@print@scshape` is not used here since some fonts, such as `erewhon`, copy/paste as all-caps.

```
12760 \newrobustcmd*{\LWR@HTML@scshape}{%
12761 \ifbool{FixSmallCaps}{}{%
12762 \LWR@print@scshape%
12763 }%
12764 \renewcommand*{\LWR@f@shapecaps}{sc}%
12765 }
12766 \AtBeginDocument{\LWR@formatted{scshape}}
```

`\ulcshape` From `fontaxes`.

```
12767 \@ifundefined{ulcshape}{
12768 \LetLtxMacro\ulcshape\upshape
12769 }{}
12770 \newrobustcmd*{\LWR@HTML@ulcshape}{%
12771 \LWR@print@ulcshape%
12772 \renewcommand*{\LWR@f@shapecaps}{ulc}%
12773 }
12774 \AtBeginDocument{\LWR@formatted{ulcshape}}
```

`\sishape`

```
12775 \@ifundefined{sishape}{
12776 \LetLtxMacro\sishape\scshape
12777 }{}
12778 \newrobustcmd*{\LWR@HTML@sishape}{%
12779 \ifbool{FixSmallCaps}{}{%
12780 \LWR@print@sishape%
12781 }%
12782 \renewcommand*{\LWR@f@shape}{it}}
```

```

12783 \renewcommand*\LWR@f@shapecaps}{sc}%
12784 }
12785 \AtBeginDocument{\LWR@formatted{sishape}}

```

**\slshape**

```

12786 \newrobustcmd*\LWR@HTML@slshape}{%
12787 \LWR@print@slshape%
12788 \renewcommand*\LWR@f@shape}{sl}%
12789 }
12790 \AtBeginDocument{\LWR@formatted{slshape}}

```

**\sscshape**

```

12791 \newrobustcmd{\LWR@HTML@sscshape}{\LWR@HTML@scshape}
12792 \AtBeginDocument{\LWR@formatted{sscshape}}

```

**\normalfont**

```

12793 \newrobustcmd*\LWR@HTML@normalfont}{\rmfamily\mdseries\upshape\ulcshape}
12794 \LWR@formatted{normalfont}

```

```

12795 \FilenameNullify{%
12796 \LetLtxMacro\rmfamily\@empty%
12797 \LetLtxMacro\sffamily\@empty%
12798 \LetLtxMacro\ttfamily\@empty%
12799 \LetLtxMacro\bfseries\@empty%
12800 \LetLtxMacro\ebweight\@empty%
12801 \LetLtxMacro\lgweight\@empty%
12802 \LetLtxMacro\mdseries\@empty%
12803 \LetLtxMacro\upshape\@empty%
12804 \LetLtxMacro\slshape\@empty%
12805 \LetLtxMacro\sishape\@empty%
12806 \LetLtxMacro\sscshape\@empty%
12807 \LetLtxMacro\itshape\@empty%
12808 \LetLtxMacro\ulcshape\@empty%
12809 \LetLtxMacro\sscshape\@empty%
12810 \LetLtxMacro\normalfont\@empty%
12811 }

```

**\sp**  $\{ \langle text \rangle \}$

For siunitx. Must work in math mode.

```
12812 \renewcommand{\sp}[1]{\text{\langle sup>#1</sup>}}
```

**\sb**  $\{ \langle text \rangle \}$

For siunitx. Must work in math mode.

```
12813 \renewcommand{\sb}[1]{\text{\langle sub>#1</sub>}}
```

`\textsuperscript`  $\{\langle text \rangle\}$

```
12814 \newrobustcmd{\LWR@HTML@textsuperscript}[1]{\LWR@htmlspan{sup}{#1}}
12815 \LWR@formatted{textsuperscript}
```

`\@textsuperscript`  $\{\langle text \rangle\}$

```
12816 \newcommand{\LWR@HTML@@textsuperscript}[1]{\LWR@htmlspan{sup}{#1}}
12817 \LWR@formatted{@textsuperscript}
```

`\textsubscript`  $\{\langle text \rangle\}$

```
12818 \newrobustcmd{\LWR@HTML@textsubscript}[1]{\LWR@htmlspan{sub}{#1}}
12819 \LWR@formatted{textsubscript}
```

`\@textsubscript`  $\{\langle text \rangle\}$

```
12820 \newcommand{\LWR@HTML@@textsubscript}[1]{\LWR@htmlspan{sub}{#1}}
12821 \LWR@formatted{@textsubscript}
```

`\up`  $\{\langle text \rangle\}$  Prints superscript.

This is `\let` at the beginning of the document in case some other package has changed the definition.

```
12822 \AtBeginDocument{\let\up\textsuperscript}
```

`\fup`  $\{\langle text \rangle\}$  Prints superscript.

Supports `fntcount` package.

This is `\let` at the beginning of the document in case some other package has changed the definition.

```
12823 \AtBeginDocument{\let\fup\textsuperscript}
```

`\underline`  $\{\langle text \rangle\}$

```
12824 \renewcommand{\underline}[1]{%
12825 \InlineClass%
12826 (text-decoration:underline; text-decoration-skip: auto)%
12827 {underline}{#1}%
12828 }
```

`\LWR@overline`  $\{\langle text \rangle\}$

```
12829 \newcommand{\LWR@overline}[1]{%
12830 \InlineClass%
12831 (text-decoration:overline; text-decoration-skip: auto)%
12832 {overline}{#1}%
12833 }
```

`\LWR@currenttextcolor` The color to use for text and `\rule`, defaulting to black:

```
12834 \newcommand*{\LWR@currenttextcolor}{black}
```

`\LWR@tempcolor` The color converted to HTML colorspace.  
`\LWR@tempcolortwo`

```
12835 \newcommand*{\LWR@tempcolor}{}
12836 \newcommand*{\LWR@tempcolortwo}{}
```

`\LWR@findcurrenttextcolor` Sets `\LWR@tempcolor` to the current color.

```
12837 \newcommand*{\LWR@findcurrenttextcolor}{%
12838 \renewcommand{\LWR@tempcolor}{000000}%
12839 }
```

`\LWR@textcurrentcolor` `{⟨text⟩}` Like `\textcolor` but uses the current `\color` instead.

```
12840 \NewDocumentCommand{\LWR@textcurrentcolor}{m}{%
12841 \renewcommand*{\LWR@currenttextcolor}{black}%
12842 #1%
12843 }
```

```
12844 \end{warppHTML}
```

**for PRINT output:** 12845 `\begin{warpprint}`

`\LWR@textcurrentfont` `{⟨text⟩}`

Prints the text with the current font choices.

```
12846 \newcommand*{\LWR@textcurrentfont}[1]{#1}
```

Env `LWR@blocktextcurrentfont` Prints the contents with the current font choices.

```
12847 \newenvironment*{LWR@blocktextcurrentfont}{}{}
```

`\FilenameNullify` `{⟨macros to nullify⟩}`

```
12848 \newcommand*{\FilenameNullify}[1]{}
12849 \end{warpprint}
```

## 94 Skips, spaces, font sizes

**for HTML output:** 12850 `\begin{warppHTML}`



`\`, and `\thinspace` may be redefined by other packages, so are redefined `\AtBeginDocument` here.

Direct-formatting space commands become HTML entities:

```
12851 \AtBeginDocument{
12852 \renewrobustcmd*\,}{\HTMLUnicode{202f}} % HTML thin non-breakable space
12853 \renewrobustcmd*\thinspace}{\HTMLUnicode{202f}} % HTML thin non-breakable space
12854 \renewrobustcmd*\negthinspace}{\HTMLUnicode{202f}} % HTML thin non-breakable space
12855 \renewrobustcmd*~}{\HTMLentity{nbsp}}
12856 \renewrobustcmd*\textellipsis}{\HTMLUnicode{2026}}
12857 \renewrobustcmd*\vdots}{\HTMLUnicode{22EE}}
12858 }
```

Direct-formatting font sizes are remembered for future use:

```
12859 \newcommand*\LWR@font@size}{normalsize}
12860
12861 \newrobustcmd*\LWR@HTML@normalsize}{\renewcommand*\LWR@font@size}{normalsize}}
12862 \LWR@formatted{normalsize}
12863
12864 \newrobustcmd*\LWR@HTML@small}{\renewcommand*\LWR@font@size}{small}}
12865 \LWR@formatted{small}
12866
12867 \newrobustcmd*\LWR@HTML@footnotesize}{\renewcommand*\LWR@font@size}{footnotesize}}
12868 \LWR@formatted{footnotesize}
12869
12870 \newrobustcmd*\LWR@HTML@scriptsize}{\renewcommand*\LWR@font@size}{scriptsize}}
12871 \LWR@formatted{scriptsize}
12872
12873 \newrobustcmd*\LWR@HTML@tiny}{\renewcommand*\LWR@font@size}{tiny}}
12874 \LWR@formatted{tiny}
12875
12876 \newrobustcmd*\LWR@HTML@large}{\renewcommand*\LWR@font@size}{large}}
12877 \LWR@formatted{large}
12878
12879 \newrobustcmd*\LWR@HTML@Large}{\renewcommand*\LWR@font@size}{Large}}
12880 \LWR@formatted{Large}
12881
12882 \newrobustcmd*\LWR@HTML@LARGE}{\renewcommand*\LWR@font@size}{LARGE}}
12883 \LWR@formatted{LARGE}
12884
12885 \newrobustcmd*\LWR@HTML@huge}{\renewcommand*\LWR@font@size}{huge}}
12886 \LWR@formatted{huge}
12887
12888 \newrobustcmd*\LWR@HTML@Huge}{\renewcommand*\LWR@font@size}{Huge}}
12889 \LWR@formatted{Huge}

12890 \DeclareDocumentCommand{\onecolumn}{}{}
12891
12892 \DeclareDocumentCommand{\twocolumn}{0}{}{}
12893
12894 #1
12895
```

12896 }

### \hfill

12897 \newcommand\*{\LWR@HTML@hfill}{\quad}  
12898 \LWR@formatted{hfill}

### \hrulefill

```
12899 \newcommand*{\LWR@HTML@hrulefill}{%
12900 \ifbool{\LWR@doingapar}%
12901 {\rule{1in}{1pt}}%
12902 {%
12903 \LWR@findcurrenttextcolor%
12904 \ifdefstring{\LWR@tempcolor}{000000}%
12905 {%
12906 \begin{BlockClass}{hrule}%
12907 \end{BlockClass}%
12908 }%
12909 {%
12910 \begin{BlockClass}[%
12911 border-top: 1px solid \LWR@origpound\LWR@tempcolor % space
12912]{hrule}%
12913 \end{BlockClass}%
12914 }%
12915 }%
12916 }%
12917 \LWR@formatted{hrulefill}
```

### \dotfill

12918 \newcommand\*{\LWR@HTML@dotfill}{\dots}  
12919 \LWR@formatted{dotfill}

### \newpage

```
12920 \renewcommand*{\newpage}{
12921
12922 }
```

\newline Uses the HTML `<br />` element.

```
12923 \newrobustcmd*{\LWR@newlinebr}{\unskip\LWR@htmltag{br /}\LWR@orignewline}%
12924 \LetLtxMacro\newline\LWR@newlinebr
```

\\ Redefined to \LWR@endofline or \LWR@tabularendofline.

\LWR@endofline \* [*len*]

\\ is assigned to \LWR@endofline at \LWR@LwarpStart.

Inside `tabular`, `\` is temporarily changed to `\LWR@tabularendofline`.

```
12925 \LetLtxMacro\LWR@origendofline\
12926 \NewDocumentCommand{\LWR@endofline}{s O{0pt}}
12927 {%
12928 \newline%

12929 \setlength{\LWR@templengthone}{#2}%
12930 \ifdimgreater{\LWR@templengthone}{0pt}{\newline}{}%
12931 }
```

`\LWR@minipagestartpars` Minipages are often placed side-by-side inside figures, with a bit of horizontal space to separate them. Since HTML does not allow a `<div>` to be inside a `p`, paragraphs must be turned off during the generation of the minipage, then turned on after the minipage is complete. When this occurs between side-by-side minipages, `lwarp` correctly suppresses the paragraph tags between the minipages, unless some other text is between the minipages. Such text forms its own paragraph, resulting in text after a minipage to be on its own line. Since people often place small horizontal space between minipages, `\hspace`, `\enskip`, `\quad`, and `\qquad` it is desirable to maintain this space if possible. `lwarp` tries to do this by remembering that a minipage has been seen, in which case paragraph tags are suppressed around `\hspace`, `\enskip`, `\quad`, and `\qquad` until the end of the paragraph, when the closing `p` tag is created.

When a minipage is seen, the boolean `LWR@minipagethispar` is set, telling the following horizontal whitespace commands to try to suppress their surrounding paragraph tags. `LWR@minipagethispar` is cleared at the next end of paragraph, when the HTML paragraph closing tag is generated.

Placed just before `\hspace`, `\quad`, or `\qquad`'s HTML output.

```
12932 \newcommand*{\LWR@minipagestartpars}{%
12933 \ifbool{LWR@minipagethispar}{\LWR@startpars}{}%
12934 }
```

`\LWR@minipagestoppars` Placed just after `\hspace`, `\quad`, or `\qquad`'s HTML output.

```
12935 \newcommand*{\LWR@minipagestoppars}{%
12936 \ifbool{LWR@minipagethispar}{\LWR@stoppars}{}%
12937 }
```

`\quad` Handles special minipage & horizontal space interactions. Uses `2003 EM SPACE` to pass validation.

```
12938 \renewrobustcmd*{\quad}{%
12939 \LWR@minipagestoppars%
12940 \HTMLUnicode{2003}%
12941 \LWR@minipagestartpars%
12942 }
```

`\qquad` Handles special minipage & horizontal space interactions.

```
12943 \renewrobustcmd*{\qquad}{\quad\quad}
```

`\enskip` Handles special minipage & horizontal space interactions.

```
12944 \renewrobustcmd*{\enskip}{%
12945 \LWR@minipagestoppars%
12946 \HTMLUnicode{2002}%
12947 \LWR@minipagestartpars%
12948 }
```

Len `\LWR@tempwidth` Used to compute span width, height, raise for `\hspace` and `\rule`:

```
Len \LWR@tempheight
12949 \newlength{\LWR@tempwidth}
Len \LWR@tempraise
12950 \newlength{\LWR@tempheight}
12951 \newlength{\LWR@tempraise}
```

```
\LWR@select@html@hspace * {\langle length \rangle} * {\langle length \rangle}
\hspace
```

Handles special minipage & horizontal space interactions.

Prints a span of a given width. Ignores the optional star.

`\hspace{\fill}` is converted to `\hspace{2em}`, equal to `\quad`.

```
12952 \newcommand{\LWR@select@html@hspace}{%
12953 \RenewDocumentCommand{\hspace}{s m}{%
12954 \setlength{\LWR@tempwidth}{##2}%
```

If `\fill`, change to `\quad`:

```
12955 \ifnum\gluestretchorder\LWR@tempwidth>0%
12956 \setlength{\LWR@tempwidth}{2em}%
12957 \fi%
```

Only if the width is greater than zero:

```
12958 \ifdimcomp{\LWR@tempwidth}{>}{0pt}{%
```

If had a minipage this paragraph, try to inline the white space without generating paragraph tags:

```
12959 \LWR@minipagestoppars%
```

Support the HTML thin wrappable space:

```
12960 \ifdimcomp{\LWR@tempwidth}{=}{.16667em}%
12961 {%
12962 \HTMLUnicode{2009}% thin breakable space
12963 }%
```

Print the span with the converted width. Not rounded.

```
12964 {%
12965 \LWR@htmltagc{%
12966 span style="width:\LWR@printlength{\LWR@tempwidth}; % extra space
```

```

12967 display:inline-block"%
12968 }%

```

If formatting for a word processor, approximate with a number of `\quads`, in case a span of a given width is not supported:

```

12969 \ifbool{FormatWP}{%
12970 \setlength{\LWR@templengthone}{\LWR@tempwidth}%
12971 \whiledo{\lengthtest{\LWR@templengthone>1em}}{%
12972 \quad%
12973 \addtolength{\LWR@templengthone}{-1em}%
12974 }%
12975 }%

```

If NOT formatting for a word processor, include an empty comment to avoid an empty span:

```

12976 {\LWR@htmlcomment{}}%

```

Close the span:

```

12977 \LWR@htmltagc{/span}%
12978 }%

```

If had a minipage this paragraph, try to inline the white space without generating paragraph tags:

```

12979 \LWR@minipagestartpars%
12980 }{}% width greater than 0
12981 }%
12982 }

```

```

\LWR@select@html@nohspace *{\length}
\hspace

```

Used to disable `\hspace` while creating description `\items`.

```

12983 \newcommand{\LWR@select@html@nohspace}{%
12984 \RenewDocumentCommand{\hspace}{s m}{}%
12985 }

```

```

\LWR@select@print@hspace

```

```

12986 \newcommand*{\LWR@select@print@hspace}{%
12987 \renewrobustcmd\hspace{\@ifstar\@hspacer\@hspace}%
12988 }

```

```

\hspace *{\length}

```

Handles special minipage & horizontal space interactions.

```

12989 \LWR@select@html@hspace

```

`\LWR@vspace` \*  $\langle length \rangle$  Nullified `vspace`.

```
12990 \NewDocumentCommand{\LWR@HTML@vspace}{s m}{}
12991
12992 \LWR@formatted{vspace}
```

`\linebreak` [ $\langle num \rangle$ ] Inserts an HTML `br` tag.

```
12993 \renewcommand*\linebreak[1][\newline}
```

`\nolinebreak` [ $\langle num \rangle$ ]

```
12994 \renewcommand*\nolinebreak[1][{}]
```

`\pagebreak` [ $\langle num \rangle$ ] Starts a new paragraph.

```
12995 \renewcommand*\pagebreak[1][{}
12996
12997 }
```

`\nopagebreak` [ $\langle num \rangle$ ]

```
12998 \renewcommand*\nopagebreak[1][{}]
```

`\enlargethispage` \*  $\langle len \rangle$

```
12999 \RenewDocumentCommand{\enlargethispage}{s m}{}]
```

`\clearpage`

`\cleardoublepage`

```
13000 \renewcommand*\clearpage{}
13001 \renewcommand*\cleardoublepage{}]
```

`\rule` [ $\langle raise \rangle$ ] [ $\langle width \rangle$ ] [ $\langle height \rangle$ ]

Handles special minipage & horizontal space interactions.

Creates a span of a given width and height. Ignores the optional star.

`\fill` is zero-width, so `\hspace{\fill}` is ignored.

```
13002 \newcommand*\LWR@HTML@rule[3][\%]
```

The width is copied into a temporary L<sup>A</sup>T<sub>E</sub>X length, from which comparisons and conversions may be made:

```
13003 \setlength{\LWR@tempwidth}{#2}%]
```

If it's zero-width then skip the entire rule:

```
13004 \ifthenelse{\lengthtest{\LWR@tempwidth=0pt}}%
13005 {}% zero- width
13006 {% non-zero width
```

If it's non-zero width, set a minimal thickness so that it more reliably shows in the browser:

```
13007 \ifthenelse{%
13008 \lengthtest{\LWR@tempwidth>0pt}\AND%
13009 \lengthtest{\LWR@tempwidth<1pt}}%
13010 }%
13011 {\setlength{\LWR@tempwidth}{1pt}}%
13012 {}%
```

Likewise with height:

```
13013 \setlength{\LWR@tempheight}{#3}%
13014 \ifthenelse{%
13015 \lengthtest{\LWR@tempheight>0pt}\AND%
13016 \lengthtest{\LWR@tempheight<1pt}}%
13017 }%
13018 {\setlength{\LWR@tempheight}{1pt}}%
13019 {}%
```

If had a minipage this paragraph, try to inline the rule without generating paragraph tags:

```
13020 \LWR@minipagestoppars%
```

Print the span with the converted width and height. The width and height are NOT rounded, since a height of less than 1pt is quite common in L<sup>A</sup>T<sub>E</sub>X code.

```
13021 \LWR@findcurrenttextcolor%
13022 \LWR@htmltagc{%
13023 span\LWR@indentHTML%
13024 style="%
```

The HTML background color is used to draw the filled rule according to the L<sup>A</sup>T<sub>E</sub>X foreground color set by `\textcolor`.

```
13025 \ifbool{FormatWP}{\background:\LWR@currenttextcolor ; }%
```

The width and height are printed, converted to PT:

```
13026 width:\LWR@printlength{\LWR@tempwidth} ; %
13027 height:\LWR@printlength{\LWR@tempheight} ; %
```

The raise height is converted to a CSS transform. The \*2 raise multiplier is to approximately match HTML output's X height. Conversion to a L<sup>A</sup>T<sub>E</sub>X length allows a typical L<sup>A</sup>T<sub>E</sub>X expression to be used as an argument for the raise, whereas printing the raise argument directly to HTML output without conversion to a L<sup>A</sup>T<sub>E</sub>X length limits the

allowable syntax. To do: A superior method would compute a ratio of L<sup>A</sup>T<sub>E</sub>X ex height, then print that to HTML with an ex unit.

```

13028 \ifblank{#1}%
13029 {}%
13030 {%
13031 \setlength{\LWR@tempraise}{0pt-#1}%
13032 \setlength{\LWR@tempraise}{\LWR@tempraise*2}%
13033 \LWR@indentHTML%
13034 -ms-transform: translate(0pt,\LWR@printlength{\LWR@tempraise}); %
13035 \LWR@indentHTML%
13036 -webkit-transform: translate(0pt,\LWR@printlength{\LWR@tempraise}); %
13037 \LWR@indentHTML%
13038 transform: translate(0pt,\LWR@printlength{\LWR@tempraise}); %
13039 \LWR@indentHTML%
13040 }%

```

Display inline-block to place the span inline with the text:

```

13041 display:inline-block;"\LWR@orignewline%
13042 }%

```

If formatting for a word processor, approximate with a number of underscores, in case a span of a given width is not supported:

```

13043 \ifbool{FormatWP}{%
13044 \setlength{\LWR@templengthone}{\LWR@tempwidth}%
13045 \whiledo{\lengthtest{\LWR@templengthone>1em}}{%
13046 _{}%
13047 \addtolength{\LWR@templengthone}{-1em}%
13048 }%
13049 }%

```

If NOT formatting for a word processor, add a comment to avoid an empty <span>:

```

13050 {\LWR@htmlcomment{}}%

```

Close the span:

```

13051 \LWR@htmltagc{/span}%

```

If had a minipage this paragraph, try to inline the white space without generating paragraph tags:

```

13052 \LWR@minipagestartpars%
13053 }% non-zero width
13054 }
13055
13056 \LWR@formatted{rule}

13057 \end{warpHTML}

```



## 95 \phantomsection

**for HTML output:** 13058 \begin{warpHTML}

\LWR@phantomsection Emulate the hyperref \phantomsection command, often used to insert the bibliography into the table of contents. Ignores \ForceHTMLTOC.

```
13059 \newrobustcmd*{\LWR@phantomsection}{%
13060 \begingroup%
13061 \boolfalse{LWR@forcinghtmltoc}%
13062 \section*{}}%
13063 \endgroup%
13064 }
```

```
13065 \end{warpHTML}
```

## 96 \LaTeX and other logos

Logos for HTML and print modes:

Some of these logos may be redefined in a later package, so after loading other packages, and at the beginning of the document, their definitions are finally set by \LWR@formatted.

For CSS conversions, see:

<http://edward.oconnor.cx/2007/08/tex-poshlet>

<http://nitens.org/taraborelli/texlogo>

and the spacing described in the metafont package documentation.

```
for HTML & PRINT: 13066 \begin{warpall}
13067 \newbool{LWR@warnXe}
13068 \boolfalse{LWR@warnXe}
13069
13070 \newrobustcmd*{\Xe}
13071 {%
13072 X\hspace{-.1667em}\raisebox{-.5ex}{E}%
13073 \global\booltrue{LWR@warnXe}%
13074 }
13075
13076 \AtBeginDocument{
13077 \@ifpackageloaded{graphics}{
13078 \@ifpackageloaded{metalogo}{%
13079 \renewrobustcmd*{\Xe}
13080 {X\hspace{-.1667em}\raisebox{-.5ex}{\reflectbox{E}}}
13081 }
13082 }{}
13083 }
13084
13085 \AtEndDocument{
13086 \ifbool{LWR@warnXe}{
```

```

13087 \PackageWarningNoLine{lwarp}{Load graphicx or graphics
13088 for improved XeTeX logo}
13089 }{}
13090 }
13091
13092 \providerobustcmd*{\XeTeX}{\mbox{\Xe\hspace{- .125em}\TeX}}
13093 \providerobustcmd*{\XeLaTeX}{\mbox{\Xe\hspace{- .125em}\LaTeX}}
13094 \providerobustcmd*{\AmS}{%
13095 \leavevmode\hbox{$\mathcal A\kern-.2em\lower.376ex%
13096 \hbox{$\mathcal M$}\kern-.2em\mathcal S$}%
13097 }
13098 \newrobustcmd*{\LyX}{\textsf{LyX}}
13099 \providerobustcmd*{\LuaTeX}{\mbox{Lua\TeX}}
13100 \providerobustcmd*{\LuaLaTeX}{\mbox{Lua\LaTeX}}
13101 \providerobustcmd*{\BibTeX}{\mbox{B\textsc{ib}\TeX}}
13102 \providerobustcmd*{\MakeIndex}{\mbox{\textit{MakeIndex}}}
13103 \providerobustcmd*{\ConTeXt}{\mbox{Con\TeXt}}
13104 \providerobustcmd*{\MiKTeX}{\mbox{MiK\TeX}}
13105 \end{warpall}

```

**for HTML output:** 13106 \begin{warpHTML}

The print-mode versions of the following may be changed by `metalogo`, so their print formatting is recorded `\AtBeginDocument`.

`\TeX` `TEX`

`latexlogo` is a css class used to properly typeset the E and A in `LATEX` and friends.

`latexlogofont` is a css class used to select the font for the rest of the logo in `LATEX`, `LuaTeX`, `ConTeXt`, etc.

```

13107 \newrobustcmd*{\LWR@HTML@TeX}
13108 {%
13109 \InlineClass{latexlogofont}%
13110 {%
13111 \InlineClass{latexlogo}%
13112 {%
13113 T%
13114 \InlineClass{latexlogosub}{e}%
13115 X%
13116 }%
13117 }%
13118 }
13119 \AtBeginDocument{\LWR@formatted{TeX}}% may have been patched by metalogo

```

`\LaTeX` `LATEX`, `LATEX 2ε`

`\LaTeXe`

```

13120 \newrobustcmd*{\LWR@HTML@LaTeX}
13121 {%
13122 \InlineClass{latexlogofont}%
13123 {%
13124 \InlineClass{latexlogo}%
13125 {%

```

```

13126 L%
13127 \InlineClass{latexlogosup}{a}%
13128 T%
13129 \InlineClass{latexlogosub}{e}%
13130 X%
13131 }%
13132 }%
13133 }
13134
13135 \AtBeginDocument{\LWR@formatted{LaTeX}}% may have been patched by metalogo
13136
13137
13138 \newrobustcmd*{\LWR@HTML@LaTeXe}
13139 {%
13140 \LaTeX%
13141 \InlineClass{latexlogofont}{%
13142 \InlineClass{latexlogotwoe}{%
13143 2%
13144 \InlineClass{latexlogotwoesub}{\HTMLUnicode{03B5}}%
13145 }%
13146 }%
13147 }
13148 \AtBeginDocument{\LWR@formatted{LaTeXe}}% may have been patched by metalogo

```

\LuaTeX LuaTeX, Lua<sup>A</sup>TeX

\LuaLaTeX

```

13149 \newrobustcmd*{\LWR@HTML@LuaTeX}{\InlineClass{latexlogofont}{Lua}\TeX}
13150 \AtBeginDocument{\LWR@formatted{LuaTeX}}% may have been patched by metalogo
13151
13152 \newrobustcmd*{\LWR@HTML@LuaLaTeX}{\InlineClass{latexlogofont}{Lua}\LaTeX}
13153 \AtBeginDocument{\LWR@formatted{LuaLaTeX}}% may have been patched by metalogo

```

\XeTeX XeTeX, Xe<sup>A</sup>TeX

\XeLaTeX

xetexlogo is a css class which aligns the backwards E in XeTeX and spaces TeX appropriately.

xelatexlogo is a css class which aligns the backwards E in Xe<sup>A</sup>TeX and spaces <sup>A</sup>TeX appropriately.

```

13154 \newrobustcmd*{\LWR@HTML@Xe}
13155 {%
13156 X%
13157 \InlineClass{xelatexlogosub}{\HTMLUnicode{18e}}%
13158 }
13159 \AtBeginDocument{\LWR@formatted{Xe}}% may have been patched by metalogo
13160
13161 \newrobustcmd*{\LWR@HTML@XeTeX}{\InlineClass{xelatexlogo}{\Xe}\TeX}
13162 \AtBeginDocument{\LWR@formatted{XeTeX}}% may have been patched by metalogo
13163
13164 \newrobustcmd*{\LWR@HTML@XeLaTeX}{\InlineClass{xelatexlogo}{\Xe}\LaTeX}
13165 \AtBeginDocument{\LWR@formatted{XeLaTeX}}% may have been patched by metalogo

```

`\ConTeXt` **ConTeXt**

```

13166 \newrobustcmd*{\LWR@HTML@ConTeXt}{%
13167 \InlineClass{latexlogofont}{Con}\TeX{}}%
13168 \InlineClass{latexlogofont}{t}%
13169 }
13170 \LWR@formatted{ConTeXt}

```

`\BibTeX` **BIB<sub>T</sub>X**, *MakeIndex*`\MakeIndex`

```

13171 \newrobustcmd*{\LWR@HTML@BibTeX}
13172 {\InlineClass{latexlogofont}{B\textsc{ib}}\TeX}
13173 \LWR@formatted{BibTeX}
13174
13175 \newrobustcmd*{\LWR@HTML@MakeIndex}
13176 {\InlineClass{latexlogofont}{\textit{MakeIndex}}}
13177 \LWR@formatted{MakeIndex}

```

`\AmS` **AMS**

`amslogo` is a css class used for the **AMS** logo.

```

13178 \AtBeginDocument{%
13179 \newrobustcmd*{\LWR@HTML@AmS}
13180 {%
13181 \InlineClass{amslogo}{%
13182 \textit{%
13183 A%
13184 \InlineClass{latexlogosub}{M}%
13185 S%
13186 }%
13187 }%
13188 }%
13189 \LWR@formatted{AmS}
13190 }

```

`\MiKTeX` **MiKTeX**

```

13191 \newrobustcmd*{\LWR@HTML@MiKTeX}{\InlineClass{latexlogofont}{MiK}\TeX}
13192 \LWR@formatted{MiKTeX}

```

`\LyX` **LyX**

`lyxlogo` is a css class used for the **LyX** logo.

```

13193 \newrobustcmd*{\LWR@HTML@LyX}{\InlineClass{lyxlogo}{LyX}}
13194 \LWR@formatted{LyX}

13195 \end{warpHTML}

```

## 97 Starting and stopping lwarp

**for HTML output:** 13196 `\begin{warpHTML}`

`\LWR@LwarpStart` Automatically sets up the HTML-related actions for the start and end of the document.

```
\LWR@LwarpEnd
13197 \AfterEndPreamble{\LWR@LwarpStart}
13198 \AtEndDocument{\LWR@LwarpEnd}

13199 \end{warpHTML}
```

## 98 Loading everyshi patches

`everyshi` is emulated by the  $\LaTeX$  core, so its patches are loaded here. `\AtBeginDocument` is used in case an older version of  $\LaTeX$  is used.

**for HTML output:** 13200 `\begin{warpHTML}`  
 13201 `\AtBeginDocument{`  
 13202     `\ifpackageloaded{everyshi}{`  
 13203         `\RequirePackage{lwarp-everyshi}`  
 13204     `}`  
 13205 `}`  
 13206 `\end{warpHTML}`

## 99 Loading textcomp patches

`textcomp` has now been integrated into the  $\LaTeX$  core, so its patches are loaded now.

**for HTML output:** 13207 `\begin{warpHTML}`  
 13208 `\RequirePackage{lwarp-textcomp}`  
 13209 `\end{warpHTML}`

## 100 Loading amsmath, amsthm patches, centernot

`amsmath`, `amsthm`, and `centernot` may have been preloaded, such as by `newtx`, so their patches are loaded now.

**for HTML output:** 13210 `\begin{warpHTML}`  
 13211 `\ifpackageloaded{amsthm}{`  
 13212     `\RequirePackage{lwarp-amsthm}`  
 13213 `}`  
  
 13214 `\ifpackageloaded{amsmath}{`  
 13215     `\RequirePackage{lwarp-amsmath}`  
 13216 `}`

amsthm may load centernot, so centernot must be checked second.

```
13217 \@ifpackageloaded{centernot}{
13218 \RequirePackage{lwarp-centernot}
13219 }{}
13220 \end{warpHTML}
```

## 101 Loading KOMA-SCRIPT class patches

Load patches to koma-script.

```
for HTML output: 13221 \begin{warpHTML}

13222 \@ifclassloaded{scrbook}{\RequirePackage{lwarp-patch-komascript}}{}
13223 \@ifclassloaded{scrartcl}{\RequirePackage{lwarp-patch-komascript}}{}
13224 \@ifclassloaded{scrreprt}{\RequirePackage{lwarp-patch-komascript}}{}

13225 \end{warpHTML}
```

## 102 Loading MEMOIR class patches

Load patches to memoir.

```
for HTML & PRINT: 13226 \begin{warpprint}
13227 \@ifclassloaded{memoir}{\LWR@origRequirePackage{xcolor}}{}
13228 \end{warpprint}

for HTML output: 13229 \begin{warpHTML}
13230 \@ifclassloaded{memoir}{\RequirePackage{lwarp-patch-memoir}}{}
13231 \end{warpHTML}
```

## 103 ut\* class patches

Load patches to uj\* and ut\* classes, as well as ltj\* classes.

```
for HTML output: 13232 \begin{warpHTML}

13233 \newcommand*{\LWR@patchujtclasses}{

 uj/t does not use \partname

13234 \def\@partnameformat{}

13235 \def\@partcntformat##1{%
13236 \prepartname%
```

```

13237 \csname the##1\endcsname%
13238 \postpartname%
13239 \quad%
13240 }
13241 \@ifundefined{chapter}{}{
13242 \def\@chapcntformat##1{%
13243 \prechaptername%
13244 \csname the##1\endcsname%
13245 \postchaptername%
13246 \quad%
13247 }
13248 }
13249 \renewcommand*\LWR@printchaptername{}}

```

Use decimal points instead of centered dots:

```

13250 \renewcommand{\thepart}{\@Roman\c@part}
13251 \@ifundefined{chapter}{
13252 \renewcommand{\thesection}{\@arabic\c@section}
13253 }{
13254 \renewcommand{\thechapter}{\@arabic\c@chapter}
13255 \renewcommand{\thesection}{\thechapter.\@arabic\c@section}
13256 }
13257 \renewcommand{\thesubsection}{\thesection.\@arabic\c@subsection}
13258 \renewcommand{\thesubsubsection}{%
13259 \thesubsection.\@arabic\c@subsubsection}
13260 \renewcommand{\theparagraph}{%
13261 \thesubsubsection.\@arabic\c@paragraph}
13262 \renewcommand{\thesubparagraph}{%
13263 \theparagraph.\@arabic\c@subparagraph}
13264 \@ifundefined{chapter}{
13265 \renewcommand{\thefigure}{\@arabic\c@figure}
13266 \renewcommand{\thetable}{\@arabic\c@table}
13267 }{
13268 \renewcommand{\thefigure}{%
13269 \ifnum\c@chapter>\z@\thechapter.\fi\@arabic\c@figure}
13270 \renewcommand{\thetable}{%
13271 \ifnum\c@chapter>\z@\thechapter.\fi\@arabic\c@table}
13272 }
13273 }
13274
13275 \@ifclassloaded{ujarticle}{\LWR@patchujtclasses}{}
13276 \@ifclassloaded{ujbook}{\LWR@patchujtclasses}{}
13277 \@ifclassloaded{ujreport}{\LWR@patchujtclasses}{}
13278 \@ifclassloaded{utarticle}{\LWR@patchujtclasses}{}
13279 \@ifclassloaded{utbook}{\LWR@patchujtclasses}{}
13280 \@ifclassloaded{utreport}{\LWR@patchujtclasses}{}
13281 \@ifclassloaded{ltjarticle}{\LWR@patchujtclasses}{}
13282 \@ifclassloaded{ltjbook}{\LWR@patchujtclasses}{}
13283 \@ifclassloaded{ltjreport}{\LWR@patchujtclasses}{}
13284 \@ifclassloaded{ltjsarticle}{\LWR@patchujtclasses}{}
13285 \@ifclassloaded{ltjsbook}{\LWR@patchujtclasses}{}
13286 \@ifclassloaded{ltjsreport}{\LWR@patchujtclasses}{}
13287 \@ifclassloaded{ltjskiyou}{\LWR@patchujtclasses}{}
13288 \@ifclassloaded{ltjspf}{\LWR@patchujtclasses}{}

```

```

13289 \@ifclassloaded{ltjtarticle}{\LWR@patchujtclasses}{}
13290 \@ifclassloaded{ltjtbook}{\LWR@patchujtclasses}{}
13291 \@ifclassloaded{ltjtreport}{\LWR@patchujtclasses}{}

13292 \end{warpHTML}

```

## 104 CTEX patches

Patches for `ctex` and related classes, which are loaded before `lwarp`.

All CTEX classes and the `ctex` package seem to load `ctexpatch`, so its presence is used to decide whether to have `lwarp` patch CTEX.

**for HTML output:** 13293 \begin{warpHTML}

\AtBeginDocument in case the user set `FileSectionNames` in the preamble.

```

13294 \AtBeginDocument{
13295 \@ifpackageloaded{ctexpatch}{%
13296 \def\@partcntformat#1{%
13297 \LWR@isolate{\CTEX@partname}~%
13298 \CTEX@part@aftername%
13299 }%
13300
13301 \def\@partnameformat{}
13302
13303 \def\@chapcntformat#1{%
13304 \LWR@isolate{\CTEX@chaptername}~%
13305 \CTEX@chapter@aftername%
13306 }%
13307
13308 \renewcommand*\LWR@printchaptername{}
13309 }{}
13310 }

13311 \end{warpHTML}

```

## 105 kotexutf patches

Patch for `kotexutf`, which is loaded before `lwarp`.

`kotexutf`'s `\@setref` was conflicting with `lwarp`'s cross references.

**for HTML output:** 13312 \begin{warpHTML}

If `kotexutf`'s version of `\@setref` is detected, it is reverted to the original.

```

13313 \AtBeginDocument{
13314 \@ifpackageloaded{kotexutf}{%

```



```

13315 \def\LWR@kotexutf@setref#1#2#3{%
13316 \@setref@dhuks@orig{#1}{#2}{#3}%
13317 \ifx#1\relax\else
13318 \bgroup
13319 \dhuks@make@CJKchar@null
13320 \edef\@temp{\expandafter#2#1}\global\josatoks\expandafter{\@temp}%
13321 \egroup
13322 \fi%
13323 }%
13324
13325 \ifdefequal{\@setref}{\LWR@kotexutf@setref}{
13326 \let\@setref\@setref@dhuks@orig
13327 }{}
13328 }{}
13329 }

13330 \end{warpHTML}

```

## 106 babel and polyglossia warnings

lwarp prints a message instructing the user how to avoid the following error.

(These are not `\PackageWarnings` because there may not be a problem.)

lwarp uses `cleveref`, which has some limitations when using `polyglossia`, possibly resulting in the error

```
! Undefined control sequence. . . . \@begindocumenthook
```

To test compatibility, add

```
\usepackage{cleveref}
```

near the end of the preamble (as the last package to be loaded), and try to compile the print version. It may be necessary to set

```
\setdefaultlanguage{english}
```

or some other language supported by `cleveref`, then select other languages using `\setotherlanguages`.

Once the print version works with `cleveref` and `polyglossia`, the HTML version should work as well using `lwarp`.

```

for HTML output: 13331 \begin{warpHTML}
13332 \AtBeginDocument{
13333
13334 \ifpackageloaded{polyglossia}{
13335 \PackageWarningNoLine{lwarp}
13336 {%
13337 Polyglossia has been loaded. Lwarp also uses cleveref.\MessageBreak
13338 See the cleveref documentation regarding\MessageBreak
13339 polyglossia support. Some languages are not supported%

```

```

13340 }
13341 \typeout{---}
13342 \typeout{Package lwarp:}
13343 \typeout{If the error}
13344 \typeout{\space\space‘! Undefined control sequence.
13345 \space ... \space \protect\@begindocumenthook’}
13346 \typeout{occurs here, use the polyglossia macro:}
13347 \typeout{\space\space\protect\setmainlanguage\protect{...\protect}}
13348 \typeout{---}
13349 }{
13350 \@ifpackageloaded{babel}{
13351 \PackageWarningNoLine{lwarp}
13352 {%
13353 Babel has been loaded. Lwarp also uses cleveref.\MessageBreak
13354 See the cleveref documentation regarding\MessageBreak
13355 babel support. Some languages are not supported%
13356 }
13357 }{}
13358 }
13359
13360 }
13361 \end{warpHTML}

```

## 107 MATHJAX warnings

`\LWR@mathjaxwarn`  $\langle packagename \rangle$   $\langle More\ text. \rangle$

To be done `\AtBeginDocument`.

```

13362 \newcommand*{\LWR@mathjaxwarn}[2]{%
13363 \@ifpackageloaded{lwarp-#1}{%
13364 \ifblank{#2}{%
13365 \PackageWarningNoLine{lwarp}
13366 {%
13367 Lwarp provides emulation for MathJax when used\MessageBreak
13368 with the #1 package%
13369 }
13370 }{%
13371 \PackageWarningNoLine{lwarp}
13372 {%
13373 Lwarp provides emulation for MathJax when used\MessageBreak
13374 with the #1 package.\MessageBreak
13375 #2%
13376 }
13377 }%
13378 }{}%
13379 }
13380
13381 % \begin{macro}{\LWR@nomathjaxwarn} \marg{packagename} \marg{More text.}
13382 %
13383 % To be done \cs{AtBeginDocument}.
13384 %

```

```

13385 % \changes{v0.894}{2020/12/22}{Warn if using packages not supported by \brand{MathJax}.}
13386 % \begin{macrocode}
13387 \newcommand*{\LWR@nomathjaxwarn}[2]{%
13388 \ifpackageloaded{lwarp-#1}{%
13389 \ifblank{#2}{%
13390 \PackageWarningNoLine{lwarp}
13391 {%
13392 Lwarp does not provide MathJax support for #1%
13393 }
13394 }{%
13395 \PackageWarningNoLine{lwarp}
13396 {%
13397 Lwarp does not provide MathJax support for #1.\MessageBreak
13398 #2%
13399 }
13400 }%
13401 }{}%
13402 }

```

`\LWR@forceSVGmessage`  $\langle\textit{packagename}\rangle$

```

13403 \newcommand*{\LWR@forceSVGmessage}[1]{%
13404 SVG math output may be enabled for select math\MessageBreak
13405 expressions to preserve #1 visual\MessageBreak
13406 features for those particular expressions.\MessageBreak
13407 Before the chosen inline math, use \protect\inlinemathother\MessageBreak
13408 to begin using SVG math, and \protect\inlinemathnormal\MessageBreak
13409 afterward to resume using MathJax math.\MessageBreak
13410 Before display math, use \protect\displaymathother\MessageBreak
13411 to begin using SVG math, and use \protect\displaymathnormal\MessageBreak
13412 after to resume using MathJax for the following math%
13413 }

```

If MATHJAX is being used, issue a warning for certain packages.

```

13414 \AtBeginDocument{
13415 \ifbool{mathjax}{
13416 \LWR@mathjaxwarn{arydshln}
13417 {In a math array, do not use the optional argument\MessageBreak
13418 for \protect\cdashline.\space\space
13419 Furthermore, \protect\cline\space is not\MessageBreak
13420 supported by MathJax}
13421 \LWR@mathjaxwarn{autonum}
13422 {MathJax does not support equation+.\MessageBreak
13423 You may use the warpprint and warpHTML\MessageBreak
13424 environments to isolate the package load\MessageBreak
13425 and the equation+ environments}
13426 \LWR@mathjaxwarn{bigdelim}
13427 {Delimiters appear only of the first line}
13428 \LWR@mathjaxwarn{booktabs}
13429 {\protect\cmidrule\space is not displayed}
13430 \LWR@mathjaxwarn{breqn}
13431 {Each environment becomes an SVG image}
13432 \LWR@mathjaxwarn{colortbl}

```

```

13433 {Colors are ignored in MathJax.\MessageBreak
13434 (Text mode tabular does support colortbl.)\MessageBreak
13435 \LWR@forceSVGmessage{colortbl}}
13436 \LWR@mathjaxwarn{delarray}
13437 {\LWR@forceSVGmessage{delarray}}
13438 \LWR@nomathjaxwarn{gauss}
13439 {\LWR@forceSVGmessage{gauss}}
13440 \LWR@mathjaxwarn{hhline}
13441 {A simple \protect\hline\space is used}
13442 \LWR@nomathjaxwarn{jkmath}
13443 {\LWR@forceSVGmessage{jkmath}}
13444 \LWR@mathjaxwarn{mathtools}
13445 {See the Lwarp manual regarding the disallowspaces\MessageBreak
13446 and showonlyrefs options, the alignat environment,\MessageBreak
13447 and \protect\DeclarePairedDelimiter\space and related%
13448 }
13449 \LWR@mathjaxwarn{mathspec}
13450 {Double quotes are removed, even inside \protect\text}
13451 \LWR@mathjaxwarn{multirow}
13452 {Multirow works as expected in text mode, but\MessageBreak
13453 limited emulation is provided for MathJax math.\MessageBreak
13454 \protect\multirow\space ignores all arguments except\MessageBreak
13455 the text}
13456 \LWR@mathjaxwarn{nicematrix}
13457 {Keys/values are ignored in MathJax.\MessageBreak
13458 \protect\Cdots, etc. do not span multiple cells.\MessageBreak
13459 AutoNiceMatrix, etc. are not supported for MathJax.\MessageBreak
13460 \LWR@forceSVGmessage{nicematrix}%
13461 }
13462 \LWR@nomathjaxwarn{pb-diagram}
13463 {\LWR@forceSVGmessage{pb-diagram}}
13464 % \LWR@mathjaxwarn{physics}
13465 % {The third-party extension is not used.\MessageBreak
13466 % {The MathJax v3 extension is used.\MessageBreak
13467 % See the Lwarp manual for details}
13468 \LWR@mathjaxwarn{unicode-math}
13469 {Do not use embedded Unicode characters.\MessageBreak
13470 Not all characters are encoded correctly.\MessageBreak
13471 \protect\left\space and \protect\right\space may not work.\MessageBreak
13472 Some symbol fonts are not supported by MathJax,\MessageBreak
13473 and are only approximated.\MessageBreak
13474 Latin characters may not be correct}
13475 \LWR@nomathjaxwarn{unitsdef}{ }
13476 \LWR@mathjaxwarn{witharrows}
13477 {Arrows can only point to the next line.\MessageBreak
13478 Text is only placed on a single line}
13479 \LWR@nomathjaxwarn{xy}
13480 {In text, xy works as-is. SVG images will be generated.\MessageBreak
13481 \LWR@forceSVGmessage{xy}}
13482 }{}
13483 }

```

---

 File 2 **lwarp-2in1.sty**

§ 108 Package **2in1**

Pkg 2in1 2in1 is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{2in1}

---

 File 3 **lwarp-2up.sty**

§ 109 Package **2up**

Pkg 2up 2up is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{2up}[2010/05/15]

```

2 \def\source#1#2#3{}
3 \def\target#1#2#3{}
4 \def\targetlayout#1{}
5 \newdimen\pageseplength
6 \newdimen\pagesepwidth
7 \newdimen\pagesepoffset
8 \def\twoupemptypage{}
9 \def\twoupclearpage{}
10 \def\twoupeject{}
11 \def\twouparticle{}
12 \def\twoupplain{}
13 \def\twouplegaltarget{}
14 \def\twouplandscape{}
15 \def\twoupwrites{}

```

---

 File 4 **lwarp-a4.sty**

§ 110 Package **a4**

Pkg a4 a4 is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{a4}[2004/04/15]

```

2 \newcommand*{\WideMargins}{}

```

File 5 **lwarp-a4wide.sty**§ 111 Package **a4wide**

Pkg a4wide a4wide is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{a4wide}[1994/08/30]

File 6 **lwarp-a5comb.sty**§ 112 Package **a5comb**


Pkg a5comb a5comb is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{a5comb}

File 7 **lwarp-abstract.sty**§ 113 Package **abstract**

*(Emulates or patches code by PETER WILSON.)*

Pkg abstract abstract is supported and patched by lwarp.

 **missing TOC** If using the number option with file splits, be sure to place the table of contents before the abstract. The number option causes a section break which may cause a file split, which would put a table of contents out of the home page if it is after the abstract.

**for HTML output:** memoir provides an abstract environment even though it is not an article or report class. Meanwhile, lwarp loads book to emulate memoir, but book does not have an abstract environment, so when the abstract package is loaded for emulation there is no pre-existing abstract to redefine, which would cause an error. Thus, a null abstract is provide here:

```
1 \ProvideDocumentEnvironment{abstract}{}{}{}
```

Accept all options for lwarp-abstract:

```
2 \LWR@ProvidesPackagePass{abstract}[2009/06/08]
```

```
3 \AtBeginDocument{
4 \BeforeBeginEnvironment{abstract}{
5 \LWR@forcenewpage
6 \BlockClass{abstract}
```

```

7 }
8 \AfterEndEnvironment{abstract}{\endBlockClass}
9 }
10
11 \renewcommand{@bsrunintitle}{%
12 \hspace*{\abstitleskip}%
13 {\abstractnamefont%
14 \InlineClass{abstractrunintitle}{\abstractname}%
15 \@bslabeldelim}%
16 }

17 \@ifclassloaded{memoir}
18 {
19 \renewenvironment{abstract}{%
20 % \titlepage
21 % \null\vfil
22 % \@beginparpenalty\@lowpenalty
23 \setupabstract
24 \if@bsrunin
25 \else
26 % \if@bsstyle
27 % \abstitlestyle{\BlockClassSingle{abstracttitle}{\abstractname}}
28 % \else
29 % \ifnumber@bs
30 % \num@bs
31 % \else
32 % \begin{\absnamepos}%
33 \abstractnamefont \BlockClassSingle{abstracttitle}{\abstractname}
34 % \endparpenalty\@M
35 % \end\absnamepos%
36 % \vspace{\abstitleskip}%
37 % \fi
38 % \fi
39 % \vspace{\abstitleskip}%
40 \fi
41 \put@bsintoc%
42 \begin{@bsrunintitle}\if@bsrunin\@bsrunintitle\fi\abstracttextfont}%
43 {\par\end{@bsrunintitle}\vfil\null%\endtitlepage
44 }
45 }{% not memoir
46 \if@titlepage
47 \renewenvironment{abstract}{%
48 % \titlepage
49 % \null\vfil
50 % \@beginparpenalty\@lowpenalty
51 % \if@bsrunin
52 % \else
53 % \if@bsstyle
54 % \abstitlestyle{\BlockClassSingle{abstracttitle}{\abstractname}}
55 % \else
56 % \ifnumber@bs
57 % \num@bs
58 % \else
59 % \begin{\absnamepos}%
60 \abstractnamefont \BlockClassSingle{abstracttitle}{\abstractname}

```

```

61 \endparpenalty\@M
62 \end\absnamepos%
63 %% \vspace{\abstitlekip}%
64 \fi
65 \fi
66 \vspace{\abstitlekip}%
67 \fi
68 \put@bsintoc%
69 \begin{@bstr@ctlist}\if@bsrunin\@bsrunintitle\fi\abstracttextfont}%
70 {\par\end{@bstr@ctlist}\vfil\null%\endtitlepage
71 }
72 \else
73 \renewenvironment{abstract}{%
74 \if@bsrunin
75 \else
76 \if@bsstyle
77 \abstitlestyle{\BlockClassSingle{abstracttitle}{\abstractname}}
78 \else
79 \ifnumber@bs
80 \num@bs
81 \else
82 \begin{\absnamepos}%
83 \abstractnamefont\BlockClassSingle{abstracttitle}{\abstractname}%
84 \end\absnamepos%
85 %% \vspace{\abstitlekip}%
86 \fi
87 \fi
88 \vspace{\abstitlekip}%
89 \fi
90 \put@bsintoc%
91 \begin{@bstr@ctlist}\if@bsrunin\@bsrunintitle\fi\abstracttextfont}%
92 {\par\end{@bstr@ctlist}}
93 \fi
94 }% not memoir

```

---

## File 8 **lwarp-academics.sty**

### § 114 Package **academics**

*(Emulates or patches code by DIOGO A. B. FERNANDES.)*

Pkg academics **academics** is patched for use by **lwarp**.

If `\aiicon` is used, the name of the icon is used in the `alt` tag. Otherwise, for each of the individual icon macros, a generic `alt` tag is used.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{academics}[2018/06/27]
2 \LetLtxMacro\LWR@orig@symbol\symbol
3
4 \let\LWR@academics@orig@AI\AI
5
6 \newcommand*{\LWR@academics@symbol}[1]{%

```



```

7 \begin{lateximage}*[academicon][academicons#1]%
8 \begingroup%
9 \LWR@academicons@orig@AI%
10 \LWR@orig@symbol{#1}%
11 \endgroup%
12 \end{lateximage}%
13 }
14
15 \renewcommand*{\AI}{%
16 \LetLtxMacro\symbol\LWR@academicons@symbol%
17 }
18
19 \renewcommand*{\aiicon}[1]
20 {%
21 \begin{lateximage}*[#1 icon][academicons#1]%
22 \AI\csname aiicon@#1\endcsname%
23 \end{lateximage}%
24 }

```

---

File 9 **lwarp-accents.sty**

§ 115 Package **accents**

(Emulates or patches code by JAVIER BEZOS.)

Pkg accents accents is used as-is for SVG math, and is emulated for MATHJAX.

for HTML output: 1 \LWR@ProvidesPackagePass{accents}[2006/05/12]

For MATHJAX:

```

2 \begin{warpMathJax}
3 \LWR@infoprocessingmathjax{accents}
4
5 \CustomizeMathJax{\newcommand{\ring}[1]{\mathring{#1}}}
6 \CustomizeMathJax{\newcommand{\accentset}[2]{\overset{#1}{#2}}}

```

As of this writing, MATHJAX v3 does not yet support groups for macros, so for `\underaccent`, the originals are remembered here, then they are temporarily redefined and used inside `\underaccent`, then restored to their originals. `\LARGE` gives a reasonable size, and `\raise` is used to adjust vertically without introducing extra line space.

```

7 \CustomizeMathJax{\let\LWRgrave\grave}
8 \CustomizeMathJax{\let\LWRacute\acute}
9 \CustomizeMathJax{\let\LWRcheck\check}
10 \CustomizeMathJax{\let\LWRbreve\breve}
11 \CustomizeMathJax{\let\LWRbar\bar}
12 \CustomizeMathJax{\let\LWRhat\hat}
13 \CustomizeMathJax{\let\LWRdot\dot}
14 \CustomizeMathJax{\let\LWRtilde\tilde}
15 \CustomizeMathJax{\let\LWRddot\ddot}

```

```

16 \CustomizeMathJax{\let\LWRvec\vec}
17 \CustomizeMathJax{\let\LWRwidetilde\widetilde}
18
19 \CustomizeMathJax{\newcommand{\underaccent}[2]{%
20 {%
21 \renewcommand{\grave}[1]{\LARGE\LWRgrave{##1}}}%
22 \renewcommand{\acute}[1]{\LARGE\LWRacute{##1}}}%
23 \renewcommand{\check}[1]{\LARGE\LWRcheck{##1}}}%
24 \renewcommand{\breve}[1]{\LARGE\LWRbreve{##1}}}%
25 \renewcommand{\bar}[1]{\LARGE\LWRbar{##1}}}%
26 \renewcommand{\hat}[1]{\LARGE\LWRhat{##1}}}%
27 \renewcommand{\dot}[1]{\LARGE\LWRdot{##1}}}%
28 \renewcommand{\tilde}[1]{\LARGE\LWRtilde{##1}}}%
29 \renewcommand{\ddot}[1]{\LARGE\LWRddot{##1}}}%
30 \renewcommand{\vec}[1]{\LARGE\LWRvec{##1}}}%
31 \renewcommand{\widetilde}[1]{\LARGE\LWRwidetilde{\hphantom{#2}}}%
32 \underset{\raise 2pt {#1}}{#2}%
33 \let\grave\LWRgrave%
34 \let\acute\LWRacute%
35 \let\check\LWRcheck%
36 \let\breve\LWRbreve%
37 \let\bar\LWRbar%
38 \let\hat\LWRhat%
39 \let\dot\LWRdot%
40 \let\tilde\LWRtilde%
41 \let\ddot\LWRddot%
42 \let\vec\LWRvec%
43 \let\widetilde\LWRwidetilde%
44 }%
45 }}
46
47 \CustomizeMathJax{\newcommand{\undertilde}[1]{%
48 \underset{\raise 3pt {\widetilde{\hphantom{#1}}}}{#1}%
49 }}
50 \end{warpMathJax}

```

---

File 10 **lwarp-accessibility.sty**

§ 116 Package **accessibility**

Pkg accessibility accessibility is emulated.

**for HTML output:** Discard all options for lwarp-accessibility:

```

1 \LWR@ProvidesPackageDrop{accessibility}[2019/10/14]

2 \newcommand{\alt}[1]{\ThisAltText{#1}}
3 \newcommand{\newhref}[3]{\ThisAltText{#2}\LWR@href{#1}{#3}}%
4 \providecommand{\thead}[1]{\textbf{#1}}

```

For MATHJAX:

---

```

5 \begin{warpMathJax}
6 \CustomizeMathJax{\newcommand{\alt}[1]{} }
7 \CustomizeMathJax{\newcommand{\thead}[1]{\text{\textbf{#1}}}}
8 \end{warpMathJax}

```

---

File 11 **lwarp-accsupp.sty**

§ 117 Package **accsupp**

Pkg accsupp accsupp is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{accsupp}[2018/03/28]

```

2 \newcommand*{\BeginAccSupp}[1]{}
3 \newcommand*{\EndAccSupp}[1]{}

```

For MATHJAX:

```

4 \begin{warpMathJax}
5 \CustomizeMathJax{\newcommand{\BeginAccSupp}[1]{} }
6 \CustomizeMathJax{\newcommand{\EndAccSupp}[1]{} }
7 \end{warpMathJax}

```


---

File 12 **lwarp-acro.sty**

§ 118 Package **acro**

(Emulates or patches code by CLEMENS NIEDERBERGER.)

Pkg acro acro is patched for use by lwarp.

 **formats** Define acronymn formats using \textbf instead of \bfseries etc.

**for HTML output:** 1 \LWR@ProvidesPackagePass{acro}[2019/10/12]

\DeclareAcronym is used in the preamble, where lwarp has not yet made the dollar active, so temporarily enable lwarp math catcode just for this definition:

```

2 \ExplSyntaxOn
3 \NewDocumentCommand \LWR@DeclareAcronym {mm}
4 {
5 \acro_declare_acronym:nn {#1} {#2}
6 \catcode'\$=3% lwarp
7 }
8 \ExplSyntaxOff
9
10 \RenewDocumentCommand{\DeclareAcronym}{}{
11 \catcode'\$=\active% lwarp
12 \LWR@DeclareAcronym
13 }

```

Modified to activate the current font:

```

14 \ExplSyntaxOn
15 \@ifpackagelater{acro}{2020/04/29}%
16 {}% v3 or later
17 {}% before v3
18 \@ifpackagelater{acro}{2019/09/23}%
19 {}% v2.10 or later
20 \cs_gset_protected:Npn __acro_typeset:nn #1#2
21 {
22 \mode_if_horizontal:F { \leavevmode }
23 \group_begin:
24 \use:x
25 {
26 \bool_if:cTF {l__acro_custom_#1_format_bool}
27 { \exp_not:v {l__acro_custom_#1_format_tl} }
28 { \exp_not:v {l__acro_#1_format_tl} }
29 { \exp_not:N\LWR@textcurrentfont{#2}}% lwarp
30 }
31 \group_end:
32 }
33
34 \cs_gset_protected:Npn __acro_ending_format:nn #1#2
35 {
36 \bool_if:NTF \l__acro_include_endings_format_bool
37 {
38 \str_case:nn {#1}
39 {
40 {long}
41 {
42 \bool_if:NTF \l__acro_custom_long_format_bool
43 { \l__acro_custom_long_format_tl }
44 {
45 \bool_if:NTF \l__acro_first_instance_bool
46 { \l__acro_first_long_format_tl }
47 { \l__acro_long_format_tl }
48 }
49 }
50 } {short}
51 {
52 \bool_if:NTF \l__acro_custom_short_format_bool
53 { \l__acro_custom_short_format_tl }
54 { \l__acro_short_format_tl }
55 }
56 } {alt}
57 {
58 \bool_if:NTF \l__acro_custom_alt_format_bool
59 { \l__acro_custom_alt_format_tl }
60 { \l__acro_alt_format_tl }
61 }
62 }
63 }
64 { \use:n }
65 { \exp_not:N\LWR@textcurrentfont{#2}}% lwarp
66 }

```

```

67 }% v2.10 or later
68 {% before v2.10
69 \cs_gset_protected:Npn \acro_write_short:nn #1#2
70 {
71 \mode_if_horizontal:F { \leavevmode }
72 \group_begin:
73 \bool_if:NTF \l__acro_custom_format_bool
74 { \l__acro_custom_format_tl }
75 { \l__acro_short_format_tl }
76 {\LWR@textcurrentfont{#2}}% lwarp
77 \group_end:
78 }
79
80 \cs_gset_protected:Npn \acro_write_alt:nn #1#2
81 {
82 \mode_if_horizontal:F { \leavevmode }
83 \group_begin:
84 \bool_if:NTF \l__acro_custom_format_bool
85 { \l__acro_custom_format_tl }
86 { \l__acro_alt_format_tl }
87 {\LWR@textcurrentfont{#2}}% lwarp
88 \group_end:
89 }
90
91 \cs_gset_protected:Npn \acro_write_long:nn #1#2
92 {
93 \mode_if_horizontal:F { \leavevmode }
94 \group_begin:
95 \bool_if:NTF \l__acro_custom_long_format_bool
96 { \l__acro_custom_long_format_tl }
97 { \use:n }
98 {
99 \use:x
100 {
101 \exp_not:n {#1}
102 {
103 \bool_if:NTF \l__acro_first_upper_bool
104 { \exp_not:N __acro_first_upper_case:n { \exp_not:n {
105 \LWR@textcurrentfont{#2}}% lwarp
106 } } }
107 { \exp_not:n {\LWR@textcurrentfont{#2}} }% lwarp
108 }
109 }
110 }
111 \group_end:
112 }
113 }% before v2.10
114 }% before v3
115 \ExplSyntaxOff

```

File 13 **lwarp-acronym.sty**§ 119 Package **acronym**

(Emulates or patches code by TOBIAS OETIKER.)

Pkg acronym acronym is patched for use by lwarp.

⚠ multiply-defined labels \acresetall does not work with cleveref, causing multiply-defined labels. lwarp patches acronym for HTML, but not for print mode.

for HTML output: 1 \LWR@ProvidesPackagePass{acronym}[2015/03/21]

Uses \textit instead of \itshape:

```
2 \renewcommand{\acfia}[1]{%
3 {\textit{\AC@acl{#1}}} (\ifAC@starred\acs*{#1}\else\acs{#1}\fi)}
```

Removes the mbox to allow math inside:

```
4 \renewcommand*\AC@acs[1]{%
5 % \mbox{
6 \expandafter\AC@get\csname fn@#1\endcsname\@firstoftwo{#1}}
7 }
```

Fix for acronym labels in the captions of floats.

```
8 \renewcommand{\@starttoc}[1]{
9 \LWR@html@elementclass{nav}{#1}
10 \LetLtxMacro\@verridelabel\@gobble
11 \LWR@orig@starttoc{#1}
12 \LWR@html@elementclassend{nav}{#1}
13 }
```

Modified for cleveref and lwarp:

```
14 \renewcommand*\AC@und@newl@bel[3]{%
15 \@ifundefined{#1@#3}%
16 {%
17 \global\expandafter\let\csname#2@#3\endcsname\@nnil
18 \global\expandafter\let\csname#2@#3@lwarp\endcsname\@nnil% lwarp
19 \global\expandafter\let\csname#2@#3@cref\endcsname\@nnil% lwarp
20 }%
21 {%
22 \global\expandafter\let\csname#1@#3\endcsname\relax
23 \global\expandafter\let\csname#1@#3@lwarp\endcsname\relax% lwarp
24 \global\expandafter\let\csname#1@#3@cref\endcsname\relax% lwarp
25 }%
26 }%
```

File 14 **lwarp-adjmulticol.sty**§ 120 Package **adjmulticol**

(Emulates or patches code by BORIS VEYTSMAN.)

Pkg adjmulticol adjmulticol is emulated.

Emulation similar to multicols is used, with adjusted margins. If the number of columns is specified as 1, it is set so, but if two or greater are used, lwarp allows a variable number of columns up to three.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{adjmulticol}[2012/01/20]

2 \RequirePackage{multicol}

adjmulticols \* {\numcols} {\left margin} {\right margin}

3 \NewDocumentEnvironment{adjmulticols}{s m m m}

4 {%

Compute the margins, and limit to positive only:

5 \setlength{\LWR@templengthone}{#3}%

6 \ifdimcomp{\LWR@templengthone}{<}{0pt}{\setlength{\LWR@templengthone}{0pt}}{%

7 \setlength{\LWR@templengthtwo}{#4}

8 \ifdimcomp{\LWR@templengthtwo}{<}{0pt}{\setlength{\LWR@templengthtwo}{0pt}}{%

If one column is specified, use a <div> of class singlecolumn, else use multicols:

9 \newcommand\*\LWR@mcolstype{multicols}%

10 \ifnumcomp{#2}{=}{1}{\renewcommand\*\LWR@mcolstype{singlecolumn}}{%

Help avoid page overflow:

11 \LWR@forcenewpage%

Create the <div> with the given margin and class:

12 \BlockClass[%

13 \LWR@print@mbx{margin-left:\LWR@printlength{\LWR@templengthone}} ; %

14 \LWR@print@mbx{margin-right:\LWR@printlength{\LWR@templengthtwo}}%

15 ]{\LWR@mcolstype}%

16 }

17 {\endBlockClass}

File 15 **lwarp-addlines.sty**§ 121 Package **addlines***(Emulates or patches code by WILL ROBERTSON.)*Pkg addlines **addlines** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{addlines}[2018/12/05]

```

2 \newcommand\addlines{\@ifstar\addlines@a\addlines@a}
3 \newcommand\addlines@a[1][1]{}
4 \let\addline\addlines
5 \newcommand\removelines{\@ifstar\removelines@a\removelines@a}
6 \newcommand\removelines@a[1][1]{}
7 \let\removeline\removelines
8 \newcommand\squeezepage[1][0]{}

```

File 16 **lwarp-afterpage.sty**§ 122 Package **afterpage***(Emulates or patches code by DAVID CARLISLE.)*Pkg afterpage **afterpage** is emulated.**for HTML output:** Discard all options for **lwarp-afterpage**:

```

1 \LWR@ProvidesPackageDrop{afterpage}[2014/10/28]
2 \newcommand{\afterpage}[1][#1]{}

```

File 17 **lwarp-algorithm2e.sty**§ 123 Package **algorithm2e***(Emulates or patches code by CHRISTOPHE FIORIO.)*Pkg algorithm2e **algorithm2e** is patched for use by **lwarp**.

For print output, captions are placed according to package options, but for HTML output captions are placed where used. Therefore, to have captions appear at the top of the algorithms for both print and HTML, place each captions at the top of each algorithm.

**for HTML output:** 1 \LWR@ProvidesPackagePass{algorithm2e}[2017/07/18]



For the list-of entries:

```
2 \renewcommand{\l@algocf}[2]{\hypertocfloat{1}{algocf}{loa}{#1}{#2}}
```

Select the lwarp float style according to the algorithm2e style:

```
3 \newcommand*\LWR@floatstyle@algocf}{ruled}
4
5 \ifdefstring{\algocf@style}{boxed}{%
6 \renewcommand*\LWR@floatstyle@algocf}{boxed}
7 }{}
8
9 \ifdefstring{\algocf@style}{boxruled}{%
10 \renewcommand*\LWR@floatstyle@algocf}{boxruled}
11 }{}
12
13 \ifdefstring{\algocf@style}{plain}{%
14 \renewcommand*\LWR@floatstyle@algocf}{plain}
15 }{}
```

Paragraph handling to allow line numbers under certain conditions:

```
16 \newbool{LWR@algocf@dopars}
17 \booltrue{LWR@algocf@dopars}
18
19 \renewcommand{\algocf@everypar}{%
20 \ifbool{LWR@algocf@dopars}{%
21 \ifbool{LWR@doingstartpars}{%
22 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}{%
23 }{%
24 {%
25 \algocf@everyparn\algocf@everyparhanging%
26 }%
27 }{}%
28 }{}%
29 }
```

lwarp caption handling:

```
30 \renewcommand{\algocf@makecaption}[2]{%
31 \LWR@HTML@caption@begin{algocf}%
32 \LWR@isolate{\algocf@captiontext{#1}{#2}}%
33 \LWR@HTML@caption@end%
34 }
```

Print any caption where it is declared:

```
35 \renewcommand{\algocf@makecaption@plain}[2]{%
36 \LWR@HTML@caption@begin{algocf}%
37 \LWR@isolate{\algocf@captiontext{#1}{#2}}%
38 \LWR@HTML@caption@end%
39 }
40
41 \renewcommand{\algocf@makecaption@boxed}[2]{%
42 \LWR@HTML@caption@begin{algocf}%
```

```

43 \LWR@isolate{\algocf@captiontext{#1}{#2}}%
44 \LWR@HTML@caption@end%
45 }
46
47 \renewcommand{\algocf@makecaption@ruled}[2]{%
48 \LWR@HTML@caption@begin{\algocf}%
49 \LWR@isolate{\algocf@captiontext{#1}{#2}}%
50 \LWR@HTML@caption@end%
51 }

```

Turn off line numbering while making the caption:

```

52 \long\def\algocf@latexcaption#1[#2]#3{% original definition of caption
53 \boolfalse{LWR@algocf@dopars}% lwarp
54 \par%
55 \addcontentsline{\csname ext@#1\endcsname}{#1}%
56 {\protect\numberline{\csname the#1\endcsname}{\ignorespaces \LWR@isolate{#2}}}%
57 \begingroup%
58 \@parboxrestore%
59 \if@minipage%
60 \setminipage%
61 \fi%
62 \normalsize%
63 \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces #3}\par%
64 \endgroup%
65 \booltrue{LWR@algocf@dopars}% lwarp
66 }

```

Line numbers are printed in a `<span>` of class `alg2elinenumber`:

```

67 \renewcommand{\algocf@printnl}[1]{%
68 \InlineClass{alg2elinenumber}{\NLSty{#1}}~%
69 }%

```

While initializing an algorithm environment, locally declare the style of a regular figure to be the same as the algorithm style, in case the `figure` option was used.

```

70 \preto\@algocf@init{%
71 \edef\LWR@floatstyle@figure{\LWR@floatstyle@algocf}%
72 }

```

For `lwarp`, the algorithm is not assembled inside a box, since `lateximages` would not work, so the captions are printed where declared.

```

73 \renewcommand{\@algocf@start}{%
74 \let\@mathsemicolon=\; \def\;{\ifmmode\@mathsemicolon\else\@endalgoln\fi}%
75 % \raggedright%
76 \ALFnt{}}%
77 \booltrue{LWR@algocf@dopars}% lwarp
78 }
79
80 \renewcommand{\@algocf@finish}{%
81 \boolfalse{LWR@algocf@dopars}% lwarp
82 \lineskip\normallineskip\setlength{\skiptotal}{\@defaultskiptotal}%

```

```

83 \let\;=\@mathsemicolon%
84 \let\]=\@emathdisplay%
85 }

```

Use an HTML break:

```

86 \renewcommand{\BlankLine}{%
87 \LWR@stoppars%
88 \LWR@htmltagc{br /}%
89 \LWR@startpars%
90 }

```

Simplified for HTML. The paragraph handling must be preserved.

```

91 \renewcommand{\SetKwInOut}[2]{%
92 \algocf@newcommand{#1}[1]{%
93 \ifthenelse{\boolean{algocf@hanginginout}}%
94 {\relax}%
95 {\algocf@seteveryparhanging{\relax}}%
96 \ifthenelse{\boolean{algocf@inoutnumbered}}%
97 {\relax}%
98 {\algocf@seteveryparnl{\relax}}%
99 {%
100 \KwSty{#2\algocf@typo:}%
101 ~##1\par%
102 }%
103 \algocf@linesnumbered% reset the numbering of the lines
104 \ifthenelse{\boolean{algocf@hanginginout}}%
105 {\relax}%
106 {\algocf@reseteveryparhanging}%
107 }%
108 }%
109
110 \renewcommand{\ResetInOut}[1]{%

```

Each of the following creates a <div> of a given class, and turns off line numbering while creating the <div> tags:

```

111 \renewcommand{\algocf@Vline}[1]{%
112 \boolfalse{LWR@algocf@dopars}%
113 \begin{BlockClass}{alg2evline}
114 \booltrue{LWR@algocf@dopars}%
115 #1
116 \boolfalse{LWR@algocf@dopars}%
117 \end{BlockClass}
118 \booltrue{LWR@algocf@dopars}%
119 }

```

```

120 \renewcommand{\algocf@Vsline}[1]{%
121 \boolfalse{LWR@algocf@dopars}%
122 \begin{BlockClass}{alg2evsline}
123 \booltrue{LWR@algocf@dopars}%
124 #1
125 \boolfalse{LWR@algocf@dopars}%
126 \end{BlockClass}

```

```

127 \booltrue{LWR@algocf@dopars}%
128 }

129 \renewcommand{\algocf@Noline}[1]{%
130 \boolfalse{LWR@algocf@dopars}%
131 \begin{BlockClass}{alg2enoline}
132 \booltrue{LWR@algocf@dopars}%
133 #1
134 \boolfalse{LWR@algocf@dopars}%
135 \end{BlockClass}
136 \booltrue{LWR@algocf@dopars}%
137 }

```

The [H] environment is converted to a regular float, which in HTML is placed where declared. Reusing the regular float allows the [H] version to reuse the ruled and boxed options.

```

138 \LetLtxMacro\algocf@Here\algocf
139 \LetLtxMacro\endalgocf@Here\endalgocf

```

---

## File 18 **lwarp-algorithmicx.sty**

### § 124 Package **algorithmicx**

*(Emulates or patches code by SZÁSZ JÁNOS.)*

Pkg algorithmicx **algorithmicx** is supported with minor adjustments.

**for HTML output:** 1 \LWR@ProvidesPackagePass{algorithmicx}[2005/04/27]

Inside the algorithmic environment, level indenting is converted to a <span> of the required length, and comments are placed inside a <span> which is floated right.

 **package conflicts** If using \newfloat, trivfloat, and/or algorithmicx together, see section 600.1.

```

2 \AtBeginEnvironment{algorithmic}{%
3 %
4 \let\origALG@doentity\ALG@doentity%
5 %
6 \renewcommand*\ALG@doentity}{%
7 \origALG@doentity%
8 \LWR@htmltagc{%
9 span style="width:\LWR@printlength{\ALG@thistlm}; display:inline-block;"%
10 }%
11 \ifbool{FormatWP}{%
12 \setlength{\LWR@templengthone}{\the\ALG@thistlm}%
13 \whiledo{\lengthtest{\LWR@templengthone>1em}}{%
14 \quad%
15 \addtolength{\LWR@templengthone}{-1em}%
16 }%
17 }{%
18 \LWR@htmltagc{/span}%

```

```

19 }%
20
21 \let\LWR@origComment\Comment%
22
23 \renewcommand{\Comment}[1]{%
24 \InlineClass{floatright}{\LWR@origComment{#1}}%
25 }%
26 }
27
28 \renewcommand\algorithmiccomment[1]{%
29 \hfill\HTMLUnicode{25B7} #1% white right triangle
30 }%

```

---

File 19 **lwarp-alltt.sty**

§ 125 Package **alltt**

*(Emulates or patches code by JOHANNES BRAAMS.)*

Pkg alltt alltt is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{alltt}[1997/06/16]

```

2 \AfterEndPreamble{
3 \LWR@traceinfo{Patching alltt.}
4
5 \AtBeginEnvironment{alltt}{%
6 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
7 {}%
8 {%
9 \LWR@forcenewpage

```

Vertical spacing changes if inside a list.

```

10 \LWR@atbeginverbatim{alltt}%
11 }%
12 }
13
14 \AfterEndEnvironment{alltt}{%
15 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
16 {}%
17 {%

```

Vertical spacing changes if inside a list.

```

18 \LWR@afterendverbatim%
19 }%
20 }
21
22 }

```

File 20 **lwarp-amsmath.sty**

§ 126 Package **amsmath**

(Emulates or patches code by AMERICAN MATHEMATICAL SOCIETY, L<sup>A</sup>T<sub>E</sub>X3 PROJECT.)

Pkg amsmath amsmath is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{amsmath}[2017/09/02]

\dotso An HTML text-mode version.

```
2 \newcommand*\LWR@HTML@dotso{\textellipsis\ }
3 \LWR@formatted{dotso}
```

Patches to allow \eqref inside a caption:

```
4 \def\maketag@@@#1{\text{#1}}
5 \def\tagform@#1{\maketag@@@{\ignorespaces#1\unskip}}
```

Patches for  $\mathcal{AMS}$  math \tag macro to remember the first tag:

```
6 \ifbool{mathjax}{}{% not mathjax
7
8 \LetLtxMacro\LWR@origmake@df@tag@@\make@df@tag@@
9 \LetLtxMacro\LWR@origmake@df@tag@@@\make@df@tag@@@
10
11 \renewcommand*\make@df@tag@@[1]{%
12 \LWR@remembertag{#1}%
13 \LWR@origmake@df@tag@@{#1}%
14 }
15
16 \renewcommand*\make@df@tag@@@[1]{%
17 \LWR@remembertag{#1}%
18 \LWR@origmake@df@tag@@@{#1}%
19 }
20
21 }% not mathjax
```

For nesting  $\mathcal{AMS}$  environments:

```
22 \newcounter{LWR@amsmathdepth}
23 \setcounter{LWR@amsmathdepth}{0}
```

The following  $\mathcal{AMS}$  environments are patched in-place:

```
\LWR@amsmathenv@@before * {\environment name}
* if the environment was starred.
```

Embeds the environment inside a lateximage.

```

24 \NewDocumentCommand{\LWR@amsmathenv@before}{s m}{%
25 \IfBooleanTF{#1}{
26 \begin{BlockClass}{displaymath}
27 }{
28 \begin{BlockClass}{displaymathnumbered}
29 }
30 \LWR@newautoanchor%
31 \booltrue{LWR@indisplaymathimage}%
32 \begin{lateximage}[\LWR@amsmathbodynumbered{#2}]*%
33 \LWR@applyxfakebold%
34 }

```

`\LWR@amsmathenv@before` \*  $\langle environment\ name \rangle$

\* if the environment was starred.

Embeds the environment with MATHJAX or a lateximage.

```

35 \NewDocumentCommand{\LWR@amsmathenv@before}{s m}{%
36 \ifnumequal{\value{LWR@amsmathdepth}}{0}{%
37 \LWR@stoppars%
38 \ifboolexpr{bool{mathjax} or (bool{FormatWP} and bool{WPMarkMath}) }%
39 {
40 \LWR@syncmathjax
41 \boolfalse{LWR@amsmultline}
42 \ifstrequal{#2}{multline}{\booltrue{LWR@amsmultline}}{ }
43 \ifstrequal{#2}{multiline*}{\booltrue{LWR@amsmultline}}{ }

```



autonom's "+" environments are not supported by MATHJAX.

```

44 \LWR@beginhideamsmath
45 }
46 {
47 \IfBooleanTF{#1}{
48 \LWR@amsmathenv@before*{#2}
49 }{
50 \LWR@amsmathenv@before{#2}
51 }
52 }
53 }{}
54 \addtocounter{LWR@amsmathdepth}{1}
55 }

```

`\LWR@amsmathenv@after`

Embeds the environment inside a lateximage.

```

56 \newcommand*{\LWR@amsmathenv@after}{%
57 \end{lateximage}\end{BlockClass}\LWR@startpars%
58 }

```

`\LWR@amsmathenv@after` \*  $\langle environment\ name \rangle$

\* if the environment was starred. Ignored here, only used for a consistent syntax.

Embeds the environment with MATHJAX or a lateximage.

```

59 \NewDocumentCommand{\LWR@amsmathenv@after}{s m}{%
60 \ifnumequal{\value{LWR@amsmathdepth}}{1}{%
61 \ifboolexpr{bool{mathjax} or (bool{FormatWP} and bool{WPMarkMath}) }%
62 {
63 \LWR@endhideamsmath
64 \boolfalse{LWR@amsmultline}
65 \LWR@addmathjax{#2}{\the\@envbody}
66 }
67 {\LWR@amsmathenv@@after}

```

Clear the single-use alt text:

```

68 \gdef\LWR@ThisAltText{%
69 }{}
70 \addtocounter{LWR@amsmathdepth}{-1}
71 }

```

Env `multline`

```

72 \BeforeBeginEnvironment{multline}{\LWR@amsmathenv@before{multline}}
73
74 \AfterEndEnvironment{multline}{\LWR@amsmathenv@after{multline}}

```

Env `multline*`

```

75 \BeforeBeginEnvironment{multline*}{\LWR@amsmathenv@before*{multline*}}
76
77 \AfterEndEnvironment{multline*}{\LWR@amsmathenv@after*{multline*}}
78

```

Env `gather`

```

79 \BeforeBeginEnvironment{gather}{\LWR@amsmathenv@before{gather}}
80
81 \AfterEndEnvironment{gather}{\LWR@amsmathenv@after{gather}}

```

Env `gather*`

```

82 \BeforeBeginEnvironment{gather*}{\LWR@amsmathenv@before*{gather*}}
83
84 \AfterEndEnvironment{gather*}{\LWR@amsmathenv@after*{gather*}}

```

Env `align`

```

85 \BeforeBeginEnvironment{align}{\LWR@amsmathenv@before{align}}
86
87 \AfterEndEnvironment{align}{\LWR@amsmathenv@after{align}}

```

Env `align*`

```

88 \BeforeBeginEnvironment{align*}{\LWR@amsmathenv@before*{align*}}
89
90 \AfterEndEnvironment{align*}{\LWR@amsmathenv@after*{align*}}

```



Env flalign

```
91 \BeforeBeginEnvironment{flalign}{\LWR@amsmathenv@before{flalign}}
92
93 \AfterEndEnvironment{flalign}{\LWR@amsmathenv@after{flalign}}
```

Env flalign\*

```
94 \BeforeBeginEnvironment{flalign*}{\LWR@amsmathenv@before*{flalign*}}
95
96 \AfterEndEnvironment{flalign*}{\LWR@amsmathenv@after*{flalign*}}
```

Env alignat

```
97 \BeforeBeginEnvironment{alignat}{\LWR@amsmathenv@before{alignat}}
98
99 \AfterEndEnvironment{alignat}{\LWR@amsmathenv@after{alignat}}
```

Env alignat\*

```
100 \BeforeBeginEnvironment{alignat*}{\LWR@amsmathenv@before*{alignat*}}
101
102 \AfterEndEnvironment{alignat*}{\LWR@amsmathenv@after*{alignat*}}

103 \AtBeginEnvironment{subequations}{
104 \renewcommand*\theMathJaxsubequations{1}
105 \renewcommand*\theMathJaxsection{\theparentequation}
106 \renewcommand*\theMathJaxequation{\arabic{equation}}
107 }
```

For MATHJAX:

```
108 \begin{warpMathJax}
109 \CustomizeMathJax{\newcommand{\intertext}[1]{\text{#1}\notag \\\}}
110 \end{warpMathJax}
```

---

File 21 **lwarp-amsthm.sty**

§ 127 Package **amsthm**

(Emulates or patches code by PUBLICATIONS TECHNICAL GROUP — AMERICAN MATHEMATICAL SOCIETY.)

The original source code is located in `amscldx.dtx`, and printed in `amscldx.pdf`.

Pkg amsthm amsthm is patched for use by lwarp.

**for HTML output:** amsthm must be loaded before mdframed:

```
1 \@ifpackageloaded{mdframed}{
```

Table 17: amsthm package — css styling of theorems and proofs

**Theorem:** <div> of class amsthmbody<theoremstyle>

**Theorem Name:** <span> of class amsthmname<theoremstyle>

**Theorem Number:** <span> of class amsthmnumber<theoremstyle>

**Theorem Note:** <span> of class amsthmnote<theoremstyle>

**Proof:** <div> of class amsthmproof

**Proof Name:** <span> of class amsthmproofname

where <theoremstyle> is plain, definition, etc.

```

2 \PackageError{lwarp}
3 {%
4 Package mdframed must be loaded after package amsthm.\MessageBreak
5 Enter 'H' for solutions%
6 }
7 {%
8 Move ‘‘\protect\usepackage{amsthm}’’ before
9 ‘‘\protect\usepackage{mdframed}’’.\MessageBreak
10 Package amsthm may be loaded by something else,\MessageBreak
11 which must also be moved before mdframed.%
12 }
13 }
14 {\relax}

```

Necessary for `\text`, used by `\openbox`, etc., below:

```

15 \RequirePackage{amsmath}

16 \LWR@ProvidesPackagePass{amsthm}[2017/10/31]

```

Storage for the style being used for new theorems:

```

17 \newcommand{\LWR@newtheoremstyle}{plain}

```

Patched to remember the style being used for new theorems:

```

18 \renewcommand{\theoremstyle}[1]{%
19 \ifundefined{th#1}{%
20 \PackageWarning{amsthm}{Unknown theoremstyle ‘#1’}%
21 \thm@style{plain}%
22 \renewcommand{\LWR@newtheoremstyle}{plain}% lwarp
23 }{%
24 \thm@style{#1}%
25 \renewcommand{\LWR@newtheoremstyle}{#1}% lwarp
26 }%
27 }

```

Patched to remember the style for this theorem type:

```

28 \def\xnthm#1#2{%
29 \csedef{LWR@thmstyle#2}{\LWR@newtheoremstyle}% lwarp
30 \let\@tempa\relax
31 \@xp\@ifdefinable\csname #2\endcsname{%
32 \global\@xp\let\csname end#2\endcsname\endtheorem
33 \ifx *#1% unnumbered, need to get one more mandatory arg
34 \edef\@tempa##1{%
35 \gdef\@xp\@nx\csname#2\endcsname{%
36 \@nx\thm{\@xp\@nx\csname th@the\thm@style\endcsname}%
37 {##1}}}%
38 \else % numbered theorem, need to check for optional arg
39 \def\@tempa{\@oparg{\@ynthm{#2}}{}}%
40 \fi
41 \AtBeginEnvironment{#2}{%
42 \edef\LWR@thmstyle{\@nameuse{LWR@thmstyle#2}}%
43 }% lwarp
44 }%
45 \@tempa
46 }

```

Patched to enclose with css:

```

47 \newcommand{\LWR@haveamsthmname}{
48 \renewcommand{\thmname}[1]{%
49 \InlineClass{amsthmname\LWR@thmstyle}{##1}%
50 }
51 }
52
53 \newcommand{\LWR@haveamsthmnumber}{
54 \renewcommand{\thmnumber}[1]{%
55 \InlineClass{amsthmnumber\LWR@thmstyle}{##1}%
56 }
57 }
58
59 \newcommand{\LWR@haveamsthmnote}{
60 \renewcommand{\thmnote}[1]{%
61 \InlineClass{amsthmnote\LWR@thmstyle}{##1}%
62 }
63 }
64
65 \LWR@haveamsthmname
66 \LWR@haveamsthmnumber
67 \LWR@haveamsthmnote

```

Patched for css:

```

68 \def\@begintheorem#1#2[#3]{%
69 \GetTitleString{#3}% lwarp
70 \let\@currentlabelname\GetTitleStringResult% lwarp
71 \item[

```

```

72 % \deferred@thm@head{
73 % \the\thm@headfont \thm@indent
74 \@ifempty{#1}{\let\thmname@gobble}{\LWR@haveamsthname}% lwarp
75 \@ifempty{#2}{\let\thmnumber@gobble}{\LWR@haveamsthnumber}% lwarp
76 \@ifempty{#3}{\let\thmnote@gobble}{\LWR@haveamsthnote}% lwarp
77 \thm@swap\swappedhead\thmhead{#1}{#2}{#3}%
78 \the\thm@headpunct~
79 \thmheadnl % possibly a newline.
80 \hskip\thm@headsep
81 % }%
82]
83 \ignorespaces}

```

Patched for css:

```

84 \def\@thm#1#2#3{%
85 \ifhmode\unskip\unskip\par\fi
86 \normalfont
87 \LWR@forcenewpage% lwarp
88 \BlockClass{amsthmbody\LWR@thisthmstyle}% lwarp
89 \trivlist
90 \let\thmheadnl\relax
91 \let\thm@swap@gobble
92 \thm@notefont{\fontseries\mddefault\upshape}%
93 \thm@headpunct{.}% add period after heading
94 \thm@headsep 5\p@ plus\p@ minus\p@\relax
95 \thm@space@setup
96 #1% style overrides
97 \@topsep \thm@preskip % used by thm head
98 \@topsepadd \thm@postskip % used by \@endparenv
99 \def\@tempa{#2}\ifx\@empty\@tempa
100 \def\@tempa{\@oparg{\@begintheorem{#3}}{}}{[]}%
101 \else
102 \refstepcounter{#2}%
103 \def\@tempa{\@oparg{\@begintheorem{#3}}{\csname the#2\endcsname}}{[]}%
104 \fi
105 \@tempa
106 }

```

cleverf patches \@thm to do \cref@thmoptarg if an optional argument is given. lwarp then patches \cref@thmoptarg \AtBeginDocument.

```

107 \AtBeginDocument{%
108 \def\cref@thmoptarg[#1]#2#3#4{%
109 \ifhmode\unskip\unskip\par\fi%
110 \normalfont%
111 \LWR@forcenewpage% lwarp
112 \BlockClass{amsthmbody\LWR@thisthmstyle}% lwarp
113 \trivlist%
114 \let\thmheadnl\relax%
115 \let\thm@swap@gobble%
116 \thm@notefont{\fontseries\mddefault\upshape}%
117 \thm@headpunct{.}% add period after heading
118 \thm@headsep 5\p@ plus\p@ minus\p@\relax%
119 \thm@space@setup%

```

```

120 #2% style overrides
121 \@topsep \thm@preskip % used by thm head
122 \@topsepadd \thm@postskip % used by \@endparenv
123 \def\@tempa{#3}\ifx\@empty\@tempa%
124 \def\@tempa{\oparg{\@begintheorem{#4}}{}}[]%
125 \else%
126 \refstepcounter[#1]{#3}% <<< cleveref modification
127 \def\@tempa{\oparg{\@begintheorem{#4}{\csname the#3\endcsname}}{}}%
128 \fi%
129 \@tempa
130 }%
131 }% AtBeginDocument
132
133 \def\@endtheorem{\endtrivlist\endBlockClass\@endpfalse }

```

### Proof QED symbol:

```

134 \AtBeginDocument{
135 \ifundefined{LWR@orig@openbox}{
136 \LetLtxMacro\LWR@orig@openbox\openbox
137 \LetLtxMacro\LWR@orig@blacksquare\blacksquare
138 \LetLtxMacro\LWR@orig@Box\Box
139
140 \def\openbox{\text{\HTMLUnicode{25A1}}}% UTF-8 white box
141 \def\blacksquare{\text{\HTMLUnicode{220E}}}% UTF-8 end-of-proof
142 \def\Box{\text{\HTMLUnicode{25A1}}}% UTF-8 white box
143
144 \appto\LWR@restoreorigformatting{%
145 \LetLtxMacro\openbox\LWR@orig@openbox%
146 \LetLtxMacro\blacksquare\LWR@orig@blacksquare%
147 \LetLtxMacro\Box\LWR@orig@Box%
148 }% appto
149 }{}% @ifundefined
150 }% AtBeginDocument

```

### Patched for css:

```

151 \renewenvironment{proof}[1][\proofname]{\par
152 \LWR@forcenewpage% lwarp
153 \BlockClass{amsthmproof}% lwarp
154 \pushQED{\qed}%
155 \normalfont \topsep6\p@\@plus6\p@\relax
156 \trivlist
157 \item[
158 \InlineClass{amsthmproofname}{#1\@addpunct{.}}\ignorespaces% changes
159]{}%
160 \InlineClass{theoremdemark}{\popQED}\endtrivlist%
161 \endBlockClass% lwarp
162 \@endpfalse
163 }

```

File 22 **lwarp-anonchap.sty**§ 128 Package **anonchap***(Emulates or patches code by PETER WILSON.)*

Pkg anonchap anonchap is emulated.

Pkg tocloft If using tocloft with tocbibind, anonchap, fncychap, or other packages which change chapter title formatting, load tocloft with its `titles` option, which tells tocloft to use standard L<sup>A</sup>T<sub>E</sub>X commands to create the titles, allowing other packages to work with it.

△ tocloft &amp; other packages

The code is shared by tocbibind.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{anonchap}[2009/08/03]

2 \newcommand{\simplechapter}[1][\@empty]{%
3 \def\@chapcntformat##1{%
4 #1~\csname the##1\endcsname\simplechapterdelim\quad%
5 }%
6 }
7
8 \newcommand{\restorechapter}{%
9 \let\@chapcntformat\@secntformat%
10 }
```

File 23 **lwarp-anysize.sty**§ 129 Package **anysize***(Emulates or patches code by MICHAEL SALZENBERG, THOMAS ESSER.)*

Pkg anysize anysize is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{anysize}[1994/08/13]

2 \def\papersize#1#2{}
3 \def\marginsize#1#2#3#4{}
```

File 24 **lwarp-appendix.sty**§ 130 Package **appendix***(Emulates or patches code by PETER WILSON.)*

Pkg appendix appendix is patched for use by lwarp.

- ⚠ **incorrect toc link** During HTML conversion, the option `toc` without the option `page` results in a toc link to whichever section was before the `appendices` environment. It is recommended to use both `toc` and `also page` at the same time.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{appendix}[2009/09/02]

2 \renewcommand*{\@chap@pppage}{%
3 \part*{\appendixpagename}
4 \if@dotoc@pp
5 \addappheadtotoc
6 \fi
7 }
8
9 \renewcommand*{\@sec@pppage}{%
10 \part*{\appendixpagename}
11 \if@dotoc@pp
12 \addappheadtotoc
13 \fi
14 }
```

---

File 25 **lwarp-ar.sty**

§ 131 Package **ar**

*(Emulates or patches code by AGOSTINO DE MARCO.)*

Pkg ar ar is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{ar}[2012/01/23]
```

Measure and print the width of the supplied glyph.

```

2 \newlength{\LWR@ar@width}
3
4 \newcommand*{\LWR@ar@printwidth}[1]{%
5 \setlength{\LWR@ar@width}{\widthof{#1}}%
6 width:%
7 \LWR@convertto{em}{\the\LWR@ar@width}em%
8 }
```

The HTML version of `\AR`:

```

9 \newrobustcmd*{\LWR@HTML@AR}{%
```

Start a hashed `lateximage`, additionally hashed by the font series, with a width depending on the given glyph:

```

10 \begin{lateximage}*[AR][\LWR@f@series][\LWR@ar@printwidth{\LWR@print@AR}]%
```

For text mode, set the font series according to the HTML font series:

```

11 \ifmmode\else\csuse{LWR@orig\LWR@f@series series}\fi%
```

Print the original glyph using the newly set font series:

```
12 \LWR@print@AR%
```

Done.

```
13 \end{lateximage}%
14 }
```

Combine the print and HTML versions:

```
15 \LWR@formatted{AR}
```

```
16 \newrobustcmd*{\LWR@HTML@ARb}{%
17 \begin{lateximage}*[AR][b][\LWR@ar@printwidth{\LWR@print@ARb}]%
18 \LWR@print@ARb%
19 \end{lateximage}%
20 }
21 \LWR@formatted{ARb}
```

```
22 \newrobustcmd*{\LWR@HTML@ARss}{%
23 \begin{lateximage}*[ARss][\LWR@f@series][\LWR@ar@printwidth{\LWR@print@ARss}]%
24 \ifmmode\else\csuse{\LWR@orig\LWR@f@series series}\fi%
25 \LWR@print@ARss%
26 \end{lateximage}%
27 }
28 \LWR@formatted{ARss}
```

```
29 \newrobustcmd*{\LWR@HTML@ARssb}{%
30 \begin{lateximage}*[AR][ssb][\LWR@ar@printwidth{\LWR@print@ARssb}]%
31 \LWR@print@ARssb%
32 \end{lateximage}%
33 }
34 \LWR@formatted{ARssb}
```

```
35 \newrobustcmd*{\LWR@HTML@ARtt}{%
36 \begin{lateximage}*[AR][tt][\LWR@ar@printwidth{\LWR@print@ARtt}]%
37 \LWR@print@ARtt%
38 \end{lateximage}%
39 }
40 \LWR@formatted{ARtt}
```

For MATHJAX:

```
41 \begin{warpMathJax}
42 \CustomizeMathJax{\newcommand{\AR}{\mathit{A\!\!R}}}
43 \CustomizeMathJax{\newcommand{\ARb}{\boldsymbol{A\!\!R}}}
44 \end{warpMathJax}
```



---

File 26 **lwarp-arabicfront.sty**

§ 132 Package **arabicfront**

Pkg arabicfront arabicfront is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{arabicfront}[2006/09/03]

---

File 27 **lwarp-array.sty**

§ 133 Package **array**

Pkg array array is used as-is for print output, and emulated for HTML.

plarray and plectarray do not affect \firstline or \lasthline, and so are not affected by the following.

**for HTML output:** Remove the default nullfied macros:

```

1 \let\firstline\relax
2 \let\lasthline\relax
3
4 \LWR@ProvidesPackagePass{array}[2018/12/30]

5 \newcommand*\LWR@HTML@firstline{\LWR@HTMLhline}%
6 \LWR@expandableformatted{firstline}
7
8 \newcommand*\LWR@HTML@lasthline{\LWR@HTMLhline}%
9 \LWR@expandableformatted{lasthline}

10 \providecommand*\LWR@HTML@tabularnewline{\LWR@tabularendofline}
11 \LWR@formatted{tabularnewline}

```

For MATHJAX:

```

12 \CustomizeMathJax{
13 \newcommand{\multicolumn}[3]{#3}% only uses one cell
14 }

```

---

File 28 **lwarp-arydshln.sty**

§ 134 Package **arydshln**

(Emulates or patches code by HIROSHI NAKASHIMA.)

Pkg arydshln arydshln heavily patches tabular code, so the actual package is not used. arydshln is emulated for HTML tabular, and reverts to solid rules for SVG math array and tabular in a lateximage.

css is not able to display a double-dashed border, so a single-dashed rule is displayed as a single-dashed border, and a double-dashed rule is displayed as a thicker single-dashed border.

For MATHJAX, limited emulation is provided for math mode.

for HTML output: array is required to allow \newcolumn below.

```
1 \RequirePackage{array}
2 \LWR@ProvidesPackageDrop{arydshln}[2018/09/26]
```

Ignored, but included for source compatibility:

```
3 \newdimen\dashlinedash \dashlinedash4pt %
4 \newdimen\dashlinegap \dashlinegap4pt %
5 \let\hdashlinewidth\dashlinedash
6 \let\hdashlinegap\dashlinegap
7
8 \def\ADLnullwide{}
9 \def\ADLsomewide{}
10 \def\ADLnullwidehline{}
11 \def\ADLsomewidehline{}
12
13 \def\ADLactivate{}
14 \def\ADLinactivate{}
15 \newcommand*{\ADLdrawingmode}[1]{}
16 \newcommand*{\ADLnoshorthanded}{}
17 \newcommand*{\dashgapcolor}[2]{}
18 \newcommand*{\nodashgapcolor}{}

```

In a lateximage, revert to solid vertical rules:

```
19 \appto\LWR@restoreorigformatting{%
20 \newcolumntype{:}{|}%
21 \newcolumntype{;}[1]{|}%
22 \LetLtxMacro\hdashline\hline%
23 }
```

Some of these macros are already defined as temporary placeholders in the lwarp core, so they must be redefined here.

The emulated defaults also work for an emulated print mode inside a lateximage:

```
24 \def\hdashline{
25 % \adl@hdashline\adl@ihdashline
26 \adl@hdashline\adl@inactivehdl
27 }
28 \def\adl@hdashline#1{\noalign{\ifnum0=#'}\fi
29 % \ifadl@zwhrule \vskip-\arrayrulewidth
```

```

30 % \else
31 % \adl@hline\adl@connect\arrayrulewidth
32 % \hrule \@height \arrayrulewidth% lwarp
33 % \fi
34 \@ifnextchar[%]
35 {#1}%
36 {#1[%
37 % \dashlinedash/\dashlinegap
38 % 1pt/1pt
39 %]}}
40 % \def\adl@ihdashline[#1/#2]{\ifnum0='{\fi}%
41 % \multispan{\adl@columns}\unskip \adl@hcline\z@[#1/#2]%
42 % \noalign{\ifnum0='}\fi
43 % \futurelet\@tempa\adl@xhline}
44 % \def\adl@inactivehdl[#1/#2]{
45 % \ifadl@zwhrule \vskip-\arrayrulewidth \fi
46 % \hrule\@height\arrayrulewidth
47 % \futurelet\@tempa\adl@xhline}
48 % \def\adl@xhline{\ifx\@tempa\hline \adl@ixhline\fi
49 % \ifx\@tempa\hdashline \adl@ixhline\fi
50 % \ifnum0='{\fi}}
51 % \def\adl@ixhline{\vskip\doublerulesep \adl@hline\relax\doublerulesep}
52 % \def\adl@hline#1#2{%
53 % \@tempcnta#2
54 % \global\advance\adl@totalheight\@tempcnta
55 % \xdef\adl@rowsL{\adl@rowsL
56 % (#1/\number\@tempcnta);}
57 % \xdef\adl@rowsR{\adl@rowsR
58 % (#1/\number\@tempcnta);}
59 % }
60
61 % \def\cdashline#1{\noalign{\ifnum0='}\fi
62 % \@ifnextchar[%]
63 % {\adl@cdline[#1]}%
64 % {\adl@cdline[#1][\dashlinedash/\dashlinegap]}
65 % {\adl@inactivecdl[#1]}%
66 % {\adl@inactivecdl[#1][\dashlinedash/\dashlinegap]}
67 % }
68
69 % \def\adl@inactivecdl[#1-#2][#3]{\ifnum0='{\fi}\cline{#1-#2}}

70 \begin{warpMathJax}
71 \CustomizeMathJax{\newcommand{\firsthdashline}[1][\hdashline]}
72 \CustomizeMathJax{\let\lasthdashline\firsthdashline}
73 \CustomizeMathJax{\let\cdashline\cline}
74 \end{warpMathJax}

```

---

File 29 **lwarp-asymptote.sty**

§ 135 Package **asymptote**

(Emulates or patches code by ANDY HAMMERLINDL, JOHN BOWMAN, TOM PRINCE.)

Pkg asymptote asymptote is patched for use by lwarp.

To compile:

```
pdflatex project.tex
asy project-*.asy
pdflatex project.tex

lwarpmk print
asy project-*.asy
lwarpmk print1
lwarpmk print1

lwarpmk html
asy project_html-*.asy
lwarpmk html1
lwarpmk html1
lwarpmk limages
```

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{asymptote}[2016/11/26]
2 \BeforeBeginEnvironment{asy}{%
3 \begin{lateximage}[-asymptote-~\PackageDiagramAltText]%
4 }
5 \AfterEndEnvironment{asy}{\end{lateximage}}
6
7 \xpatchcmd{\asyinclude}
8 {\begingroup}
9 {\begin{lateximage}[-asymptote-~\PackageDiagramAltText]}
10 {}
11 {\LWR@patcherror{asymptote}{asyinclude-begingroup}}
12
13 \xpatchcmd{\asyinclude}
14 {\endgroup}
15 {\end{lateximage}}
16 {}
17 {\LWR@patcherror{asymptote}{asyinclude-endgroup}}
```

---

File 30 **lwarp-atbegshi.sty**

§ 136 Package **atbegshi**

*(Emulates or patches code by HEIKO OBERDIEK.)*

Pkg atbegshi atbegshi is ignored.

**for HTML output:** Discard all options for lwarp-atbegshi:

```
1 \LWR@ProvidesPackageDrop[atbegshi][2011/10/05]
2 \let\AtBeginShipout\relax
```

```

3 \let\AtBeginShipoutNext\relax
4 \let\AtBeginShipoutFirst\relax
5 \let\AtBeginShipoutDiscard\relax
6 \let\AtBeginShipoutInit\relax
7 \let\AtBeginShipoutAddToBox\relax
8 \let\AtBeginShipoutAddToBoxForeground\relax
9 \let\AtBeginShipoutUpperLeft\relax
10 \let\AtBeginShipoutUpperLeftForeground\relax
11 \let\AtBeginShipoutOriginalShipout\relax
12
13 \newcommand*\AtBeginShipout}[1]{}
14 \newbox\AtBeginShipoutBox
15 \newcommand*\AtBeginShipoutNext}[1]{}
16 \newcommand*\AtBeginShipoutFirst}[1]{}
17 \newcommand*\AtBeginShipoutDiscard{}
18 \newcommand*\AtBeginShipoutInit{}
19 \newcommand*\AtBeginShipoutAddToBox}[1]{}
20 \newcommand*\AtBeginShipoutAddToBoxForeground}[1]{}
21 \newcommand*\AtBeginShipoutUpperLeft}[1]{}
22 \newcommand*\AtBeginShipoutUpperLeftForeground}[1]{}
23 \newcommand*\AtBeginShipoutOriginalShipout}[1]{}
24 \def\AtBeginShipoutBoxWidth{0pt}
25 \def\AtBeginShipoutBoxHeight{0pt}
26 \def\AtBeginShipoutBoxDepth{0pt}

```

---

File 31 **lwarp-attachfile.sty**

§ 137 Package **attachfile**

*(Emulates or patches code by SCOTT PAKIN.)*

Pkg attachfile **attachfile** is patched for use by **lwarp**.



Metadata is ignored for now.

**for HTML output:** 1 \LWR@ProvidesPackagePass{attachfile}[2016/09/18]

Encloses each icon:

```

2 \newenvironment*LWR@attachfile@icon
3 {
4 \begin{lateximage}*%
5 [-attachfile-]%
6 [%
7 \detokenize\expandafter{\atfi@icon@icon}-%
8 \detokenize\expandafter{\atfi@color@rgb}%
9]%
10 }
11 {
12 \end{lateximage}
13 }

```

Each icon is enclosed inside a `LWR@attachfile@icon` environment:

```

14 \xpretocmd{\atfi@acroGraph}{\LWR@attachfile@icon}{}{}
15 \xapptocmd{\atfi@acroGraph}{\endLWR@attachfile@icon}{}{}
16
17 \xpretocmd{\atfi@acroPaperclip}{\LWR@attachfile@icon}{}{}
18 \xapptocmd{\atfi@acroPaperclip}{\endLWR@attachfile@icon}{}{}
19
20 \xpretocmd{\atfi@acroPushPin}{\LWR@attachfile@icon}{}{}
21 \xapptocmd{\atfi@acroPushPin}{\endLWR@attachfile@icon}{}{}
22
23 \xpretocmd{\atfi@acroTag}{\LWR@attachfile@icon}{}{}
24 \xapptocmd{\atfi@acroTag}{\endLWR@attachfile@icon}{}{}

```

Disable PDF file embedding:

```
25 \DeclareRobustCommand{\atfi@embedfile}[1]{}

```

The displayed output for an `\attachfile` reference:

```

26 \newcommand*{\LWR@attachfile@appearance}{}
27
28 \DeclareRobustCommand{\atfi@set@appearance}[1]{%
29 \def\LWR@attachfile@appearance{#1}%
30 }

```

A file annotation becomes a reference:

```

31 \DeclareRobustCommand{\atfi@insert@file@annot}[1]{%
32 \LWR@href{#1}{\LWR@attachfile@appearance}%
33 }

```

---

## File 32 **lwarp-attachfile2.sty**

### § 138 Package **attachfile2**

*(Emulates or patches code by HEIKO OBERDIEK.)*

Pkg attachfile2 **attachfile2** is patched for use by **lwarp**.



Metadata is ignored for now.

**for HTML output:** 1 \LWR@ProvidesPackagePass{attachfile2}[2016/05/16]

Adds memory of the selected color:

```

2 \def\LWR@attachfiletwo@color{}%
3
4 \define@key{AtFi}{color}{%
5 \def\LWR@attachfiletwo@color{#1}% lwarp
6 \HyColor@AttachfileColor{#1}%
7 \atfi@color@tex\atfi@color@inline\atfi@color@annot

```

```

8 {attachfile2}{color}%
9 }

```

Encloses each icon:

```

10 \newenvironment*{LWR@attachfile@icon}
11 {
12 \begin{lateximage}*%
13 [-attachfile-]%
14 [%
15 \detokenize\expandafter{\atfi@icon@icon}-%
16 \detokenize\expandafter{\LWR@attachfiletwo@color}%
17]%
18 }
19 {
20 \end{lateximage}
21 }

```

Each icon is enclosed inside a LWR@attachfile@icon environment:

```

22 \xpretocmd{\atfi@acroGraph}{\LWR@attachfile@icon}{}{}
23 \xapptocmd{\atfi@acroGraph}{\endLWR@attachfile@icon}{}{}
24
25 \xpretocmd{\atfi@acroPaperclip}{\LWR@attachfile@icon}{}{}
26 \xapptocmd{\atfi@acroPaperclip}{\endLWR@attachfile@icon}{}{}
27
28 \xpretocmd{\atfi@acroPushPin}{\LWR@attachfile@icon}{}{}
29 \xapptocmd{\atfi@acroPushPin}{\endLWR@attachfile@icon}{}{}
30
31 \xpretocmd{\atfi@acroTag}{\LWR@attachfile@icon}{}{}
32 \xapptocmd{\atfi@acroTag}{\endLWR@attachfile@icon}{}{}

```

Disable PDF file embedding:

```

33 \DeclareRobustCommand{\atfi@embedfile}[1]{}

```

The displayed output for an \attachfile reference:

```

34 \newcommand*{\LWR@attachfile@appearance}{}
35
36 \def\atfi@set@appearance@icon{%
37 \atfi@set@appearance{\csname atfi@acro\atfi@icon@icon\endcsname}%
38 }
39
40 \DeclareRobustCommand{\atfi@set@appearance}[1]{%
41 \def\LWR@attachfile@appearance{#1}%
42 }

```

A file annotation becomes a reference:

```

43 \DeclareRobustCommand{\atfi@insert@file@annot}[1]{%
44 \LWR@href{#1}{\LWR@attachfile@appearance}%
45 }

```

Modified for text color:

```

46 \DeclareRobustCommand{\notextattachfile}[2][]{%
47 \begingroup
48 \atfi@setup{#1}%
49 \ifatfi@print
50 \leavevmode
51 \begingroup
52 \HyColor@UseColor\atfi@color@tex
53 \LWR@textcurrentcolor{#2}% lwarp
54 % \strut
55 \endgroup
56 % \else
57 % \sbox\ltx@zero{#2\strut}%
58 % \makebox[\wd0]{}%
59 \fi
60 \endgroup
61 }

```

Modified to draw the icon:

```

62 \DeclareRobustCommand{\noattachfile}[1][]{%
63 \begingroup
64 \atfi@setup{#1}%
65 \atfi@set@appearance@icon
66 \ifatfi@print
67 \LWR@attachfile@appearance% lwarp
68 % \expandafter
69 % \atfi@refxform\csname atfi@appobj@\atfi@icon@icon\endcsname
70 % \else
71 % \makebox[\atfi@appearancewidth]{}%
72 \fi
73 \endgroup
74 }

```

---

File 33 **lwarp-authblk.sty**

§ 139 Package **authblk**

*(Emulates or patches code by PATRICK W. DALY.)*

Pkg authblk **authblk** is patched for HTML.

[package support](#)

 [load order](#)

**lwarp** supports the native L<sup>A</sup>T<sub>E</sub>X titling commands, and also supports the packages **authblk** and **titling**. If both are used, **authblk** should be loaded before **titling**.

[\published and \subtitle](#)

If using the **titling** package, additional titlepage fields for `\published` and `\subtitle` may be added by using `\AddSubtitlePublished` in the preamble. See section [67.8](#).

*(Emulates or patches code by PATRICK W. DALY.)*

**for HTML output:**

Require that **authblk** be loaded before **titling**:



```

1 \@ifpackageloaded{titling}{
2 \PackageError{lwarp-authblk}
3 {Package authblk must be loaded before titling}
4 {%
5 Titling appends authblk's author macro,
6 so authblk must be loaded first.%
7 }
8 }
9 {\relax}

```

Load authblk:

```
10 \LWR@ProvidesPackagePass{authblk}[2001/02/27]
```

Patch to add a class for the affiliation:

```

11 \LetLtxMacro\LWRAB@affil\affil
12
13 \renewcommand{\affil}[2][{}]{%
14 \LWRAB@affil[#1]{\protect\InlineClass{affiliation}{#2}}
15 }

```

Create an HTML break for an `\authorcr`:

```
16 \renewcommand*{\authorcr}{\protect\LWR@newlinebr}
```

File 34 **lwarp-autobreak.sty**

§ 140 Package **autobreak**

(Emulates or patches code by TAKAHIRO UEDA.)

Pkg autobreak **autobreak** is used as-is for SVG math, and nullified for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{autobreak}[2017/02/23]

For MATHJAX. The modified `align` environment is used for SVG math, but is reverted to its original for MATHJAX. (Extraneous commas were appearing in the result.)


```

2 \begin{warpMathJax}
3 \renewenvironment{autobreak}{\newcommand{\MoveEqLeft}[1]{}{}}
4 \let\start@align\@autobreak@oldstart@align
5 \let\end@align\@autobreak@oldend@align
6 \CustomizeMathJax{\newenvironment{autobreak}{}{}}
7 \CustomizeMathJax{\newcommand{\MoveEqLeft}[1]{}{}}
8 \CustomizeMathJax{\newcommand{\everybeforeautobreak}[1]{}{}}
9 \CustomizeMathJax{\newcommand{\everyafterautobreak}[1]{}{}}
10 \end{warpMathJax}

```

File 35 **lwarp-autonom.sty**§ 141 Package **autonom**

Pkg autonom autonom is ignored.

 **numbering** All equations are numbered in HTML output.

MATHJAX does not support the “+” environments.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{autonom}[2015/01/18]
2 \RequirePackage{amsmath}
3
4
5 \newenvironment{equation+}{\equation}{\endequation}
6
7
8 \newenvironment{gather+}{\gather}{\endgather}
9
10 \BeforeBeginEnvironment{gather+}{\LWR@amsmathenv@@before{gather+}}
11
12 \AfterEndEnvironment{gather+}{\LWR@amsmathenv@@after}
13
14
15 \newenvironment{multline+}{\multline}{\endmultline}
16
17 \BeforeBeginEnvironment{multline+}{\LWR@amsmathenv@@before{multline+}}
18
19 \AfterEndEnvironment{multline+}{\LWR@amsmathenv@@after}
20
21
22 \newenvironment{flalign+}{\flalign}{\endflalign}
23
24 \BeforeBeginEnvironment{flalign+}{\LWR@amsmathenv@@before{flaline+}}
25
26 \AfterEndEnvironment{flalign+}{\LWR@amsmathenv@@after}
27
28
29 \newenvironment{align+}{\align}{\endalign}
30
31 \BeforeBeginEnvironment{align+}{\LWR@amsmathenv@@before{aline+}}
32
33 \AfterEndEnvironment{align+}{\LWR@amsmathenv@@after}
34
35
36 \newenvironment{alignat+}{\alignat}{\endalignat}
37
38 \BeforeBeginEnvironment{alignat+}{\LWR@amsmathenv@@before{alineat+}}
39
40 \AfterEndEnvironment{alignat+}{\LWR@amsmathenv@@after}

```

```

41
42
43 \newenvironment{split+}{\split}{\endsplit}

```

---

File 36 **lwarp-awesomebox.sty**

§ 142 Package **awesomebox**

*(Emulates or patches code by ÉTIENNE DEPARIS.)*

Pkg awesomebox awesomebox is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{awesomebox}[2019/07/27]

2 \newcommand*\LWR@awesomebox@boxborders{}{}%
3 \newcommand*\LWR@awesomebox@contentsborders{}{}%
4
5 \newcommand*\LWR@awesomebox@ruleborders{}{%
6 border-top: 1px solid black ;
7 border-bottom: 1px solid black%
8 }
9
10 % \awesomebox[1:vrulecolor][2:hrule][3:title]{4:vrulewidth}{5:icon}{6:iconcolor}{7:content}
11 \RenewDocumentCommand \awesomebox { O{abvrulecolor} O{} o m m m +m }{%
12 \begin{awesomeblock}[#1][#2][#3][#4][#5][#6]
13 #7
14 \end{awesomeblock}
15 }
16
17 % \begin{awesomeblock}[1:vrulecolor][2:hrule][3:title][4:vrulewidth]{5:icon}{6:iconcolor}
18 % <contents>
19 % \end{awesomeblock}
20 \RenewDocumentEnvironment{awesomeblock}{ O{abvrulecolor} O{} o m m m }
21 {%
22 \LWR@forceminwidth{#4}%
23 \convertcolorspec{named}{#1}{HTML}\LWR@tempcolor%
24 \renewcommand*\LWR@awesomebox@boxborders{}{}%
25 \renewcommand*\LWR@awesomebox@contentsborders{}{}%
26 \ifdefstrequal{\abShortLine}{#2}{%
27 \renewcommand*\LWR@awesomebox@contentsborders{\LWR@awesomebox@ruleborders}%
28 }{}%
29 \ifdefstrequal{\abLongLine}{#2}{%
30 \renewcommand*\LWR@awesomebox@boxborders{\LWR@awesomebox@ruleborders}%
31 }{}%
32 \begin{BlockClass}[\LWR@awesomebox@boxborders]{awesomebox}
33 \begin{BlockClass}[%
34 margin-left: 2\% ;
35 vertical-align: top
36]{minipage}
37 \color{#6}\Huge #5
38 \end{BlockClass}
39 \begin{BlockClass}[%
40 width:75\% ;

```

```

41 vertical-align: top ;
42 padding-left: 1em ;
43 \LWR@awesomebox@contentsborders ;
44 border-left: \LWR@printlength{\LWR@atleastonept} %
45 solid \LWR@origpound\LWR@tempcolor%
46]{minipage}
47 \IfValueTF{#3}{#3\newline}{}
48 }
49 {%
50 \end{BlockClass}
51 \end{BlockClass}
52 }

```

---

File 37 **lwarp-axessibility.sty**

§ 143 Package **axessibility**

Pkg axessibility axessibility is ignored.

**for HTML output:**

```

1 \PackageInfo{lwarp}{Using the lwarp version of package ‘axessibility’.%}
2 \ProvidesPackage{lwarp-axessibility}% no date is declared by the original
3
4 \newif\iftagpdfopt
5
6 \DeclareOption{accsupp}{
7 \tagpdfoptfalse
8 }
9
10 \DeclareOption{tagpdf}{
11 \tagpdfopttrue
12 }
13
14 \ProcessOptions\relax
15
16 \iftagpdfopt
17 \RequirePackage{tagpdf}
18 \else
19 \RequirePackage{accsupp}
20 \fi
21
22 \long\def\wrap#1{}
23 \long\def\wrapml#1{}
24 \long\def\wrapmlstar#1{}
25 \long\def\wrapmlalt#1{}

```

For MATHJAX. These usually will not be needed.

```

25 \begin{warpMathJax}
26 \CustomizeMathJax{\newcommand{\wrap}[1]{} }
27 \CustomizeMathJax{\newcommand{\wrapml}[1]{} }
28 \CustomizeMathJax{\newcommand{\wrapmlstar}[1]{} }
29 \CustomizeMathJax{\newcommand{\wrapmlalt}[1]{} }
30 \end{warpMathJax}

```

File 38 **lwarp-axodraw2.sty**§ 144 Package **axodraw2**

(Emulates or patches code by JOHN C. COLLINS, J.A.M. VERMASEREN.)

Pkg axodraw2 axodraw2 is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{axodraw2}[2018/02/15]
2 \BeforeBeginEnvironment{axopicture}{%
3 \begin{lateximage}[-axopicture~\PackageDiagramAltText]%
4 }
5
6 \AfterEndEnvironment{axopicture}{\end{lateximage}}
```

File 39 **lwarp-backnaur.sty**§ 145 Package **backnaur**

(Emulates or patches code by ADRIAN P. ROBSON.)

Pkg backnaur backnaur is patched for use by lwarp, and emulated for MATHJAX.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{backnaur}[2019/06/18]
2 \renewenvironment{bnf}{\eqnarray}{\endeqnarray}
3 \renewenvironment{bnf*}{\csuse{eqnarray*}}{\csuse{endeqnarray*}}
```

For MATHJAX:

```

4 \begin{warpMathJax}
5 \CustomizeMathJax{\newcommand{\bnfpm}[1]{\langle \text{\texttrm{#1}} \rangle}}
6 \CustomizeMathJax{\newcommand{\bnfor}{\; \mid \;}}
7 \CustomizeMathJax{\newcommand{\bnfsp}{\;}}
8 \@ifpackagewith{backnaur}{perp}{
9 \CustomizeMathJax{\newcommand{\bnfes}{\perp}}
10 }{
11 \@ifpackagewith{backnaur}{epsilon}{
12 \CustomizeMathJax{\newcommand{\bnfes}{\epsilon}}
13 }{
14 \CustomizeMathJax{\newcommand{\bnfes}{\lambda}}
15 }
16 }
17 \@ifpackagewith{backnaur}{tsrm}{
18 \CustomizeMathJax{\newcommand{\bnfts}[1]{\text{#1}}}
19 }{
20 \CustomizeMathJax{\newcommand{\bnfts}[1]{\text{\texttt{#1}}}}
```

```

21 }
22 \CustomizeMathJax{\newcommand{\bnfstd}[1]{\text{\textit{#1}}}}
23 \CustomizeMathJax{\newcommand{\bnfstd}{\dots}}
24 \ifpackagewith{backnaur}{altpo}{
25 \CustomizeMathJax{\newcommand{\bnfpo}{:=}}
26 }{
27 \CustomizeMathJax{\newcommand{\bnfpo}{\models}}
28 }
29 \CustomizeMathJax{\newcommand{\bnfprod}{\ifstar{\LWRbnfprodnn}{\LWRbnfprodyn}}}
30 \CustomizeMathJax{\newcommand{\LWRbnfprodyn}[2]{\bnfpo{#1} & \bnfpo & #2}}
31 \CustomizeMathJax{\newcommand{\LWRbnfprodnn}[2]{\nonumber \bnfpo{#1} & \bnfpo & #2}}
32 \CustomizeMathJax{\newcommand{\bnfmore}{\ifstar{\LWRbnfmorenn}{\LWRbnfmoreyn}}}
33 \CustomizeMathJax{\newcommand{\LWRbnfmoreyn}[1]{ & & #1}}
34 \CustomizeMathJax{\newcommand{\LWRbnfmorenn}[1]{\nonumber & & #1}}
35 \end{warpMathJax}

```


---

File 40 **lwarp-backref.sty**

§ 146 Package **backref**

*(Emulates or patches code by DAVID CARLISLE AND SEBASTIAN RAHTZ.)*

Pkg backref **backref** is patched for use by lwarp.

 **loading** Note that backref must be explicitly loaded, and is not automatically loaded by hyperref when generating HTML output.

**for HTML output:** 1 \LWR@ProvidesPackagePass{backref}[2016/05/21]

Force the hyperref option:

```

2 \def\backref{}
3
4 \long\def\hyper@section@backref#1#2#3{%
5 \ref{#3}%
6 }
7
8 \let\backrefxxx\hyper@section@backref

```

---

File 41 **lwarp-balance.sty**

§ 147 Package **balance**

*(Emulates or patches code by PATRICK W. DALY.)*

Pkg balance **balance** is ignored.

**for HTML output:** Discard all options for lwarp-balance:

```

1 \LWR@ProvidesPackageDrop{balance}[1999/02/23]

```

```
2 \newcommand*{\balance}{}
3 \newcommand*{\nobalance}{}

```

---

 File 42 **lwarp-bbding.sty**

 § 148 Package **bbding**

*(Emulates or patches code by KAREL HORAK, PETER MØLLER NEERGAARD.)*

Pkg bbding **bbding** is patched for use by lwarp.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{bbding}[1999/04/15]

2 \newcommand*{\LWR@bbdingsymbol}[2]{\HTMLUnicode{#2}}
3
4 \newcommand{\LWR@HTML@ScissorRightBrokenBottom}{\LWR@bbdingsymbol{000} {2701}}
5 \newcommand{\LWR@HTML@ScissorRight}{\LWR@bbdingsymbol{001} {2702}}
6 \newcommand{\LWR@HTML@ScissorRightBrokenTop}{\LWR@bbdingsymbol{002} {2703}}
7 \newcommand{\LWR@HTML@ScissorLeftBrokenBottom}{\LWR@bbdingsymbol{003} {2701}}
8 \newcommand{\LWR@HTML@ScissorLeft}{\LWR@bbdingsymbol{004} {2702}}
9 \newcommand{\LWR@HTML@ScissorLeftBrokenTop}{\LWR@bbdingsymbol{005} {2703}}
10 \newcommand{\LWR@HTML@ScissorHollowRight}{\LWR@bbdingsymbol{006} {2704}}
11 \newcommand{\LWR@HTML@ScissorHollowLeft}{\LWR@bbdingsymbol{007} {2704}}
12 \newcommand{\LWR@HTML@Phone}{\LWR@bbdingsymbol{010} {260E}}
13 \newcommand{\LWR@HTML@PhoneHandset}{\LWR@bbdingsymbol{011} {2706}}
14 \newcommand{\LWR@HTML@Tape}{\LWR@bbdingsymbol{012} {2707}}
15 \newcommand{\LWR@HTML@Plane}{\LWR@bbdingsymbol{013} {2708}}
16 \newcommand{\LWR@HTML@Envelope}{\LWR@bbdingsymbol{014} {2709}}
17 \newcommand{\LWR@HTML@HandCuffRight}{\LWR@bbdingsymbol{015} {261B}}
18 \newcommand{\LWR@HTML@HandCuffLeft}{\LWR@bbdingsymbol{016} {261A}}
19 \newcommand{\LWR@HTML@HandCuffRightUp}{\LWR@bbdingsymbol{017} {261D}}
20 \newcommand{\LWR@HTML@HandCuffLeftUp}{\LWR@bbdingsymbol{020} {261F}}
21 \newcommand{\LWR@HTML@HandRight}{\LWR@bbdingsymbol{021} {261E}}
22 \newcommand{\LWR@HTML@HandLeft}{\LWR@bbdingsymbol{022} {261C}}
23 \newcommand{\LWR@HTML@HandRightUp}{\LWR@bbdingsymbol{023} {261D}}
24 \newcommand{\LWR@HTML@HandLeftUp}{\LWR@bbdingsymbol{024} {261F}}
25 \newcommand{\LWR@HTML@Peace}{\LWR@bbdingsymbol{025} {270C}}
26 \newcommand{\LWR@HTML@HandPencilLeft}{\LWR@bbdingsymbol{026} {270D}}
27 \newcommand{\LWR@HTML@PencilRight}{\LWR@bbdingsymbol{027} {270F}}
28 \newcommand{\LWR@HTML@PencilLeft}{\LWR@bbdingsymbol{030} {270F}}
29 \newcommand{\LWR@HTML@PencilRightUp}{\LWR@bbdingsymbol{031} {2710}}
30 \newcommand{\LWR@HTML@PencilLeftUp}{\LWR@bbdingsymbol{032} {2710}}
31 \newcommand{\LWR@HTML@PencilRightDown}{\LWR@bbdingsymbol{033} {270E}}
32 \newcommand{\LWR@HTML@PencilLeftDown}{\LWR@bbdingsymbol{034} {270E}}
33 \newcommand{\LWR@HTML@NibRight}{\LWR@bbdingsymbol{035} {2711}}
34 \newcommand{\LWR@HTML@NibLeft}{\LWR@bbdingsymbol{036} {2711}}
35 \newcommand{\LWR@HTML@NibSolidRight}{\LWR@bbdingsymbol{037} {2712}}
36 \newcommand{\LWR@HTML@NibSolidLeft}{\LWR@bbdingsymbol{040} {2712}}
37 \newcommand{\LWR@HTML@Checkmark}{\LWR@bbdingsymbol{041} {2713}}
38 \newcommand{\LWR@HTML@CheckmarkBold}{\LWR@bbdingsymbol{042} {2714}}
39 \newcommand{\LWR@HTML@XSolid}{\LWR@bbdingsymbol{043} {2715}}
40 \newcommand{\LWR@HTML@XSolidBold}{\LWR@bbdingsymbol{044} {2716}}
41 \newcommand{\LWR@HTML@XSolidBrush}{\LWR@bbdingsymbol{045} {2717}}

```

|    |                                                                          |         |
|----|--------------------------------------------------------------------------|---------|
| 42 | \newcommand{\LWR@HTML@PlusOutline}{\LWR@bbdingsymbol{046}}               | {2719}} |
| 43 | \newcommand{\LWR@HTML@Plus}{\LWR@bbdingsymbol{047}}                      | {271A}} |
| 44 | \newcommand{\LWR@HTML@PlusCenterOpen}{\LWR@bbdingsymbol{050}}            | {271C}} |
| 45 | \newcommand{\LWR@HTML@PlusThinCenterOpen}{\LWR@bbdingsymbol{051}}        | {271B}} |
| 46 | \newcommand{\LWR@HTML@Cross}{\LWR@bbdingsymbol{052}}                     | {271D}} |
| 47 | \newcommand{\LWR@HTML@CrossOpenShadow}{\LWR@bbdingsymbol{053}}           | {271E}} |
| 48 | \newcommand{\LWR@HTML@CrossOutline}{\LWR@bbdingsymbol{054}}              | {271F}} |
| 49 | \newcommand{\LWR@HTML@CrossBoldOutline}{\LWR@bbdingsymbol{055}}          | {271F}} |
| 50 | \newcommand{\LWR@HTML@CrossMaltese}{\LWR@bbdingsymbol{056}}              | {2720}} |
| 51 | \newcommand{\LWR@HTML@DavidStarSolid}{\LWR@bbdingsymbol{057}}            | {2721}} |
| 52 | \newcommand{\LWR@HTML@DavidStar}{\LWR@bbdingsymbol{060}}                 | {2721}} |
| 53 | \newcommand{\LWR@HTML@FourAsterisk}{\LWR@bbdingsymbol{061}}              | {2722}} |
| 54 | \newcommand{\LWR@HTML@JackStar}{\LWR@bbdingsymbol{062}}                  | {2723}} |
| 55 | \newcommand{\LWR@HTML@JackStarBold}{\LWR@bbdingsymbol{063}}              | {2724}} |
| 56 | \newcommand{\LWR@HTML@CrossCLowerTips}{\LWR@bbdingsymbol{064}}           | {2725}} |
| 57 | \newcommand{\LWR@HTML@FourStar}{\LWR@bbdingsymbol{065}}                  | {2726}} |
| 58 | \newcommand{\LWR@HTML@FourStarOpen}{\LWR@bbdingsymbol{066}}              | {2727}} |
| 59 | \newcommand{\LWR@HTML@FiveStarLines}{\LWR@bbdingsymbol{067}}             | {2729}} |
| 60 | \newcommand{\LWR@HTML@FiveStar}{\LWR@bbdingsymbol{070}}                  | {2605}} |
| 61 | \newcommand{\LWR@HTML@FiveStarOpen}{\LWR@bbdingsymbol{071}}              | {2729}} |
| 62 | \newcommand{\LWR@HTML@FiveStarOpenCircled}{\LWR@bbdingsymbol{072}}       | {272A}} |
| 63 | \newcommand{\LWR@HTML@FiveStarCenterOpen}{\LWR@bbdingsymbol{073}}        | {272B}} |
| 64 | \newcommand{\LWR@HTML@FiveStarOpenDotted}{\LWR@bbdingsymbol{074}}        | {272C}} |
| 65 | \newcommand{\LWR@HTML@FiveStarOutline}{\LWR@bbdingsymbol{075}}           | {272D}} |
| 66 | \newcommand{\LWR@HTML@FiveStarOutlineHeavy}{\LWR@bbdingsymbol{076}}      | {272E}} |
| 67 | \newcommand{\LWR@HTML@FiveStarConvex}{\LWR@bbdingsymbol{077}}            | {272F}} |
| 68 | \newcommand{\LWR@HTML@FiveStarShadow}{\LWR@bbdingsymbol{100}}            | {2730}} |
| 69 | \newcommand{\LWR@HTML@AsteriskBold}{\LWR@bbdingsymbol{101}}              | {2731}} |
| 70 | \newcommand{\LWR@HTML@AsteriskCenterOpen}{\LWR@bbdingsymbol{102}}        | {2732}} |
| 71 | \newcommand{\LWR@HTML@AsteriskThin}{\LWR@bbdingsymbol{103}}              | {273B}} |
| 72 | \newcommand{\LWR@HTML@AsteriskThinCenterOpen}{\LWR@bbdingsymbol{104}}    | {273C}} |
| 73 | \newcommand{\LWR@HTML@EightStarTaper}{\LWR@bbdingsymbol{105}}            | {2733}} |
| 74 | \newcommand{\LWR@HTML@EightStarConvex}{\LWR@bbdingsymbol{106}}           | {2735}} |
| 75 | \newcommand{\LWR@HTML@SixStar}{\LWR@bbdingsymbol{107}}                   | {2736}} |
| 76 | \newcommand{\LWR@HTML@EightStar}{\LWR@bbdingsymbol{110}}                 | {2737}} |
| 77 | \newcommand{\LWR@HTML@EightStarBold}{\LWR@bbdingsymbol{111}}             | {2738}} |
| 78 | \newcommand{\LWR@HTML@TwelveStar}{\LWR@bbdingsymbol{112}}                | {2739}} |
| 79 | \newcommand{\LWR@HTML@SixteenStarLight}{\LWR@bbdingsymbol{113}}          | {273A}} |
| 80 | \newcommand{\LWR@HTML@SixFlowerPetalRemoved}{\LWR@bbdingsymbol{114}}     | {273B}} |
| 81 | \newcommand{\LWR@HTML@SixFlowerOpenCenter}{\LWR@bbdingsymbol{115}}       | {273C}} |
| 82 | \newcommand{\LWR@HTML@Asterisk}{\LWR@bbdingsymbol{116}}                  | {273D}} |
| 83 | \newcommand{\LWR@HTML@SixFlowerAlternate}{\LWR@bbdingsymbol{117}}        | {273E}} |
| 84 | \newcommand{\LWR@HTML@FiveFlowerPetal}{\LWR@bbdingsymbol{120}}           | {273F}} |
| 85 | \newcommand{\LWR@HTML@SixFlowerPetalDotted}{\LWR@bbdingsymbol{121}}      | {2740}} |
| 86 | \newcommand{\LWR@HTML@FiveFlowerOpen}{\LWR@bbdingsymbol{122}}            | {2740}} |
| 87 | \newcommand{\LWR@HTML@EightFlowerPetal}{\LWR@bbdingsymbol{123}}          | {2741}} |
| 88 | \newcommand{\LWR@HTML@SunshineOpenCircled}{\LWR@bbdingsymbol{124}}       | {2742}} |
| 89 | \newcommand{\LWR@HTML@SixFlowerAltPetal}{\LWR@bbdingsymbol{125}}         | {2743}} |
| 90 | \newcommand{\LWR@HTML@FourClowerOpen}{\LWR@bbdingsymbol{126}}            | {273F}} |
| 91 | \newcommand{\LWR@HTML@FourClowerSolid}{\LWR@bbdingsymbol{127}}           | {273F}} |
| 92 | \newcommand{\LWR@HTML@AsteriskRoundedEnds}{\LWR@bbdingsymbol{130}}       | {2749}} |
| 93 | \newcommand{\LWR@HTML@EightFlowerPetalRemoved}{\LWR@bbdingsymbol{131}}   | {274A}} |
| 94 | \newcommand{\LWR@HTML@EightAsterisk}{\LWR@bbdingsymbol{132}}             | {274B}} |
| 95 | \newcommand{\LWR@HTML@SixFlowerRemovedOpenPetal}{\LWR@bbdingsymbol{133}} | {2740}} |
| 96 | \newcommand{\LWR@HTML@SparkleBold}{\LWR@bbdingsymbol{134}}               | {2748}} |



|     |                                                                            |         |
|-----|----------------------------------------------------------------------------|---------|
| 97  | \newcommand{\LWR@HTML@Sparkle}{\LWR@bbdingsymbol{135}}                     | {2747}} |
| 98  | \newcommand{\LWR@HTML@SnowflakeChevron}{\LWR@bbdingsymbol{136}}            | {2744}} |
| 99  | \newcommand{\LWR@HTML@SnowflakeChevronBold}{\LWR@bbdingsymbol{137}}        | {2746}} |
| 100 | \newcommand{\LWR@HTML@Snowflake}{\LWR@bbdingsymbol{140}}                   | {2744}} |
| 101 | \newcommand{\LWR@HTML@CircleSolid}{\LWR@bbdingsymbol{141}}                 | {25CF}} |
| 102 | \newcommand{\LWR@HTML@Ellipse}{\LWR@bbdingsymbol{142}}                     | {274D}} |
| 103 | \newcommand{\LWR@HTML@EllipseSolid}{\LWR@bbdingsymbol{143}}                | {25CF}} |
| 104 | \newcommand{\LWR@HTML@CircleShadow}{\LWR@bbdingsymbol{144}}                | {274D}} |
| 105 | \newcommand{\LWR@HTML@EllipseShadow}{\LWR@bbdingsymbol{145}}               | {274D}} |
| 106 | \newcommand{\LWR@HTML@Square}{\LWR@bbdingsymbol{146}}                      | {25A1}} |
| 107 | \newcommand{\LWR@HTML@SquareSolid}{\LWR@bbdingsymbol{147}}                 | {25A0}} |
| 108 | \newcommand{\LWR@HTML@SquareShadowBottomRight}{\LWR@bbdingsymbol{150}}     | {2751}} |
| 109 | \newcommand{\LWR@HTML@SquareShadowTopRight}{\LWR@bbdingsymbol{151}}        | {2752}} |
| 110 | \newcommand{\LWR@HTML@SquareShadowTopLeft}{\LWR@bbdingsymbol{152}}         | {2752}} |
| 111 | \newcommand{\LWR@HTML@SquareCastShadowBottomRight}{\LWR@bbdingsymbol{153}} | {2751}} |
| 112 | \newcommand{\LWR@HTML@SquareCastShadowTopRight}{\LWR@bbdingsymbol{154}}    | {2752}} |
| 113 | \newcommand{\LWR@HTML@SquareCastShadowTopLeft}{\LWR@bbdingsymbol{155}}     | {2752}} |
| 114 | \newcommand{\LWR@HTML@TriangleUp}{\LWR@bbdingsymbol{156}}                  | {25B2}} |
| 115 | \newcommand{\LWR@HTML@TriangleDown}{\LWR@bbdingsymbol{157}}                | {25BC}} |
| 116 | \newcommand{\LWR@HTML@DiamondSolid}{\LWR@bbdingsymbol{160}}                | {25C6}} |
| 117 | \newcommand{\LWR@HTML@OrnamentDiamondSolid}{\LWR@bbdingsymbol{161}}        | {2756}} |
| 118 | \newcommand{\LWR@HTML@HalfCircleRight}{\LWR@bbdingsymbol{162}}             | {25D7}} |
| 119 | \newcommand{\LWR@HTML@HalfCircleLeft}{\LWR@bbdingsymbol{163}}              | {25D6}} |
| 120 | \newcommand{\LWR@HTML@RectangleThin}{\LWR@bbdingsymbol{164}}               | {2758}} |
| 121 | \newcommand{\LWR@HTML@Rectangle}{\LWR@bbdingsymbol{165}}                   | {2759}} |
| 122 | \newcommand{\LWR@HTML@RectangleBold}{\LWR@bbdingsymbol{166}}               | {275A}} |
| 123 | \newcommand{\LWR@HTML@ArrowBoldRightStrobe}{\LWR@bbdingsymbol{167}}        | {27A0}} |
| 124 | \newcommand{\LWR@HTML@ArrowBoldUpRight}{\LWR@bbdingsymbol{170}}            | {27A6}} |
| 125 | \newcommand{\LWR@HTML@ArrowBoldDownRight}{\LWR@bbdingsymbol{171}}          | {27A5}} |
| 126 | \newcommand{\LWR@HTML@ArrowBoldRightShort}{\LWR@bbdingsymbol{172}}         | {27A7}} |
| 127 | \newcommand{\LWR@HTML@ArrowBoldRightCircled}{\LWR@bbdingsymbol{173}}       | {27B2}} |
| 128 |                                                                            |         |
| 129 |                                                                            |         |
| 130 | \LWR@formatted{ScissorRightBrokenBottom}                                   |         |
| 131 | \LWR@formatted{ScissorRight}                                               |         |
| 132 | \LWR@formatted{ScissorRightBrokenTop}                                      |         |
| 133 | \LWR@formatted{ScissorLeftBrokenBottom}                                    |         |
| 134 | \LWR@formatted{ScissorLeft}                                                |         |
| 135 | \LWR@formatted{ScissorLeftBrokenTop}                                       |         |
| 136 | \LWR@formatted{ScissorHollowRight}                                         |         |
| 137 | \LWR@formatted{ScissorHollowLeft}                                          |         |
| 138 | \LWR@formatted{Phone}                                                      |         |
| 139 | \LWR@formatted{PhoneHandset}                                               |         |
| 140 | \LWR@formatted{Tape}                                                       |         |
| 141 | \LWR@formatted{PLane}                                                      |         |
| 142 | \LWR@formatted{Envelope}                                                   |         |
| 143 | \LWR@formatted{HandCuffRight}                                              |         |
| 144 | \LWR@formatted{HandCuffLeft}                                               |         |
| 145 | \LWR@formatted{HandCuffRightUp}                                            |         |
| 146 | \LWR@formatted{HandCuffLeftUp}                                             |         |
| 147 | \LWR@formatted{HandRight}                                                  |         |
| 148 | \LWR@formatted{HandLeft}                                                   |         |
| 149 | \LWR@formatted{HandRightUp}                                                |         |
| 150 | \LWR@formatted{HandLeftUp}                                                 |         |
| 151 | \LWR@formatted{Peace}                                                      |         |

152 \LWR@formatted{HandPencilLeft}  
153 \LWR@formatted{PencilRight}  
154 \LWR@formatted{PencilLeft}  
155 \LWR@formatted{PencilRightUp}  
156 \LWR@formatted{PencilLeftUp}  
157 \LWR@formatted{PencilRightDown}  
158 \LWR@formatted{PencilLeftDown}  
159 \LWR@formatted{NibRight}  
160 \LWR@formatted{NibLeft}  
161 \LWR@formatted{NibSolidRight}  
162 \LWR@formatted{NibSolidLeft}  
163 \LWR@formatted{Checkmark}  
164 \LWR@formatted{CheckmarkBold}  
165 \LWR@formatted{XSolid}  
166 \LWR@formatted{XSolidBold}  
167 \LWR@formatted{XSolidBrush}  
168 \LWR@formatted{PlusOutline}  
169 \LWR@formatted{Plus}  
170 \LWR@formatted{PlusCenterOpen}  
171 \LWR@formatted{PlusThinCenterOpen}  
172 \LWR@formatted{Cross}  
173 \LWR@formatted{CrossOpenShadow}  
174 \LWR@formatted{CrossOutline}  
175 \LWR@formatted{CrossBoldOutline}  
176 \LWR@formatted{CrossMaltese}  
177 \LWR@formatted{DavidStarSolid}  
178 \LWR@formatted{DavidStar}  
179 \LWR@formatted{FourAsterisk}  
180 \LWR@formatted{JackStar}  
181 \LWR@formatted{JackStarBold}  
182 \LWR@formatted{CrossLowerTips}  
183 \LWR@formatted{FourStar}  
184 \LWR@formatted{FourStarOpen}  
185 \LWR@formatted{FiveStarLines}  
186 \LWR@formatted{FiveStar}  
187 \LWR@formatted{FiveStarOpen}  
188 \LWR@formatted{FiveStarOpenCircled}  
189 \LWR@formatted{FiveStarCenterOpen}  
190 \LWR@formatted{FiveStarOpenDotted}  
191 \LWR@formatted{FiveStarOutline}  
192 \LWR@formatted{FiveStarOutlineHeavy}  
193 \LWR@formatted{FiveStarConvex}  
194 \LWR@formatted{FiveStarShadow}  
195 \LWR@formatted{AsteriskBold}  
196 \LWR@formatted{AsteriskCenterOpen}  
197 \LWR@formatted{AsteriskThin}  
198 \LWR@formatted{AsteriskThinCenterOpen}  
199 \LWR@formatted{EightStarTaper}  
200 \LWR@formatted{EightStarConvex}  
201 \LWR@formatted{SixStar}  
202 \LWR@formatted{EightStar}  
203 \LWR@formatted{EightStarBold}  
204 \LWR@formatted{TwelveStar}  
205 \LWR@formatted{SixteenStarLight}  
206 \LWR@formatted{SixFlowerPetalRemoved}

```

207 \LWR@formatted{SixFlowerOpenCenter}
208 \LWR@formatted{Asterisk}
209 \LWR@formatted{SixFlowerAlternate}
210 \LWR@formatted{FiveFlowerPetal}
211 \LWR@formatted{SixFlowerPetalDotted}
212 \LWR@formatted{FiveFlowerOpen}
213 \LWR@formatted{EightFlowerPetal}
214 \LWR@formatted{SunshineOpenCircled}
215 \LWR@formatted{SixFlowerAltPetal}
216 \LWR@formatted{FourCLowerOpen}
217 \LWR@formatted{FourCLowerSolid}
218 \LWR@formatted{AsteriskRoundedEnds}
219 \LWR@formatted{EightFlowerPetalRemoved}
220 \LWR@formatted{EightAsterisk}
221 \LWR@formatted{SixFlowerRemovedOpenPetal}
222 \LWR@formatted{SparkleBold}
223 \LWR@formatted{Sparkle}
224 \LWR@formatted{SnowflakeChevron}
225 \LWR@formatted{SnowflakeChevronBold}
226 \LWR@formatted{Snowflake}
227 \LWR@formatted{CircleSolid}
228 \LWR@formatted{Ellipse}
229 \LWR@formatted{EllipseSolid}
230 \LWR@formatted{CircleShadow}
231 \LWR@formatted{EllipseShadow}
232 \LWR@formatted{Square}
233 \LWR@formatted{SquareSolid}
234 \LWR@formatted{SquareShadowBottomRight}
235 \LWR@formatted{SquareShadowTopRight}
236 \LWR@formatted{SquareShadowTopLeft}
237 \LWR@formatted{SquareCastShadowBottomRight}
238 \LWR@formatted{SquareCastShadowTopRight}
239 \LWR@formatted{SquareCastShadowTopLeft}
240 \LWR@formatted{TriangleUp}
241 \LWR@formatted{TriangleDown}
242 \LWR@formatted{DiamondSolid}
243 \LWR@formatted{OrnamentDiamondSolid}
244 \LWR@formatted{HalfCircleRight}
245 \LWR@formatted{HalfCircleLeft}
246 \LWR@formatted{RectangleThin}
247 \LWR@formatted{Rectangle}
248 \LWR@formatted{RectangleBold}
249 \LWR@formatted{ArrowBoldRightStrobe}
250 \LWR@formatted{ArrowBoldUpRight}
251 \LWR@formatted{ArrowBoldDownRight}
252 \LWR@formatted{ArrowBoldRightShort}
253 \LWR@formatted{ArrowBoldRightCircled}

```

---

File 43 **lwarp-biblatex.sty**

§ 149 Package **biblatex**

*(Emulates or patches code by PHILIPP LEHMAN.)*

Pkg biblatex When biblatex is used, modifications from newfloat may have to be undone.

for HTML output:

1. lwarp uses newfloat.
2. For classes with chapters which newfloat does not know about, such as CTEX-related classes, newfloat may modify \addtocontents.
3. biblatex, though, wants to patch \addtocontents, which causes an error if \addtocontents has been changed.
4. Therefore, \addtocontents is restored to its original here, since biblatex is about to be loaded.
5. This means that the newfloat's chapterlistsgaps option may no longer work.

```
1 \ifdef{\newfloat@addtocontents@ORI}{
2 \let\addtocontents\newfloat@addtocontents@ORI
3 }{}
```

hyperref emulation is loaded \AtBeginDocument to avoid an options clash.

```
4 \AtBeginDocument{\RequirePackage{hyperref}}
5
6 \LWR@ProvidesPackagePass{biblatex}[2018/03/04]
```

The following create hyperlinks to the references. The original code to use hyperref is recreated here, because hyperref is emulated.

```
7 \AfterPreamble{
8
9 \let\blx@anchors\@empty
10 \protected\def\blx@anchor{%
11 \xifinlist{\the\c@refsection @\abx@field@entrykey}{\blx@anchors}
12 {}
13 {\listxadd\blx@anchors{\the\c@refsection @\abx@field@entrykey}%
14 \hypertarget{cite.\the\c@refsection @\abx@field@entrykey}{}}
15
16 \protected\def\blx@imc@bibhyperref{%
17 \@ifnextchar[%
18 {\blx@bibhyperref}
19 {\blx@bibhyperref[\abx@field@entrykey]}}%
20
21 \long\def\blx@bibhyperref[#1]#2{%
22 % \blx@sfsave
23 % \hyperlink{cite.\the\c@refsection @#1}{%
24 % \blx@sfst
25 % #2%
26 % \blx@sfsave
27 % }%
28 % \blx@sfst%
29 }% \def\blx@nohyperref[#1]#2{#2}%
30
31 \protected\long\def\blx@imc@bibhyperlink#1#2{%
32 % \blx@sfsave
```

```

33 \hyperlink{cite.\the\c@refsection:#1}{%
34 % \blx@sffrest
35 #2%
36 % \blx@sffsave
37 }%
38 % \blx@sffrest%
39 }%
40
41 \protected\long\def\blx@imc@bibhypertarget#1#2{%
42 % \blx@sffsave%
43 \hypertarget{cite.\the\c@refsection:#1}{%
44 % \blx@sffrest
45 #2%
46 % \blx@sffsave%
47 }%
48 % \blx@sffrest%
49 }
50
51 \let\blx@imc@ifhyperref\@firstoftwo

```

The following patches are for back page references.

```

52 \DeclareListFormat{pageref}{%
53 \ifnumless{\abx@pagerefstyle}{0}
54 {\usebibmacro{list:plain}%
55 \ifhyperref
56 {%
57 % \hyperlink{page.#1}{#1}%
58 % \ref{\BaseJobname-autopage-#1}% lwarp
59 }
60 {#1}}
61 {\ifnumequal{\value{listcount}}{1}
62 {\usebibmacro{pageref:init}}
63 {}%
64 \usebibmacro{pageref:comp}{#1}%
65 \ifnumequal{\value{listcount}}{\value{liststop}}
66 {\usebibmacro{pageref:dump}}
67 {}}}
68
69 \renewbibmacro*{pageref:comp}[1]{%
70 \numdef\abx@range@prev{\abx@range@prev+1}%
71 \ifinteger{#1}
72 {\def\abx@range@num{#1}%
73 \def\abx@range@this{1}%
74 \ifnumequal{\abx@range@this}{\abx@range@last}
75 {}
76 {\def\abx@range@prev{-1}}}
77 {\ifrmnum{#1}
78 {\numdef\abx@range@num{\rmntonum{#1}}%
79 \def\abx@range@this{2}%
80 \ifnumequal{\abx@range@this}{\abx@range@last}
81 {}
82 {\def\abx@range@prev{-1}}}
83 {\undef\abx@range@num
84 \def\abx@range@this{0}%

```

```

85 \def\abx@range@prev{-1}}%
86 \ifdef\abx@range@num
87 {\ifnumequal{\abx@range@num}{\abx@range@prev}
88 {\def\abx@range@hold{#1}%
89 \numdef\abx@range@diff{\abx@range@diff+1}}
90 {\usebibmacro{pageref:dump}%
91 \ifnumgreater{\abx@range@last}{-1}
92 {\printdelim{multilistdelim}}
93 {}}%
94 \ifhyperref
95 % {\hyperlink{page.#1}{#1}}
96 {\ref{\BaseJobname-autopage-#1}}% lwarp
97 {#1}}%
98 \edef\abx@range@prev{\abx@range@num}}
99 \usebibmacro{pageref:dump}%
100 \ifnumgreater{\abx@range@last}{-1}
101 {\printdelim{multilistdelim}}
102 {}%
103 \ifhyperref
104 % {\hyperlink{page.#1}{#1}}
105 {\ref{\BaseJobname-autopage-#1}}% lwarp
106 {#1}}%
107 \def\abx@range@prev{-1}}%
108 \edef\abx@range@last{\abx@range@this}}
109
110 \renewbibmacro*{pageref:dump}{%
111 \ifnumgreater{\abx@range@diff}{0}
112 {\ifcase\abx@pagerefstyle\relax % two
113 \bibrangedash
114 \ifhyperref
115 % {\hyperlink{page.\abx@range@hold}{\abx@range@hold}}
116 {\ref{\BaseJobname-autopage-\abx@range@hold}}% lwarp
117 {\abx@range@hold}}%
118 \or % three
119 \ifnumless{\abx@range@diff}{2}
120 {\printdelim{multilistdelim}}
121 {\bibrangedash}%
122 \ifhyperref
123 % {\hyperlink{page.\abx@range@hold}{\abx@range@hold}}
124 {\ref{\BaseJobname-autopage-\abx@range@hold}}% lwarp
125 {\abx@range@hold}}%
126 \or % two+
127 \ifnumless{\abx@range@diff}{2}
128 {\sqspace
129 \ifhyperref
130 % {\hyperlink{page.\abx@range@hold}{\bibstring{sequens}}}
131 {\ref{\BaseJobname-autopage-\abx@range@hold}}% lwarp
132 {\bibstring{sequens}}}}
133 {\bibrangedash
134 \ifhyperref
135 % {\hyperlink{page.\abx@range@hold}{\abx@range@hold}}
136 {\ref{\BaseJobname-autopage-\abx@range@hold}}% lwarp
137 {\abx@range@hold}}%
138 \or % three+
139 \ifnumless{\abx@range@diff}{2}

```

```

140 {\sqspace
141 \ifhyperref
142 % {\hyperlink{page.\abx@range@hold}{\bibstring{sequens}}}
143 {\ref{\BaseJobname-autopage-\abx@range@hold}}% lwarp
144 {\bibstring{sequens}}}
145 {\ifnumless{\abx@range@diff}{3}
146 {\sqspace
147 \ifhyperref
148 % {\hyperlink{page.\abx@range@hold}{\bibstring{sequentes}}}
149 {\ref{\BaseJobname-autopage-\abx@range@hold}}% lwarp
150 {\bibstring{sequentes}}}
151 {\bibrangedash
152 \ifhyperref
153 % {\hyperlink{page.\abx@range@hold}{\abx@range@hold}}
154 {\ref{\BaseJobname-autopage-\abx@range@hold}}% lwarp
155 {\abx@range@hold}}}%
156 \else % all+
157 \ifnumless{\abx@range@diff}{2}
158 {\sqspace
159 \ifhyperref
160 % {\hyperlink{page.\abx@range@hold}{\bibstring{sequens}}}
161 {\ref{\BaseJobname-autopage-\abx@range@hold}}% lwarp
162 {\bibstring{sequens}}}
163 {\sqspace
164 \ifhyperref
165 % {\hyperlink{page.\abx@range@hold}{\bibstring{sequentes}}}
166 {\ref{\BaseJobname-autopage-\abx@range@hold}}% lwarp
167 {\bibstring{sequentes}}}%
168 \fi
169 \def\abx@range@diff{0}}
170 {}
171
172 }% \AfterPreamble

```

---

File 44 **lwarp-bibunits.sty**

§ 150 Package **bibunits**

*(Emulates or patches code by THORSTEN HANSEN.)*

Pkg bibunits bibunits is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{bibunits}[2004/05/12]

2 \def\bu@bibdata{\BaseJobname}

---

File 45 **lwarp-bigdelim.sty**

§ 151 Package **bigdelim**

*(Emulates or patches code by PIET VAN OOSTRUM, ØYSTEIN BACHE, JERRY LEICHTER.)*

Pkg `bigdelim` `bigdelim` is used as-is for print or `lateximage`, and patched for HTML.

The delimiters are displayed in HTML by printing the delimiter, the text, and a thick border across the side of the `\multirow` which indicates the actual height of the delimiter. The delimiter character is given a `<span>` class of `ldelim` or `rdelim`, and the default CSS sets this to `font-size:200%`

⚠ use `\mrowcell` `\ldelim` and `\rdelim` use `\multirow`, so `\mrowcell` must be used in the proper number of empty cells in the same column below `\ldelim` or `\rdelim`, but not in cells which are above or below the delimiter:

---

```

\begin{tabular}{lll}
<empty> & a & b \\
\ldelim{\}{3}{.25in}[left] & c & d \\
\mrowcell & e & f \\
\mrowcell & g & h \\
<empty> & i & j \\
\end{tabular}

```

---

```

<-> a b
 {
left { c d
 { e f
 { g h
<-> i j

```

---

For MATHJAX, limited emulation is provided which merely prints the delimiter and optional text in the first row.

for HTML output: First, remove the temporary definitions of `\ldelim` and `\rdelim`, which were previously defined for tabular scanning in case `bigdelim` was not loaded:

```

1 \let\ldelim\relax
2 \let\rdelim\relax

```

Next, load the package's new definitions:

```

3 \LWR@ProvidesPackagePass{bigdelim}[2018/08/03]

```

```

\ldelim {\langle 1:delimiter \rangle} {\langle 2:#rows \rangle} {\langle 3:width \rangle} [\langle 4:text \rangle]
\rdelim

```

```

4 \NewDocumentCommand{\LWR@HTML@ldelim}{m m m O{}}{%
5 \renewcommand{\LWR@multirowborder}{right}%
6 \multirow{#2}{#3}{#4 \InlineClass{ldelim}{#1}}%
7 }
8
9 \LWR@formatted{ldelim}
10
11 \NewDocumentCommand{\LWR@HTML@rdelim}{m m m O{}}{%
12 \renewcommand{\LWR@multirowborder}{left}%
13 \multirow{#2}{#3}{\InlineClass{rdelim}{#1} #4}%
14 }

```



```
15
16 \LWR@formatted{rdelim}
```

Limited emulation for MATHJAX. The delimiter is printed on the first row, along with any optional text.

```
17 \begin{warpMathJax}
18 % \ldelim ([n]{width}[text]
19 \CustomizeMathJax{\newcommand{\LWRldelim}[1][]{\text{#1}~\LWRbigdelim}}
20 \CustomizeMathJax{\def\ldelim#1#2#3{\def\LWRbigdelim{#1}\LWRldelim}}
21 % \rdelim) [n]{width}[text]
22 \CustomizeMathJax{\newcommand{\LWRrdelim}[1][]{\LWRbigdelim~\text{#1}}}
23 \CustomizeMathJax{\def\rdelim#1#2#3{\def\LWRbigdelim{#1}\LWRrdelim}}
24 \end{warpMathJax}
```

---

File 46 **lwarp-bigfoot.sty**

§ 152 Package **bigfoot**

Pkg bigfoot bigfoot is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{bigfoot}[2015/08/30]

```
2 \RequirePackage{manyfoot}
3 \RequirePackage{perpage}
4
5 \def\RestyleFootnote#1#2{}
6 \def\FootnoteSpecific#1{}
7 \def\DefineFootnoteStack#1{}
8 \def\PushFootnoteMark#1{}
9 \def\PopFootnoteMark#1{}
10 \def\hfootfraction{0.9}
11 \def\vtypefraction{0.7}
12 \def\FootnoteMinimum{1sp}
13 \def\FootnoteMainMinimum{0pt}
14 \newcount\bigfoottolerance
15 \bigfoottolerance=100
16 \providecommand\footnotecarryratio{2}
```

---

File 47 **lwarp-bigstrut.sty**

§ 153 Package **bigstrut**

*(Emulates or patches code by PIET VAN OOSTRUM, ØYSTEIN BACHE, JERRY LEICHTER.)*

Pkg bigstrut bigstrut is used as-is for print or lateximage, and patched for HTML.

**for HTML output:** 1 \LWR@ProvidesPackagePass{bigstrut}[2018/08/03]

```

2 \LetLtxMacro\LWR@origbigstrut\bigstrut
3
4 \renewcommand\bigstrut[1][x]{}
5
6 \appto\LWR@restoreorigformatting{%
7 \LetLtxMacro\bigstrut\LWR@origbigstrut%
8 }
9

10 \begin{warpMathJax}
11 \CustomizeMathJax{\newcommand{\bigstrut}[1][x]{}
12 \end{warpMathJax}

```

---

File 48 **lwarp-bitpattern.sty**

§ 154 Package **bitpattern**

*(Emulates or patches code by JEAN-MARC BOURGUET.)*

Pkg bitpattern bitpattern is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{bitpattern}[2015/12/11]

```

2 \xpatchcmd{\bitpattern}
3 {\begingroup}
4 {\begin{lateximage}[-bitpattern-~\PackageDiagramAltText]}
5 {}
6 {\LWR@patcherror{bitpattern}{bitpattern}}
7
8 \xpatchcmd{\bp@Done}
9 {\endgroup}
10 {\end{lateximage}}
11 {}
12 {\LWR@patcherror{bitpattern}{bp@Done}}

```

---

File 49 **lwarp-blowup.sty**

§ 155 Package **blowup**

Pkg blowup blowup is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{blowup}[2018/01/02]

```

2 \newcommand*\blowUp[1]{}

```

---

File 50 **lwarp-bm.sty**

§ 156 Package **bm**

(Emulates or patches code by DAVID CARLISLE, FRANK MITTELBACH.)

Pkg bm **bm** is patched for use by **lwarp**.

**for HTML output:** 1 \LWR@ProvidesPackagePass{bm}[2019/07/24]

\DeclareBoldMathCommand must only be used in the preamble, since it adds to the MATHJAX setup code.

```

2 \begin{warpMathJax}
3 \LetLtxMacro\LWR@orig@DeclareBoldMathCommand\DeclareBoldMathCommand
4
5 \renewcommand\DeclareBoldMathCommand[3][bold]{%
6 \LWR@orig@DeclareBoldMathCommand[#1]{#2}{#3}%
7 \CustomizeMathJax{\newcommand{#2}{\boldsymbol{#3}}}%
8 }
9
10 \@onlypreamble\DeclareBoldMathCommand
11
12 \CustomizeMathJax{\newcommand{\bm}[1]{\boldsymbol{#1}}}
13 \end{warpMathJax}

```

---

File 51 **lwarp-booklet.sty**

§ 157 Package **booklet**

(Emulates or patches code by PETER WILSON.)

Pkg booklet **booklet** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{booklet}[2009/09/02]

```

2 \newdimen\pagesepLength
3 \newdimen\pagesepWidth
4 \newdimen\pagesepOffset
5 \newif\ifsidebyside \sidebyside true
6 \newif\ifuselandscape \uselandscape false
7 \newif\ifprintoption \printoption false
8 \newcommand*\pagespersignature[1]{}
9 \def\magstepminus#1{}
10 \newcommand*\target[3]{}
11 \newcommand*\source[3]{}
12 \newcommand*\setpdftargetpages{}
13 \newcommand*\setdvipstargetpages{}

```

```

14 \newcommand*\targettopbottom{}
15 \newcommand*\twoupemptypage{}
16 \newcommand*\twoupclearpage{}
17 \newcommand*\checkforlandscape{}

```

---

File 52 **lwarp-bookmark.sty**

§ 158 Package **bookmark**

(Emulates or patches code by HEIKO OBERDIEK.)

Pkg bookmark bookmark is ignored.

**for HTML output:** Discard all options for lwarp-bookmark:

```

1 \LWR@ProvidesPackageDrop{bookmark}[2016/05/17]

2 \newcommand*\bookmarksetup[1]{}
3 \newcommand*\bookmarksetupnext[1]{}
4 \newcommand*\bookmark[2]{}
5 \newcommand*\bookmarkdefinestyle[2]{}
6 \newcommand*\bookmarkget[1]{}
7 \newcommand*\BookmarkAtEnd[1]{}

```


---

File 53 **lwarp-booktabs.sty**

§ 159 Package **booktabs**

(Emulates or patches code by SIMON FEAR.)

Pkg booktabs booktabs is emulated during HTML output, and used as-is during print output and inside an HTML `lateximage`.

 `\cmidrule` For MATHJAX, emulation is provided in math mode, but `\cmidrule trim` must not be used.

**for HTML output:** If `booktabs` has already been loaded before `lwarp`, such as by `memoir`, use it as-is. If not, the `lwarp` core will have placed some dummy macros which should be removed before loading the actual `booktabs` definitions.

```

1 \@ifpackageloaded{booktabs}{}{
2 \LetLtxMacro\toprule\relax
3 \LetLtxMacro\midrule\relax
4 \LetLtxMacro\cmidrule\cline
5 \LetLtxMacro\bottomrule\relax
6 \LetLtxMacro\addlinespace\relax
7 \LetLtxMacro\morecmidrules\relax
8 \LetLtxMacro\specialrule\relax
9 }

```

Next, load the booktabs package:

```
10 \LWR@ProvidesPackagePass{booktabs}[2019/10/08]
```

Adjust to work even if xltabular is loaded:

```
11 % \def\LWR@HTML@BLTrule{\@BTnormal}
12 %
13 % \LWR@formatted{@BLTrule}
14 \LetLtxMacro@BLTrule\@BTnormal

15 \DeclareDocumentCommand{\LWR@HTML@toprule}{o d()}%
16 {%
17 \IfValueTF{#1}%
18 {\LWR@docmidrule[#1]}{1-\arabic{LWR@tabletotalLaTeXcols}}}%
19 {%
20 \ifbool{FormatWP}%
21 {\LWR@docmidrule[#1]}{1-\arabic{LWR@tabletotalLaTeXcols}}}%
22 {\booltrue{LWR@doingtbrule}}}%
23 }%
24 \LWR@getmynexttoken}
25
26 \LWR@expandableformatted{toprule}
27
28 \DeclareDocumentCommand{\LWR@HTML@midrule}{o d()}%
29 {%
30 \IfValueTF{#1}%
31 {\LWR@docmidrule[#1]}{1-\arabic{LWR@tabletotalLaTeXcols}}}%
32 {%
33 \ifbool{FormatWP}%
34 {\LWR@docmidrule[#1]}{1-\arabic{LWR@tabletotalLaTeXcols}}}%
35 {\defaddtocounter{LWR@hlines}{1}}}%
36 }%
37 \LWR@getmynexttoken}
38
39 \LWR@expandableformatted{midrule}
40
41 \DeclareDocumentCommand{\LWR@HTML@cmidrule}{O{\LWR@cmidrulewidth} d() m}{%
42 \LWR@docmidrule[#1](#2){#3}%
43 \LWR@getmynexttoken%
44 }%
45
46 \LWR@expandableformatted{cmidrule}
47
48 \DeclareDocumentCommand{\LWR@HTML@bottomrule}{o d()}{%
49 \IfValueTF{#1}%
50 {\LWR@docmidrule[#1]}{1-\arabic{LWR@tabletotalLaTeXcols}}}%
51 {%
52 \ifbool{FormatWP}%
53 {\LWR@docmidrule[#1]}{1-\arabic{LWR@tabletotalLaTeXcols}}}%
54 {\booltrue{LWR@doingtbrule}}}%
55 }%
56 \LWR@getmynexttoken%
57 }%
58
```

```

59 \LWR@expandableformatted{bottomrule}
60
61 \DeclareDocumentCommand{\LWR@HTML@addlinespace}{o}{}%
62
63 \LWR@expandableformatted{addlinespace}
64
65 \DeclareDocumentCommand{\LWR@HTML@morecmidrules}{}{}%
66
67 \LWR@expandableformatted{morecmidrules}
68
69 \DeclareDocumentCommand{\LWR@HTML@specialrule}{m m m d()}%
70 {\LWR@docmidrule[#1]}{1-\arabic{\LWR@tabletotalLaTeXcols}}\LWR@getmynexttoken}%
71
72 \LWR@expandableformatted{specialrule}

```

For MATHJAX:

```

73 \begin{warpMathJax}
74 \CustomizeMathJax{\newcommand{\toprule}[1][\hline]}
75 \CustomizeMathJax{\let\midrule\toprule}
76 \CustomizeMathJax{\let\bottomrule\toprule}
77 \CustomizeMathJax{\def\LWRbooktabscmidruleparen(#1)#2{}}
78 \CustomizeMathJax{\newcommand{\LWRbooktabscmidrulenoparen}[1]{}}
79 \CustomizeMathJax{\newcommand{\cmidrule}[1][{}%
80 \ifnextchar(\LWRbooktabscmidruleparen\LWRbooktabscmidrulenoparen%
81]}}
82 \CustomizeMathJax{\newcommand{\morecmidrules}{}]}
83 \CustomizeMathJax{\newcommand{\specialrule}[3]{\hline}}
84 \CustomizeMathJax{\newcommand{\addlinespace}[1][{}]}
85 \end{warpMathJax}

```

---

File 54 **lwarp-bophook.sty**

§ 160 Package **bophook**

Pkg bophook bophook is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{bophook}[2001/03/29]

2 \newcommand*{\AtBeginPage}[1]{}
3 \newcommand*{\PageLayout}[1]{}

```

---

File 55 **lwarp-bounddvi.sty**

§ 161 Package **bounddvi**

Pkg bounddvi bounddvi is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{bounddvi}[2016/12/28]

```

---

File 56 **lwarp-boxedminipage.sty**

§ 162 Package **boxedminipage**

*(Emulates or patches code by SCOTT PAKIN.)*

Pkg boxedminipage **boxedminipage** is emulated for HTML, and used as-is for lateximages.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{boxedminipage}[2020/04/19]

2 \newenvironment{LWR@HTML@boxedminipage}{%
3 \LWR@stoppars%
4 \begin{BlockClass}{framebox}%
5 \minipage%
6 }
7 {%
8 \endminipage%
9 \end{BlockClass}%
10 \LWR@startpars%
11 }
12 \LWR@formattedenv{boxedminipage}

```

---

File 57 **lwarp-boxedminipage2e.sty**

§ 163 Package **boxedminipage2e**

*(Emulates or patches code by SCOTT PAKIN.)*

Pkg boxedminipage2e **boxedminipage2e** has been renamed **boxedminipage** by the author.

**for HTML output:** Automatically loads **boxedminipage**:

```

1 \LWR@ProvidesPackagePass{boxedminipage2e}

```

---

File 58 **lwarp-braket.sty**

§ 164 Package **braket**

*(Emulates or patches code by DONALD ARSENEAU.)*

Pkg braket **braket** works as-is for HTML with SVG math. For MATHJAX, the MATHJAX extension is used.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{braket}% No date is provided by the file.

```

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\require{braket}}
4 \end{warpMathJax}

```

---

File 59 **lwarp-breakurl.sty**§ 165 Package **breakurl**

(Emulates or patches code by VILAR CAMARA NETO.)

Pkg breakurl **breakurl** is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{breakurl}[2013/04/10]

```

2 \LetLtxMacro\burl\LWR@url
3
4 \NewDocumentCommand{\LWR@burlaltb}{0{} +m m}{%
5 \LWR@ensuredoingapar%
6 \LWR@subhyperref{#2}%
7 \LWR@subhyperrefreftext{#3}%
8 \endgroup% restore catcodes
9 }
10
11 \newrobustcmd*{\burlalt}{%
12 \begingroup%
13 \LWR@linkcatcodes%
14 \LWR@burlaltb%
15 }
16
17 \LetLtxMacro\urlalt\burlalt


```

---

File 60 **lwarp-breqn.sty**§ 166 Package **breqn**

(Emulates or patches code by MICHAEL J. DOWNES, MORTEN HØGHOLM.)

Pkg breqn **breqn** is patched for use by lwarp.

 **darray** darray is not supported, and in fact does not work in the print version either.

While using MATHJAX, **breqn** objects are converted to SVG images.

**for HTML output:** 1 \LWR@ProvidesPackagePass{breqn}[2017/01/27]

```

2 \setkeys{breqn}{spread={5pt}}
3
4 \def\eqnumside{R}
5 % \def\eqnumplace{T}
6

```



```
7 \BeforeBeginEnvironment{dmath}{
8 \begin{BlockClass}{displaymathnumbered}
9 \LWR@newautoidanchor%
10 \booltrue{LWR@indisplaymathimage}%
11 \begin{lateximage}[-breqn dmath- \MathImageAltText]
12 }
13
14 \AfterEndEnvironment{dmath}{
15 \end{lateximage}\end{BlockClass}
16 }
17
18 \BeforeBeginEnvironment{dmath*}{
19 \begin{BlockClass}{displaymath}
20 \LWR@newautoidanchor%
21 \booltrue{LWR@indisplaymathimage}%
22 \begin{lateximage}[-breqn dmath*- \MathImageAltText]
23 }
24
25 \AfterEndEnvironment{dmath*}{
26 \end{lateximage}\end{BlockClass}
27 }
28
29 \BeforeBeginEnvironment{dseries}{
30 \begin{BlockClass}{displaymathnumbered}
31 \LWR@newautoidanchor%
32 \booltrue{LWR@indisplaymathimage}%
33 \begin{lateximage}[-breqn dseries- \MathImageAltText]
34 }
35
36 \AfterEndEnvironment{dseries}{
37 \end{lateximage}\end{BlockClass}
38 }
39
40 \BeforeBeginEnvironment{dseries*}{
41 \begin{BlockClass}{displaymath}
42 \LWR@newautoidanchor%
43 \booltrue{LWR@indisplaymathimage}%
44 \begin{lateximage}[-breqn dseries*- \MathImageAltText]
45 }
46
47 \AfterEndEnvironment{dseries*}{
48 \end{lateximage}\end{BlockClass}
49 }
50
51 \BeforeBeginEnvironment{dgroup}{
52 \begin{BlockClass}{displaymath}
53 \LWR@newautoidanchor%
54 \booltrue{LWR@indisplaymathimage}%
55 \begin{lateximage}[-breqn dgroup- \MathImageAltText]
56 }
57
58 \AfterEndEnvironment{dgroup}{
59 \end{lateximage}\end{BlockClass}
60 }
61
```

```

62 \BeforeBeginEnvironment{dgroup*}{
63 \begin{BlockClass}{displaymath}
64 \LWR@newautoidanchor%
65 \booltrue{LWR@indisplaymathimage}%
66 \begin{lateximage}[-breqn dgroup*- \MathImageAltText]
67 }
68
69 \AfterEndEnvironment{dgroup*}{
70 \end{lateximage}\end{BlockClass}
71 }

```

---

File 61 **lwarp-bsheaders.sty**

§ 167 Package **bsheaders**

Pkg bsheaders bsheaders is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{bsheaders}[1997/10/06]


---

File 62 **lwarp-bussproofs.sty**

§ 168 Package **bussproofs**

(Emulates or patches code by SAMUEL R. BUSS.)

Pkg bussproofs bussproofs is used as-is for HTML, and emulated by MATHJAX's extension.

 **\DisplayProof** If not using MATHJAX, inline proofs with `\DisplayMath` must be placed inside a math expression.

If using MATHJAX, only the `prooftree` environment may be used, not `\DisplayProof`.

**for HTML output:** 1 \LWR@ProvidesPackagePass{bussproofs}% no date in file

```

2 \ifbool{mathjax}{
3 \CustomizeMathJax{\require{bussproofs}}
4
5 \NewEnviron{LWR@HTML@prooftree}%
6 {\LWR@doequation{\BODY}{prooftree}}%
7 [\LWR@doendequation{prooftree}]
8 \LWR@formattedenv{prooftree}
9 }{% SVG HTML
10 \BeforeBeginEnvironment{prooftree}{%
11 \begin{lateximage}[-bussproofs-~\PackageDiagramAltText]%
12 }
13 \AfterEndEnvironment{prooftree}{\end{lateximage}}
14 }

```

File 63 **lwarp-bxpapersize.sty**§ 169 Package **bxpapersize**

Pkg `bxpapersize` `bxpapersize` is ignored.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{bxpapersize}[2017/10/08]
2 \providecommand*\papersizesetup{\bxpapersizesetup}
3 \newcommand*\bxpapersizesetup[1]{}

```

File 64 **lwarp-bytefield.sty**§ 170 Package **bytefield**

*(Emulates or patches code by SCOTT PAKIN.)*

Pkg `bytefield` `bytefield` is patched for use by `lwarp`.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{bytefield}[2017/09/15]
2 \BeforeBeginEnvironment{bytefield}{%
3 \begin{lateximage}[-bytefield~\PackageDiagramAltText]%
4 }
5
6 \AfterEndEnvironment{bytefield}{\end{lateximage}}

```

File 65 **lwarp-cancel.sty**§ 171 Package **cancel**

Pkg `cancel` `cancel` is used as-is for SVG math, and emulated for HTML text output.

**for HTML output:**

```
1 \LWR@origRequirePackage{lwarp-xcolor}% for \convertcolorspec
2 \LWR@ProvidesPackagePass{cancel}[2013/04/12]

```

`\cancelto` is math-only, so is used as-is.

```
3 \LetLtxMacro\LWR@origcancel\cancel
4 \LetLtxMacro\LWR@origbcancel\bcancel
5 \LetLtxMacro\LWR@origxcancel\xcancel
6
7 \appto\LWR@restoreorigformatting{%
8 \LetLtxMacro\cancel\LWR@origcancel%

```

```

9 \LetLtxMacro\bcancel\LWR@origbcancel%
10 \LetLtxMacro\xcancel\LWR@origxcancel%
11 }

```

```
\LWR@cancelcolor {<text>} {<color>} {<class>} {<colorstyle>} {<FormatWPstyle>}
```

Add colors if not empty:

```

12 \newcommand{\LWR@cancelcolor}[5]{%
13 \ifcseempty{#2}%
14 {\InlineClass(#5){#3}{#1}}%
15 {\LWR@htmlspanclass[#5;#4:\LWR@origpound\LWR@tempcolor]{#3}{#1}}%
16 }

```

```
\cancel {<text>}
```

```

17 \DeclareRobustCommand{\cancel}[1]{%
18 \begingroup%
19 \CancelColor%
20 \LWR@findcurrenttextcolor%
21 \color{black}%
22 \LWR@cancelcolor{#1}{LWR@tempcolor}{sout}{text-decoration-color}%
23 {text-decoration:line-through}%
24 \endgroup%
25 }
26
27 \LetLtxMacro\bcancel\cancel
28 \LetLtxMacro\xcancel\cancel

```

For MATHJAX:

```

29 \begin{warpMathJax}
30 \PackageWarningNoLine{lwarp, cancel}{The MathJax v3 extension will be used}
31 \CustomizeMathJax{\require{cancel}}
32 \end{warpMathJax}

```

---

File 66 **lwarp-canonlayout.sty**

§ 172 Package **canoniclayout**

Pkg canoniclayout **canoniclayout is ignored.**

**for HTML output:** s1 \LWR@ProvidesPackageDrop{canoniclayout}[2011/11/05]

```

2 \newcommand*{\currentfontletters}{}
3 \newcommand*{\charactersperpage}{}

```

File 67 **lwarp-caption.sty**§ 173 Package **caption***(Emulates or patches code by AXEL SOMMERFELDT.)*

Pkg caption caption is patched for use by lwarp.

**for HTML output:**

```

1 \typeout{---}
2 \typeout{Packages lwarp and caption:}
3 \typeout{If a ‘Missing \protect\begin\protect{document\protect}’ error occurs here,}
4 \typeout{try using: \space \protect\usepackage\protect{caption\protect}\space%
5 \protect\captionsetup{options}}
6 \typeout{instead of: \protect\usepackage[options]\protect{caption\protect}.}
7 \typeout{---}
8
9 \LWR@ProvidesPackagePass{caption}[2020/10/26]

10 \long\def\caption@iibox@#1#2#3#4{%
11 % \setbox\@tempboxa\hbox{#4}%
12 \caption@iibox{#1}{#2}{#3}%
13 % [\wd\@tempboxa]%
14 % []% lwarp
15 % [\captionbox@hj@default]%
16 % {\unhbox\@tempboxa}%
17 % {#4}% lwarp
18 }

19 \long\def\caption@iiibox#1#2#3#4#5[#6][#7]#8{%
20 \begingroup
21 #1*% set \caption@position
22 \caption@iftop{%
23 \endgroup

24 \minipagefullwidth% lwarp
25 \parbox[t]{\linewidth}{%
26 #1\relax
27 \caption@setposition t%
28 % #2%
29 {\caption#4{#5}}%
30 % \captionbox@hrule
31 % \csname caption@hj@#7\endcsname
32 % #8%
33 }%
34 }{%
35 \endgroup

36 % \parbox[b]{#6}{%
37 % \minipagefullwidth% lwarp
38 % \parbox[b]{\linewidth}{%

```

```

39 #1\relax
40 \caption@setposition b%
41 % \csname caption@hj@#7\endcsname
42 #8%
43 % \captionbox@hrule
44 % #3
45 {\caption#4{#5}}%
46 }%
47 }%
48 }

```

\caption@makecaption

```

49 \long\def\caption@makecaption#1#2{%
50 % \caption@make@above
51 % \caption@make{#1}{#2}%
52 % \caption@make@below
53 }
54
55 \AtBeginDocument{
56 \let\@makecaption\caption@makecaption
57 }

```

Appended to look ahead to the next token for \centering, etc:

```

58 \AtBeginDocument{
59 \xapptocmd{\@xfloat}
60 {\LWR@futurenonospacelet\LWR@mynexttoken\LWR@floatalignment}
61 {}
62 {\LWR@patcherror{caption}{@xfloat}}
63
64 \xapptocmd{\@xdblfloat}
65 {\LWR@futurenonospacelet\LWR@mynexttoken\LWR@floatalignment}
66 {}
67 {\LWR@patcherror{caption}{@xdblfloat}}
68 }

```

Updates for late patches for scrextend:

```

69 \caption@AtBeginDocument{
70 \ifpackageloaded{lwarp-scrextend}{
71 \LetLtxMacro\captionbelow\caption
72 \LetLtxMacro\captionabove\caption
73 \LetLtxMacro\captionofbelow\captionof
74 \LetLtxMacro\captionofabove\captionof
75 }{}
76 }

```

File 68 **lwarp-caption3.sty**

§ 174 Package **caption3**

(Emulates or patches code by AXEL SOMMERFELDT.)

Pkg caption3 **caption3** is patched for use by **lwarp**.

**for HTML output:** 1 \LWR@ProvidesPackagePass{caption3}[2020/10/21]

```

\caption@@@make {\langle caption label\rangle} {\langle caption text\rangle}

2 \ifpackagelater{caption3}{2020/08/23}{
3 \renewcommand\caption@@@make[2]{%
4 \LWR@traceinfo{caption@@@make}%

5 \LWR@stoppars% lwarp

6 % \sbox\@tempboxa{#1}%
7 % \ifdim\wd\@tempboxa=\z@
8 % \caption@set{labelseparator}{none}%
9 % \fi

10 \caption@ifempty{#2}{%
11 \caption@set{labelseparator}{none}%
12 \caption@set{textformat}{simple}%
13 }%
14 \caption@labelseparator % defines \caption@iflabelfont,
15 % \caption@labelsep and \caption@labelsep@name
16 % (the latter is needed by \caption@fmt)
17 %

18 % \setpar{\@@par\caption@@par}\caption@@par
19 \caption@applyfont

\caption@fmt with plain format is defined as {#1#2#3\par}:

20 % \caption@fmt
21 % {\ifcaption@star\else
22 % \begingroup
23 % \caption@labelfont

24 % \LWR@isolate{#1}% lwarp
25 % \endgroup
26 % \fi}%
27 % {\ifcaption@star\else
28 % \begingroup
29 % \caption@iflabelfont\caption@labelfont
30 % \relax\caption@labelsep
31 % \endgroup
32 % \fi}%
33 % {{\caption@textfont

```

```

34 \let\\newline% lwarp
35 %
36 \caption@textstart

37 % \caption@ifstrut
38 % {\vrule\@height\ht\strutbox\@width\z}%
39 % {}%
40 % \nobreak\hskip\z@skip % enable hyphenation

41 \LWR@isolate{\caption@textformat{#2}}% lwarp

42 % \caption@ifstrut
43 % {\ifhmode\@finalstrut\strutbox\fi}%
44 % {}%
45 \caption@textend}}%

46 \LWR@startpars% lwarp
47 \LWR@traceinfo{caption@@@make done}%
48 }
49]% later than 2020/08/23
50 {% earlier than 2020/08/23
51 \renewcommand\caption@@@make[2]{%
52 \LWR@traceinfo{caption@@@make}%
53 \LWR@stoppars% lwarp
54 % \sbox\@tempboxa{#1}%
55 % \ifdim\wd\@tempboxa=\z@
56 % \let\caption@lsep\relax
57 % \fi
58 \caption@ifempty{#2}{%
59 \let\caption@lsep\@empty
60 \let\caption@tfmt\@firstofone
61 }%
62 % \setpar{\@@par\caption@@par}\caption@@par
63 \caption@applyfont

\caption@fmt with plain format is defined as {#1#2#3\par}:

64 % \caption@fmt
65 {\ifcaption@star\else
66 \begingroup
67 \caption@labelfont
68 \LWR@isolate{#1}% lwarp
69 \endgroup
70 \fi}%
71 {\ifcaption@star\else
72 \begingroup
73 \caption@iflf\caption@labelfont
74 \relax
75 \caption@lsep
76 \endgroup
77 \fi}%
78 {%
79 \caption@textfont
80 \let\\newline% lwarp
81 % \caption@ifstrut
82 % {\vrule\@height\ht\strutbox\@width\z}%
83 % {}%
84 % \nobreak\hskip\z@skip % enable hyphenation

```



```

85 \LWR@isolate{\caption@tfmt{#2}}% lwarp
86 % \caption@ifstrut
87 % {\ifhmode\@finalstrut\strutbox\fi}%
88 % {}%
89 }}%
90 \LWR@startpars% lwarp
91 \LWR@traceinfo{caption@@@make done}%
92 }
93 }% earlier than 2020/08/23

```

```

\caption@@make@ {<} {<}

94 \renewcommand{\caption@@make@[2]}{%
95 \caption@stepthecounter%
96 \caption@beginhook%
97 \caption@@make{#1}{#2}%
98 \caption@endhook%
99 }

100 \DeclareCaptionBox{none}{#2}
101 \DeclareCaptionBox{parbox}{%
102 #2%
103 }

104 \DeclareCaptionBox{colorbox}{%
105 #2%
106 }

```

---

## File 69 **lwarp-cases.sty**

### § 175 Package **cases**

*(Emulates or patches code by DONALD ARSENEAU.)*

Pkg cases **cases** is patched for use by **lwarp**.

While using **MATHJAX**, **cases** objects are converted to **svg** math images.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{cases}[2002/05/02]

2 \BeforeBeginEnvironment{numcases}{
3 \begin{BlockClass}{displaymathnumbered}
4 \LWR@newautoidanchor%
5 \booltrue{LWR@indisplaymathimage}%
6 \begin{lateximage}[-cases- \MathImageAltText]
7 }
8
9 \AfterEndEnvironment{numcases}{
10 \end{lateximage}\end{BlockClass}
11 }
12
13 \BeforeBeginEnvironment{subnumcases}{

```

```

14 \begin{BlockClass}{displaymathnumbered}
15 \LWR@newautoidanchor%
16 \booltrue{LWR@indisplaymathimage}%
17 \begin{lateximage}[-cases- \MathImageAltText]
18 }
19
20 \AfterEndEnvironment{subnumcases}{
21 \end{lateximage}\end{BlockClass}
22 }

```

---

### File 70 **lwarp-centernot.sty**

## § 176 Package **centernot**

*(Emulates or patches code by HEIKO OBERDIEK.)*

Pkg centernot centernot is used as-is for SVG math, and emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{centernot}[2016/05/16]

Based on <https://github.com/mathjax/MathJax/issues/2107> with `\textstyle` removed to work with sub/super scripts.

```

2 \LWR@origRequirePackage{lwarp-common-mathjax-overlaysymbols}
3
4 \begin{warpMathJax}
5 \CustomizeMathJax{\newcommand{\centernot}[1]{%
6 \LWRoverlaysymbols{\unicode{x2215}}{#1}
7 }}
8 \end{warpMathJax}

```

---

### File 71 **lwarp-changebar.sty**

## § 177 Package **changebar**

Pkg changebar changebar is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{changebar}[2018/03/09]

```

2 \newcommand*{\cbstart}{}
3 \newcommand*{\cbend}{}
4 \newenvironment*{\changebar}{}{}
5 \newcommand*{\cbdelete}{}
6 \newcommand*{\nochnagebars}{}
7 \newcommand*{\cbcolor}[1]{}
8 \newlength{\changebarwidth}
9 \newlength{\deletebarwidth}
10 \newlength{\changebarsep}
11 \newcounter{changebargrey}

```

File 72 **lwarp-changelayout.sty**§ 178 Package **changelayout***(Emulates or patches code by AHMED MUSA.)*

Pkg changelayout changelayout is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{changelayout}[2009/10/07]
2 \renewrobustcmd\cpl@backtodefautls{}
3
4 \renewrobustcmd\cpl@checkifoddpagelayout{%
5 \cpl@oddpagelayoutfalse%
6 }
7
8 \renewrobustcmd\changepagelayout[1]{%
9 \setkeys[KV]{changelayout}{#1}%
10 }
11
12 \renewrobustcmd{\changetextlayout}[1]{\changepagelayout{#1}}
13
14 \renewrobustcmd\adjustpagelayout[1]{%
15 \setkeys[KV@X]{changelayout}{#1}%
16 }
17
18 \renewrobustcmd{\adjusttextlayout}[1]{\adjustpagelayout{#1}}
19
20 \renewrobustcmd\adjusttextwidth[1]{%
21 \setkeys[KV]{changelayout}{#1}%
22 \begin{BlockClass}[color:\LWR@colorstyle{named}{\cpl@textcolor}]{changelayout}
23 \color{\cpl@textcolor}%
24 \cpl@content
25 \end{BlockClass}
26 }

```

File 73 **lwarp-changepage.sty**§ 179 Package **changepage***(Emulates or patches code by PETER WILSON.)*

Pkg changepage changepage is ignored.

**for HTML output:** Discard all options for lwarp-changepage:

```

1 \LWR@ProvidesPackageDrop{changepage}[2009/10/20]

```

```

2 \newif\ifoddpag
3 \DeclareRobustCommand{\checkoddpag}{\oddpagetrue}
4 \DeclareRobustCommand{\changetext}[5]{}
5 \DeclareRobustCommand{\changepag}[9]{}
6
7 \@ifundefined{adjustwidth}{
8 \newenvironment{adjustwidth}[2]{}{}
9 \newenvironment{adjustwidth*}[2]{}{}
10 }{
11 \renewenvironment{adjustwidth}[2]{}{}
12 \renewenvironment{adjustwidth*}[2]{}{}
13 }

14 \DeclareDocumentCommand{\strictpagecheck}{}{}
15 \DeclareDocumentCommand{\easypagecheck}{}{}

```

---

File 74 **lwarp-changes.sty**

§ 180 Package **changes**

*(Emulates or patches code by EKKART KLEINOD.)*

Pkg changes changes is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{changes}[2019/01/26]

\BaseJobname is added to the label in case xr or xr-hyper are used.

```

2 \renewcommand{\ChangesListline}[4]{%
3 \IfSubStr{\Changes@loc@show}{#1}{%
4 \LWR@startpars%
5 #2: #3 \quad
6 \nameref{\BaseJobname-autopage-#4}%
7 \LWR@stoppars%
8 }{}%
9 }
10
11 \renewcommand{\Changes@summaryline}[4]{%
12 \IfSubStr{\Changes@loc@show}{#1}{%
13 \ifthenelse{\not\equal{\Changes@loc@style}{compactsummary} \or #2 > 0}{%
14 {%
15 #3:~#2#4%
16 }{}%
17 }{}%
18 }
19
20 \xpatchcmd{\listofchanges}
21 {{\changesauthorname: \changesanonymousname}}
22 {{\LWR@textcurrentcolor{\changesauthorname: \changesanonymousname}}}
23 {}
24 {\LWR@patcherror{changes}{listofchanges A}}
25

```

```

26 \xpatchcmd{\listofchanges}
27 {\changesauthorname: \Changes@InID}
28 {\LWR@textcurrentcolor{\changesauthorname: \Changes@InID}}
29 {}
30 {\LWR@patcherror{changes}{\listofchanges B}}
31
32 \xpatchcmd{\listofchanges}
33 {(\Changes@InName)}
34 {\LWR@textcurrentcolor{(\Changes@InName)}}
35 {}
36 {\LWR@patcherror{changes}{\listofchanges C}}
37
38 \xpatchcmd{\listofchanges}
39 {\parbox{\Changes@summary@width}}
40 {}
41 {}
42 {\LWR@patcherror{changes}{\listofchanges D}}
43
44 \xpatchcmd{\Changes@Markup@comment}
45 {%
46 \ifthenelse{\isAnonymous{#2}}%
47 {\textbf{[\arabic{Changes@commentCount#2}]:} }%
48 {\textbf{[#3~\arabic{Changes@commentCount#2}]:} }%
49 #1%
50 }
51 {%
52 \LWR@textcurrentcolor{% lwarp
53 \ifthenelse{\isAnonymous{#2}}%
54 {\textbf{[\arabic{Changes@commentCount#2}]:} }%
55 {\textbf{[#3~\arabic{Changes@commentCount#2}]:} }%
56 #1%
57 }% lwarp
58 }
59 {}
60 {\LWR@patcherror{changes}{\Changes@Markup@comment A}}
61
62 \xpatchcmd{\Changes@Markup@comment}
63 {%
64 \uwave{%
65 \ifthenelse{\isAnonymous{#2}}%
66 {\textbf{[\arabic{Changes@commentCount#2}]:} }%
67 {\textbf{[#3~\arabic{Changes@commentCount#2}]:} }%
68 #1%
69 }%
70 }
71 {%
72 \LWR@textcurrentcolor{% lwarp
73 \uwave{%
74 \ifthenelse{\isAnonymous{#2}}%
75 {\textbf{[\arabic{Changes@commentCount#2}]:} }%
76 {\textbf{[#3~\arabic{Changes@commentCount#2}]:} }%
77 #1%
78 }%
79 }% lwarp
80 }

```

```

81 {}
82 {\LWR@patcherror{changes}{\Changes@Markup@comment B}}
83
84 \xpatchcmd{\Changes@output}
85 {\Changes@Markup@author{\Changes@output@author{#2}{left}}}
86 {\LWR@textcurrentcolor{\Changes@Markup@author{\Changes@output@author{#2}{left}}}}
87 {}
88 {\LWR@patcherror{changes}{Changes@output A}}
89
90 \xpatchcmd{\Changes@output}
91 {%
92 \ifthenelse{\equal{#1}{added}}{\Changes@Markup@added{#3}}{}%
93 \ifthenelse{\equal{#1}{deleted}}{\Changes@Markup@deleted{#4}}{}%
94 \ifthenelse{\equal{#1}{replaced}}{}%
95 {\Changes@Markup@added{#3}}\allowbreak\Changes@Markup@deleted{#4}%
96 }{}%
97 \ifthenelse{\equal{#1}{highlight}}{\Changes@Markup@highlight{#3}}{}%
98 }
99 {%
100 \LWR@textcurrentcolor{%
101 \ifthenelse{\equal{#1}{added}}{\Changes@Markup@added{#3}}{}%
102 \ifthenelse{\equal{#1}{deleted}}{\Changes@Markup@deleted{#4}}{}%
103 \ifthenelse{\equal{#1}{replaced}}{}%
104 {\Changes@Markup@added{#3}}\allowbreak\Changes@Markup@deleted{#4}%
105 }{}%
106 \ifthenelse{\equal{#1}{highlight}}{\Changes@Markup@highlight{#3}}{}%
107 }%
108 }
109 {}
110 {\LWR@patcherror{changes}{Changes@output B}}
111
112 \xpatchcmd{\Changes@output}
113 {\Changes@Markup@author{\Changes@output@author{#2}{right}}}
114 {\LWR@textcurrentcolor{\Changes@Markup@author{\Changes@output@author{#2}{right}}}}
115 {}
116 {\LWR@patcherror{changes}{Changes@output C}}

```

---

File 75 **lwarp-chappg.sty**

§ 181 Package **chappg**

*(Emulates or patches code by ROBIN FAIRBAIRNS.)*

Pkg chappg **chappg** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{chappg}[2006/05/09]

2 \renewcommand{\pagenumbering}[2][{}]

3 \providecommand{\chappgsep}{--}

---

File 76 **lwarp-chapterbib.sty**

§ 182 Package **chapterbib**

*(Emulates or patches code by DONALD ARSENEAU.)*

Pkg chapterbib chapterbib is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{chapterbib}[2010/09/18]

2 \xdef\@savedjobname{\BaseJobname}
3 \let\@currentipfile\@savedjobname

```

---

File 77 **lwarp-chemfig.sty**

§ 183 Package **chemfig**

*(Emulates or patches code by CHRISTIAN TELLECHEA.)*

Pkg chemfig chemfig is patched for use by lwarp.

If using `\polymerdelim` to add delimiters to a `\chemfig`, wrap both inside a single `lateximage`:

```

\begin{lateximage}[-chemfig-~\PackageDiagramAltText]
\chemfig{. . .}
\polymerdelim[. . .]{. . .}
\end{lateximage}

```

The images are not hashed because they depend on external settings which may be changed at any time, and are unlikely to be reused inline anyhow.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{chemfig}[2020/03/05]

2
3 \catcode'_ =11
4
5 \@ifpackagelater{chemfig}{2020/03/05}
6 {
7 \xpretocmd\charge{\begin{lateximage}[-chemfig-~\PackageDiagramAltText]}
8 {}{\LWR@patcherror{chemfig}{charge}}
9 \xpretocmd\Charge{\begin{lateximage}[-chemfig-~\PackageDiagramAltText]}
10 {}{\LWR@patcherror{chemfig}{Charge}}
11 \xapptocmd\charge_c{\end{lateximage}}
12 {}{\LWR@patcherror{chemfig}{charge_c}}
13 }{}
14
15 \@ifpackagelater{chemfig}{2019/04/18}%

```

```

16 {% 2019/04/18 or newer
17
18
19 \LetLtxMacro\LWR@chemfig@origchemfig\chemfig
20
21 \renewcommand*\chemfig[2][]{%
22 \begin{lateximage}[-chemfig-~\PackageDiagramAltText]%
23 \LWR@chemfig@origchemfig[#1]{#2}%
24 \end{lateximage}%
25 }
26
27 \GlobalLetLtxMacro\LWR@chemfig@origCF_lewisc\CF_lewisc
28 \gdef\CF_lewisc#1,#2_nil{%
29 \begin{lateximage}[-chemfig-~\PackageDiagramAltText]%
30 \LWR@chemfig@origCF_lewisc#1,#2_nil
31 \end{lateximage}
32 }
33
34 \gpreto{\schemestart}{%
35 \begin{lateximage}[-chemfig-~\PackageDiagramAltText]%
36 }
37 \gappto{\CF_schemestop}{\end{lateximage}}
38
39 }% 2019/04/18 or newer
40 {% older than 2019/04/18
41
42 \LetLtxMacro\LWR@chemfig@origchemfig\chemfig
43
44 \DeclareDocumentCommand\chemfig{s O{} O{} m}{%
45 \begin{lateximage}[-chemfig-~\PackageDiagramAltText]%
46 \IfBooleanTF{#1}{%
47 \LWR@chemfig@origchemfig*[#2][#3]{#4}%
48 }{%
49 \LWR@chemfig@origchemfig[#2][#3]{#4}%
50 }
51 \end{lateximage}%
52 }
53
54 \LetLtxMacro\LWR@chemfig@origCF@Lewis@b\CF@Lewis@b
55
56 \def\CF@Lewis@b#1#2{%
57 \begin{lateximage}[-chemfig-~\PackageDiagramAltText]%
58 \LWR@chemfig@origCF@Lewis@b{#1}{#2}%
59 \end{lateximage}%
60 }
61
62 \preto{\schemestart}{%
63 \begin{lateximage}[-chemfig-~\PackageDiagramAltText]%
64 }
65 \appto{\CF@schemestop}{\end{lateximage}}
66
67 }% older than 2019/04/18
68
69 \catcode'_ =8%
70

```



```

71
72
73 \LetLtxMacro\LWR@chemfig@origchemleft\chemleft
74
75 \def\chemLeft#1#2\chemright#3{%
76 \begin{lateximage}[-chemfig-~\PackageDiagramAltText]%
77 \LWR@chemfig@origchemLeft#1#2\chemright#3%
78 \end{lateximage}%
79 }
80
81 \LetLtxMacro\LWR@chemfig@origchemup\chemup
82
83 \def\chemup#1#2\chemdown#3{%
84 \begin{lateximage}[-chemfig-~\PackageDiagramAltText]%
85 \LWR@chemfig@origchemup#1#2\chemdown#3%
86 \end{lateximage}%
87 }

```

---


File 78 **lwarp-chemformula.sty**

§ 184 Package **chemformula**

(Emulates or patches code by CLEMENS NIEDERBERGER.)

Pkg chemformula chemformula is patched for use by lwarp.

The svg images are hashed according to contents and local options. Global options are assumed to be constant document-wide.

 **chemformula with MATHJAX** chemformula works best without MATHJAX. If MATHJAX is used, `\displaymathother` must be used before `array`, and then `\displaymathnormal` may be used after. (The chemformula package adapts to array, but does not know about MATHJAX, and MATHJAX does not know about chemformula.)

While using MATHJAX, `\displaymathother` may also be used for other forms of display and inline math which contain chemformula expressions.

**for HTML output:** 1 \LWR@ProvidesPackagePass{chemformula}[2019/10/13]

2 \ExplSyntaxOn

\ch Enclose in an inline svg image or MathJax. The alt tag is is the contents of the \ch expression. The filename is hashed, and also has additional hashing information based on the local options.

```

3 \RenewDocumentCommand \ch { O{}m }
4 { %

```

To work inside align with `\displaymathother`, a simple version must be used to work with chemformula's adaptation to align.

```

5 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}% lwarp

```

```

6 {
7 \chemformula_ch:nn {#1} {#2}% original
8 }

```

If used as the outer level, must temporarily ensure MATHJAX is disabled:

```

9 {
10 \begingroup%
11 \boolfalse{mathjax}%

```

An inline image is used, adjusted for the baseline:

```

12 \LWR@subsingledollar*{% lwarp
13 \textbackslash{}ch{\LWR@HTMLsanitize{#2}\}% alt text
14 }{%
15 \protect\LWR@HTMLsanitize{\detokenize\expandafter{#1}}% add'l hashing
16 }%
17 {%
18 \chemformula_ch:nn {#1} {#2}% original
19 }%
20 \endgroup%
21 }
22 }

```

`\chcpd`    Similar to `\ch`.

```

23 \@ifpackagelater{chemformula}{2019/10/13}{
24 \cs_gset_protected:Npn \chemformula_chcpd:nn #1#2
25 {
26 \begingroup%
27 \boolfalse{mathjax}%
28 \LWR@subsingledollar*{% lwarp
29 \textbackslash{}chcpd{\LWR@HTMLsanitize{#2}\}%
30 }{%
31 \protect\LWR@HTMLsanitize{\detokenize\expandafter{#1}}%
32 }{% original
33 \group_begin:
34 \tl_if_blank:nF {#2}
35 {
36 \keys_set:nn {chemformula} {#1}
37 __chemformula_save_catcodes:
38 __chemformula_sanitize:Nn
39 \l__chemformula_chemformula_tmpa_tl
40 {#2}
41 __chemformula_input_compound_no_check:NV
42 \l__chemformula_compound_tl
43 \l__chemformula_chemformula_tmpa_tl
44 __chemformula_prepare_output:NV
45 \l__chemformula_compound_tl
46 \l__chemformula_catcodes_tl
47 \chemformula_write:V \l__chemformula_compound_tl
48 }
49 \group_end:
50 }
51 \endgroup
52 }
53 }% later than 2019/10/13

```

```

54 {% earlier than 2019/10/13
55 \cs_gset_protected:Npn \chemformula_chcpd:nn #1#2
56 {
57 \begingroup%
58 \boolfalse{mathjax}%
59 \LWR@subsingledollar*{% lwarp
60 \textbackslash{}chcpd\{\LWR@HTMLsanitize{#2}\}%
61 }{%
62 \protect\LWR@HTMLsanitize{\detokenize\expandafter{#1}}%
63 }{% original
64 \group_begin:
65 \tl_if_blank:nF {#2}
66 {
67 \keys_set:nn {chemformula} {#1}
68 __chemformula_save_catcodes:
69 __chemformula_sanitize:Nn
70 \l__chemformula_chemformula_tmpa_tl
71 {#2}
72 __chemformula_input_compound_no_check:NV
73 \l__chemformula_compound_tl
74 \l__chemformula_chemformula_tmpa_tl
75 __chemformula_prepare_output:N \l__chemformula_compound_tl
76 \chemformula_write:V \l__chemformula_compound_tl
77 }
78 \group_end:
79 }
80 \endgroup
81 }
82 }% earlier than 2019/10/13

```

`\charrow` If standalone, appears in a regular `lateximage`.

```

83 \RenewDocumentCommand \charrow { mO{}O{} }
84 {
85 \begin{lateximage}[-chemformula- charrow]
86 \group_begin:
87 __chemformula_draw_arrow:nnn {#1} {#2} {#3}
88 \group_end:
89 \end{lateximage}
90 }

```

`\chname` If standalone, appears in a regular `lateximage`, hashed according to contents.

```

91 \RenewDocumentCommand \chname { R(){}R(){} }
92 {
93 \begin{lateximage}*[%
94 \textbackslash{}chname(\LWR@HTMLsanitize{#1})(\LWR@HTMLsanitize{#2})
95]*%
96 \chemformula_chwritebelow:nn {#1} {#2}
97 \end{lateximage}
98 }

```

`\chlewis` Placed inline, hashed according to contents and options.

```

99 \RenewDocumentCommand \chlewis { O{}mm }

```

```

100 {
101 \begingroup%
102 \boolfalse{mathjax}%
103 \LWR@subsingledollar*{\textbackslash{}chlewis\{#2\}\{#3\}}%
104 {
105 \protect\LWR@HTMLsanitize{\detokenize\expandafter{#1}}%
106 }{
107 \chemformula_lewis:nnn {#1} {#2} {#3}
108 }
109 \endgroup%
110 }

```

**lwarp** redefines the \$ character, so special handling is required to escape math expressions inside \ch.

This boolean tracks a new kind of escaped math:

```
111 \bool_new:N \l__chemformula_first_last_LWRdollar_bool
```

\chemformula\_input\_escape\_math

Adds additional escaping for the new dollar definition:

```

112 \cs_gset_protected:Npn \l__chemformula_input_escape_math:n #1
113 {
114 \l__chemformula_first_last_math:n {#1}
115 \bool_if:NT \l__chemformula_first_last_dollar_bool
116 {
117 \bool_set_true:N \l__chemformula_first_last_math_bool
118 __chemformula_read_escape_dollar:w #1 \q_nil
119 }
120 \bool_if:NT \l__chemformula_first_last_mathbraces_bool
121 {
122 \bool_set_true:N \l__chemformula_first_last_math_bool
123 __chemformula_read_escape_mathbraces:w #1 \q_nil
124 }

```

Added by lwarp:

```

125 \bool_if:NT \l__chemformula_first_last_LWRdollar_bool% lwarp
126 {
127 \bool_set_true:N \l__chemformula_first_last_math_bool% lwarp
128 __chemformula_read_escape_LWRdollar:w #1 \q_nil% lwarp
129 }
130 }

```

\chemformula\_read\_escape\_LWRdollar

The following parses the contents inside the new dollars.

**lwarp** keeps the dollar as its original math shift until the document starts. While **chemmacros** is being patched, the dollar must temporarily be set to its new meaning during the following definition.

```
131 \begingroup
```

```

132 \catcode'\$=\active
133
134 \cs_new_protected:Npn __chemformula_read_escape_LWRdollar:w $#1$ \q_nil
135 {
136 __chemformula_read_escape_math:n {#1}
137 }
138
139 \endgroup

```

#### \chemformula\_bool\_set\_if\_first\_last

The following looks at the first and last tokens for delimiters to escape math inside \ch. The original definition is modified to look for the control sequences which are used by the new meaning of \$.

```

140 \cs_new_protected:Npn __chemformula_bool_cs_set_if_first_last:NnNN #1#2#3#4
141 {
142 \int_zero:N \l__chemformula_tmpa_int
143 \int_zero:N \l__chemformula_tmpb_int
144 \int_set:Nn \l__chemformula_tmpa_int { \tl_count:n {#2} }
145 \tl_map_inline:nn {#2}
146 {
147 \int_incr:N \l__chemformula_tmpb_int
148 \int_compare:nT { \l__chemformula_tmpb_int = 1 }
149 {

```

At the start, the cs\_ version compares control sequences:

```

150 \ifdefstrequal{##1}{#3}% lwarp
151 {
152 \bool_set_true:N #1
153 }% lwarp
154 {}
155 }

```

At the end, compare more control sequences:

```

156 \int_compare:nT { \l__chemformula_tmpb_int = \l__chemformula_tmpa_int }
157 {
158 \ifdefstrequal{##1}{#4}
159 {}
160 {
161 \bool_set_false:N #1
162 }
163 }
164 }
165 }

```

#### \chemformula\_first\_last\_math

Modified to check for the new meaning of \$ at first/last:

```

166 \cs_gset_protected:Npn __chemformula_first_last_math:n #1
167 {
168 \bool_set_false:N \l__chemformula_first_last_math_bool
169 \bool_set_false:N \l__chemformula_first_last_dollar_bool

```

```

170 \bool_set_false:N \l__chemformula_first_last_LWRdollar_bool% lwarp
171 \bool_set_false:N \l__chemformula_first_last_mathbraces_bool
172 __chemformula_bool_set_if_first_last:Nnnn
173 \l__chemformula_first_last_dollar_bool
174 {#1}
175 { $ } { $ }
176 \bool_if:NF \l__chemformula_first_last_dollar_bool
177 {
178 __chemformula_bool_set_if_first_last:Nnnn
179 \l__chemformula_first_last_mathbraces_bool
180 {#1}
181 { \ (} { \) }

```

Added by lwarp:

```

182 \bool_if:NF \l__chemformula_first_last_mathbraces_bool% lwarp
183 {
184 __chemformula_bool_cs_set_if_first_last:NnNN
185 \l__chemformula_first_last_LWRdollar_bool
186 {#1}
187 { \LWR@newsingledollar } { \LWR@newsingledollar }
188 }% lwarp
189 }
190 }

```

```
191 \ExplSyntaxOff
```


---


File 79 **lwarp-chemgreek.sty**

§ 185 Package **chemgreek**

(Emulates or patches code by CLEMENS NIEDERBERGER.)

Pkg chemgreek chemgreek is patched for use by lwarp.

 **Greek symbols package selection** To use text-mode symbols, use packages `textalpha` or `textgreek`. Using the other packages supported by `chemgreek` will result in math-mode greek characters, which will result in SVG images being used. These images will be hashed.

 **X<sub>Y</sub>L<sup>A</sup>T<sub>E</sub>X, Lua<sup>A</sup>T<sub>E</sub>X** If using X<sub>Y</sub>L<sup>A</sup>T<sub>E</sub>X or Lua<sup>A</sup>T<sub>E</sub>X, select the fontspec mapping:

```
\selectchemgreekmapping{fontspec}
```

**for HTML output:** 1 \LWR@ProvidesPackagePass{chemgreek}[2020/01/16]

```

2 \ExplSyntaxOn
3
4 \cs_gset_protected:Npn \chemgreek_text:n #1
5 { { \text {#1} } }
6
7 \appto\LWR@restoreorigformatting{%
8 \cs_set_protected:Npn \chemgreek_text:n #1%
9 { \ensuremath { \text {#1} } }%

```

```
10 }
11
12 \ExplSyntaxOff
```

---

File 80 **lwarp-chemmacros.sty**

§ 186 Package **chemmacros**


(Emulates or patches code by CLEMENS NIEDERBERGER.)

Pkg chemmacros chemmacros is patched for use by lwarp.


**for HTML output:** 1 \LWR@ProvidesPackagePass{chemmacros}[2017/08/28]

SVG file hashing assumes that the relevant options are constant for the entire document.

§ 186.1 **Changes to the user's document**

 **\makepolymerdelims** When using `\makepolymerdelims`, enclose the entire expression inside a `polymerdelims` environment, such as (from the `chemmacros` manual):

```
\begin{polymerdelims}
\chemfig{-[@{op,.75}]CH_2-CH(-[6]Cl)-[@{cl,0.25}]}
\makepolymerdelims{5pt}[27pt]{op}{cl}
\end{polymerdelims}
```

 **redox reactions** Redox reactions must be enclosed inside a `redoxreaction` environment. For print output, extra space must be included above and/or below the result, so they are declared as arguments to the environment, instead of being manually entered as per the `chemmacros` manual. For HTML output, the extra space is ignored and a `lateximage` is used instead.

```
\begin{redoxreaction}{7mm}{7mm}
\OX{a,Na} \rightarrow \OX{b,Na}\pch\redox(a,b){oxidation}
\end{redoxreaction}
```

§ 186.2 **Code**

§ 186.3 **Loading modules**

Patching `chemmacros` modules must be done `\AtBeginDocument`, since modules are invoked by the user in the preamble, and each patch is only done if the module is loaded.

```
2 \ExplSyntaxOn
3
4 \newcommand{\ifchemmacrosmoduleloaded}[1]{%
```

```

5 \@ifl@aded{\c__chemmacros_module_extension_tl}{\c__chemmacros_module_prefix_tl.#1}%
6 }
7
8 \ExplSyntaxOff

```

#### § 186.4 New environments

`\makepolymerdelims` and redox reactions must be enclosed in a `lateximage` during HTML output. These environments are provided here in HTML mode, and in the `lwarp` core in print mode, as a high-level semantic syntax which automatically embeds the contents in a `lateximage` with an appropriate `alt` tag.

Env `polymerdelims`

```

9 \DeclareDocumentEnvironment{polymerdelims}{}
10 {\begin{lateximage}[-chemmacros- polymer]}
11 {\end{lateximage}}

```

Env `redoxreaction`     $\langle \textit{space above} \rangle \langle \textit{space below} \rangle$

For HTML output, the above and below space is ignored, and a `lateximage` is used instead. For the print output version, see section 88.

```

12 \DeclareDocumentEnvironment{redoxreaction}{m m}
13 {\begin{lateximage}[-chemmacros- redoxreaction]}
14 {\end{lateximage}}

```

```

15 \ExplSyntaxOn

```

#### § 186.5 Acid-base

```

16 \AtBeginDocument{
17 \@ifchemmacrosmoduleloaded{acid-base}{
18 \PackageInfo{lwarp}{Patching~chemmacros~module~acid-base}
19
20 \cs_gset_protected:Npn \chemmacros_p:n #1
21 {
22 \begingroup
23 \boolfalse{mathjax}
24 \LWR@subsingledollar*{
25 \textbackslash}p{\LWR@HTMLsanitize{#1}\}
26 }{
27 chemmacrosp\protect\LWR@HTMLsanitize{\detokenize\expandafter{#1}}%
28 }{
29 \group_begin:
30 \mbox
31 {
32 \chemmacros_p_style:n {p}
33 \ensuremath {#1}
34 }
35 \group_end:
36 }
37 \endgroup
38 }

```



```

39
40 \RenewDocumentCommand \pH {} {
41 \begingroup
42 \boolfalse{mathjax}
43 \LWR@subsingledollar*{\textbackslash}pH}{chemmacros}{
44 \chemmacros_p:n { \chemmacros_chemformula:n {H} }
45 }
46 \endgroup
47 }
48
49 \RenewDocumentCommand \pOH {} {
50 \begingroup
51 \boolfalse{mathjax}
52 \LWR@subsingledollar*{\textbackslash}pOH}{chemmacros}{
53 \chemmacros_p:n { \chemmacros_chemformula:n {OH} }
54 }
55 \endgroup
56 }
57
58 \RenewDocumentCommand \pKa {0{}}
59 {
60 \begingroup
61 \boolfalse{mathjax}
62 \LWR@subsingledollar*{\textbackslash}pKa{[]#1{}}{chemmacros #1}{
63 \chemmacros_p:n
64 {
65 \Ka \ifblank {#1} {}
66 { {} \c_math_subscript_token { \chemmacros_bold:n {#1} } }
67 }
68 }
69 \endgroup
70 }
71
72 \RenewDocumentCommand \pKb {0{}}
73 {
74 \begingroup
75 \boolfalse{mathjax}
76 \LWR@subsingledollar*{\textbackslash}pKb{[]#1{}}{chemmacros #1}{
77 \chemmacros_p:n
78 {
79 \Kb \ifblank {#1} {}
80 { {} \c_math_subscript_token { \chemmacros_bold:n {#1} } }
81 }
82 }
83 \endgroup
84 }
85
86 \LetLtxMacro\LWR@chemmacros@origKa\Ka
87 \renewcommand*{\Ka}{%
88 \begingroup
89 \boolfalse{mathjax}
90 \LWR@subsingledollar*{\textbackslash}Ka}{chemmacros}{%
91 \LWR@chemmacros@origKa%
92 }%
93 \endgroup

```

```

94 }
95
96 \LetLtxMacro\LWR@chemmacros@origKb\Kb
97 \renewcommand*\Kb{%
98 \begingroup
99 \boolfalse{mathjax}
100 \LWR@subsingledollar*\textbackslash{Kb}{chemmacros}{%
101 \LWR@chemmacros@origKb%
102 }%
103 \endgroup
104 }
105
106 \LetLtxMacro\LWR@chemmacros@origKw\Kw
107 \renewcommand*\Kw{%
108 \begingroup
109 \boolfalse{mathjax}
110 \LWR@subsingledollar*\textbackslash{Kw}{chemmacros}{
111 \LWR@chemmacros@origKw
112 }
113 \endgroup
114 }
115
116 }{}% \ifchemmacrosmoduleloaded
117 }% AtBeginDocument

```

## § 186.6 Charges

```

118 \AtBeginDocument{
119 \ifchemmacrosmoduleloaded{charges}{
120 \PackageInfo{lwarp}{Patching~chemmacros~module~charges}
121
122 \cs_gset_protected:Npn \fplus {
123 \begingroup
124 \boolfalse{mathjax}
125 \LWR@subsingledollar*\textbackslash{fplus}{chemmacros}
126 { \LWR@origensuredmath{\chemformula_fplus:} }
127 \endgroup
128 }
129 \cs_gset_protected:Npn \fminus {
130 \begingroup
131 \boolfalse{mathjax}
132 \LWR@subsingledollar*\textbackslash{fminus}{chemmacros}
133 { \LWR@origensuredmath{\chemformula_fminus:} }
134 \endgroup
135 }
136
137 }{}% \ifchemmacrosmoduleloaded
138 }% AtBeginDocument

```

## § 186.7 Nomenclature

```

139 \AtBeginDocument{
140 \ifchemmacrosmoduleloaded{nomenclature}{
141 \PackageInfo{lwarp}{Patching~chemmacros~module~nomenclature}
142

```

```

143 \cs_gset_protected:Npn \chemmacros_charge:n #1
144 {
145 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}
146 {\chemmacros_chemformula:n { }^{#1} }}
147 {
148 \ifmmode
149 {\chemmacros_chemformula:n { }^{#1} }}
150 \else
151 { \textsuperscript{\ensuremath{#1}} }
152 \fi
153 }
154 }
155
156
157 \LetLtxMacro\LWR@chemmacros@origchemprime\chemprime
158
159 \protected\def\chemprime { \HTMLUnicode{2032} }
160
161 \appto\LWR@restoreorigformatting{%
162 \LetLtxMacro\chemprime\LWR@chemmacros@origchemprime%
163 }

164 \ChemCompatibilityFrom{5.8}
165 \cs_gset_protected:Npn __chemmacros_cip:n #1
166 {
167 \tl_set:Nn \l__chemmacros_tmpa_tl {#1}
168 \int_step_inline:nnnn {0} {1} {9}
169 {
170 \tl_replace_all:Nnn \l__chemmacros_tmpa_tl
171 {##1}
172 { { \l__chemmacros_cip_number_tl ##1} }
173 }
174 {
175 \l__chemmacros_cip_inner_tl
176 \LWR@textcurrentcolor{\LWR@textcurrentfont{% lwarp
177 \l__chemmacros_tmpa_tl
178 }}% lwarp
179 }
180 }
181 \EndChemCompatibility

182 \RenewDocumentCommand \Sconf { O{S} } {
183 \begin{lateximage}[\textbackslash{}Sconf{[#1{}}]*
184 \chemmacros_sconf:n {#1}
185 \end{lateximage}
186 }
187
188 \RenewDocumentCommand \Rconf { O{R} } {
189 \begin{lateximage}[\textbackslash{}Rconf{[#1{}}]*
190 \chemmacros_rconf:n {#1}
191 \end{lateximage}
192 }

193 \cs_gset_protected:Npn \chemmacros_hapto:n #1
194 {
195 \begingroup

```

```

196 \boolfalse{mathjax}
197 \LWR@subsingledollar*{\textbackslash{}}hpto\{#1\}\}{chemmacros}{
198 \chemmacros_coordination_symbol:nnnn
199 { \l__chemmacros_coord_use_hyphen_bool }
200 {
201 \chemmacros_if_compatibility:nnTF {>} {5.7}
202 { \c_true_bool }
203 { \c_false_bool }
204 }
205 { \chemeta }
206 {#1}
207 }
208 \endgroup
209 }
210
211 \cs_gset_protected:Npn \chemmacros_dento:n #1
212 {
213 \begingroup
214 \boolfalse{mathjax}
215 \LWR@subsingledollar*{\textbackslash{}}dento\{#1\}\}{chemmacros}{
216 \chemmacros_coordination_symbol:nnnn
217 { \l__chemmacros_coord_use_hyphen_bool }
218 {
219 \chemmacros_if_compatibility:nnTF {>} {5.7}
220 { \c_true_bool }
221 { \c_false_bool }
222 }
223 { \chemkappa }
224 {#1}
225 }
226 \endgroup
227 }
228
229 \cs_gset_protected:Npn \chemmacros_bridge:n #1
230 {
231 \begingroup
232 \boolfalse{mathjax}
233 \LWR@subsingledollar*{\textbackslash{}}bridge\{#1\}\}{chemmacros}{
234 \chemmacros_coordination_symbol:nnnn
235 { \l__chemmacros_coord_use_hyphen_bool }
236 { \l__chemmacros_bridge_super_bool }
237 { \chemmu }
238 {#1}
239 }
240 \endgroup
241 }
242 }{}% \@ifchemmacrosmoduleloaded
243 }% AtBeginDocument

```

## § 186.8 Particles

```

244 \AtBeginDocument{
245 \@ifchemmacrosmoduleloaded{particles}{
246 \PackageInfo{lwarp}{Patching~chemmacros~module~particles}
247 }
248 \cs_gset_protected:Npn \chemmacros_declare_nucleophile:Nn #1#2

```

```

249 {
250 \cs_set_protected:cpn {__chemmacros_ \chemmacros_remove_backslash:N #1;}
251 {
252 \bool_if:NTF \l__chemmacros_nucleophile_elpair_bool
253 {
254 \chemmacros_elpair:n { #2 }
255 \chemmacros_if_compatibility:nnT {>=} {5.3}
256 { \skip_horizontal:N \l__chemmacros_nucleophile_dim }
257 \chemmacros_chemformula:n { {}^{} }
258 }
259 { \chemmacros_chemformula:n { #2^{} } }
260 }
261 \DeclareDocumentCommand #1 {o}
262 {%
263 \begin{lateximage}%
264 \group_begin:%
265 \IfNoValueF {##1}%
266 { \chemmacros_set_keys:nn {particles} {##1} }%
267 \use:c {__chemmacros_ \chemmacros_remove_backslash:N #1;}%
268 \group_end:%
269 \end{lateximage}%
270 }
271 }
272
273 \RenewChemNucleophile \Nuc {Nu}
274 \RenewChemNucleophile \ba {ba}
275
276 }{}% \@ifchemmacrosmoduleloaded
277 }% AtBeginDocument

```

## § 186.9 Phases

```

278 \AtBeginDocument{
279 \@ifchemmacrosmoduleloaded{phases}{
280 \PackageInfo{lwarp}{Patching~chemmacros~module~phases}
281
282 \cs_undefine:N \chemmacros_phase:n
283 \cs_new_protected:Npn \chemmacros_phase:n #1
284 {
285 \mode_leave_vertical:
286
287 \bool_if:NTF \l__chemmacros_phases_sub_bool
288 {
289 \ifnumequal{\value{LWR@lateximagedepth}}{0}
290 {
291 \textsubscript{ (#1) }
292 }
293 {
294 \chemformula_subscript:n { (#1) }
295 }
296 }
297 {
298 \skip_horizontal:N \l__chemmacros_phases_space_dim
299 \chemmacros_text:n { (#1) }

```

```

299 }
300 }
301
302 }{}% \@ifchemmacrosmoduleloaded
303 }% AtBeginDocument

```

## § 186.10 Mechanisms

```

304 \AtBeginDocument{
305 \@ifchemmacrosmoduleloaded{mechanisms}{
306 \PackageInfo{lwarp}{Patching~chemmacros~module~mechanisms}
307
308 \chemmacros_define_keys:nn {textmechanisms}
309 {
310 type .choice: ,
311 type / .code:n =
312 {
313 __chemmacros_set_mechanisms:nnn { S }
314 {
315 \textsubscript{N}
316 }
317 { }
318 } ,
319 type / 1 .code:n =
320 {
321 __chemmacros_set_mechanisms:nnn { S }
322 {
323 \textsubscript{N}
324 1
325 }
326 { }
327 } ,
328 type / 2 .code:n =
329 {
330 __chemmacros_set_mechanisms:nnn { S }
331 {
332 \textsubscript{N}
333 2
334 }
335 { }
336 } ,
337 type / se .code:n =
338 {
339 __chemmacros_set_mechanisms:nnn { S }
340 {
341 \textsubscript{E}
342 }
343 { }
344 } ,
345 type / 1e .code:n =
346 {
347 __chemmacros_set_mechanisms:nnn { S }
348 {
349 \textsubscript{E}
350 1
351 }

```

```

352 { }
353 } ,
354 type / 2e .code:n =
355 {
356 __chemmacros_set_mechanisms:nnn { S }
357 {
358 \textsubscript{E}
359 2
360 }
361 { }
362 } ,
363 type / ar .code:n =
364 {
365 __chemmacros_set_mechanisms:nnn { S }
366 {
367 \textsubscript{E}
368 }
369 { Ar - }
370 } ,
371 type / e .code:n =
372 { __chemmacros_set_mechanisms:nnn { E } { } { } } ,
373 type / e1 .code:n =
374 { __chemmacros_set_mechanisms:nnn { E } { 1 } { } } ,
375 type / e2 .code:n =
376 { __chemmacros_set_mechanisms:nnn { E } { 2 } { } } ,
377 type / cb .code:n =
378 {
379 __chemmacros_set_mechanisms:nnn { E }
380 {
381 1
382 \textsubscript{cb}
383 }
384 { }
385 } ,
386 type .default:n =
387 }
388
389 \cs_gset_protected:Npn \chemmacros_mechanisms:n #1
390 {
391 \tl_if_blank:nTF {#1}
392 { \chemmacros_set_keys:nn {textmechanisms} { type } }
393 { \chemmacros_set_keys:nn {textmechanisms} { type = #1 } }
394 \mbox
395 {
396 \tl_use:N \l__chemmacros_mechanisms_ar_tl
397 \tl_use:N \l__chemmacros_mechanisms_type_tl
398 \tl_use:N \l__chemmacros_mechanisms_mol_tl
399 }
400 }
401
402 \appto\LWR@restoreorigformatting%
403 \cs_set_protected:Npn \chemmacros_mechanisms:n #1%
404 {%
405 \tl_if_blank:nTF {#1}%
406 { \chemmacros_set_keys:nn {mechanisms} { type } }%

```

```

407 { \chemmacros_set_keys:nn {mechanisms} { type = #1 } }%
408 \mbox%
409 {%
410 \tl_use:N \l__chemmacros_mechanisms_ar_tl%
411 \tl_use:N \l__chemmacros_mechanisms_type_tl%
412 \tl_use:N \l__chemmacros_mechanisms_mol_tl%
413 }%
414 }%
415 }
416
417 }{}% \@ifchemmacrosmoduleloaded
418 }% AtBeginDocument

```

### § 186.11 Newman

```

419 \AtBeginDocument{
420 \@ifchemmacrosmoduleloaded{newman}{
421 \PackageInfo{lwarp}{Patching~chemmacros~module~newman}
422
423 \RenewDocumentCommand \newman {od()}m%
424 {
425 \IfValueTF{#2}
426 {\begin{lateximage}[\textbackslash{}newman(#2)\{#3\}]*}
427 {\begin{lateximage}[\textbackslash{}newman\{#3\}]*}
428 \group_begin:
429 \IfNoValueF {#1} { \chemmacros_set_keys:nn {newman} {#1} }
430 \IfNoValueTF {#2}
431 { \chemmacros_newman:nn { } {#3} }
432 { \chemmacros_newman:nn {#2} {#3} }
433 \group_end:
434 \end{lateximage}
435 }%
436
437 }{}% \@ifchemmacrosmoduleloaded
438 }% AtBeginDocument

```

### § 186.12 Orbital

```

439 \AtBeginDocument{
440 \@ifchemmacrosmoduleloaded{orbital}{
441 \PackageInfo{lwarp}{Patching~chemmacros~module~orbital}
442
443 \RenewDocumentCommand \orbital {om}
444 {
445 \IfValueTF{#1}
446 {
447 \begin{lateximage}[%
448 \textbackslash{}orbital{[]\LWR@HTMLSanitize{#1}[]}\{#2\}%
449]*[[margin-left: 1em ; margin-right: 1em]
450]
451 {
452 \begin{lateximage}[%
453 \textbackslash{}orbital\{#2\}%
454]*[[margin-left: 1em ; margin-right: 1em]
455]

```



```

456 \group_begin:
457 \chemmacros_set_keys:nn {orbital/type} {#2}
458 \IfNoValueTF {#1}
459 { \chemmacros_orbital:n { } }
460 { \chemmacros_orbital:n {#1} }
461 \group_end:
462 \end{lateximage}
463 }
464
465 }{}% \@ifchemmacrosmoduleloaded
466 }% AtBeginDocument

```

### § 186.13 Reactions

```

\chemmacros_declare_reaction_env {<chem>} {<math>} {<args number>} {<argument list ({#2}{#3}...)}

467 \AtBeginDocument{
468 \@ifchemmacrosmoduleloaded{reactions}{
469 \PackageInfo{lwarp}{Patching~chemmacros~module~reactions}
470
471 \cs_gset_protected:Npn \chemmacros_declare_reaction_env:nnnn #1#2#3#4
472 {
473 \exp_args:Nnx \DeclareDocumentEnvironment {#1} { 0{} \prg_replicate:nn {#3+0} {m} }
474 {
475 \boolfalse{mathjax}% lwarp
476 \ifdefvoid{\LWR@ThisAltText}{% lwarp
477 \ThisAltText{-chemmacros~reaction}% lwarp
478 }{}% lwarp
479 \chemmacros_add_reaction_description:n {##1}
480 __chemmacros_begin_reaction:
481 \chemmacros_reaction_read:nnw {#2} {#4}
482 }
483 {
484 __chemmacros_end_reaction:
485 \gdef\LWR@ThisAltText{}% lwarp
486 }
487 }
488 \cs_generate_variant:Nn \chemmacros_declare_reaction_env:nnnn {nnnV}
489
490 \RenewChemReaction {reaction} {equation}
491 \RenewChemReaction {reaction*} {equation*}
492 \RenewChemReaction {reactions} {align}
493 \RenewChemReaction {reactions*} {align*}
494
495 }{}% \@ifchemmacrosmoduleloaded
496 }% AtBeginDocument

```

§ 186.14 **Redox**

```

497 \AtBeginDocument{
498 \@ifchemmacrosmoduleloaded{redox}{
499 \PackageInfo{lwarp}{Patching~chemmacros~module~redox}
500
501 \NewDocumentCommand \LWR@chemmacros@ox { s m >{\SplitArgument{1}{,}}m }
502 {
503 \IfBooleanTF {#1}
504 { \chemmacros_ox:nnnn {#1} {#2} #3 }
505 { \chemmacros_ox:nnnn { } {#2} #3 }
506 }
507
508 \RenewDocumentCommand \ox { s O{ } m }
509 {
510 \begingroup
511 \boolfalse{mathjax}
512 \IfBooleanTF {#1}
513 {
514 \LWR@subsingledollar*{% yes hash
515 \textbackslash{}ox*\{\LWR@HTMLsanitize{#3}\}% alt
516 }{%
517 star \protect\LWR@HTMLsanitize{\detokenize\expandafter{#2}}%
518 }{%
519 \LWR@chemmacros@ox* {#2} {#3}% contents
520 }%
521 }
522 {
523 \LWR@subsingledollar*{% yes hash
524 \textbackslash{}ox*\{\LWR@HTMLsanitize{#3}\}% alt
525 }{%
526 \protect\LWR@HTMLsanitize{\detokenize\expandafter{#2}}%
527 }{%
528 \LWR@chemmacros@ox {#2} {#3}% contents
529 }%
530 }
531 \endgroup
532 }
533
534 }{}% \@ifchemmacrosmoduleloaded
535 }% AtBeginDocument

```

§ 186.15 **Scheme**

Fix for chemmacros as of v5.8b, when using newfloat and babel:

```

536 \AtBeginDocument{
537 \@ifchemmacrosmoduleloaded{scheme}{
538 \PackageInfo{lwarp}{Patching~chemmacros~module~scheme}
539
540 \ifdefstring{\schemename}{\los}{
541 \SetupFloatingEnvironment{scheme}{
542 name = \chemmacros_translate:n {scheme-name}
543 }
544 }{}

```

```

545
546 }{}% \@ifchemmacrosmoduleloaded
547 }% AtBeginDocument

```

## § 186.16 Spectroscopy

```

548 \AtBeginDocument{
549 \@ifchemmacrosmoduleloaded{spectroscopy}{
550 \PackageInfo{lwarp}{Patching~chemmacros~module~spectroscopy}
551
552 \ChemCompatibilityTo{5.8}
553 \cs_gset_protected:Npn __chemmacros_nmr_base:nn #1#2
554 {
555 \tl_if_blank:VF \g__chemmacros_nmr_element_coupled_tl
556 {
557 \tl_put_left:Nn \g__chemmacros_nmr_element_coupled_tl { \{ }
558 \tl_put_right:Nn \g__chemmacros_nmr_element_coupled_tl { \} }
559 }
560 \tl_put_left:Nn \g__chemmacros_nmr_element_coupled_tl {#2}
561 % \chemmacros_chemformula:n { ^{#1} }
562 #1
563 \bool_if:NTF \l__chemmacros_nmr_parse_bool
564 { \chemformula_ch:nV {} } \g__chemmacros_nmr_element_coupled_tl }
565 { \chemmacros_chemformula:V \g__chemmacros_nmr_element_coupled_tl }
566 \tl_use:N \l__chemmacros_nmr_element_method_connector_tl
567 \tl_use:N \l__chemmacros_nmr_method_tl
568 }
569 \EndChemCompatibility
570 \ChemCompatibilityFrom{5.8}
571 \cs_gset_protected:Npn __chemmacros_nmr_base:nn #1#2
572 {
573 \group_begin:
574 \tl_use:N \l__chemmacros_nmr_base_format_tl
575 \tl_if_blank:VF \g__chemmacros_nmr_element_coupled_tl
576 {
577 \tl_put_left:Nn \g__chemmacros_nmr_element_coupled_tl { \{ }
578 \tl_put_right:Nn \g__chemmacros_nmr_element_coupled_tl { \} }
579 }
580 \tl_put_left:Nn \g__chemmacros_nmr_element_coupled_tl {#2}
581 % \chemmacros_chemformula:n { ^{#1} }
582 #1
583 \tl_if_blank:VF \g__chemmacros_nmr_element_coupled_tl
584 {
585 \bool_if:NTF \l__chemmacros_nmr_parse_bool
586 { \chemformula_ch:nV {} } \g__chemmacros_nmr_element_coupled_tl }
587 { \chemmacros_chemformula:V \g__chemmacros_nmr_element_coupled_tl }
588 }
589 \tl_use:N \l__chemmacros_nmr_element_method_connector_tl
590 \tl_use:N \l__chemmacros_nmr_method_tl
591 \group_end:
592 }
593 \EndChemCompatibility
594
595
596 \cs_gset_protected:Npn \chemmacros_nmr_position:n #1

```

```

597 {
598 \chemmacros_chemformula:x
599 {
600 \exp_not:V \g__chemmacros_nmr_element_tl
601 \bool_if:NF \l__chemmacros_nmr_position_side_bool
602 {
603 \tl_if_eq:NnTF \l__chemmacros_nmr_position_tl {^}% lwarp
604 { \textsuperscript{\exp_not:n { {#1} }} }% lwarp
605 { \textsubscript{\exp_not:n { {#1} }} }% lwarp
606 % \exp_not:V \l__chemmacros_nmr_position_tl
607 % \exp_not:n { {#1} }
608 }
609 }
610 \bool_if:NT \l__chemmacros_nmr_position_side_bool
611 {
612 \tl_use:N \l__chemmacros_nmr_position_tl
613 __chemmacros_nmr_position:n {#1}
614 }
615 }
616
617 \cs_gset_protected:Npn __chemmacros_nmr_coupling:w (#1;#2)
618 {
619 \tl_set:Nn \l__chemmacros_nmr_coupling_bonds_tl
620 {
621 \l__chemmacros_nmr_coupling_bonds_pre_tl
622 #1
623 \l__chemmacros_nmr_coupling_bonds_post_tl
624 }
625 \bool_if:NTF \l__chemmacros_nmr_coupling_nuclei_sub_bool
626 {
627 \tl_set:Nn \l__chemmacros_nmr_coupling_nuclei_tl
628 {
629 % \c_math_subscript_token
630 \textsubscript% lwarp
631 {
632 \l__chemmacros_nmr_coupling_nuclei_pre_tl
633 \chemmacros_chemformula:n {#2}
634 \l__chemmacros_nmr_coupling_nuclei_post_tl
635 }
636 }
637 }
638 {
639 \tl_set:Nn \l__chemmacros_nmr_coupling_nuclei_tl
640 {
641 \l__chemmacros_nmr_coupling_nuclei_pre_tl
642 \chemmacros_chemformula:n {#2}
643 \l__chemmacros_nmr_coupling_nuclei_post_tl
644 }
645 }
646 __chemmacros_nmr_coupling_aux_i:w
647 }
648 \AfterEndPreamble{% After \AtBeginDocument
649 % \NMR{<num>,<elem>}<num>,<unit>}<solvent>] ALL arguments are optional
650 % \NMR* same but without ": δ" at end
651 \cs_gset_protected:Npn \chemmacros_nmr:n nnn #1#2#3#4

```

```

652 {
653 \bool_if:NT \l__chemmacros_nmr_list_bool { \item \scan_stop: }
654 \group_begin:

655 \mode_leave_vertical:

656 \bool_set_false:N \l__chemmacros_nmr_frequency_bool
657 \bool_set_false:N \l__chemmacros_nmr_solvent_bool
658 \tl_if_empty:nF {#3}
659 { \bool_set_true:N \l__chemmacros_nmr_frequency_bool }
660 \tl_if_empty:nF {#4}
661 { \bool_set_true:N \l__chemmacros_nmr_solvent_bool }
662 \bool_if:nT
663 {
664 \l__chemmacros_nmr_frequency_bool
665 ||
666 \l__chemmacros_nmr_solvent_bool
667 }
668 { \bool_set_true:N \l__chemmacros_nmr_delimiters_bool }
669 \bool_if:nT
670 {
671 \l__chemmacros_nmr_frequency_bool
672 &&
673 \l__chemmacros_nmr_solvent_bool
674 }
675 { \bool_set_true:N \l__chemmacros_nmr_comma_bool }
676 \tl_if_empty:nTF {#2}
677 {
678 __chemmacros_nmr_nucleus:VV
679 \l__chemmacros_nmr_isotope_default_tl
680 \l__chemmacros_nmr_element_default_tl
681 }
682 { __chemmacros_nmr_nucleus:w #2 \q_stop }
683 \mode_if_math:TF
684 {
685 \text
686 {
687 \group_begin:
688 \tl_use:N \l__chemmacros_nmr_format_tl
689 \LWR@textcurrentcolor{\LWR@textcurrentfont{% lwarp
690 __chemmacros_nmr_base:VV
691 \g__chemmacros_nmr_isotope_tl
692 \g__chemmacros_nmr_element_tl
693 \bool_if:NT \l__chemmacros_nmr_delimiters_bool
694 { ~ (}
695 \bool_if:NT \l__chemmacros_nmr_frequency_bool
696 { __chemmacros_nmr_frequency:n {#3} }
697 \bool_if:NT \l__chemmacros_nmr_comma_bool
698 { , ~ }
699 \bool_if:NT \l__chemmacros_nmr_solvent_bool
700 { \chemmacros_chemformula:n {#4} }
701 \bool_if:NT \l__chemmacros_nmr_delimiters_bool
702 {) }
703 \tl_if_blank:nT {#1} {:~}
704 }}}% lwarp

```

```

705 \group_end:
706 }
707 \tl_if_blank:nT {#1}
708 {
709 \delta
710 \text { \l__chemmacros_nmr_delta_tl }
711 \bool_if:NT \l__chemmacros_nmr_use_equal_bool {=}
712 }
713 }
714 {
715 \group_begin:
716 \tl_use:N \l__chemmacros_nmr_format_tl
717 \LWR@textcurrentcolor{\LWR@textcurrentfont{% lwarp
718 __chemmacros_nmr_base:VV
719 \g__chemmacros_nmr_isotope_tl
720 \g__chemmacros_nmr_element_tl
721 \bool_if:NT \l__chemmacros_nmr_delimiters_bool
722 {~()}
723 \bool_if:NT \l__chemmacros_nmr_frequency_bool
724 { __chemmacros_nmr_frequency:n {#3} }
725 \bool_if:NT \l__chemmacros_nmr_comma_bool
726 {,~}
727 \bool_if:NT \l__chemmacros_nmr_solvent_bool
728 {
729 \bool_if:NTF \l__chemmacros_nmr_parse_bool

730 % { \chemformula_ch:nn { } {#4} }% original
731 % {\ch{#4}}% lwarp
732 % {#4}
733 % }
734 \bool_if:NT \l__chemmacros_nmr_delimiters_bool
735 {}}
736 }}% lwarp
737 \tl_if_blank:nT {#1} {:}
738 \group_end:
739 \tl_if_blank:nT {#1}
740 {
741 \tl_use:N \c_space_tl
742 \c_math_toggle_token
743 \delta
744 \c_math_toggle_token
745 \l__chemmacros_nmr_delta_tl
746 \bool_if:NT \l__chemmacros_nmr_use_equal_bool {~=}
747 }
748 }
749 \group_end:
750 }
751 }% AfterEndPreamble
752
753
754 \RenewDocumentCommand \chemmacros_data:w { smo }
755 {
756 \bool_if:NT \l__chemmacros_nmr_list_bool { \item }
757 {
758 % \tl_use:N \l__chemmacros_nmr_format_tl #2

```

```

759 \tl_use:N \l__chemmacros_nmr_format_tl
760 \LWR@textcurrentcolor{\LWR@textcurrentfont{% lwarp
761 #2
762 \IfNoValueF {#3} { ~ (#3) }
763 \IfBooleanT {#1} { \bool_if:NT \l__chemmacros_nmr_use_equal_bool { : } }
764 }}% lwarp
765 }
766 \IfBooleanF {#1} { \bool_if:NT \l__chemmacros_nmr_use_equal_bool { ~ = } }
767 }
768
769 }{}% \@ifchemmacrosmoduleloaded
770 }% AtBeginDocument

```

### § 186.17 Thermodynamics

```

771 \AtBeginDocument{
772 \@ifchemmacrosmoduleloaded{thermodynamics}{
773 \PackageInfo{lwarp}{Patching~chemmacros~module~thermodynamics}
774
775 \cs_gset_protected:Npn \chemmacros_state:nn #1#2
776 {
777 \group_begin:
778 \boolfalse{mathjax}
779 \chemmacros_set_keys:nn {thermodynamics} {#1}
780 \LWR@subsingledollar*{% yes hashing
781 \textbackslash{}state{\LWR@HTMLsanitize{#2}\}% alt
782 }{%
783 chemmacros_state% add'l hashing
784 #1% options
785 LSP \tl_use:N \l__chemmacros_state_sp_left_tl% super/subscripts
786 LSB \tl_use:N \l__chemmacros_state_sb_left_tl
787 RSP \tl_use:N \l__chemmacros_state_sp_right_tl
788 RSB \tl_use:N \l__chemmacros_state_sb_right_tl
789 }
790 {
791 \LWR@origensuredmath{
792 \chemmacros_text:V \l__chemmacros_state_pre_tl
793 \c_math_superscript_token
794 { \chemmacros_text:V \l__chemmacros_state_sp_left_tl }

```

Only add the subscripts if they are being used. This avoids causing an incorrect depth, as the empty subscript will be measured by TeX but cropped out by *pdfcrop*.

```

795 \tl_if_empty:NTF \l__chemmacros_state_sb_left_tl
796 {}
797 {
798 \c_math_subscript_token
799 { \chemmacros_text:V \l__chemmacros_state_sb_left_tl }
800 }
801 #2
802 \c_math_superscript_token
803 { \chemmacros_text:V \l__chemmacros_state_sp_right_tl }
804 \tl_if_empty:NTF \l__chemmacros_state_sb_right_tl
805 {}
806 {

```

```

807 \c_math_subscript_token
808 { \chemmacros_text:V \l__chemmacros_state_sb_right_tl }
809 }
810 \chemmacros_text:V \l__chemmacros_state_post_tl
811 }
812 }
813 \group_end:
814 }
815 \cs_generate_variant:Nn \chemmacros_state:nn { nV }
816
817 \cs_gset_protected:Npn \chemmacros_declare_state:Nn #1#2
818 {
819 \chemmacros_define_keys:xn
820 {thermodynamics/\chemmacros_remove_backslash:N #1}
821 {
822 pre .meta:nn = {chemmacros/thermodynamics} { pre = ##1 } ,
823 post .meta:nn = {chemmacros/thermodynamics} { post = ##1 } ,
824 superscript-left .meta:nn = {chemmacros/thermodynamics} { superscript-left = ##1 } ,
825 superscript-right .meta:nn = {chemmacros/thermodynamics} { superscript-right = ##1 } ,
826 superscript .meta:n = { superscript-right = ##1 } ,
827 subscript-left .meta:nn = {chemmacros/thermodynamics} { subscript-left = ##1 } ,
828 subscript-right .meta:nn = {chemmacros/thermodynamics} { subscript-right = ##1 } ,
829 subscript .meta:n = { subscript-left = ##1 } ,
830 subscript-pos .choices:nn =
831 { left , right }
832 { \tl_set_eq:NN \l__chemmacros_state_sb_pos_tl \l_keys_choice_tl } ,
833 symbol .tl_set:N = \l__chemmacros_state_symbol_tl ,
834 unit .tl_set:N = \l__chemmacros_state_unit_tl
835 }
836 \DeclareDocumentCommand #1 { sO{}D(){}m }
837 {
838 \group_begin:
839 \chemmacros_set_keys:xn
840 {thermodynamics/\chemmacros_remove_backslash:N #1}
841 {#2}
842 \tl_if_blank:nF {##3}
843 {
844 \chemmacros_set_keys:nx {thermodynamics}
845 { subscript-\l__chemmacros_state_sb_pos_tl = \exp_not:n {##3} }
846 }
847 \chemmacros_state:nV {##2} \l__chemmacros_state_symbol_tl
848 \chemmacros_set_keys_groups:nnn {thermodynamics} {variables} {##2}
849 \IfBooleanF {##1} { = ~ \SI {##4} { \l__chemmacros_state_unit_tl } }
850 \group_end:
851 }
852 }

```

The pre-existing macros are redefined with the new definition:

```

853 \RenewChemState \enthalpy { symbol = H , unit = \kilo\joule\per\mole }
854 \RenewChemState \entropy { symbol = S , unit = \joule\per\kelvin\per\mole , pre = }
855 \RenewChemState \gibbs { symbol = G , unit = \kilo\joule\per\mole }
856
857 }{}% \@ifchemmacrosmoduleloaded
858 }% AtBeginDocument

```



859 \ExplSyntaxOff

File 81 **lwarp-chemnum.sty**

§ 187 Package **chemnum**

(Emulates or patches code by CLEMENS NIEDERBERGER.)

Pkg chemnum chemnum is patched for use by lwarp.

for HTML output:

```

1 \LWR@ProvidesPackagePass{chemnum}[2016/04/14]
2 \ExplSyntaxOn
3
4 \cs_gset_protected:Npn \chemnum_compound_write:n #1
5 {
6 \chemnum_get_compound_property:nn {#1} {pre-main-label-code}
7 \group_begin:
8 \bool_if:NTF \l__chemnum_compound_local_bool
9 { \l__chemnum_local_label_format_tl }
10 { \chemnum_get_compound_property:nn {#1} {label-format} }
11 {
12 \LWR@textcurrentfont{
13 \chemnum_get_compound_property:nn {#1} {counter-representation}
14 }
15 }
16 \group_end:
17 \chemnum_get_compound_property:nn {#1} {post-main-label-code}
18 }
19
20 \cs_gset_protected:Npn \chemnum_subcompound_write:nn #1#2
21 {
22 \group_begin:
23 \bool_if:NTF \l__chemnum_compound_local_bool
24 { \l__chemnum_local_label_format_tl }
25 { \chemnum_get_compound_property:nn {#1} {label-format} }
26 {
27 \LWR@textcurrentfont{
28 \chemnum_get_subcompound_property:nnn {#1} {#2}
29 {counter-representation}
30 }
31 }
32 \group_end:
33 }
34
35 \ExplSyntaxOff

```

---

File 82 **lwarp-chkfloat.sty**

§ 188 Package **chkfloat**

Pkg chkfloat chkfloat is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{chkfloat}[2012/08/19]

---

File 83 **lwarp-chngpage.sty**

§ 189 Package **chngpage**

*(Emulates or patches code by PETER WILSON.)*

Pkg chngpage chngpage is ignored.

**for HTML output:** Discard all options for lwarp-chngpage:

```
1 \LWR@ProvidesPackageDrop{chngpage}[2009/10/20]
2 \LWR@origRequirePackage{lwarp-chngpage}
```

---

File 84 **lwarp-cite.sty**

§ 190 Package **cite**

*(Emulates or patches code by DONALD ARSENEAU.)*

Pkg cite cite is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{cite}[2015/02/27]

For the [super] option, the \kern must be removed:

```
2 \def\LWRCT@biblabel#1{\@citess{#1}\kern-\labelsep\,}
3
4 \ifdefstrequal{\@biblabel}{\LWRCT@biblabel}
5 {
6 \def\@biblabel#1{\@citess{#1}}
7 }{}
```

For the [super] option, \textsuperscript is used instead of math superscript:

```
8 \def\@citess#1{#1}
9
10 \DeclareDocumentCommand\citepunct{}{\, \, \relax}
```

File 85 **lwarp-citeref.sty**§ 191 Package **citeref***(Emulates or patches code by BJÖRN BRIEL.)*

Pkg citeref citeref is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{citeref}[1999/27/05]
2 \def\@cprwrite#1={\write\@auxout{\string\citepageref{#1}\theLWR@currentautosec}}
3
4 \def\citepageref#1#2{%
5 \xdef\cpr@testa{\@nameuse{cpr@last@#1}}%letzte Zitatstelle
6 \xdef\cpr@testb{#2}% Seite dieser Zitatstelle
7 \ifx\cpr@testa\cpr@testb%
8 \relax% Konsekutive identische Seitenangaben weglassen
9 \else%
10 \@namexdef{cpr@last@#1}{#2}%
11 \@ifundefined{cpr@#1}%
12 {\@namexdef{cpr@#1}{\ref{\BaseJobname-autopage-#2}}}% lwarp
13 {\@namexdef{cpr@#1}{\@nameuse{cpr@#1}, \ref{\BaseJobname-autopage-#2}}}% lwarp
14 \fi
15 }
```

File 86 **lwarp-CJK.sty**§ 192 Package **CJK**

Pkg CJK CJK does not work with lwarp unless called from ctex.

**for HTML output:**

```

1 \@ifpackageloaded{xeCJK}{%
2 \LWR@loadnever{CJK}{ctex, xeCJK}
3 }
4
5 \LWR@ProvidesPackagePass{CJK}[2015/04/18]
```

File 87 **lwarp-CJKutf8.sty**§ 193 Package **CJKutf8**

Pkg CJKutf8 CJKutf8 does not work with lwarp unless called from ctex.

**for HTML output:**

```

1 \@ifpackageloaded{xeCJK}{%
2 \LWR@loadnever{CJKutf8}{ctex, xeCJK}
3 }
```

```
4
5 \LWR@ProvidesPackagePass{CJKutf8}[2015/04/18]
```

File 88 **lwarp-cleveref.sty**

§ 194 Package **cleveref**

(Emulates or patches code by TOBY CUBITT.)

Pkg cleveref cleveref is patched for HTML, and limited MATHJAX emulation is added.

⚠ **cleveref page numbers** cleveref and varioref are supported, but printed page numbers do not map to HTML, so a section name or a text phrase are used for `\cpageref` and `\cpagerefrange`. This phrase includes `\cpagerefFor`, which defaults to “for”.

Ex:

```
\cpageref{tab:first,tab:second}
in html becomes:
“pages for table 4.1 and for table 4.2”
```

See `\cpagerefFor` at page 741 to redefine the message which is printed for page number references.

Table 14 on page 504 shows the data structure of the label/reference system as revised by `lwarp` and `cleveref`.

For MATHJAX, each references is printed as an `\eqref`, without `cleveref`'s description text. Page references are also printed as simple `\eqrefs`. Multiple labels in a single `\cref` will print as (???) in MATHJAX.

⚠ **multiple labels**

for HTML output: `1 \LWR@ProvidesPackagePass{cleveref}[2018/03/27]`

The following patches are applied. Print-mode versions are not required since they all come down to `\ref` eventually, and `\ref` has a print-mode version.

```
\@@@setcref {<kindofref>} {<label>}
```

`\@templabel` becomes the section number.

```
2 \def\LWR@orig@@@setcref#1#2{\cref@getlabel{#2}{\@templabel}#1{\@templabel}{}}%
3
4 \ifdefequal{\@@@setcref}{\LWR@orig@@@setcref}{% before v0.21
5 \renewcommand*{\@@@setcref}[2]{#1{\ref{#2}}{}}
6 }{
7 \ifdefequal{\@@@setcref}{\LWR@orig@@@setcref}{% as of v0.21
8 \renewcommand*{\@@@setcref}[2]{%
9 #1{\ref{#2}}{}}
10 }{
11 \PackageWarningNoLine{lwarp-cleveref}{
12 Unknown version of cleveref.
13 \protect\cref\space will fail.
```

```

14 }%
15 }
16 }

```

`\@@@setcrefrange`  $\langle text \rangle$   $\langle label \rangle$   $\langle label \rangle$

```

17 \def\LWR@orig@@@setcrefrange#1#2#3{%
18 \cref@getlabel{#2}{\@labela}%
19 \cref@getlabel{#3}{\@labelb}%
20 #1{\@labela}{\@labelb}{\@labelc}{\@labeld}%
21
22 \ifdefequal{\@@@setcrefrange}{\LWR@orig@@@setcrefrange}{
23 \renewcommand{\@@@setcrefrange}[3]{%
24 #1{\ref{#2}}{\ref{#3}}{\@labelc}{\@labeld}%
25 }
26 }{
27 \ifdefequal{\@@@setcrefrange}{\LWR@orig@@@setcrefrange}{
28 \renewcommand{\@@@setcrefrange}[3]{%
29 #1{\ref{#2}}{\ref{#3}}{\@labelc}{\@labeld}%
30 }
31 }{
32 \PackageWarningNoLine{lwarp-cleveref}{
33 Unknown version of cleveref.
34 \protect\crefrange\space will fail.
35 }
36 }
37 }

```

`\cpagerefFor` Redefinable word between “page(s)” and the page numbers.

```

38 \newcommand*\cpagerefFor{for}

```

`\@@@setcpageref`  $\langle typeofref \rangle$   $\langle label \rangle$ , where *typeofref* is “page” or “pages”

```

39 \def\LWR@orig@@@setcpageref#1#2{% before v0.21
40 \cref@getpageref{#2}{\@temppage}#1{\@temppage}{\@labelc}{\@labeld}%
41
42 \def\LWR@orig@@@setcpageref#1#2{% as of v0.21
43 \cpageref@getlabel{#2}{\@temppage}#1{\@temppage}{\@labelc}{\@labeld}%
44
45 \ifdefequal{\@@@setcpageref}{\LWR@orig@@@setcpageref}{
46 \renewcommand*\@@@setcpageref[2]{%
47 #1{\cpagerefFor\ \cref{#2}}{\@labelc}{\@labeld}%
48 }
49 }{
50 \ifdefequal{\@@@setcpageref}{\LWR@orig@@@setcpageref}{
51 \renewcommand*\@@@setcpageref[2]{%
52 #1{\cpagerefFor\ \cref{#2}}{\@labelc}{\@labeld}%
53 }
54 }
55 {
56 \PackageWarningNoLine{lwarp-cleveref}{

```

```

57 Unknown version of cleveref.
58 \protect\cpageref\space will fail.
59 }
60 }
61 }

62 \def\LWR@orig@@setcpagerefrange#1#2#3{% before v0.21
63 \cref@getpageref{#2}{\@pagea}%
64 \cref@getpageref{#3}{\@pageb}%
65 #1{\@pagea}{\@pageb}{\@pagec}{\@paged}%
66 }
67 \def\LWR@orig@@@setcpagerefrange#1#2#3{% as of v0.21
68 \cpageref@getlabel{#2}{\@pagea}%
69 \cpageref@getlabel{#3}{\@pageb}%
70 #1{\@pagea}{\@pageb}{\@pagec}{\@paged}%
71 }
72 \ifdefequal{\@@setcpagerefrange}{\LWR@orig@@setcpagerefrange}{
73 \renewcommand*\@@setcpagerefrange}[3]{%
74 #1{\cpagerefFor\ \cref{#2}}{\cref{#3}}{\@pagec}{\@paged}%
75 }
76 }{
77 \ifdefequal{\@@@setcpagerefrange}{\LWR@orig@@@setcpagerefrange}{
78 \renewcommand*\@@@setcpagerefrange}[3]{%
79 #1{\cpagerefFor\ \cref{#2}}{\cref{#3}}{\@pagec}{\@paged}%
80 }
81 }
82 {
83 \PackageWarningNoLine{lwarp-cleveref}{
84 Unknown version of cleveref.
85 \protect\cpagerefrange\space will fail.
86 }
87 }
88 }

```

If `hyperref` is loaded, `cleveref` defines starred versions of the following, but since `hyperref` is only emulated, starred versions are defined here:

```

89 \LWR@absorbstar{cref}
90 \LWR@absorbstar{Cref}
91 \LWR@absorbstar{crefrange}
92 \LWR@absorbstar{Crefrange}
93 \LWR@absorbstar{cpageref}
94 \LWR@absorbstar{Cpageref}
95 \LWR@absorbstar{cpagerefrange}
96 \LWR@absorbstar{Cpagerefrange}
97 \LWR@absorbstar{Labelcref}
98 \LWR@absorbstar{Labelcpageref}

```

If `hyperref` is loaded, `cleveref` also defines starred versions of `varioref` macros, so they are defined here.

```

99 \@ifpackageloaded{varioref}{
100 \LWR@absorbstar{vref}
101 \LWR@absorbstar{Vref}
102 \LWR@absorbstar{vrefrange}

```

```

103 \LWR@absorbstar{Vrefrange}
104 \LWR@absorbstar{fullref}
105 \LWR@absorbstar{Fullref}
106 }{}% varioref

```

---

File 89 **lwarp-clrdblpg.sty**

§ 195 Package **clrdblpg**

Pkg clrdblpg clrdblpg is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{clrdblpg}[2018/04/21]


---

File 90 **lwarp-cmbright.sty**

§ 196 Package **cmbright**

*(Emulates or patches code by WALTER SCHMIDT.)*

Pkg cmbright cmbright is used as-is for SVG math, and is emulated for MATHJAX.

 **limitations** The MATHJAX emulation ignores all package options, except slantedGreek is honored, and \mathbold is available.

The dedicated macros for upright Greek letters do work correctly.

svg math should appear the same as the printed output.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{cmbright}[2005/04/13]
2
3 \LWR@infoprocessingmathjax{cmbright}

4 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
5
6 \begin{warpMathJax}
7
8 \@ifpackagewith{cmbright}{slantedGreek}
9 {
10 \LWR@mathjax@addgreek@u@it*{}{}
11 }
12 {}
13
14 \LWR@mathjax@addgreek@u@up*{up}{}
15
16 \CustomizeMathJax{\newcommand{\mathbold}[1]{\boldsymbol{#1}}}
17
18 \end{warpMathJax}

```

---

File 91 **lwarp-cmdtrack.sty**

§ 197 Package **cmdtrack**

Pkg cmdtrack cmdtrack is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{cmdtrack}[2012/12/18]

2 \newcommand{\untrack}[1]{}

---

File 92 **lwarp-colonequals.sty**

§ 198 Package **colonequals**

*(Emulates or patches code by HEIKO OBERDIEK.)*

Pkg colonequals colonequals is used as-is for SVG math, and is emulated for MATHJAX.

Since UNICODE symbols are not available for each of the following, only two are used for the single and double colons, and the other symbols are derived in a consistent manner. Occasional negative space is added as well. This may need to be undone for some fonts.

**for HTML output:** 1 \LWR@ProvidesPackagePass{colonequals}[2016/05/16]

```

2 \begin{warpMathJax}
3 \LWR@infoprocessingmathjax{colonequals}
4
5 \CustomizeMathJax{\newcommand{\ratio}{\mathrel{\unicode{x2236}}}}
6 \CustomizeMathJax{\newcommand{\coloncolon}{\mathrel{\unicode{x2237}}}}
7 \CustomizeMathJax{\newcommand{\colonequals}{\mathrel{\unicode{x2236}!\=}}}
8 \CustomizeMathJax{\newcommand{\coloncolonequals}{\mathrel{\unicode{x2237}!\=}}}
9 \CustomizeMathJax{\newcommand{\equalscolon}{\mathrel{=\!\unicode{x2236}}}}
10 \CustomizeMathJax{\newcommand{\equalscoloncolon}{\mathrel{=\!\unicode{x2237}}}}
11 \CustomizeMathJax{\newcommand{\colonminus}{\mathrel{\unicode{x2236}-}}}
12 \CustomizeMathJax{\newcommand{\coloncolonminus}{\mathrel{\unicode{x2237}-}}}
13 \CustomizeMathJax{\newcommand{\minuscolon}{\mathrel{-\unicode{x2236}}}}
14 \CustomizeMathJax{\newcommand{\minuscoloncolon}{\mathrel{-\unicode{x2237}}}}
15 \CustomizeMathJax{\newcommand{\coloncolonapprox}{\mathrel{\unicode{x2236}!\approx}}}
16 \CustomizeMathJax{\newcommand{\coloncolonapprox}{\mathrel{\unicode{x2237}!\approx}}}
17 \CustomizeMathJax{\newcommand{\approxcolon}{\mathrel{\approx!\unicode{x2236}}}}
18 \CustomizeMathJax{\newcommand{\approxcoloncolon}{\mathrel{\approx!\unicode{x2237}}}}
19 \CustomizeMathJax{\newcommand{\colonsim}{\mathrel{\unicode{x2236}!\sim}}}
20 \CustomizeMathJax{\newcommand{\coloncolonsim}{\mathrel{\unicode{x2237}!\sim}}}
21 \CustomizeMathJax{\newcommand{\simcolon}{\mathrel{\sim!\unicode{x2236}}}}
22 \CustomizeMathJax{\newcommand{\simcoloncolon}{\mathrel{\sim!\unicode{x2237}}}}
23 \end{warpMathJax}

```



File 93 **lwarp-color.sty**§ 199 Package **color**

Pkg color Allowed but ignored. xcolor is then required as well.


color is superceded by xcolor, and lwarp requires several of the features of xcolor. When color is requested, xcolor is loaded as well.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{color}[2016/07/10]
2 \RequirePackage{xcolor}
```

File 94 **lwarp-colortbl.sty**§ 200 Package **colortbl**

Pkg colortbl colortbl is used as-is for print output, and emulated for HTML.

 row/cell color Only use \rowcolor and \cellcolor at the start of a row, in that order.

colortbl ignores the overhang arguments.

**for HTML output:** A placeholder definition is forgotten first:

```
1 \let\rowcolor\relax
2
3 \LWR@ProvidesPackagePass{colortbl}[2018/12/12]
```

The following \LWR@HTML versions are used inside an HTML tabular.

\columncolor [*model*] [*color*] [*left overhang*] [*right overhang*]

\LWR@getmynexttoken is not used here because \columncolor is not used inside the data area of the tabular.

```
4 \NewDocumentCommand{\LWR@HTML@columncolor}{O{named} m o o}{%
5 \convertcolorspec{#1}{#2}{HTML}\LWR@columnHTMLcolor%
6 \LWR@addtabularcellcolor%
7 }
8
9 \AtBeginDocument{\LWR@formatted{columncolor}}
```

\LWR@getmynexttoken is used for \rowcolor because it is used inside the data area of the tabular.

\rowcolor [*model*] [*color*] [*left overhang*] [*right overhang*]

```
10 \NewDocumentCommand{\LWR@HTML@rowcolor}{O{named} m o o}{%
```

```

11 \convertcolorspec{#1}{#2}{HTML}\LWR@rowHTMLcolor%
12 \LWR@getmynexttoken%
13 }
14
15 \AtBeginDocument{\LWR@expandableformatted{rowcolor}}

```

`\cellcolor` [*model*] {*color*} [*left overhang*] [*right overhang*]

```

16 \NewDocumentCommand{\LWR@HTML@cellcolor}{0{named} m o o}{%
17 \convertcolorspec{#1}{#2}{HTML}\LWR@cellHTMLcolor%
18 \LWR@addtabularcellcolor%
19 }
20
21 \AtBeginDocument{\LWR@formatted{cellcolor}}

```

`\arrayrulecolor` [*model*] {*color*}

The HTML version for use outside a tabular. Inside a tabular, `\LWR@HTML@arrayrulecolornexttoken` is used instead.

```

22 \newcommand{\LWR@HTML@arrayrulecolor}[2][named]{%
23 \convertcolorspec{#1}{#2}{HTML}\LWR@ruleHTMLcolor%
24 }
25
26 \AtBeginDocument{\LWR@expandableformatted{arrayrulecolor}}

```

[*model*] {*color*}

`\LWR@arrayrulecolornexttoken` The HTML version for use inside a tabular.

```

27 \newcommand{\LWR@HTML@arrayrulecolornexttoken}[2][named]{%
28 \convertcolorspec{#1}{#2}{HTML}\LWR@ruleHTMLcolor%
29 \LWR@getmynexttoken%
30 }
31
32 \AtBeginDocument{\LWR@expandableformatted{arrayrulecolornexttoken}}

```

`\doublerulesepcolor` [*model*] {*color*}

The version for use outside a tabular.

```

33 \newcommand{\LWR@HTML@doublerulesepcolor}[2][named]{%
34
35 \AtBeginDocument{\LWR@expandableformatted{doublerulesepcolor}}

```

[*model*] {*color*}

`\LWR@doublerulesepcolornexttoken` The version for use inside a tabular.

```

36 \newcommand{\LWR@HTML@doublerulesepcolornexttoken}[2][named]{\LWR@getmynexttoken}
37
38 \AtBeginDocument{\LWR@expandableformatted{doublerulesepcolornexttoken}}

```

For MATHJAX, colors are discarded.

```

39 \begin{warpMathJax}

```

---

```

40 \CustomizeMathJax{\newcommand{\columncolor}[2][\LWRabsorbtwooptions]}
41 \CustomizeMathJax{\let\rowcolor\columncolor}
42 \CustomizeMathJax{\let\cellcolor\columncolor}
43 \end{warpMathJax}

```

---

File 95 **lwarp-continue.sty**

§ 201 Package **continue**

Pkg continue continue is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{continue}[2018/12/09]

```

2 \newcommand*\flagcont{}
3 \newcommand*\flagend{}
4 \newcommand*\flagword{}
5 \newcommand*\preflagword{}
6 \newcommand*\postflagword{}
7 \newlength\contsep
8 \newlength\contdrop

```

---

File 96 **lwarp-copyrightbox.sty**

§ 202 Package **copyrightbox**

*(Emulates or patches code by THOMAS FISCHER, IVES VAN DER FLAAS.)*

Pkg copyrightbox copyrightbox is emulated for use by lwarp.

The entire copyright box is placed inside a <div> of class copyrightbox.

The contents are placed inside a <div> of class copyrightboxcontents.

The copyright notice is placed inside a <div> of class copyrightboxnote.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{copyrightbox}[2011/11/27]

```

2 \newcommand{\copyrightbox}[3][r]{%
3 \begin{BlockClass}[
4 display: inline-flex;
5 flex-direction: column ;
6]{\copyrightbox}
7 \begin{BlockClass}{copyrightboxcontents}
8 #2
9 \end{BlockClass}
10 \begin{BlockClass}{copyrightboxnote}
11 #3
12 \end{BlockClass}
13 \end{BlockClass}
14 }

```

```

15
16 \newcommand{\CRB@setcopyrightfont}{}
17 \newcommand{\CRB@setcopyrightparagraphstyle}{}

```

---

File 97 **lwarp-crop.sty**

§ 203 Package **crop**

(Emulates or patches code by MELCHIOR FRANZ.)

Pkg crop **crop** is ignored.

**for HTML output:** Discard all options for lwarp-crop:

```

1 \LWR@ProvidesPackageDrop{crop}[2003/05/20]

2 \newcommand*{\crop}[1]{}
3 \newcommand*{\cropdef}[6]{}

```


---

File 98 **lwarp-ctable.sty**

§ 204 Package **ctable**

(Emulates or patches code by WYBO DEKKER.)

Pkg ctable **ctable** is patched for use by lwarp.

 **Misplaced alignment tab character &** Use `\StartDefiningTabulars` before one or more `\ctables`, and `\StopDefiningTabulars` after. These change the meaning of the ampersand & character.

**for HTML output:** 1 \LWR@ProvidesPackagePass{ctable}[2015/10/17]

The following is in the original:

```

2 \newcommand{\LWR@HTML@ctable}[4]{}
3 \let\@CTtaborfig \@dfLTtaborfig
4 \let\@CTalign \@dfLTalign
5 \let\@CTsideways \@dfLTsideways
6 \let\@CTcontinued \empty
7 \let\@CTpos \@dfLTpos
8 \let\@CTcaption \empty
9 \let\@CTcap \undefined
10 \let\@CTlabel \empty
11 \let\@CTbotcap \@dfLTbotcap
12 \let\@CTstarred \@dfLTstarred
13 \let\@CTsuper \@dfLTsuper
14 \let\@CTnotespar \@dfLTnotespar
15 \let\@CTdoinside \@dfLTdoinside
16 \let\@CTbgopacity \@dfLTbgopacity
17 \@CTframerule \@dfLTframerule

```

```

18 \@CTcaptionskip \@dfltCTcaptionskip
19 \@CTframesep \@dfltCTframesep
20 \@CTwidth \@dfltCTwidth
21 \@CTmaxwidth \@dfltCTmaxwidth
22 \@CTmincapwidth \@dfltCTmincapwidth
23 \@CTfooterwidth \@dfltCTfooterwidth
24 \def\@CTfgactual {\dfltCTframefg}%
25 \def\@CTbgactual {\dfltCTframebg}%
26 \def\@CTbeg {\begin{\@CTsideways\@CTtaborfig\@CTstarred}}%
27 \def\@CTbegin {\@CTbeg}%
28 \def\@CTend {\end{\@CTsideways\@CTtaborfig\@CTstarred}}%
29 \setkeys{CT}{#1}%
30 \ifx\@CTcap\undefined\let\@CTcap\@CTcaption\fi
31 \ifx\@CTcap\empty
32 \if@CTcaptionloaded\else
33 \PackageWarningNoLine{lwarp-ctable}{\MessageBreak
34 An empty cap= option prevents lot/loc entry only\MessageBreak
35 if the caption package is loaded!}
36 \fi
37 \fi
38 \if@CTinmemoir\else
39 \ifx\@CTbotcap\undefined
40 \PackageError{lwarp-ctable}{\MessageBreak
41 You can, currently, use the sidecap option only with\MessageBreak
42 memoir documents. Use topcap or botcap only}
43 {}
44 \fi
45 \fi
46 \ifdim\@CTwidth=0pt\else
47 \ifdim\@CTmaxwidth=0pt\else
48 \PackageError{lwarp-ctable}{\MessageBreak
49 You may not use the width and maxwidth options together\MessageBreak
50 Use either width or maxwidth}
51 {}
52 \fi
53 \fi
54 \ifx\@CTpos\empty
55 \ifx\@CTsideways\empty\else
56 \PackageError{lwarp-ctable}{\MessageBreak
57 You may not use the pos and sideways options together\MessageBreak
58 Rotated tables and figures are always typeset on a separate page}
59 {}
60 \fi
61 \fi
62 \ifx\@CTcaption\empty
63 \ifx\@CTlabel\empty\else
64 \PackageError{lwarp-ctable}{\MessageBreak
65 You may not label a captionless table\MessageBreak
66 Such a label can't be referenced}
67 {}
68 \fi
69 \fi

```

Some of the original, regarding computing the width of `\CT@t`, is removed here.

```

70 \@CTbegin
71 \ifx\@CTcontinued\empty\else\addtocounter{\@CTaborfig}{-1}\fi
72 \@CTalign

```

lwarp's patches begin here:

```

73 \begin{center}
74 \setlength{\fboxrule}{\@CTframerule}
75 \setlength{\fboxsep}{\@CTframesep}
76 \LWR@forceminwidth{\fboxrule}% lwarp
77 \convertcolorspec{named}{\@CTbgactual}{HTML}\LWR@tempcolor% lwarp
78 \begin{BlockClass}[% lwarp
79 border:
80 \LWR@printlength{\LWR@atleastonept}
81 solid
82 \LWR@colorstyle{named}{\@CTfgactual} ; %
83 padding:\LWR@printlength{\fboxsep} ; %
84 \ifdefstring{\LWR@tempcolor}{FFFFFF}{}{%
85 background: \LWR@colorstyle{named}{\@CTbgactual} ; %
86 }%
87]{fminipage}% lwarp
88 \ifx\@CTbotcap\@CTfalse\@CTCaption\vskip\@CTcaptionskip\fi
89 \ifx\@CTbotcap\undefined%
90 \begin{sidecaption}[\@CTcap]{\@CTcaption}[\@CTlabel]
91 \fi
92 \@CTdoinside
93 \begin{tabularx}{\linewidth}{#2}% lwarp
94 #4%
95 \end{tabularx}% lwarp
96 \def\@CTfootnotes{#3}%
97 \ifx#3\empty\else{% append footnotes, if any
98 \begin{BlockClass}{tnotes}% lwarp
99 #3
100 \end{BlockClass}% lwarp
101 }
102 \fi
103 \ifx\@CTbotcap\undefined\end{sidecaption}\fi
104 \ifx\@CTbotcap\@CTtrue\vskip\@CTcaptionskip\@CTCaption\fi
105 \end{BlockClass}
106 \end{center}
107 \@CTend
108 }
109 \LWR@formatted{ctable}

```

Required to properly detect the toprule:

```
110 \LetLtxMacro\FL\toprule
```

Table notes are redefined for HTML:

```

111 \newcommand{\LWR@HTML@tmark}[1][a]{%
112 \textsuperscript{\textrm{\textit{#1}}}}
113 }
114 \LWR@formatted{tmark}
115

```

---

```

116 \newcommand{\LWR@HTML@tnote}[2][a]{%
117 \tmark[#1]\,#2\par
118 }
119 \LWR@formatted{tnote}

```

---

File 99 **lwarp-cuted.sty**

§ 205 Package **cuted**

*(Emulates or patches code by SIGITAS TOLUŠIS.)*

Pkg cuted **cuted** is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{cuted}[2012/10/04]

2 \newenvironment{strip}{}{}
3 \newskip\stripsep
4 \def\oldcolsbreak#1{}

```

---

File 100 **lwarp-cutwin.sty**

§ 206 Package **cutwin**

*(Emulates or patches code by PETER WILSON AND ALAN HOENIG.)*

Pkg cutwin **cutwin** is emulated.

**for HTML output:** Discard all options for lwarp-cutwin:

```

1 \LWR@ProvidesPackageDrop{cutwin}[2010/09/29]

2 \newcommand*\opencutleft{}
3 \newcommand*\opencutright{}
4 \newcommand*\opencutcenter{}
5 \newcommand*\cutfuzz{}
6
7 \newenvironment{cutout}[4]
8 {\marginpar{\windowpagestuff}}
9 {}
10
11 \newcommand*\windowpagestuff{}
12
13 \newcommand*\pageinwindow{%
14 % \begin{minipage}{.3\linewidth}
15 \windowpagestuff
16 % \end{minipage}
17 }
18
19 \newenvironment{shapedcutout}[3]
20 {\marginpar{\picinwindow}}

```

```

21 {}
22
23 \newcommand*{\putstuffinpic}{}
24
25 \newcommand*{\picinwindow}{%
26 \begin{picture}(0,0)
27 \putstuffinpic
28 \end{picture}}

```

---

File 101 **lwarp-dblfloatfix.sty**

§ 207 Package **dblfloatfix**

Pkg dblfloatfix **dblfloatfix** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{dblfloatfix}[2012/12/31]

---

File 102 **lwarp-dblfnote.sty**

§ 208 Package **dblfnote**

*(Emulates or patches code by HIROSHI NAKASHIMA.)*

Pkg dblfnote **dblfnote** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{dblfnote}[1999/07/14]

```

2 \newcounter{DFNsloppiness}
3 \newdimen\DFNcolumnsep
4 \newdimen\DFNcolumnwidth
5 \def\DFNallowcbreak{}
6 \def\DFNinhibitcbreak{}
7 \def\DFNtrysingle{}
8 \def\DFNalwaysdouble{}
9 \def\DFNruleboth{}
10 \def\DFNruleleft{}

```

---

File 103 **lwarp-dcolumn.sty**

§ 209 Package **dcolumn**

Pkg dcolumn **dcolumn** is emulated by the lwarp core.

1 \LWR@ProvidesPackageDrop{dcolumn}[2014/10/28]



---

File 104 **lwarp-decimal.sty**

§ 210 Package **decimal**

*(Emulates or patches code by A. SYROPOULOS AND R. W. D. NICKALLS.)*

Pkg decimal decimal works as-is for SVG math, and is emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{decimal}[2011/06/03]

```
2 \begin{warpMathJax}
3 \CustomizeMathJax{\def\.\{\mbox{.}\}}
4 \end{warpMathJax}
```

---

File 105 **lwarp-diagbox.sty**

§ 211 Package **diagbox**

*(Emulates or patches code by LEO LIU.)*

Pkg diagbox diagbox is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{diagbox}[2016/12/28]

To restore print-mode inside a lateximage:

```
2 \LetLtxMacro\LWR@origdiagbox@double\diagbox@double
3 \LetLtxMacro\LWR@origdiagbox@triple\diagbox@triple
4
5 \appto\LWR@restoreorigformatting{%
6 \LetLtxMacro\diagbox@double\LWR@origdiagbox@double%
7 \LetLtxMacro\diagbox@triple\LWR@origdiagbox@triple%
8 }
```

\LWR@diagbox@AB  $\{\langle E/W \rangle\} \{\langle A \rangle\} \{\langle E/W \rangle\} \{\langle B \rangle\}$

```
9 \newcommand{\LWR@diagbox@AB}[4]{
10 \begingroup%
11 \LetLtxMacro\\\newline%
12 \BlockClassSingle{diagbox#1}{#2}%
13 \BlockClassSingle{diagbox#3}{#4}%
14 \endgroup%
15 \LWR@stoppars%
16 }
```

\LWR@diagboxNW  $\{\langle A \rangle\} \{\langle B \rangle\}$

```

17 \newcommand{\LWR@diagboxNW}[2]{%
18 \LWR@diagbox@AB{E}{#2}{W}{#1}%
19 }

```

Likewise for NE, SW, SE:

```

20 \newcommand{\LWR@diagboxNE}[2]{%
21 \LWR@diagbox@AB{W}{#1}{E}{#2}%
22 }
23
24 \let\LWR@diagboxSW\LWR@diagboxNE
25 \let\LWR@diagboxSE\LWR@diagboxNW

```

`\diagbox@double`     $\langle keys \rangle \langle A \rangle \langle B \rangle$

```

26 \def\diagbox@double#1#2#3{%
27 \setkeys{diagbox}{dir=NW,#1}%
28 \@nameuse{LWR@diagbox\diagbox@dir}{#2}{#3}%
29 }

```

`\LWR@diagboxTNW`     $\langle title \rangle \langle A \rangle \langle B \rangle$

```

30 \newcommand{\LWR@diagboxTNW}[3]{%
31 \BlockClassSingle{diagboxtitleN}{#1}
32 \LWR@diagboxNW{#2}{#3}
33 }

```

Likewise for NE, SW, SE:

```

34 \newcommand{\LWR@diagboxTNE}[3]{%
35 \BlockClassSingle{diagboxtitleN}{#1}
36 \LWR@diagboxNE{#2}{#3}
37 }
38
39 \newcommand{\LWR@diagboxTSW}[3]{%
40 \LWR@diagboxSW{#2}{#3}
41 \BlockClassSingle{diagboxtitleS}{#1}
42 \LWR@stoppars%
43 }
44
45 \newcommand{\LWR@diagboxTSE}[3]{%
46 \LWR@diagboxSE{#2}{#3}
47 \BlockClassSingle{diagboxtitleS}{#1}
48 \LWR@stoppars%
49 }

```

`\diagbox@triple`     $\langle keys \rangle \langle A \rangle \langle T \rangle \langle B \rangle$

```

50 \def\diagbox@triple#1#2#3#4{%
51 \setkeys{diagbox}{dir=NW,#1}%
52 \@nameuse{LWR@diagboxT\diagbox@dir}{#3}{#2}{#4}%
53 }

```

File 106 **lwarp-dingbat.sty**

§ 212 Package **dingbat**

(Emulates or patches code by SCOTT PAKIN.)

Pkg dingbat **dingbat** is patched for use by **lwarp**.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{dingbat}[2001/04/27]

2 \newcommand*{\LWR@dingbatsymbol}[1]{\HTMLUnicode{#1}}
3
4 \newcommand{\LWR@HTML@rightpointright}{\LWR@dingbatsymbol{261E}}
5 \newcommand{\LWR@HTML@leftpointright}{\LWR@dingbatsymbol{261E}}
6 \newcommand{\LWR@HTML@leftthumbsdown}{\LWR@dingbatsymbol{1F44E}}
7 \newcommand{\LWR@HTML@leftthumbsup}{\LWR@dingbatsymbol{1F44D}}
8 \newcommand{\LWR@HTML@rightpointleft}{\LWR@dingbatsymbol{261C}}
9 \newcommand{\LWR@HTML@rightthumbsdown}{\LWR@dingbatsymbol{1F44E}}
10 \newcommand{\LWR@HTML@rightthumbsup}{\LWR@dingbatsymbol{1F44D}}
11 \newcommand{\LWR@HTML@squarewithdots}{\LWR@dingbatsymbol{25C7}}
12 \newcommand{\LWR@HTML@filledsquarewithdots}{\LWR@dingbatsymbol{25C6}}
13 \newcommand{\LWR@HTML@Sborder}{\LWR@dingbatsymbol{271A}}
14 \newcommand{\LWR@HTML@Zborder}{\LWR@dingbatsymbol{274B}}
15 \newcommand{\LWR@HTML@largepencil}{\LWR@dingbatsymbol{270E}}
16 \newcommand{\LWR@HTML@anchor}{\LWR@dingbatsymbol{2693}}
17 \newcommand{\LWR@HTML@carriagereturn}{\LWR@dingbatsymbol{23CE}}
18 \newcommand{\LWR@HTML@checkmark}{\LWR@dingbatsymbol{2713}}
19 \newcommand{\LWR@HTML@eye}{\LWR@dingbatsymbol{1F441}}
20 \newcommand{\LWR@HTML@satellitedish}{\LWR@dingbatsymbol{1F4E1}}
21 \newcommand{\LWR@HTML@smallpencil}{\LWR@dingbatsymbol{270E}}
22
23 \LWR@formatted{rightpointright}
24 \LWR@formatted{leftpointright}
25 \LWR@formatted{leftthumbsdown}
26 \LWR@formatted{leftthumbsup}
27 \LWR@formatted{rightpointleft}
28 \LWR@formatted{rightthumbsdown}
29 \LWR@formatted{rightthumbsup}
30 \LWR@formatted{squarewithdots}
31 \LWR@formatted{filledsquarewithdots}
32 \LWR@formatted{Sborder}
33 \LWR@formatted{Zborder}
34 \LWR@formatted{largepencil}
35 \LWR@formatted{anchor}
36 \LWR@formatted{carriagereturn}
37 \LWR@formatted{checkmark}
38 \LWR@formatted{eye}
39 \LWR@formatted{satellitedish}
40 \LWR@formatted{smallpencil}

```

File 107 **lwarp-DotArrow.sty**

§ 213 Package **DotArrow**

*(Emulates or patches code by SVEN SCHNEIDER.)*

Pkg DotArrow DotArrow is patched for use by lwarp, and emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{DotArrow}[2007/02/12]

The width must be recomputed each time, depending on print or HTML output.


```
2 \xpretocmd{\dotarrow}{\settowidth{\oneWidth}{\onePartX}}{}{}
3
4 \begin{warpMathJax}
5 \CustomizeMathJax{\newcommand{\dotarrow}[1]{\stackrel{#1}{\unicode{x21E2}}}}
6 \end{warpMathJax}
```


File 108 **lwarp-dotlessi.sty**

§ 214 Package **dotlessi**

*(Emulates or patches code by JAVIER BEZOS.)*

Pkg dotlessi dotlessi is used as-is for SVG math, and is emulated for MATHJAX.

 **HTML \dotlessj** Use \usepackage{cmap} if \dotlessj does not appear in HTML in text mode. See section 7.4.

 **not bold** For MATHJAX, use \boldsymbol instead of \mathbf.

**for HTML output:** 1 \LWR@ProvidesPackagePass{dotlessi}[1999/10/12]

For MATHJAX:

```
2 \begin{warpMathJax}
3 \CustomizeMathJax{\let\dotlessi\imath}
4 \CustomizeMathJax{\let\dotlessj\jmath}
5 \end{warpMathJax}
```

File 109 **lwarp-dprogress.sty**

§ 215 Package **dprogress**

Pkg dprogress dprogress is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{dprogress}[2008/02/21]

---

File 110 **lwarp-draftcopy.sty**

§ 216 Package **draftcopy**

Pkg draftcopy **draftcopy** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{draftcopy}[2002/02/25]

```

2 \newcommand{\draftcopyVersion}[1]{}
3 \newcommand{\draftcopySetGrey}[1]{}
4 \newcommand{\draftcopySetScale}[1]{}
5 \newcommand{\draftcopySetScaleFactor}[1]{}
6 \newcommand{\draftcopyFirstPage}[1]{}
7 \newcommand{\draftcopyLastPage}[1]{}
8 \newcommand{\draftcopyName}[2]{}
9 \newcommand{\draftcopyPageTransform}[1]{}
10 \newcommand{\draftcopyBottomTransform}[1]{}
11 \newcommand{\draftcopyPageX}[1]{}
12 \newcommand{\draftcopyPageY}[1]{}
13 \newcommand{\draftcopyBottomX}[1]{}
14 \newcommand{\draftcopyBottomY}[1]{}

```

---

File 111 **lwarp-draftfigure.sty**

§ 217 Package **draftfigure**

Pkg draftfigure **draftfigure** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{draftfigure}[2017/07/19]  
2 \RequirePackage{xkeyval}

```

3 \define@key{draftfigure}{code}{}
4 \define@key{draftfigure}{noframe}[true]{}
5 \define@key{draftfigure}{filename}[true]{}
6 \define@key{draftfigure}{content}[]{}
7 \define@key{draftfigure}{style}[normal]{}
8 \define@key{draftfigure}{position}[left]{}
9 \define@key{draftfigure}{size}[normal]{}
10 \newcommand\setdf[1]{\setkeys{draftfigure}{#1}}

```

---

File 112 **lwarp-draftwatermark.sty**

§ 218 Package **draftwatermark**

*(Emulates or patches code by SERGIO CALLEGARI.)*

Pkg draftwatermark **draftwatermark** is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{draftwatermark}[2020/03/14]

2 \newcommand{\DraftwatermarkOptions}[1]{}
3 \newcommand{\DraftwatermarkStdMark}{}
4 \newcommand{\SetWatermarkAngle}[1]{}
5 \newcommand{\SetWatermarkColor}[1]{}
6 \newcommand{\SetWatermarkLightness}[1]{}
7 \newcommand{\SetWatermarkFontSize}[1]{}
8 \newcommand{\SetWatermarkScale}[1]{}
9 \newcommand{\SetWatermarkHorCenter}[1]{}
10 \newcommand{\SetWatermarkVertCenter}[1]{}
11 \newcommand{\SetWatermarkText}[1]{}

```

File 113 **lwarp-drftcite.sty**

§ 219 Package **drftcite**

*(Emulates or patches code by DONALD ARSENEAU.)*

Pkg drftcite **drftcite** is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{drftcite}[1995/01/23]

2 \def\lbbibitem[#1]#2{\global\@HighCite\ze
3 \item[
4 \textsuperscript{\@nameuse{DCN@#2\@extra@b@citeb}}~% lwarp
5 \@biblabel{\@ifundefined{DCN@#2\@extra@b@citeb}{\@warning
6 {Reference ‘#2’ on page \thepage\space was never cited}}{}}%
7 % \DC@llap{$^\@nameuse{DCN@#2\@extra@b@citeb}}$\ \ }%o
8 \@citeverb{#2}}\hfil]\if@filesw{\def\protect##1{\string ##1\space}%
9 \immediate\write\@auxout{\string\bibcite{#2}{#1}}}\fi\ignorespaces}

```

File 114 **lwarp-easy-todo.sty**

§ 220 Package **easy-todo**

*(Emulates or patches code by JUAN RADA-VILELA.)*

Pkg easy-todo **easy-todo** is patched for use by lwarp.

To remove the “P” heading for HTML:

```
\warpHTMLonly{\renewcommand{\todoindexpagetitle}{}}
```

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{easy-todo}[2014/01/01]
```

```

\listoftodos Modified to correct buggy use of \flushright.
2 \let\LWR@easytodo@origlistoftodos\listoftodos
3
4 \renewcommand{\listoftodos}{%
5 \begingroup
6 \renewcommand{\flushright}{%
7 \LWR@easytodo@origlistoftodos
8 \endgroup
9 }

\todoii Modified to use \textcolor instead of \color.
10 \renewcommand{\todoii}[2]{%
11 \ifthenelse{\equal{\@todoobeyfinal}{true}}{%
12 {%
13 \ifoptionfinal{\todoenable{false}}{\todoenable{true}}%
14 }%
15 }%
16 \ifthenelse{\equal{\@todoenable}{true}}{%
17 {%
18 \refstepcounter{todos}%
19 \noindent{%
20 \todocolor%
21 \LWR@textcurrentcolor{%
22 \normalfont\scriptsize{\bfseries{\thetodos.#1}}%
23 }%
24 }%
25 \addcontentsline{lod}{todos}{\protect{\thetodos. }LWR@isolate{#2}}%
26 }%
27 }%
28 }

```

---

File 115 **lwarp-ebook.sty**

§ 221 Package **ebook**

*(Emulates or patches code by JØRGEN STEENSGAARD.)*

Pkg ebook **ebook** is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{ebook}

2 \setcounter{secnumdepth}{0}
3 \setcounter{tocdepth}{2}
4
5 \providecommand{\pagefilll}[1][0.001mm]{\noindent}
6
7 \providecommand{\ebook}{%
8 \setcounter{secnumdepth}{0}
9 \setcounter{tocdepth}{2}
10 }

```

File 116 **lwarp-econometrics.sty**

§ 222 Package **econometrics**

(Emulates or patches code by ERIK KOLE.)

Pkg econometrics econometrics is used as-is for SVG math, and is emulated for MATHJAX.

```

for HTML output: 1 \LWR@ProvidesPackagePass{econometrics}% no date specified in the original

2 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
3
4 \begin{warpMathJax}
5 \LWR@infoprocessingmathjax{econometrics}
6
7 \CustomizeMathJax{\newcommand{\SC}{\mathbb{C}}}
8 \CustomizeMathJax{\newcommand{\SN}{\mathbb{N}}}
9 \CustomizeMathJax{\newcommand{\SQ}{\mathbb{Q}}}
10 \CustomizeMathJax{\newcommand{\SR}{\mathbb{R}}}
11 \CustomizeMathJax{\newcommand{\SZ}{\mathbb{Z}}}
12
13 \CustomizeMathJax{\newcommand{\calA}{\mathcal{A}}}
14 \CustomizeMathJax{\newcommand{\calB}{\mathcal{B}}}
15 \CustomizeMathJax{\newcommand{\calC}{\mathcal{C}}}
16 \CustomizeMathJax{\newcommand{\calD}{\mathcal{D}}}
17 \CustomizeMathJax{\newcommand{\calE}{\mathcal{E}}}
18 \CustomizeMathJax{\newcommand{\calF}{\mathcal{F}}}
19 \CustomizeMathJax{\newcommand{\calG}{\mathcal{G}}}
20 \CustomizeMathJax{\newcommand{\calH}{\mathcal{H}}}
21 \CustomizeMathJax{\newcommand{\calI}{\mathcal{I}}}
22 \CustomizeMathJax{\newcommand{\calJ}{\mathcal{J}}}
23 \CustomizeMathJax{\newcommand{\calK}{\mathcal{K}}}
24 \CustomizeMathJax{\newcommand{\calL}{\mathcal{L}}}
25 \CustomizeMathJax{\newcommand{\calM}{\mathcal{M}}}
26 \CustomizeMathJax{\newcommand{\calN}{\mathcal{N}}}
27 \CustomizeMathJax{\newcommand{\calO}{\mathcal{O}}}
28 \CustomizeMathJax{\newcommand{\calP}{\mathcal{P}}}
29 \CustomizeMathJax{\newcommand{\calQ}{\mathcal{Q}}}
30 \CustomizeMathJax{\newcommand{\calR}{\mathcal{R}}}
31 \CustomizeMathJax{\newcommand{\calS}{\mathcal{S}}}
32 \CustomizeMathJax{\newcommand{\calT}{\mathcal{T}}}
33 \CustomizeMathJax{\newcommand{\calU}{\mathcal{U}}}
34 \CustomizeMathJax{\newcommand{\calV}{\mathcal{V}}}
35 \CustomizeMathJax{\newcommand{\calW}{\mathcal{W}}}
36 \CustomizeMathJax{\newcommand{\calX}{\mathcal{X}}}
37 \CustomizeMathJax{\newcommand{\calY}{\mathcal{Y}}}
38 \CustomizeMathJax{\newcommand{\calZ}{\mathcal{Z}}}
39
40 \LWR@mathjax@addlatin@u@bfit{m}% uppercase Latin, bold italic
41 \LWR@mathjax@addlatin@l@bfit{v}% lowercase Latin, bold italic
42

```



```

43 \LWR@mathjax@addgreek@l@bfit{v}{}% lowercase Greek bold italic
44 \LWR@mathjax@addgreek@u@bfit*{m}{}% uppercase Greek bold italic, capitalized macro names
45
46 \CustomizeMathJax{\newcommand{\rb}{\mathrm{b}}}
47 \CustomizeMathJax{\newcommand{\rB}{\mathrm{B}}}
48 \CustomizeMathJax{\newcommand{\rC}{\mathrm{C}}}
49 \CustomizeMathJax{\newcommand{\rD}{\mathrm{D}}}
50 \CustomizeMathJax{\newcommand{\rf}{\mathrm{f}}}
51 \CustomizeMathJax{\newcommand{\rF}{\mathrm{F}}}
52 \CustomizeMathJax{\newcommand{\rH}{\mathrm{H}}}
53 \CustomizeMathJax{\newcommand{\rL}{\mathrm{L}}}
54 \CustomizeMathJax{\newcommand{\rN}{\mathrm{N}}}
55 \CustomizeMathJax{\newcommand{\rt}{\mathrm{t}}}
56 \CustomizeMathJax{\newcommand{\rU}{\mathrm{U}}}
57 \CustomizeMathJax{\newcommand{\rGam}{\mathrm{Gam}}}
58 \CustomizeMathJax{\newcommand{\rBeta}{\mathrm{Beta}}}
59
60 \CustomizeMathJax{\newcommand{\Bin}{\mathrm{Bin}}}
61 \CustomizeMathJax{\newcommand{\eu}{\mathrm{e}}}
62 \CustomizeMathJax{\newcommand{\iu}{\mathrm{i}}}
63 \CustomizeMathJax{\newcommand{\LN}{\mathrm{LN}}}
64 \CustomizeMathJax{\newcommand{\IN}{\mathrm{IN}}}
65
66 \CustomizeMathJax{\newcommand{\Poi}{\mathrm{Poi}}}
67
68 \CustomizeMathJax{\newcommand{\ped}[1]{_\mathrm{#1}}}
69 \CustomizeMathJax{\newcommand{\ap}[1]{^\mathrm{#1}}}
70 \CustomizeMathJax{\renewcommand{\Re}{\mathrm{Re}}{\nolimits}}
71 \CustomizeMathJax{\renewcommand{\Im}{\mathrm{Im}}{\nolimits}}
72
73 \CustomizeMathJax{\newcommand{\deriv}[3][]{%
74 \frac{\mathrm{d}^{#1}\#2}{\mathrm{d}\, \#3^{#1}}%
75 }}
76 \CustomizeMathJax{\newcommand{\pderiv}[3][]{%
77 \frac{\partial^{#1}\#2}{\partial \ #3^{#1}}%
78 }}
79
80 \CustomizeMathJax{\newcommand{\bias}{\operatorname{bias}}}
81 \CustomizeMathJax{\newcommand{\col}{\operatorname{col}}}
82 \CustomizeMathJax{\newcommand{\corr}{\operatorname{corr}}}
83 \CustomizeMathJax{\newcommand{\cov}{\operatorname{cov}}}
84 \CustomizeMathJax{\newcommand{\dg}{\operatorname{dg}}}
85 \CustomizeMathJax{\newcommand{\diag}{\operatorname{diag}}}
86 \CustomizeMathJax{\newcommand{\E}{\operatorname{E}}}
87 \CustomizeMathJax{\newcommand{\etr}{\operatorname{etr}}}
88 \CustomizeMathJax{\newcommand{\ip}{\mathrm{int}}{\nolimits}}
89 \CustomizeMathJax{\newcommand{\kur}{\operatorname{kur}}}
90 \CustomizeMathJax{\newcommand{\MSE}{\operatorname{MSE}}}
91 \CustomizeMathJax{\newcommand{\MSFE}{\operatorname{MSFE}}}
92 \CustomizeMathJax{\newcommand{\OLS}{\operatorname{OLS}}}
93 \CustomizeMathJax{\newcommand{\plim}{\operatorname{plim}}}
94 \CustomizeMathJax{\newcommand{\resid}{\operatorname{resid}}}
95 \CustomizeMathJax{\newcommand{\rk}{\operatorname{rk}}}
96 \CustomizeMathJax{\newcommand{\SE}{\operatorname{SE}}}
97 \CustomizeMathJax{\newcommand{\sgn}{\operatorname{sgn}}}

```

```

98 \CustomizeMathJax{\newcommand{\tr}{\operatorname{tr}}}
99 \CustomizeMathJax{\newcommand{\var}{\operatorname{var}}}
100 \CustomizeMathJax{\renewcommand{\vec}{\operatorname{vec}}}
101 \CustomizeMathJax{\newcommand{\vech}{\operatorname{vech}}}
102
103 \CustomizeMathJax{\newcommand{\distr}{\sim}}
104 \CustomizeMathJax{\newcommand{\adistr}{\stackrel{a}{\distr}}}
105 \CustomizeMathJax{\newcommand{\diff}{\Delta}}
106 \CustomizeMathJax{\newcommand{\fdiff}{\diff_{\rf}}}
107 \CustomizeMathJax{\newcommand{\bdiff}{\diff_{\rb}}}
108
109 \CustomizeMathJax{\newcommand{\eps}{\epsilon}}
110 \CustomizeMathJax{\newcommand{\epsi}{\varepsilon}}
111
112 \CustomizeMathJax{\newcommand{\longto}{\longrightarrow}}
113 \CustomizeMathJax{\newcommand{\pto}{\stackrel{p}{\longrightarrow}}}
114 \CustomizeMathJax{\newcommand{\dto}{\stackrel{d}{\longrightarrow}}}
115 \CustomizeMathJax{\newcommand{\wto}{\stackrel{w}{\longrightarrow}}}
116
117 \CustomizeMathJax{\newcommand{\Infmat}{\bm{calI}}}
118 \CustomizeMathJax{\newcommand{\Hesmat}{\bm{calH}}}
119 \CustomizeMathJax{\newcommand{\bcdot}{\bullet}}
120
121 \CustomizeMathJax{\newcommand{\vones}{\bm{\imath}}}
122 \CustomizeMathJax{\newcommand{\vzeros}{\boldsymbol{0}}}
123 \CustomizeMathJax{\newcommand{\mZeros}{\mathbf{0}}}
124
125 \CustomizeMathJax{\newcommand{\e}{\eu}}
126 \CustomizeMathJax{\newcommand{\mply}{\cdot}}
127 \CustomizeMathJax{\newcommand{\rW}{\ensuremath{\mathrm{W}}}}
128 \end{warpMathJax}

```

---

File 117 **lwarp-ed.sty**

§ 223 Package **ed**

*(Emulates or patches code by MICHAEL KOHLHASE.)*

Pkg ed ed is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{ed}[2012/01/29]

Bugs:

1. `todoList` fails with the `hide` option, as does `\dexploration`.
2. `\edstubURI` is actually `\edstuURI`.

```

2 \RequirePackage{xcolor}
3
4 \renewenvironment{edstub}[2][The following blue text]
5 {%

```

```

6 \def\@test{#1}%
7 \begin{center}%
8 \huge%
9 \textcolor{red}{%
10 #1 is only a provisional stub\\Large
11 the Office document
12 \ifx\ed@stubURI\@empty{#2}\else\LWR@href{\ed@stubURI}{#2}\fi\
13 contains more text\\which will be merged for the final document%
14 }%
15 \end{center}%
16 \BlockClass[color:blue]{edstub}%
17 }
18 {\endBlockClass}

```

---

File 118 **lwarp-ellipsis.sty**

§ 224 Package **ellipsis**

(Emulates or patches code by PETER J. HESLIN.)

Pkg ellipsis ellipsis is emulated.

```

1 \LWR@ProvidesPackageDrop{ellipsis}[2004/09/28]
2
3 \newcommand{\ellipsisgap}{0.1em}
4
5 \newcommand*{\midwordellipsis}{\,\textellipsis\,}

```

---

File 119 **lwarp-embrac.sty**

§ 225 Package **embrac**

(Emulates or patches code by CLEMENS NIEDERBERGER.)

Pkg embrac embrac is patched for HTML and used as-is for print.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{embrac}[2017/07/04]
2
3 \ExplSyntaxOn
4 \RenewDocumentCommand{\embrac_kern:n}{m}{ }
5 \ExplSyntaxOff
6
7 \LetLtxMacro\LWR@orig@HTML@emph\LWR@HTML@emph
8 \RenewDocumentCommand{\LWR@HTML@emph}{s m}{\LWR@orig@HTML@emph{#2}}
9
10 \LetLtxMacro\LWR@orig@HTML@textit\LWR@HTML@textit
11 \RenewDocumentCommand{\LWR@HTML@textit}{s m}{\LWR@orig@HTML@textit{#2}}
12
13 \LetLtxMacro\LWR@orig@HTML@textsl\LWR@HTML@textsl

```

```

12 \RenewDocumentCommand{\LWR@HTML@textsl}{s m}{\LWR@orig@HTML@textsl{#2}}
13
14 \ifxetexorluatex
15 \LetLtxMacro\LWR@orig@HTML@textsi\LWR@HTML@textsi
16 \RenewDocumentCommand{\LWR@HTML@textsi}{s m}{%
17 \LWR@orig@HTML@textsi{#2}}
18 \fi
19
20 \AtBeginDocument{
21 \LWR@formatted{emph}
22 \LWR@formatted{textit}
23 \LWR@formatted{textsl}
24 \ifxetexorluatex
25 \LWR@formatted{textsi}
26 \fi
27 }
28
29 \newcommand{\LWR@HTML@EmbracOff}{}
30 \LWR@formatted{EmbracOff}
31
32 \newcommand{\LWR@HTML@EmbracOn}{}
33 \LWR@formatted{EmbracOn}

```

---

File 120 **lwarp-emptypage.sty**

§ 226 Package **emptypage**

Pkg emptypage emptypage is ignored.

**for HTML output:** Discard all options for lwarp-emptypage:

```
1 \LWR@ProvidesPackageDrop{emptypage}[2010/05/30]
```

---

File 121 **lwarp-endfloat.sty**

§ 227 Package **endfloat**

Pkg endfloat endfloat is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{endfloat}[2019/04/15]

```

2 \newcommand\figureplace{}
3 \newcommand\tableplace{}
4 \newcommand\floatplace[1]{}
5 \newcounter{posttable}
6 \newcounter{postfigure}
7 \newcommand*\theposttbl{}
8 \newcommand*\thepostfig{}
9 \newcommand{\AtBeginFigures}[1]{}
10 \newcommand{\AtBeginTables}[1]{}

```

```

11 \newcommand{\AtBeginDelayedFloats}[1]{}
12 \newcommand*\processdelayedfloats{}
13 \newcommand*\efloatseparator{}
14 \def\efloattype{}
15 \providecommand\efloatheading[1]{}
16 \providecommand\efloatpreamble{}
17 \providecommand\efloatpostamble{}
18 \NewDocumentCommand{\addtodelayedfloat}{s m m}{}
19 \providecommand{\efloatbegin}{}
20 \providecommand{\efloatend}{}
21 \providecommand{\efloatbeginlist}{}
22 \providecommand{\efloatendlist}{}

```

---

File 122 **lwarp-endheads.sty**

§ 228 Package **endheads**

Pkg endheads endheads is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{endheads}[2017/04/06]

2 \newcommand{\changesinglepageabbrev}[1]{}
3 \newcommand{\changemultiplepageabbrev}[1]{}
4 \newcommand{\changenotesname}[1]{}
5 \newcommand{\changenotesheader}[1]{}
6 \newcommand{\changenotescontentsname}[1]{}
7 \newcommand{\changechapternotesline}[1]{}
8 \newcommand{\checknoteheaders}{}
9 \newif\ifnotesincontentson \notesincontentsonfalse
10 \newcommand{\notesincontents}{\notesincontentsontrue}
11 \newif\ifendnoteheaderson \endnoteheadersonfalse
12 \newcommand{\setupendnoteheaders}{%
13 \endnoteheadersontrue%
14 }
15 \newif\iftitleinnotes \titleinnotestrue
16 \newcommand{\styleforchapternotebegin}{}
17 \newcommand{\styleforchapternoteend}{}
18 \newcommand{\setstyleforchapternotebegin}[1]{%
19 \renewcommand{\styleforchapternotebegin}{#1}%
20 }
21 \newcommand{\setstyleforchapternoteend}[1]{%
22 \renewcommand{\styleforchapternoteend}{#1}%
23 }
24 \newcommand{\resetendnotes}{}
25 \newif\ifnotesbychapteron \notesbychapteronfalse
26 \newcommand{\notesbychapter}{\notesbychapterontrue}

```

File 123 **lwarp-endnotes.sty**

§ 229 Package **endnotes**

(Emulates or patches code by JOHN LAVAGNINO.)

Pkg endnotes Patched for HTML.

[table of contents](#) To place the endnotes in the TOC, use:

```
\usepackage{endnotes}
\appto\noteheading{\addcontentsline{toc}{section}{\notesname}}
\renewcommand*{\notesname}{Endnotes} % optional
```

[HTML page](#) To additionally have the endnotes on their own HTML page, if FileDepth allows:

```
\ForceHTMLPage
\theendnotes
```

 [\endnotemark numbering](#) If using MATHJAX, see section 8.5.4 regarding the use of \endnotemark and \endnotetext.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{endnotes}

2 \def\noteformat{%
3 % \rightskip\z@ \leftskip\z@ \parindent=1.8em
4 \leavevmode
5 % \llap{
6 \makeenmark
7 % }
8 }

9 \def\LWR@HTML@makeenmark{\hbox{\LWR@htmlspan{sup}{\normalfont\theenmark}}}
10 \LWR@formatted{@makeenmark}
11
12 \def\makeenmark{\@makeenmark}
```

For MATHJAX:


```
13 \begin{warpMathJax}
14 \def\endnotename{endnote}
15 \appto\LWR@syncnotenumbers{\LWR@synconenotenummer{\LWRendnote}{\theendnote}}
16 \appto\LWR@syncnotenames{\LWR@synconenotename{\LWRendnote}{\endnotename}}
17 \CustomizeMathJax{\def\LWRendnote{1}}
18 \CustomizeMathJax{\newcommand{\endnote}[2][\LWRendnote]{{}^{\mathrm{#1}}}}
19 \CustomizeMathJax{\newcommand{\endnotemark}[1][\LWRendnote]{{}^{\mathrm{#1}}}}
20 \end{warpMathJax}
```

File 124 **lwarp-engtcl.sty**

§ 230 Package **engtcl**

(Emulates or patches code by CLAUDIO FIANDRINO.)

Pkg engtcl engtcl is patched for use by lwarp. MATHJAX is emulated.

 For MATHJAX, \sight, \signf, \signn, and \signz do not force letter case as they do in svg math.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{engtcl}[2012/12/18]
2 \newcommand{\LWR@HTML@fines}{%
3 \begin{BlockClass}[text-align:right]{exerend}%
4 \HTMLUnicode{220E}%
5 \end{BlockClass}%
6 }
7 \LWR@formatted{fines}
8
9 \newcommand{\LWR@HTML@exerend}{\fines}
10 \LWR@formatted{exerend}
11
12 \begin{warpMathJax}
13 \LWR@infoprocessingmathjax{engtcl}
14
15 \CustomizeMathJax{\newcommand{\unit}[1]{\,\mathrm{#1}}}
16 \CustomizeMathJax{\newcommand{\micro}{\mathrm{\unicode{x00B5}}}}
17 %
18 \CustomizeMathJax{\newcommand{\ho}{\unit{h}}}
19 \CustomizeMathJax{\newcommand{\s}{\unit{s}}}
20 \CustomizeMathJax{\newcommand{\ms}{\unit{ms}}}
21 \CustomizeMathJax{\newcommand{\us}{\unit{\micro s}}}
22 \CustomizeMathJax{\newcommand{\ns}{\unit{ns}}}
23 \CustomizeMathJax{\newcommand{\ps}{\unit{ps}}}
24 %
25 \CustomizeMathJax{\newcommand{\um}{\unit{\micro m}}}
26 \CustomizeMathJax{\newcommand{\mm}{\unit{mm}}}
27 \CustomizeMathJax{\newcommand{\cm}{\unit{cm}}}
28 \CustomizeMathJax{\newcommand{\dm}{\unit{dm}}}
29 \CustomizeMathJax{\newcommand{\m}{\unit{m}}}
30 \CustomizeMathJax{\newcommand{\km}{\unit{km}}}
31 %
32 \CustomizeMathJax{\newcommand{\MA}{\unit{MA}}}
33 \CustomizeMathJax{\newcommand{\kA}{\unit{kA}}}
34 \CustomizeMathJax{\newcommand{\A}{\unit{A}}}
35 \CustomizeMathJax{\newcommand{\mA}{\unit{mA}}}
36 \CustomizeMathJax{\newcommand{\uA}{\unit{\micro A}}}
37 \CustomizeMathJax{\newcommand{\nA}{\unit{nA}}}
38 %
39 \CustomizeMathJax{\newcommand{\MV}{\unit{MV}}}
```

```
40 \CustomizeMathJax{\newcommand{\kV}{\unit{kV}}}
41 \CustomizeMathJax{\newcommand{\V}{\unit{V}}}
42 \CustomizeMathJax{\newcommand{\mV}{\unit{mV}}}
43 \CustomizeMathJax{\newcommand{\uV}{\unit{\micro V}}}
44 %
45 \CustomizeMathJax{\newcommand{\mohm}{\unit{m\Omega}}}
46 \CustomizeMathJax{\newcommand{\ohm}{\unit{\Omega}}}
47 \CustomizeMathJax{\newcommand{\kohm}{\unit{k\Omega}}}
48 \CustomizeMathJax{\newcommand{\Mohm}{\unit{M\Omega}}}
49 %
50 \CustomizeMathJax{\newcommand{\pSi}{\unit{pS}}}
51 \CustomizeMathJax{\newcommand{\nSi}{\unit{nS}}}
52 \CustomizeMathJax{\newcommand{\uSi}{\unit{\micro S}}}
53 \CustomizeMathJax{\newcommand{\mSi}{\unit{mS}}}
54 \CustomizeMathJax{\newcommand{\Si}{\unit{S}}}
55 \CustomizeMathJax{\newcommand{\kSi}{\unit{kS}}}
56 \CustomizeMathJax{\newcommand{\MSi}{\unit{MS}}}
57 %
58 \CustomizeMathJax{\newcommand{\fFa}{\unit{fF}}}
59 \CustomizeMathJax{\newcommand{\pFa}{\unit{pF}}}
60 \CustomizeMathJax{\newcommand{\nFa}{\unit{nF}}}
61 \CustomizeMathJax{\newcommand{\uFa}{\unit{\micro F}}}
62 \CustomizeMathJax{\newcommand{\mFa}{\unit{mF}}}
63 \CustomizeMathJax{\newcommand{\Fa}{\unit{F}}}
64 %
65 \CustomizeMathJax{\newcommand{\fHe}{\unit{fH}}}
66 \CustomizeMathJax{\newcommand{\pHe}{\unit{pH}}}
67 \CustomizeMathJax{\newcommand{\nHe}{\unit{nH}}}
68 \CustomizeMathJax{\newcommand{\uHe}{\unit{\micro H}}}
69 \CustomizeMathJax{\newcommand{\mHe}{\unit{mH}}}
70 \CustomizeMathJax{\newcommand{\He}{\unit{H}}}
71 %
72 \CustomizeMathJax{\newcommand{\dB}{\unit{dB}}}
73 \CustomizeMathJax{\newcommand{\dBm}{\unit{dBm}}}
74 %
75 \CustomizeMathJax{\newcommand{\uW}{\unit{\micro W}}}
76 \CustomizeMathJax{\newcommand{\mW}{\unit{mW}}}
77 \CustomizeMathJax{\newcommand{\W}{\unit{W}}}
78 \CustomizeMathJax{\newcommand{\kW}{\unit{kW}}}
79 \CustomizeMathJax{\newcommand{\MW}{\unit{MW}}}
80 %
81 \CustomizeMathJax{\newcommand{\Hz}{\unit{Hz}}}
82 \CustomizeMathJax{\newcommand{\kHz}{\unit{kHz}}}
83 \CustomizeMathJax{\newcommand{\MHz}{\unit{MHz}}}
84 \CustomizeMathJax{\newcommand{\GHz}{\unit{GHz}}}
85 \CustomizeMathJax{\newcommand{\THz}{\unit{THz}}}
86 %
87 \CustomizeMathJax{\newcommand{\bit}{\unit{bit}}}
88 \CustomizeMathJax{\newcommand{\kbit}{\unit{Kib}}}
89 \CustomizeMathJax{\newcommand{\Mbit}{\unit{Mib}}}
90 \CustomizeMathJax{\newcommand{\Byte}{\unit{B}}}
91 \CustomizeMathJax{\newcommand{\kByte}{\unit{KiB}}}
92 \CustomizeMathJax{\newcommand{\MByte}{\unit{Mib}}}
93 \CustomizeMathJax{\newcommand{\GByte}{\unit{GiB}}}
94 \CustomizeMathJax{\newcommand{\TByte}{\unit{TiB}}}
```



```

95 \CustomizeMathJax{\newcommand{\bits}{\unit{bit/s}}}
96 \CustomizeMathJax{\newcommand{\kbits}{\unit{Kib/s}}}
97 \CustomizeMathJax{\newcommand{\Mbits}{\unit{Mib/s}}}
98 \CustomizeMathJax{\newcommand{\Bytes}{\unit{B/s}}}
99 \CustomizeMathJax{\newcommand{\kBytes}{\unit{KiB/s}}}
100 \CustomizeMathJax{\newcommand{\MBytes}{\unit{MiB/s}}}
101 \CustomizeMathJax{\newcommand{\GBytes}{\unit{GiB/s}}}
102 \CustomizeMathJax{\newcommand{\TBytes}{\unit{TiB/s}}}
103 \CustomizeMathJax{\newcommand{\chips}{\unit{chip/s}}}
104 \CustomizeMathJax{\newcommand{\kchips}{\unit{Ki\mkern2mu chip/s}}}
105 \CustomizeMathJax{\newcommand{\Mchips}{\unit{Mi\mkern2mu chip/s}}}
106 \CustomizeMathJax{\newcommand{\chipsubit}{\unit{chip/bit}}}
107 %
108 \CustomizeMathJax{\newcommand{\frecciadex}[1][0.5]{%
109 \hspace{.25cm}\Longrightarrow \hspace{.25cm}}%
110 }
111 \CustomizeMathJax{\newcommand{\varianzarumore}{\frac{N_0}{2}}}
112 %
113 \CustomizeMathJax{\newcommand{\etsymbolbracearg}[2]{%
114 #1\mathopen{\}\left\lbrace#2\right\rbrace\mathclose{}}%
115 }
116 \CustomizeMathJax{\newcommand{\fourier}[1]{\etsymbolbracearg{\mathcal{F}}{#1}}}
117 \CustomizeMathJax{\newcommand{\invfourier}[1]{\etsymbolbracearg{\mathcal{F}^{-1}}{#1}}}
118 \CustomizeMathJax{\newcommand{\partereale}[1]{\etsymbolbracearg{\textbf{Re}}{#1}}}
119 \CustomizeMathJax{\newcommand{\parteimm}[1]{\etsymbolbracearg{\textbf{Im}}{#1}}}
120 \CustomizeMathJax{\newcommand{\Info}[1]{I\left(#1\right)}}
121 \CustomizeMathJax{\newcommand{\versore}[1]{\hat{#1}}}
122 \CustomizeMathJax{\newcommand{\vettore}[1]{\overrightarrow{#1}}}
123 \CustomizeMathJax{\newcommand{\coseno}[1]{\cos\left(2\pi#1t\right)}}
124 \CustomizeMathJax{\newcommand{\seno}[1]{\sin\left(2\pi#1t\right)}}
125 \CustomizeMathJax{\newcommand{\energia}[1]{\mathcal{E}_{#1}}}
126 \CustomizeMathJax{\newcommand{\moduloexp}[2]{\left\vert#1\right\vert^{\#2}}}
127 \CustomizeMathJax{\newcommand{\modulo}[1]{\left\vert#1\right\vert}}
128 \CustomizeMathJax{\newcommand{\indB}[1]{%
129 \mathopen{\}\left.#1\right\vert_{\mathrm{dB}}\mathclose{}}}%
130 \CustomizeMathJax{\newcommand{\for}[2]{\left.#1\right\vert_{\#2}}}
131 \CustomizeMathJax{\newcommand{\massimo}[1]{\etsymbolbracearg{\max}{#1}}}
132 \CustomizeMathJax{\newcommand{\minimo}[1]{\etsymbolbracearg{\min}{#1}}}
133 \CustomizeMathJax{\newcommand{\valc}{3\cdot 10^8}}
134 \CustomizeMathJax{\newcommand{\loga}[2]{\log_{#1}\#2}}
135 \CustomizeMathJax{\newcommand{\analitic}[1]{\mathring{#1}}}
136 \CustomizeMathJax{\newcommand{\diff}{\mathop{\}\mathopen{\mathrm{d}}}}
137 \CustomizeMathJax{\newcommand{\intinf}[1]{\int_{-\infty}^{+\infty}{#1}}}
138 \CustomizeMathJax{\newcommand{\deltain}[1]{\delta\left(#1\right)}}
139 \CustomizeMathJax{\newcommand{\iu}{\mathrm{j}}}
140 \CustomizeMathJax{\newcommand{\ex}[1]{\mathrm{e}^{\#1}}}
141 %
142 \CustomizeMathJax{\newcommand{\gammatens}{\{\}^{\mathrm{V}}\Gamma}}
143 \CustomizeMathJax{\newcommand{\gammacorr}{\{\}^{\mathrm{I}}\Gamma}}
144 \CustomizeMathJax{\newcommand{\gammatensin}[1]{\{\}^{\mathrm{V}}\Gamma_{\mathrm{#1}}}}
145 \CustomizeMathJax{\newcommand{\gammacorrin}[1]{\{\}^{\mathrm{I}}\Gamma_{\mathrm{#1}}}}
146 \CustomizeMathJax{\newcommand{\gammain}[1]{\Gamma_{\mathrm{#1}}}}
147 \CustomizeMathJax{\newcommand{\gammak}{\{\}^{\mathrm{k}}\Gamma}}
148 %
149 \CustomizeMathJax{\newcommand{\lbvt}{\lambda_0}}

```

```

150 \CustomizeMathJax{\newcommand{\lbg}{\lambda_g}}
151 \CustomizeMathJax{\newcommand{\lbgvt}{\lambda_{g_0}}}
152 %
153 \CustomizeMathJax{\newcommand{\potin}[1]{P_{\mathrm{#1}}}}
154 \CustomizeMathJax{\newcommand{\potdisp}[1][P_{\mathrm{disp}}^{\#1}}
155 \CustomizeMathJax{\newcommand{\potDC}[1][P_{\mathrm{DC}}^{\#1}}
156 \CustomizeMathJax{\newcommand{\potCC}[1][P_{\mathrm{CC}}^{\#1}}
157 \CustomizeMathJax{\newcommand{\potirr}[1][P_{\mathrm{irr}}^{\#1}}
158 \CustomizeMathJax{\newcommand{\potdiss}[1][P_{\mathrm{diss}}^{\#1}}
159 \CustomizeMathJax{\newcommand{\potinc}[1][P_{\mathrm{inc}}^{\#1}}
160 %
161 \CustomizeMathJax{\newcommand{\z}[1]{Z_{\mathrm{#1}}}}
162 \CustomizeMathJax{\newcommand{\znorm}[1]{z_{\mathrm{#1}}}}
163 \CustomizeMathJax{\newcommand{\y}[1]{Y_{\mathrm{#1}}}}
164 \CustomizeMathJax{\newcommand{\ynorm}[1]{y_{\mathrm{#1}}}}
165 \CustomizeMathJax{\newcommand{\zinf}[1][Z_{\infty\#1}}
166 \CustomizeMathJax{\newcommand{\zinfn}[1]{zinf\#1}}
167 \CustomizeMathJax{\newcommand{\yinf}[1][Y_{\infty\#1}}
168 \CustomizeMathJax{\newcommand{\yinfn}[1]{yinf\#1}}
169 \CustomizeMathJax{\newcommand{\zvt}{Z_0}}
170 \CustomizeMathJax{\newcommand{\yvt}{Y_0}}
171 %
172 \CustomizeMathJax{\newcommand{\campoe}{\underline{\mathcal{E}}(\underline{r},t)}}
173 \CustomizeMathJax{\newcommand{\campoe fas}{\underline{E}(\underline{r})}}
174 \CustomizeMathJax{\newcommand{\campoh}{\underline{\mathcal{H}}(\underline{r},t)}}
175 \CustomizeMathJax{\newcommand{\campoh fas}{\underline{H}(\underline{r})}}
176 %
177 \CustomizeMathJax{\newcommand{\signt}[1]{\#1(t)}}
178 \CustomizeMathJax{\newcommand{\signf}[1]{\#1(f)}}
179 \CustomizeMathJax{\newcommand{\signn}[1]{\#1(n)}}
180 \CustomizeMathJax{\newcommand{\signz}[1]{\#1(z)}}
181 %
182 \CustomizeMathJax{\newcommand{\prob}[1]{\mathcal{P}\left(\#1\right)}}
183 \CustomizeMathJax{\newcommand{\valatt}[1]{\mathbb{E}\left[\#1\right]}}
184 \CustomizeMathJax{\newcommand{\var}[1]{\mathrm{Var}\left[\#1\right]}}
185 \CustomizeMathJax{\newcommand{\comma}{\ , \ , \ ,}}
186 \CustomizeMathJax{\newcommand{\dato}{\ , | \ ,}}
187 %
188 \CustomizeMathJax{\let\bfRe\partereale}
189 \CustomizeMathJax{\let\bfIm\parteimm}
190 \CustomizeMathJax{\let\noisevar\varianzarumore}
191 % \CustomizeMathJax{\let\exerend\finees}
192 \CustomizeMathJax{\let\Spimplies\frecciadex}
193 \CustomizeMathJax{\let\Downimplies\frecciadown}
194 \CustomizeMathJax{\let\unitvec\versore}
195 \CustomizeMathJax{\let\vector\vettore}
196 \CustomizeMathJax{\let\cosine\coseno}
197 \CustomizeMathJax{\let\sine\seno}
198 \CustomizeMathJax{\let\energy\energia}
199 \CustomizeMathJax{\let\Abs\modulo}
200 \CustomizeMathJax{\let\AbsPow\moduloexp}
201 \CustomizeMathJax{\let\Max\massimo}
202 \CustomizeMathJax{\let\Min\minimo}
203 \CustomizeMathJax{\let\cLight\valc}
204 \CustomizeMathJax{\let\Log\loga}

```

```

205 \CustomizeMathJax{\let\analytic\analitic}
206 \CustomizeMathJax{\let\infint\intinf}
207 \CustomizeMathJax{\let\deltaimp\deltaain}
208 \CustomizeMathJax{\let\Vgamma\gammatens}
209 \CustomizeMathJax{\let\Cgamma\gammacorr}
210 \CustomizeMathJax{\let\Vgammain\gammatensin}
211 \CustomizeMathJax{\let\Cgammain\gammacorrin}
212 \CustomizeMathJax{\let\Kgamma\gammak}
213 \CustomizeMathJax{\let\powerin\potin}
214 \CustomizeMathJax{\let\availpow\potdisp}
215 \CustomizeMathJax{\let\irrpow\potirr}
216 \CustomizeMathJax{\let\disppow\potdiss}
217 \CustomizeMathJax{\let\incpow\potinc}
218 \CustomizeMathJax{\let\potalim\potCC}
219 \CustomizeMathJax{\let\potDC\potCC}
220 \CustomizeMathJax{\let\Efield\campoe}
221 \CustomizeMathJax{\let\Hfield\campoh}
222 \CustomizeMathJax{\let\phasorEfield\campoefas}
223 \CustomizeMathJax{\let\phasorHfield\campohfas}
224 \CustomizeMathJax{\let\given\dato}
225 \CustomizeMathJax{\let\expval\valatt}
226 \CustomizeMathJax{\let\rmexp\lex}
227 \end{warpMathJax}

```

---

File 125 **lwarp-enumerate.sty**

§ 231 Package **enumerate**

Pkg enumerate enumerate is supported with no changes.

This package is only required because it was used in the past to drop and then emulate the package. It cannot be removed because an older version which dropped the package may still remain, for example in a local vs. distribution directory, but it is now supported directly by lwarp and thus must no longer be dropped.

**for HTML output:** 1 \LWR@ProvidesPackagePass{enumerate}[2015/07/23]

---

File 126 **lwarp-enumitem.sty**

§ 232 Package **enumitem**

*(Emulates or patches code by JAVIER BEZOS.)*

Pkg enumitem enumitem is supported with minor adjustments.

**for HTML output:** 1 \LWR@ProvidesPackagePass{enumitem}[2018/11/30]

```

\newlist {<name>} {<type>} {<maxdepth>}
\renewlist {<name>} {<type>} {<maxdepth>}

```

For `enumitem` lists, new lists must have the start and end actions assigned to the new environment. Renewed lists already have their actions assigned, and thus need no changes.

```

2 \let\LWR@enumitem@orignewlist\newlist
3
4 \renewcommand*{\newlist}[3]{%
5 \LWR@enumitem@orignewlist{#1}{#2}{#3}%
6 \AtBeginEnvironment{#1}{\@nameuse{LWR@#2start}}%
7 \AtEndEnvironment{#1}{\@nameuse{LWR@#2end}}%
8 }
9
10 \def\DrawEnumitemLabel{}
```

---

File 127 **lwarp-epigraph.sty**

§ 233 Package **epigraph**

*(Emulates or patches code by PETER WILSON.)*

Pkg epigraph epigraph is emulated for HTML, and used as-is for print output.

Use CSS to format epigraphs.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{epigraph}[2020/01/02]

2 \DeclareDocumentCommand{\LWR@HTML@qitem}{m m}
3 {%
4 \begin{BlockClass}{qitem}%
5 #1%
6 \LWR@stoppars%
7 \ifbool{FormatWP}%
8 {\begin{BlockClass}[border-top:1px solid gray]{epigraphsource}}%
9 {\begin{BlockClass}{epigraphsource}}%
10 #2%
11 \end{BlockClass}%
12 \end{BlockClass}%
13 }
14 \LWR@formatted{qitem}

15 \DeclareDocumentCommand{\LWR@HTML@epigraph}{m m}
16 {%
17 \begin{LWR@BlockClassWP}{\LWR@print@mbbox{text-align:right}}{epigraph}%
18 \qitem{#1}{#2}%
19 \end{LWR@BlockClassWP}%
20 }
21 \LWR@formatted{epigraph}
22
23 \DeclareDocumentEnvironment{LWR@HTML@epigraphs}{}
24 {\LWR@BlockClassWP{\LWR@print@mbbox{text-align:right}}{epigraph}}
25 {\endLWR@BlockClassWP}
26 \LWR@formattedenv{epigraphs}
```


The following cannot be used in print mode while generating HTML:

```
27 \renewcommand{\epigraphhead}[2][0]{#2}
28 \renewcommand{\dropchapter}[1]{}
29 \renewcommand*\undodrop{}
```

File 128 **lwarp-epsfig.sty**

§ 234 Package **epsfig**

Pkg epsfig epsfig is emulated for use by lwarp.

 Only the L<sup>A</sup>T<sub>E</sub>X<sub>2</sub>ε syntax is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{epsfig}[2017/06/25]

A few additional keys to capture the filename:

```
2 \RequirePackage{graphics}
3
4 \define@key{igraph}{file}{%
5 \xdef\LWR@epsfig@filename{#1}%
6 }
7
8 \define@key{igraph}{figure}{%
9 \xdef\LWR@epsfig@filename{#1}%
10 }
11
12 \define@key{igraph}{prolog}{}
13
14 \define@key{igraph}{silent}[]{}

```

The captured filename is used as the argument to `\includegraphics`:

```
15 \newcommand{\epsfig}[1]{\includegraphics[#1]{\LWR@epsfig@filename}}
16
17 \newcommand{\psfig}[1]{\includegraphics[#1]{\LWR@epsfig@filename}}
```

File 129 **lwarp-epstopdf.sty**

§ 235 Package **epstopdf**

Pkg epstopdf Previous versions of lwarp had a nullified version, but now **epstopdf-base** is supported. **lwarp-epstopdf** becomes a placeholder to overwrite previous versions.

See package **epstopdf-base** for details.

**for HTML output:** 1 \LWR@ProvidesPackagePass{epstopdf}[2020-01-24]

File 130 **lwarp-epstopdf-base.sty**

§ 236 Package **epstopdf-base**

Pkg epstopdf-base

⚠ **convert to .svg**

Images with an .eps extension will be converted to .pdf. The HTML output uses the .svg version, so use

Enter ⇒ **lwarpmk pdftosvg <listofPDFfiles>**

to generate .svg versions.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{epstopdf-base}[2020-01-24]
```

Redefine to remember the image filename, replacing .pdf with .svg. Use the epstopdf print version inside a lateximage.

```
2 \newcommand*{\LWR@HTML@ETE@OrgGin@setfile}[3]{%
3 \edef\LWR@tempone{#3}%
4 \StrSubstitute{\LWR@tempone}{.pdf}{.svg}[\LWR@tempone]%
5 \StrSubstitute{\LWR@tempone}{.PDF}{.SVG}[\LWR@tempone]%
6 \xdef\LWR@parsedfilename{\LWR@tempone}%
7 }
8
9 \LWR@formatted{ETE@OrgGin@setfile}
```

\includegraphics in HTML mode redefines \Gin@setfile to be \LWR@HTML@Gin@setfile, which is now redirected to epstopdf's version:

```
10 \renewcommand*{\LWR@HTML@Gin@setfile}[3]{%
11 \ETE@Gin@setfile{#1}{#2}{#3}%
12 }
```

Allow .eps images to be found if a suffix is not provided:

```
13 \AtBeginDocument{
14 \DeclareGraphicsExtensions{%
15 .eps,.EPS,.svg,.SVG,.gif,.GIF,.png,.PNG,.jpg,.JPG,.jpeg,.JPEG%
16 }
17 \DeclareGraphicsRule{.svg}{svg}{.svg}{}
18 \DeclareGraphicsRule{.SVG}{svg}{.SVG}{}
19 }
```

Likewise when inside a lateximage:

```
20 \appto\LWR@restoreorigformatting{%
21 \DeclareGraphicsExtensions{%
22 .eps,.EPS,.pdf,.PDF,.gif,.GIF,.png,.PNG,.jpg,.JPG,.jpeg,.JPEG%
23 }%
24 }
```

---

File 131 **lwarp-eqlist.sty**

§ 237 Package **eqlist**

Pkg eqlist eqlist is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{eqlist}[2002/08/15]

```

2 \newenvironment{eqlist}[1][\description]{\enddescription}
3 \newenvironment{eqlist*}[1][\description]{\enddescription}
4 \newenvironment{EqList}[2][\description]{\enddescription}
5 \newenvironment{EqList*}[2][\description]{\enddescription}
6 \newcommand*\longitem[1][\item[#1]}
7 \newcommand*\eqlistinit{}
8 \newcommand*\eqliststarinit{}
9 \newcommand*\eqlistinitpar{}
10 \def\eqlistlabel#1{#1}
11 \newcommand{\eqlistauto}[1]{}
12 \newcommand{\eqlistnoauto}{}

```

---

File 132 **lwarp-eqparbox.sty**

§ 238 Package **eqparbox**

*(Emulates or patches code by SCOTT PAKIN.)*

Pkg eqparbox eqparbox is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{eqparbox}[2017/09/03]

```

2 \NewDocumentCommand{\LWR@HTML@eqparbox}{O{t} O{} O{t} m +m}{%
3 {%
4 \minipagefullwidth%
5 \parbox[#1][#2][#3]{\linewidth}{#5}%
6 }%
7 }
8 \LWR@formatted{eqparbox}
9
10 \NewDocumentCommand{\LWR@HTML@eqmakebox}{o o m}{%
11 \makebox[#2][#3]%
12 }
13 \LWR@formatted{eqmakebox}
14
15 \NewDocumentCommand{\LWR@HTML@eqframebox}{o o m}{%
16 \framebox[#2][#3]%
17 }
18 \LWR@formatted{eqframebox}
19

```

```

20 \NewDocumentEnvironment{LWR@HTML@eqminipage}{0{t} 0{ } 0{t} m}
21 {%
22 \begingroup%
23 \minipagefullwidth%
24 \minipage[#1][#2][#3]{\linewidth}%
25 }%
26 {%
27 \endminipage%
28 \endgroup%
29 }
30
31 \newcommand*\LWR@HTML@eqboxwidth}[1]{.25\linewidth}
32 \LWR@formatted{eqboxwidth}
33
34 \newcommand*\LWR@HTML@eqsetminwidth}[2]{}
35 \newcommand*\LWR@HTML@eqsetmaxwidth}[2]{}
36
37 \newcommand*\LWR@HTML@eqsetminwidthto}[2]{}
38 \newcommand*\LWR@HTML@eqsetmaxwidthto}[2]{}

```

---

File 133 **lwarp-errata.sty**

§ 239 Package **errata**

*(Emulates or patches code by MICHAEL KOHLHASE.)*

Pkg errata **errata** is patched for use by **lwarp**.

This is for v0.3 of **errata**. A newer version of **errata** with more features is under development, at which time the **lwarp** version will have to be updated.

**for HTML output:** Macros are being defined with the math dollar, so enable the **HTML** version during package loading:

```
1 \StartDefiningMath
```

Now load the package:

```
2 \LWR@ProvidesPackagePass{errata}[2006/11/12]
```

Patches for dynamic inline math:

```

3 \xpatchcmd{\erratumAdd}
4 {$_a^{\arabic{erratum}}}$}
5 % {\inlinemathother$_a^{\arabic{erratum}}$\inlinemathnormal}
6 {\textsubscript{a}\textsuperscript{\arabic{erratum}}}
7 {}
8 {\LWR@patcherror{erratum}{erratumAdd}}
9
10 \xpatchcmd{\erratumDelete}
11 {$_d^{\arabic{erratum}}}$}
12 % {\inlinemathother$_d^{\arabic{erratum}}$\inlinemathnormal}

```



```

13 {\textsubscript{d}\textsuperscript{\arabic{erratum}}}
14 {}
15 {\LWR@patcherror{erratum}{erratumDelete}}
16
17 \xpatchcmd{\erratumReplace}
18 {$_r^{\arabic{erratum}}$}
19 % {\inlinemathother$_r^{\arabic{erratum}}$\inlinemathnormal}
20 {\textsubscript{r}\textsuperscript{\arabic{erratum}}}
21 {}
22 {\LWR@patcherror{erratum}{erratumReplace}}
23
24 \xpatchcmd{\erratum}
25 {$_a$}
26 % {\inlinemathother$_a$\inlinemathnormal}
27 {\textsubscript{a}}
28 {}
29 {\LWR@patcherror{erratum}{erratumDelete}}
30
31 \xpatchcmd{\erratum}
32 {$_d^{\@thefnmark}$}
33 % {\inlinemathother$_d^{\@thefnmark}$\inlinemathnormal}
34 {\textsubscript{d}\@thefnmark}
35 {}
36 {\LWR@patcherror{erratum}{eDelete}}
37
38 \xpatchcmd{\erratum}
39 {$_r^{\@thefnmark}$}
40 % {\inlinemathother$_r^{\@thefnmark}$\inlinemathnormal}
41 {\textsubscript{r}\@thefnmark}
42 {}
43 {\LWR@patcherror{erratum}{eReplace}}

```

Finish the current page's errata before closing and reloading the list:

```
44 \preto\PrintErrata{\LWR@maybe@orignewpage}
```

No longer defining math macros with the HTML \$:

```
45 \StopDefiningMath
```

File 134 **lwarp-eso-pic.sty**

§ 240 Package **eso-pic**

*(Emulates or patches code by ROLF NIEPRASCHK.)*

Pkg eso-pic **eso-pic** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{eso-pic}[2018/04/12]

```
2 \newcommand*\LenToUnit{}
3 \newcommand{\AtPageUpperLeft}[1]{}

```

```

4 \newcommand{\AtPageLowerLeft}[1]{}
5 \newcommand{\AtPageCenter}[1]{}
6 \newcommand{\AtStockLowerLeft}[1]{}
7 \newcommand{\AtStockUpperLeft}[1]{}
8 \newcommand{\AtStockCenter}[1]{}
9 \newcommand{\AtTextUpperLeft}[1]{}
10 \newcommand{\AtTextLowerLeft}[1]{}
11 \newcommand{\AtTextCenter}[1]{}
12 \NewDocumentCommand{\AddToShipoutPictureBG}{s +m}{}

13 \newcommand{\AddToShipoutPicture}{\AddToShipoutPictureBG}
14 \NewDocumentCommand{\AddToShipoutPictureFG}{s +m}{}
15 \newcommand*\ClearShipoutPictureBG{}
16 \newcommand*\ClearShipoutPicture{}
17 \newcommand*\ClearShipoutPictureFG{}
18 \newcommand{\gridSetup}[6][[]]{}

```

---

File 135 **lwarp-esvect.sty**

§ 241 Package **esvect**

(Emulates or patches code by EDDIE SAUDRAIS.)

Pkg esvect esvect is used as-is for SVG math, and emulated for MATHJAX.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{esvect}% no date given

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\LWRresvectv}[1]{\overrightarrow{#1}}}
4 \CustomizeMathJax{\newcommand{\LWRresvectvstar}[2]{\overrightarrow{#1}\!_{#2}}}
5 \CustomizeMathJax{\newcommand{\vv}{\ifstar\LWRresvectvstar\LWRresvectv}}
6 \end{warpMathJax}


```

---

File 136 **lwarp-etoc.sty**


§ 242 Package **etoc**

Pkg etoc etoc is ignored. All commands are nullified.

 **\tableofcontents with \ref** The etoc package uses a non-standard syntax which looks ahead after a \tableofcontents for a following \ref. These \refs appear in the HTML result unless they are removed. Where a \tableofcontents is followed by \ref, and perhaps also \label as well, enclose all of them inside \warpprintonly:

```
\warpprintonly{\tableofcontents \ref{toc:abc} \label{toc:def}}
```

or place all code related to a local \tableofcontents inside a warpprint environment.

 **home page** Be sure to keep the initial \tableofcontents on the home page, perhaps in its own

\warpHTMLonly macro or warpHTML environment.

for HTML output:

```

1 \LWR@ProvidesPackageDrop{etoc}[2019/11/17]

2 \def\etocsetlevel#1#2{}
3 \def\etocskipfirstprefix{}
4 \let\etocthename \empty
5 \let\etocthenumber \empty
6 \let\etocthepage \empty
7 \let\etocthelinkedname \empty
8 \let\etocthelinkednumber \empty
9 \let\etocthelinkedpage \empty
10 \let\etocthelink \@firstofone % prior to 1.08j its was \let to \empty
11 \DeclareRobustCommand*\etocname {}
12 \DeclareRobustCommand*\etocnumber {}
13 \DeclareRobustCommand*\etocpage {}
14 \DeclareRobustCommand*\etoclink {\@firstofone}
15 \DeclareRobustCommand*\etocifnumbered {\@firstoftwo}
16 \DeclareRobustCommand*\etociffirst {\@firstoftwo}
17 \DeclareRobustCommand*\etocifwasempty {\@firstoftwo}
18 \let\etocaftertitlehook \empty
19 \let\etocaftercontentshook \empty
20 \def\etocstableofcontents{}
21 \newcommand*\localtableofcontents{}
22 \newcommand*\localtableofcontentswithrelativedepth[1]{}
23 \newcommand\etocsettocstyle[2]{}
24 \long\def\etocsetstyle#1#2#3#4#5{}
25 \def\etocfontminustwo {\normalfont \LARGE \bfseries}
26 \def\etocfontminusone {\normalfont \Large \bfseries}
27 \def\etocfontzero {\normalfont \large \bfseries}
28 \def\etocfontone {\normalfont \normalsize \bfseries}
29 \def\etocfonttwo {\normalfont \normalsize}
30 \def\etocfontthree {\normalfont \footnotesize}
31 \def\etocsepminustwo {4ex \@plus .5ex \@minus .5ex}
32 \def\etocsepminusone {4ex \@plus .5ex \@minus .5ex}
33 \def\etocsepzero {2.5ex \@plus .4ex \@minus .4ex}
34 \def\etocseppone {1.5ex \@plus .3ex \@minus .3ex}
35 \def\etocseptwo {.5ex \@plus .1ex \@minus .1ex}
36 \def\etocseptthree {.25ex \@plus .05ex \@minus .05ex}
37 \def\etocbaselinespreadminustwo {1}
38 \def\etocbaselinespreadminusone {1}
39 \def\etocbaselinespreadzero {1}
40 \def\etocbaselinespreadone {1}
41 \def\etocbaselinespreadtwo {1}
42 \def\etocbaselinespreadthree {.9}
43 \def\etocminustwoleftmargin {1.5em plus 0.5fil}
44 \def\etocminustworightmargin {1.5em plus -0.5fil}
45 \def\etocminusoneleftmargin {1em}
46 \def\etocminusonerightmargin {1em}
47 \def\etococlineleaders
48 {\hbox{\normalfont\normalsize\hbext@2ex {\hss.\hss}}}
49 \def\etocabbrevpagenamename {p.~}
50 \def\etocpartname {Part}% modified 1.08b
51 \def\etocbookname {Book}
52 \def\etocdefaultlines{}

```

```

53 \def\etocabovetocskip{3.5ex \@plus 1ex \@minus .2ex}
54 \def\etocbelowtocskip{3.5ex \@plus 1ex \@minus .2ex}
55 \def\etoccolumnsep{2em}
56 \def\etocmulticolsep{0ex}
57 \def\etocmulticolpretolerance{-1}
58 \def\etocmulticoltolerance{200}
59 \def\etocdefaultnbcol{2}
60 \def\etocinnertopsep{2ex}
61 \newcommand\etocmulticolstyle[2][{}]{
62 \def\etocinnerbottomsep{3.5ex}
63 \def\etocinnerleftsep{2em}
64 \def\etocinnerrightsep{2em}
65 \def\etocoprul{\hrule}
66 \def\etocleftrule{\vrule}
67 \def\etocrightrule{\vrule}
68 \def\etocbottomrule{\hrule}
69 \def\etocoprulecolorcmd{\relax}
70 \def\etocbottomrulecolorcmd{\relax}
71 \def\etocleftrulecolorcmd{\relax}
72 \def\etocrightrulecolorcmd{\relax}
73 \newcommand*\etocruledstyle[2][{}]{
74 \def\etocframedmhook{\relax}
75 \long\def\etocbkgcolorcmd{\relax}
76 \newcommand*\etocframedstyle[2][{}]{
77 \def\etocmulticol{}
78 \def\etocruled{}
79 \def\etocframed{}
80 \def\etoclocalmulticol{}
81 \def\etoclocalruled{}
82 \def\etoclocalframed{}
83 \def\etocarticlestyle{}
84 \def\etocarticlestylenomarks{}
85 \def\etocbookstyle{}
86 \def\etocbookstylenomarks{}
87 \let\etocreportstyle\etocbookstyle
88 \let\etocreportstylenomarks\etocbookstylenomarks
89 \def\etocmemoirtocformat #1#2{}
90 \def\etocmemoirstyle{}
91 \def\etocscrartclstyle{}
92 \let\etocscrbookstyle\etocscrartclstyle
93 \let\etocscrreprtstyle\etocscrartclstyle
94 \def\etocstandarddisplaystyle{\etocarticlestyle}
95 \newcommand*\etocmarkboth[1]{}
96 \newcommand*\etocmarkbothnouc[1]{}
97 \newcommand\etococstyle[3][section]{}
98 \newcommand\etococstylewithmarks[4][section]{}
99 \newcommand\etococstylewithmarksnouc[4][section]{}
100 \def\etocignoretoctocdepth{}
101 \def\etocsettocdepth[1]{}
102 \def\etocdepthtag #1#{\Etoc@depthtag }
103 \def\Etoc@depthtag #1{}
104 \def\etocignoredepthtags {}
105 \def\etocobeydepthtags {}
106 \def\etocsettagdepth #1#2{}
107 \def\invisibletableofcontents {}

```

---

```

108 \def\invisiblelocaltableofcontents{}
109 \def\etocsetnexttocdepth #1{}
110 \def\etocsetlocaltop #1#\Etoc@set@localtop
111 \def\Etoc@set@localtop #1{}
112 \def\etocstandardlines {}
113 \def\etococlines {}
114 \let\etocaftertohook \@empty
115 \let\etocbeforetitlehook \@empty
116 \appto\tableofcontents{\def\tableofcontents{}}
```

---

File 137 **lwarp-eurosym.sty**

§ 243 Package **eurosym**

*(Emulates or patches code by HENRIK THEILING.)*

Pkg eurosym eurosym is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{eurosym}[1998/08/06]

2 \renewrobustcmd\officialeguro{\HTMLentity{euro}}
3 \let\geneuro\officialeguro
4 \let\geneuronarrow\officialeguro
5 \let\geneurowide\officialeguro
6 \let\euro\officialeguro
7 \renewrobustcmd\eurobars{}
8 \renewrobustcmd\eurobarsnarrow{}
9 \renewrobustcmd\eurobarswide{}
```

---

File 138 **lwarp-everypage.sty**

§ 244 Package **everypage**

*(Emulates or patches code by SERGIO CALLEGARI.)*

Pkg everypage everypage is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{everypage}[2007/06/20]

2 \newcommand*\AddEverypageHook[1]{}
3 \newcommand*\AddThispageHook[1]{}

```

---

File 139 **lwarp-everyshi.sty**

§ 245 Package **everyshi**

*(Emulates or patches code by MARTIN SCHRÖDER.)*

Pkg everyshi ignored.

**for HTML output:** Discard all options for lwarp-everyshi:

```
1 \LWR@ProvidesPackageDrop{everyshi}[2001/05/15]

2 \let\EveryShipout\relax
3 \newcommand*{\EveryShipout}[1]{}
4
5 \let\AtNextShipout\relax
6 \newcommand*{\AtNextShipout}[1]{}

```

File 140 **lwarp-extarrows.sty**

§ 246 Package **extarrows**

*(Emulates or patches code by HUYNH KY ANH.)*

Pkg extarrows **extarrows** is used as-is for SVG math, and emulated for MATHJAX.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{extarrows}[2008/05/15]

2 \begin{warpMathJax}
3 \CustomizeMathJax{\Newextarrow\xLongleftarrow{10,10}{0x21D0}}
4 \CustomizeMathJax{\Newextarrow\xLongrightarrow{10,10}{0x21D2}}
5 \CustomizeMathJax{\Newextarrow\xLonglefttrightarrow{10,10}{0x21D4}}
6 \CustomizeMathJax{\Newextarrow\xLeftrightarrow{10,10}{0x21D4}}
7 \CustomizeMathJax{\Newextarrow\xlonglefttrightarrow{10,10}{0x2194}}
8 \CustomizeMathJax{\Newextarrow\xleftrightharrow{10,10}{0x2194}}
9 \CustomizeMathJax{\let\xlongleftarrow\xleftarrow}
10 \CustomizeMathJax{\let\xlongrightarrow\xrightarrow}
11 \end{warpMathJax}

```

File 141 **lwarp-extramarks.sty**

§ 247 Package **extramarks**

*(Emulates or patches code by PIET VAN OOSTRUM.)*

Pkg extramarks **extramarks** is ignored.

**for HTML output:** Discard all options for lwarp-extramarks:

```
1 \LWR@ProvidesPackageDrop{extramarks}[2019/01/31]

2 \newcommand*{\extramarks}[2]{}
3 \newcommand*{\firstleftxmark}{}
4 \newcommand*{\lastleftxmark}{}
5 \newcommand*{\firstrightxmark}{}
6 \newcommand*{\lastrightxmark}{}

```

```

7 \newcommand*\firstxmark{}
8 \newcommand*\lastxmark{}
9 \newcommand*\topxmark{}
10 \newcommand*\topleftxmark{}
11 \newcommand*\toprightxmark{}
12 \newcommand*\firstleftmark{}
13 \newcommand*\lastrightmark{}
14 \newcommand*\firstrightmark{}
15 \newcommand*\lastleftmark{}

```

File 142 **lwarp-fancybox.sty**

§ 248 Package **fancybox**

(Emulates or patches code by TIMOTHY VAN ZANDT.)

Pkg fancybox fancybox is supported with some patches.

#### framed equation example

fancybox's documentation has an example FramedEqn environment which combines math, \Sbox, a minipage, and an \fbox. This combination requires that the entire environment be enclosed inside a lateximage, which is done by adding \lateximage at the very start of FramedEqn's beginning code, and \endlateximage at the very end of the ending code. Unfortunately, the HTML alt attribute is not used here.

```

\newenvironmentFramedEqn
{
\lateximage% NEW
\setlength{\fboxsep}{15pt}
... }{...
\[\fbox{\TheSbox}\]
\endlateximage% NEW
}

```

#### framing alternatives

\fbox works with fancybox. Also see lwarp's \fboxBlock macro and fminipage environment for alternatives to \fbox for framing environments.

#### framed table example

The fancybox documentation's example of a framed table using an \fbox containing a tabular does not work with lwarp, but the FramedTable environment does work if \fbox is replaced by \fboxBlock. This method does lose some HTML formatting. A better method is to enclose the table's contents inside a fminipage environment. The caption may be placed either inside or outside the fminipage:

```

\begin{table}
\begin{fminipage}{\linewidth}
\begin{tabular}{lr}
...
\end{tabular}
\end{fminipage}
\end{table}

```

 **framed verbatim** lwarp does not support the verbatim environment inside a span, box, or fancybox's

`\Sbox`, but a verbatim may be placed inside a `fminipage`. The `fancybox` documentation's example `FramedVerb` may be defined as:

```
\newenvironment{FramedVerb}[1] % width
{
 \VerbatimEnvironment
 \fminipage{#1}
 \beginVerbatim
}{
 \endVerbatim
 \endfminipage
}
```

`framed \VerbBox` `fancybox`'s `\VerbBox` may be used inside `\fbox`.

`indented alignment` `\LVerbatim`, `\LVerbatimInput`, and `\LUseVerbatim` indent with horizontal space which may not line up exactly with what *pdftotext* detects. Some lines may be off slightly in their left edge.

`fancybox, fancyvrb`

If using `fancybox` or `fancyvrb` with `\VerbatimFootnotes`, and using footnotes in a sectioning command or display math, use `\footnotemark` and `\footnotetext`:

⚠ `\VerbatimFootnotes`  
⚠ sectioning or displaymath

```
\subsection[Subsection Name]
 {Subsection Name\protect\footnotemark}
 \footnotetext{A footnote with \verb+verbatim+.
```

and likewise for equations or display math.

At present there is a bug such that paragraph closing tags are not present in footnotes when `\VerbatimFootnotes` are selected. The browser usually compensates.

```
1 \LWR@ProvidesPackagePass{fancybox}[2010/05/15]
```

After the preamble is loaded, after any patches to `Verbatim`:

```
2 \AfterEndPreamble{
3 \LWR@traceinfo{Patching fancybox.}
```

`\VerbatimFootnotes` Patched to use the new version.

```
4 \def\VerbatimFootnotes{%
5 \let\@footnotetext\@footnotetext%
6 \let\LWR@footnotetext\@footnotetext% lwarp
7 }
```

`\V@footnotetext` Patches in a subset of `lwarp`'s `\LWR@footnotetext` to the `fancyvrb` version of `\V@footnotetext`.

```
8 \def\V@footnotetext{%
9 \LWR@traceinfo{V@footnotetext}%
10 \global\setbox\LWR@footnotebox=\vbox\bgroup%
```

Add to any current footnotes:

```
11 \unvbox\LWR@footnotebox%
```



Remember the footnote number for `\ref`:

```
12 \protected@edef\@currentlabel{%
13 \csname p@footnote\endcsname\@thefnmark%
14 }% @currentlabel
```

Use HTML superscripts in the footnote even inside a `lateximage`:

```
15 \renewrobustcmd{\textsuperscript}[1]{\LWR@htmlspan{sup}{##1}}%
```

Use paragraph tags if in a tabular data cell or a `lateximage`:

```
16 \ifthenelse{%
17 \boolean{LWR@doingstartpars} \AND%
18 \cnttest{\value{LWR@lateximagedepth}}{=}{0}%
19 }%
20 {}%
21 {\LWR@htmltagc{\LWR@tagregularparagraph}\LWR@orignewline}%
```

Append the footnote to the list:

```
22 \@makefntext{}%
```

The footnote text will follow after `\V@@@footnotetext` has completed.

```
23 \bgroup%
24 \aftergroup{\V@@@footnotetext}%
25 \ignorespaces%
26 }%
```

```
27 }% AfterEndPreamble
```

```
28 \renewcommand*{\@shadowbox}[1]{%
29 \ifbool{FormatWP}%
30 {\InlineClass[border:1px solid black]{shadowbox}{#1}}%
31 {\InlineClass{shadowbox}{#1}}%
32 }
33
34 \renewcommand*{\@doublebox}[1]{%
35 \ifbool{FormatWP}%
36 {\InlineClass[border:1px double black]{doublebox}{#1}}%
37 {\InlineClass{doublebox}{#1}}%
38 }
39
40 \renewcommand*{\@ovalbox}[2]{%
41 \ifbool{FormatWP}%
42 {\InlineClass[border:1px solid black; border-radius:1ex]{ovalbox}{#2}}%
43 {%
44 \ifthenelse{\isequivalentto{#1}{\thinlines}}%
45 {\InlineClass{ovalbox}{#2}}%
46 {\InlineClass{Ovalbox}{#2}}%
47 }%
48 }
```

Convert minipages, parboxes, and lists into linear text using the `LWR@nestspan` environment:

```
49 \let\LWR@origSbox\Sbox
```

```

50
51 \def\Sbox{\LWR@origSbox\LWR@nestspan}
52
53
54 \let\LWR@origendSbox\endSbox
55
56 \def\endSbox{\endLWR@nestspan\LWR@origendSbox}

```

Beqnarray is adapted for MATHJAX or enclosed inside a lateximage:

```

57 \RenewEnviron{Beqnarray}
58 {\LWR@eqnarrayfactor}
59
60 \csgpreto{Beqnarray*}{\boolfalse{LWR@numbereqnarray}}

```

\GenericCaption is enclosed in an HTML block:

```

61 \renewcommand{\GenericCaption}[1]{%
62 \LWR@figcaption%
63 \LWR@isolate{#1}%
64 \endLWR@figcaption%
65 }

```

Btrivlist is enclosed in an HTML block. This is a tabular, and does not use \item.

```

\trivlist {\llcr} [\t/c/b]
66 \RenewDocumentEnvironment{Btrivlist}{m o}
67 {%
68 \LWR@stoppars%
69 \begin{BlockClass}{Btrivlist}%
70 \tabular{#1}%
71 }
72 {%
73 \endtabular%
74 \end{BlockClass}%
75 \LWR@startpars%
76 }

```

Btrivlist is also neutralized when used inside a span:

```

77 \AtBeginEnvironment{LWR@nestspan}{%
78 \RenewDocumentEnvironment{Btrivlist}{m o}{\}{\}%
79 }

```

lwarp's handling of \item is patched to accept fancybox's optional arguments:

```

80 \let\LWRFB@origitemizeitem\LWR@itemizeitem
81 \let\LWRFB@origdescitem\LWR@descitem
82
83 \RenewDocumentCommand{\LWR@itemizeitem}{d(o)}{%
84 \IfValueTF{#2}{%
85 \LWRFB@origitemizeitem[#2]%

```

```

86 }{%
87 \LWRFB@origitemizeitem%
88 }%
89 }
90
91 \RenewDocumentCommand{\LWR@descitem}{d()}{%
92 \IfValueTF{#2}{%
93 \LWRFB@origdescitem[#2]~%
94 }{%
95 \LWRFB@origdescitem%
96 }%
97 }

98 \RenewDocumentCommand{\LWR@nestspanitem}{d()}{%
99 \if@newlist\else{\LWR@htmltagc{br /}}\fi%
100 \LWR@origitem%
101 }

```

The various boxed lists become regular lists:

```

102 \renewenvironment{Bitemize}[1][\begin{itemize}]{\end{itemize}}
103 \renewenvironment{Benumerate}[1][\begin{enumerate}]{\end{enumerate}}
104 \renewenvironment{Bdescription}[1][\begin{description}]{\end{description}}

```

`\boxput` simply prints one then the other argument, side-by-side instead of above and behind:

```

105 \RenewDocumentCommand{\boxput}{s d() m m}{%
106 \IfBooleanTF{#1}{#3\quad#4}{#4\quad#3}%
107 }

```

Neutralized commands:

```

108 \RenewDocumentCommand{\fancyput}{s d() m}{%}
109 \RenewDocumentCommand{\thisfancyput}{s d() m}{%}
110
111 \RenewDocumentCommand{\fancypage}{m m}{%}
112 \RenewDocumentCommand{\thisfancypage}{m m}{%}
113
114 \def\LandScape#1{}
115 \def\endLandScape{}
116 \def\@Landscape#1#2#3{}
117 \def\endLandscape{}

```

Low-level patches for `UseVerbatim` and friends:

```

118 \let\LWRFB@UseVerbatim\UseVerbatim
119 \renewcommand*{\UseVerbatim}[1]{%
120 \LWR@atbeginverbatim{Verbatim}%
121 \LWRFB@UseVerbatim{#1}%
122 \LWR@afterendverbatim%
123 }

```

```

124
125 \let\LWRFB@LUseVerbatim\LUseVerbatim
126
127 \renewcommand*\LUseVerbatim[1]{%
128 \LWR@atbeginverbatim{LVerbatim}%
129 \noindent%
130 \LWRFB@LUseVerbatim{#1}%
131 \LWR@afterendverbatim%
132 }
133
134 \def\@BUseVerbatim[#1]#2{%
135 \LWR@atbeginverbatim{BVerbatim}%
136 \LWRFB@UseVerbatim{#2}%
137 \LWR@afterendverbatim%
138 }

```

---

File 143 **lwarp-fancyhdr.sty**

§ 249 Package **fancyhdr**

*(Emulates or patches code by PIET VAN OOSTRUM.)*

Pkg fancyhdr fancyhdr is ignored.

**for HTML output:** Discard all options for lwarp-fancyhdr:

```

1 \LWR@ProvidesPackageDrop{fancyhdr}[2019/01/31]

2 \newcommand*\fancyhead[2][]{ }
3 \newcommand*\fancyfoot[2][]{ }
4 \newcommand*\fancyhf[2][]{ }
5 \newcommand*\fancypagestyle[2]{ }
6 \newcommand*\lhead[2][]{ }
7 \newcommand*\chead[2][]{ }
8 \newcommand*\rhead[2][]{ }
9 \newcommand*\lfoot[2][]{ }
10 \newcommand*\cfoot[2][]{ }
11 \newcommand*\rfoot[2][]{ }
12 \newcommand*\headrulewidth{ }
13 \newcommand*\footrulewidth{ }
14 \newcommand*\headrule{ }
15 \newcommand*\footrule{ }
16 \newlength\headwidth
17 \newcommand*\fancyheadoffset[2][]{ }
18 \newcommand*\fancyfootoffset[2][]{ }
19 \newcommand*\fancyhfoffset[2][]{ }
20 \newcommand*\iffloatpage[2]{#2}
21 \newcommand*\ifftopfloat[2]{#2}
22 \newcommand*\iffbotfloat[2]{#2}
23 \newcommand*\iffootnote[2]{#2}

```

File 144 **lwarp-fancyref.sty**

§ 250 Package **fancyref**

*(Emulates or patches code by AXEL REICHERT.)*

Pkg fancyref fancyref is modified for HTML output.

**for HTML output:** 1 \LWR@ProvidesPackagePass{fancyref}[1999/02/03]

To remove the margin option, if \fancyrefhook is anything other than the paren option, then force it to the default instead. (Comparing to the margin option was not possible since lwarp has revised the meaning of \mbox so the comparison failed.)

```

2 \newcommand*{\LWRfref@parenfancyrefhook}[1]{(#1)}
3
4 \ifdefstrequal{\fancyrefhook}{\LWRfref@parenfancyrefhook}
5 {}{
6 \renewcommand*{\fancyrefhook}[1]{#1}%
7 }
```

File 145 **lwarp-fancytabs.sty**

§ 251 Package **fancytabs**

Pkg fancytabs fancytabs is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{fancytabs}[2016/03/29]

```

2 \newcommand{\fancytab}[3][RIGHT]{
3 \newcommand{\fancytabsStyle}[1]{
4 \newcommand{\fancytabsHeight}[1]{
5 \newcommand{\fancytabsWidth}[1]{
6 \newcommand{\fancytabsCount}[1]{
7 \newcommand{\fancytabsLeftColor}[1]{
8 \newcommand{\fancytabsRightColor}[1]{
9 \newcommand{\fancytabsTop}[1]{
10 \newcommand{\fancytabsTextVPos}[1]{
11 \newcommand{\fancytabsTextHPos}[1]{
12 \newcommand{\fancytabsGap}[1]{
13 \newcommand{\fancytabsFloor}[1]{
14 \newcommand{\fancytabsRotate}[1]{
```

File 146 **lwarp-fancyvrb.sty**

§ 252 Package **fancyvrb**

(Emulates or patches code by TIMOTHY VAN ZANDT.)

Pkg fancyvrb **fancyvrb** is supported with some patches.

**HTML classes** The fancy verbatim environment is placed inside a <div> of class fancyvrb. The label is placed inside a <div> of class fancyvrblabel. The verbatim text itself is placed inside a <div> of class verbatim.

**fancybox, fancyvrb**

If using fancybox or fancyvrb with \VerbatimFootnotes, and using footnotes in a sectioning command or display math, use \footnotemark and \footnotetext:



**\VerbatimFootnotes**



**sectioning or displaymath**

```
\subsection[Subsection Name]
 {Subsection Name\protect\footnotemark}
\footnotetext{A footnote with \verb+verbtim+.}
```

and likewise for equations or display math.

At present there is a bug such that paragraph closing tags are not present in footnotes when \VerbatimFootnotes are selected. The browser usually compensates.

```
1 \AtBeginDocument{\RequirePackage{xcolor}}% for \convertcolorspec
2
3 \LWR@ProvidesPackagePass{fancyvrb}[2008/02/07]
```

Initial default patch for fancyvrb:

```
4 \fvset{frame=none}%
```

After the preamble is loaded, after any patches to Verbatim:

```
5 \AfterEndPreamble{
6 \LWR@traceinfo{Patching fancyvrb.}
```

\VerbatimFootnotes Patched to use the new version.

```
7 \def\VerbatimFootnotes{%
8 \let\@footnotetext\V@footnotetext%
9 \let\footnote\V@footnote%
10 \let\LWR@footnotetext\V@footnotetext% lwarp
11 }
```

\V@footnotetext Patches in a subset of lwarp's \LWR@footnotetext to the fancyvrb version of \V@footnotetext.

```
12 \def\V@footnotetext{%
13 \LWR@traceinfo{V@footnotetext}%
```

```
14 \global\setbox\LWR@footnotebox=\vbox\bgroup%
```

Add to any current footnotes:

```
15 \unvbox\LWR@footnotebox%
```

Remember the footnote number for \ref:

```
16 \protected@edef\@currentlabel{%
17 \csname p@footnote\endcsname\@thefnmark%
18 }% @currentlabel
```

Use HTML superscripts in the footnote even inside a lateximage:

```
19 \renewrobustcmd{\textsuperscript}[1]{\LWR@htmlspan{sup}{##1}}%
```

Use paragraph tags if in a tabular data cell or a lateximage:

```
20 \ifthenelse{%
21 \boolean{LWR@doingstartpars} \AND%
22 \cnttest{\value{LWR@lateximagedepth}}{=}{0}%
23 }%
24 {}%
25 {\LWR@htmltagc{\LWR@tagregularparagraph}\LWR@originewline}%
```

Append the footnote mark to the list:

```
26 \@makefnmark{}%
```

The footnote text will follow after \V@@@footnotetext has completed.

```
27 \bgroup%
28 \aftergroup{\V@@@footnotetext}%
29 \ignorespaces%
30 }%
```

```
31 \preto\FVB@Verbatim{\LWR@forcenewpage}
32 \preto\FVB@LVerbatim{\LWR@forcenewpage}
33 % \preto\FVB@BVerbatim{\LWR@forcenewpage}% Fails, so done below.
```

Simplified to remove PDF formatting:

```
34 \def\FV@BeginListFrame@Single{%
35 \FV@SingleFrameLine{\z@}%
36 }
37
38 \def\FV@EndListFrame@Single{%
39 \FV@SingleFrameLine{\@ne}%
40 }
41
42 \def\FV@BeginListFrame@Lines{%
43 \FV@SingleFrameLine{\z@}%
44 }
45
46 \def\FV@EndListFrame@Lines{%
47 \FV@SingleFrameLine{\@ne}%
48 }
49
50 \renewcommand*{\FV@SingleFrameSep}{}
```

Adds HTML formatting:

```
51 \def\FV@BUseVerbatim#1{%
52 \FV@BVerbatimBegin#1\FV@BVerbatimEnd%
53 }
```

`\LWR@FVstyle` Holds the style of the verbatim.

```
54 \newcommand*\LWR@FVstyle{}
```

The following patches to Verbatim are executed at the start and end of the environment, depending on the choice of frame. Original code is from the fancyvrb package.

```
55 \newcommand*\LWR@fvstartnone{%
56 \LWR@traceinfo{fvstartnone}%
57 % \hbox to\z@{
58 \BlockClass[\LWR@FVstyle]{fancyvrb}
59 \LWR@stoppars
60 \ifx\FV@LabelPositionTopLine\relax\else
61 \ifx\FV@LabelBegin\relax\else
62 \FancyVerbRuleColor{\LWR@FVfindbordercolor}
63 \LWR@htmltagc{%
64 div class="fancyvrblabel" % extra space
65 style="color: \LWR@origpound\LWR@tempcolor"%
66 }
67 \LWR@print@textrm{\FV@LabelBegin}% \textrm preserves emdash
68 \LWR@htmltagc{/div}\LWR@orignewline%
69 \fi
70 \fi
71 \LWR@atbeginverbatim{verbatim}%
72 % }%
73 }
74
75 \newcommand*\LWR@fvendnone{%
76 \LWR@traceinfo{fvendnone}%
77 % \hbox to\z@{
78 \LWR@afterendverbatim%
79 \LWR@stoppars%
80 \ifx\FV@LabelPositionBottomLine\relax\else
81 \ifx\FV@LabelEnd\relax\else
82 \FancyVerbRuleColor{\LWR@FVfindbordercolor}
83 \LWR@htmltagc{%
84 div class="fancyvrblabel" % extra space
85 style="color: \LWR@origpound\LWR@tempcolor"%
86 }
87 \LWR@print@textrm{\FV@LabelEnd}
88 \LWR@htmltagc{/div}\LWR@orignewline%
89 \fi
90 \fi
91 \endBlockClass
92 }
93
94 \newcommand*\LWR@fvstartsingel{%
```



```

95 \LWR@traceinfo{fvstartsingle}%
96 \LWR@fvstartnone%
97 \FV@BeginListFrame@Single%
98 }
99
100 \newcommand*{\LWR@fvendsingle}{%
101 \LWR@traceinfo{fvendsingle}%
102 \FV@EndListFrame@Single%
103 \LWR@fvendnone%
104 }
105
106 \newcommand*{\LWR@fvstartline}{%
107 \LWR@traceinfo{fvstartline}%
108 \LWR@fvstartnone%
109 % \setlength{\LWR@templengthone}{\baselineskip}%
110 \FV@BeginListFrame@Lines%
111 % \setlength{\baselineskip}{\LWR@templengthone}%
112 % \setlength{\baselineskip}{5pt}%
113 }
114
115 \newcommand*{\LWR@fvendline}{%
116 \LWR@traceinfo{fvendline}%
117 \FV@EndListFrame@Lines%
118 \LWR@fvendnone%
119 }

```

The following patches select the start/left/right/end behaviors depending on frame. Original code is from the fancyvrb package.

```

120 \newcommand*{\LWR@FVfindbordercolor}{%
121 \FancyVerbRuleColor%
122 \LWR@findcurrenttextcolor%
123 \color{black}%
124 }
125
126 % border width of \FV@FrameRule
127 \newcommand*{\LWR@FVborderstyle}[1]{%
128 padding#1: \strip@pt\dimexpr \FV@FrameSep\relax\relax pt ; % space
129 \LWR@FVfindbordercolor\LWR@indentHTMLtwo%
130 border#1: \strip@pt\dimexpr \FV@FrameRule\relax\relax pt % space
131 solid {\FancyVerbRuleColor{\LWR@origpound\LWR@tempcolor}} ; % space
132 }
133
134 \def\FV@Frame@none{%
135 \renewcommand*{\LWR@FVstyle}{\LWR@currenttextcolorstyle}%
136 \let\FV@BeginListFrame\LWR@fvstartnone%
137 \let\FV@LeftListFrame\relax%
138 \let\FV@RightListFrame\relax%
139 \let\FV@EndListFrame\LWR@fvendnone}
140
141 \FV@Frame@none% default values
142
143 \def\FV@Frame@single{%
144 \renewcommand*{\LWR@FVstyle}{%
145 \LWR@currenttextcolorstyle\LWR@indentHTMLtwo%

```

```

146 \LWR@FVborderstyle{}}%
147 }%
148 \let\FV@BeginListFrame\LWR@fvstartsingle%
149 \let\FV@LeftListFrame\FV@LeftListFrame@Single%
150 \let\FV@RightListFrame\FV@RightListFrame@Single%
151 \let\FV@EndListFrame\LWR@fvendsingle}
152
153 \def\FV@Frame@lines{%
154 \renewcommand*{\LWR@FVstyle}{%
155 \LWR@currenttextcolorstyle\LWR@indentHTMLtwo%
156 \LWR@FVborderstyle{-top}%
157 \LWR@indentHTMLtwo%
158 \LWR@FVborderstyle{-bottom}%
159 }%
160 \let\FV@BeginListFrame\LWR@fvstartline%
161 \let\FV@LeftListFrame\relax%
162 \let\FV@RightListFrame\relax%
163 \let\FV@EndListFrame\LWR@fvendline}
164
165 \def\FV@Frame@topline{%
166 \renewcommand*{\LWR@FVstyle}{%
167 \LWR@currenttextcolorstyle\LWR@indentHTMLtwo%
168 \LWR@FVborderstyle{-top}%
169 }%
170 \let\FV@BeginListFrame\LWR@fvstartline%
171 \let\FV@LeftListFrame\relax%
172 \let\FV@RightListFrame\relax%
173 \let\FV@EndListFrame\LWR@fvendnone}
174
175 \def\FV@Frame@bottomline{%
176 \renewcommand*{\LWR@FVstyle}{%
177 \LWR@currenttextcolorstyle\LWR@indentHTMLtwo%
178 \LWR@FVborderstyle{-bottom}%
179 }%
180 \let\FV@BeginListFrame\LWR@fvstartnone%
181 \let\FV@LeftListFrame\relax%
182 \let\FV@RightListFrame\relax%
183 \let\FV@EndListFrame\LWR@fvendline}

```

Seems to be required in some situations:

```

184 \def\FV@FrameFillLine{}}%

185 \def\FV@Frame@leftline{%
186 \renewcommand*{\LWR@FVstyle}{%
187 \LWR@currenttextcolorstyle\LWR@indentHTMLtwo%
188 \LWR@FVborderstyle{-left}%
189 }%
190 % To define the \FV@FrameFillLine macro (from \FV@BeginListFrame)
191 \ifx\FancyVerbFillColor\relax%
192 \let\FV@FrameFillLine\relax%
193 \else%
194 \@tempdima\FV@FrameRule\relax%
195 \multiply\@tempdima-\tw@%
196 \edef\FV@FrameFillLine{%

```

```

197 {\noexpand\FancyVerbFillColor{\vrule\@width\number\@tempdima sp}%
198 \kern-\number\@tempdima sp}}%
199 \fi%
200 \let\FV@BeginListFrame\LWR@fvstartnone%
201 \let\FV@LeftListFrame\FV@LeftListFrame@Single%
202 \let\FV@RightListFrame\relax%
203 \let\FV@EndListFrame\LWR@fvendnone}

```

Adds the optional label to the top and bottom edges. Original code is from the fancyvrb package.

```

204 \def\FV@SingleFrameLine#1{%
205 % \hbox to\z@{%
206 % \kern\leftmargin
207 \ifnum#1=\z@\relax
208 \let\FV@Label\FV@LabelBegin
209 \else
210 \let\FV@Label\FV@LabelEnd
211 \fi
212 \ifx\FV@Label\relax
213 % \FancyVerbRuleColor{\vrule \@width\linewidth \@height\FV@FrameRule}%
214 \else
215 \ifnum#1=\z@
216 % \setbox\z@\hbox{\strut\enspace\FV@LabelBegin\enspace\strut}%
217 \ifx\FV@LabelPositionTopLine\relax
218 \else
219 \fi
220 \else
221 % \setbox\z@\hbox{\strut\enspace\FV@LabelEnd\enspace\strut}%
222 \ifx\FV@LabelPositionBottomLine\relax
223 \else
224 \fi
225 \fi
226 \fi
227 % \hss
228 % }
229 }

```

Processes each line, adding optional line numbers. Original code is from the fancyvrb package.

```

230 \def\FV@ListProcessLine#1{%
231 \hbox to \hsize{%
232 % \kern\leftmargin
233 \hbox to \VerbatimHTMLWidth {%
234 \ifcvoid{FV@LeftListNumber}{\kern 2.5em}%
235 \FV@LeftListNumber%
236 % \FV@LeftListFrame
237 \FancyVerbFormatLine{#1}%
238 \hss%
239 % \FV@RightListFrame
240 \FV@RightListNumber%
241 }%
242 \hss% required to avoid underfull hboxes
243 }

```

```

244 }

245 \def\FV@ListProcessLine@i#1{%
246 % \hbox{%
247 \ifvoid\@Labels\else
248 \hbox to \z@\kern\@totalleftmargin\box\@Labels\hss}%
249 \fi
250 \FV@ListProcessLine{#1}%
251 % }%
252 % \let\FV@ProcessLine\FV@ListProcessLine@ii%
253 }

254 \def\FV@ListProcessLastLine{}

```

Env BVerbatim

```

255
256 \xpretocmd{\FV@BeginVBox}
257 {%
258 \LWR@forcenewpage% instead of \preto
259 \LWR@atbeginverbatim{bverbatim}%
260 }
261 {}
262 {\LWR@patcherror{fancyvrb}{FV@BeginVBox}}
263
264 \xapptocmd{\FV@EndVBox}
265 {%
266 \LWR@afterendverbatim%
267 }
268 {}
269 {\LWR@patcherror{fancyvrb}{FV@EndVBox}}

```

End of the modifications to make at the end of the preamble:

```

270 } % \AfterEndPreamble

```

---

File 147 **lwarp-fbox.sty**

§ 253 Package **fbox**

*(Emulates or patches code by HERBERT VOSS.)*

Pkg fbox **fbox** is patched for use by **lwarp**.

**for HTML output:** 1 \LWR@ProvidesPackagePass{fbox}[2020/06/22]

This will be \LWR@formatted when \AtBeginDocument:

```

2 \LetLtxMacro\LWR@HTML@fbox\fbox

```

Instead of using the original, the new version is used with all borders:

```
3 \renewcommand*{\orig@fbox}{\FBox@i[tblr]}
```

```
\WR@fboxpkg@border {<1: top/bottom/left/right>} {<2: padding, or empty>}
```

Accumulates HTML styles for border, and padding if given:

```
4 \newcommand*{\LWR@fboxpkg@border}[2]{%
5 \appto\LWR@tempone{%
6 border-#1: % space
7 \LWR@printlength{\LWR@atleastonept} % space
8 solid \LWR@origpound\LWR@tempcolor ;\LWR@indentHTML
9 }%
10 \ifblank{#2}{}%
11 \appto\LWR@tempone{%
12 padding-#1: \LWR@printlength{#2} ;\LWR@indentHTML
13 }%
14 }%
15 }
```

A hack to reuse the same code for inline and blocks:

```
16 \newbool{\LWR@fboxpkg@ispar}
17 \boolfalse{\LWR@fboxpkg@ispar}
```

Accumulate HTML styles for left and right padding, depending on `\if@fbox@space@left`, `\if@fbox@space@right`:

```
18 \newcommand{\LWR@fboxpkg@lrpadding}[1]{%
19 \csuse{if@fbox@space@#1}%
20 \appto\LWR@tempone{%
21 padding-#1: \LWR@printlength{\fbox@@sep};\LWR@indentHTML
22 }
23 \else%
24 \appto\LWR@tempone{%
25 padding-#1: 0pt;\LWR@indentHTML
26 }
27 \fi%
28 }
```

The HTML version, modified to use HTML styles and either an `\InlineClass` or `BlockClass`:

```
29 \newcommand{\LWR@HTML@FBox@iii}[1]{%
```

Find and set the text color, rule width, margin:

```
30 \LWR@forceminwidth{\fbox@@rule}%
31 \LWR@findcurrenttextcolor%
32 \def\LWR@tempone{%
33 color: \LWR@origpound\LWR@tempcolor ; \LWR@indentHTML
34 margin: 1ex ; \LWR@indentHTML
35 }%
```

Add left/right padding:

```
36 \LWR@fboxpkg@lrpadding{left}%
37 \LWR@fboxpkg@lrpadding{right}%
```

Per the original to decode the borders, in a new way:

```
38 \ifnum\the\@tempcntb>8\relax
39 \advance\@tempcntb by -8
40 \LWR@fboxpkg@border{top}{\fbox@sep}%
41 \fi
42 \ifnum\@tempcntb>3
43 \advance\@tempcntb by -4
44 \LWR@fboxpkg@border{left}{}%
45 \fi
46 \ifnum\@tempcntb>1
47 \LWR@fboxpkg@border{right}{}%
48 \fi
49 \ifodd\@tempcntb
50 \LWR@fboxpkg@border{bottom}{\fbox@sep}%
51 \fi
```

Generate a BlockClass or \InlineClass with the contents:

```
52 \color@begingroup
53 \ifbool{LWR@fboxpkg@ispar}%
54 {%
55 \begin{BlockClass}[\LWR@tempone]{fboxpkg}%
56 #1%
57 \end{BlockClass}%
58 }%
59 {%
60 \InlineClass[\LWR@tempone]{fboxpkg}{%
61 #1%
62 }%
63 }%
64 \color@endgroup
65 \boolfalse{LWR@fboxpkg@ispar}% globally
66 }
67 \LWR@formatted{FBox@iii}
```

For \fparbox, set the use of BlockClass, then reuse the above:

```
68 \long\def\LWR@HTML@FParBox@i[#1]#2{%
69 \booltrue{LWR@fboxpkg@ispar}%
70 \FBox@i[#1]{#2}
71 }
72 \LWR@formatted{FParBox@i}
73
74 \long\def\LWR@HTML@FParBox@ii#1{%
75 \booltrue{LWR@fboxpkg@ispar}%
76 \FBox@i[tblr]{#1}%
77 }
78 \LWR@formatted{FParBox@ii}
```

For MATHJAX, absorb and ignore star and optional arguments:

```
79 \CustomizeMathJax{\let\LWRorigfbox\fbox}
80 \CustomizeMathJax{\newcommand{\LWRfboxpkgtwo}[2][\LWRorigfbox{#2}}
81 \CustomizeMathJax{\renewcommand{\fbox}{\ifstar\LWRfboxpkgtwo\LWRfboxpkgtwo}}
82 \CustomizeMathJax{\newcommand{\fparbox}{\fbox}}
```

File 148 **lwarp-fewerfloatpages.sty**

§ 254 Package **fewerfloatpages**

Pkg fewerfloatpages fewerfloatpages is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{fewerfloatpages}[2020/02/14]

```
2 \newcommand\floatpagekeepfraction{\textfraction}
3 \newcounter{floatpagedeferlimit}
4 \newcounter{floatpagekeeplimit}
```

File 149 **lwarp-figcaps.sty**

§ 255 Package **figcaps**

*(Emulates or patches code by PATRICK W. DALY.)*

Pkg figcaps figcaps is ignored.

**for HTML output:** Discard all options for lwarp-figcaps:

```
1 \LWR@ProvidesPackageDrop{figcaps}[1999/02/23]

2 \newcommand*\figcapson{}
3 \newcommand*\figcapsoff{}
4 \newcommand*\printfigures{}
5 \newcommand*\figmarkon{}
6 \newcommand*\figmarkoff{}
7 \def\figurecapname{Figure Captions}
8 \def\tablepagename{Tables}
9 \def\figurepagename{Figures}
```

File 150 **lwarp-figsize.sty**

§ 256 Package **figsize**

*(Emulates or patches code by ANTHONY A. TANBAKUCHI.)*

Pkg figsize figsize is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{figsize}[2002/03/18]

Emulates a virtual 6×9 inch textsize.

```

2 \newlength{\figwidth}
3 \newlength{\figheight}
4
5 \newcommand{\SetFigLayout}[3][0]{%
6 \setlength{\figheight}{8in}%
7 \setlength{\figheight}{\figheight / #2}%
8 %
9 \setlength{\figwidth}{5.5in}%
10 \setlength{\figwidth}{\figwidth / #3}%
11 }
```

---

File 151 **lwarp-fitbox.sty**

§ 257 Package **fitbox**

Pkg fitbox **fitbox** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{fitbox}[2019/02/20]

```

2 \NewDocumentCommand{\fitbox}{s o m}{%
3 \begin{BlockClass}{fitbox}
4 #3
5 \end{BlockClass}
6 }
7
8 \newcommand*{\fitboxset}[1]{}
9
10 \newdimen\fitboxnatheight
11 \newdimen\fitboxnatwidth
12
13 \newcommand\SetFitboxLayout[3][[]]{}

```

---

File 152 **lwarp-fix2col.sty**

§ 258 Package **fix2col**

Pkg fix2col **fix2col** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{fix2col}[2015/11/13]




File 153 **lwarp-fixmath.sty**

§ 259 Package **fixmath**

(Emulates or patches code by WALTER SCHMIDT.)

Pkg `fixmath` `fixmath` is used as-is for SVG math, and emulated for MATHJAX.

 **limitations** MATHJAX does not have full font support for bold italic Greek.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{fixmath}[2000/04/11]
2 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
3
4 \begin{warpMathJax}
5 \LWR@mathjax@addgreek@u@it*{}{}
6 \LWR@mathjax@addLetter{\BooleanTrue}{up}{}{\delta}{0394}
7 \LWR@mathjax@addLetter{\BooleanTrue}{up}{}{\omega}{03A9}
8 \CustomizeMathJax{\newcommand{\mathbold}[1]{\boldsymbol{#1}}}
9 \end{warpMathJax}
```

File 154 **lwarp-fixme.sty**

§ 260 Package **fixme**

(Emulates or patches code by DIDIER VERNA.)

Pkg `fixme` `fixme` is patched for use by `lwarp`.

 **external layouts** External layouts (`\fxloadlayouts`) are not supported.

User control is provided for setting the HTML styling of the “faces”. The defaults are as follows, and may be changed in the preamble after `fixme` is loaded:

```
\def\FXFaceInlineHTMLStyle{font-weight:bold}
\def\FXFaceEnvHTMLStyle{font-weight:bold}
\def\FXFaceSignatureHTMLStyle{font-style:italic}
\def\FXFaceTargetHTMLStyle{font-style:italic}
```

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{fixme}[2017/03/05]
```

Restore `lwarp`'s version of `\@wrindex`, ignoring the `fixme` package's target option:

```
2 \let\@wrindex\LWR@wrindex
```

Float-related macros required by `lwarp`:

```

3 \newcommand{\ext@fixme}{lox}
4
5 \renewcommand{\l@fixme}[2]{%
6 \hypertocfloat{1}{fixme}{lox}%
7 {\LWR@nameref{\BaseJobname-autopage-\arabic{LWR@nextautopage}} --- #1}
8 {#2}
9 }

```

Other modifications:

```

10 \def\FXFaceInlineHTMLStyle{font-weight:bold}
11
12 \renewcommand*\FXLayoutInline[3]{ %
13 \InlineClass[\FXFaceInlineHTMLStyle]{fixmeinline}%
14 {\@fxttextstd{#1}{#2}{#3}}%
15 }
16
17 \def\FXFaceEnvHTMLStyle{font-weight:bold}
18
19 \renewcommand*\FXEnvLayoutPlainBegin[2]{%
20 \BlockClass[\FXFaceEnvHTMLStyle]{fixmebold}
21 \ignorespaces#2 \fxnotename{#1}: \ignorespaces}
22
23 \renewcommand*\FXEnvLayoutPlainEnd[2]{\endBlockClass}
24
25 \renewcommand*\FXEnvLayoutSignatureBegin[2]{%
26 \BlockClass[\FXFaceEnvHTMLStyle]{fixmebold}
27 \fxnotename{#1}: \ignorespaces}
28
29 \renewcommand*\FXEnvLayoutSignatureEnd[2]{\@fxsignature{#2}\endBlockClass}
30
31 \def\FXFaceSignatureHTMLStyle{font-style:italic}
32
33 \DeclareRobustCommand*\@fxsignature[1]{%
34 \ifthenelse{\equal{#1}{}}%
35 {}%
36 { -- {\InlineClass[\FXFaceSignatureHTMLStyle]{fixmesignature}{#1}}}%
37 }
38
39
40 \def\FXFaceTargetHTMLStyle{font-style:italic}
41
42 \renewcommand\FXTargetLayoutPlain[2]{%
43 \InlineClass[\FXFaceTargetHTMLStyle]{fixmetarget}{#2}%
44 }

```

---

File 155 **lwarp-fixmetodonotes.sty**

§ 261 Package **fixmetodonotes**

*(Emulates or patches code by GIOELE BARABUCCI.)*

Pkg fixmetodonotes **fixmetodonotes** is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{fixmetodonotes}[2013/04/28]
2 \renewcommand{\NOTES@addtolist}[2]{%
3 \refstepcounter{NOTES@note}%
4 % \phantomsection% REMOVED
5 \addcontentsline{notes}{NOTES@note}{%
6 \protect\numberline{\theNOTES@note}{\#1}: {\#2}}%
7 }%
8 }
9
10 \renewcommand{\NOTES@marker}[2]{\fbox{%
11 \textcolor{\#2}{% WAS \color
12 \textbf{\#1}}}%
13 }}
14
15 \renewcommand{\NOTES@colorline}[2]{%
16 \bgroup%
17 \ULon{\LWR@backgroundcolor{\#1}{\#2}}%
18 }

```

---

File 156 **lwarp-flafter.sty**

§ 262 Package **flafter**

Pkg flafter flafter is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{flafter}[2018/01/08]
2 \providecommand\fl@trace[1]{}

```

---

File 157 **lwarp-flippdf.sty**

§ 263 Package **flippdf**

Pkg flippdf flippdf is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{flippdf}[2006/06/30]
2 \newcommand\FlipPDF{}
3 \newcommand\UnFlipPDF{}

```

---

File 158 **lwarp-float.sty**

§ 264 Package **float**

*(Emulates or patches code by ANSELM LINGNAU.)*

Pkg float float is emulated.

Float styles boxed and ruled are emulated by css and a float class according to style.

The HTML `<figure>` class is set to the float type, so css may also be used to format the float and its caption, according to float type. Furthermore, an additional class is set to the float style: `plain`, `plaintop`, `boxed`, or `ruled`, so css may be used to format by float style as well. Default formatting by css is provided for ruled and boxed styles.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{float}[2001/11/08]

\LWR@floatstyle The default float style:

```
2 \newcommand*{\LWR@floatstyle}{plain}
```

\newfloat {<1: type>} {<2: placement>} {<3: ext>} [<4: within>]

Emulates the `\newfloat` command from the `float` package.

“placement” is ignored.

```
3 \NewDocumentCommand{\newfloat}{m m m o}{%
4 \IfValueTF{#4}%
5 {\DeclareFloatingEnvironment[fileext=#3,within=#4]{#1}}%
6 {\DeclareFloatingEnvironment[fileext=#3]{#1}}%
```

Remember the float style:

```
7 \csdef{\LWR@floatstyle@#1}{\LWR@floatstyle}%
```

`newfloat` package automatically creates the `\listof` command for new floats, but `float` does not, so remove `\listof` here in case it is manually created later.

```
8 \cslet{\listof#1s}\relax%
9 \cslet{\listof#1es}\relax%
```

Like `size`, `newfloat` also creates `\l@<type>`, but `float` does not, so remove it here:

```
10 \cslet{\l@#1}\relax%
11 }
```

\floatname {<type>} {<name>}

Sets the text name of the float, such as “Figure”. Avoids trying to set a recursive name, from `trivfloat`.

```
12 \NewDocumentCommand{\floatname}{m +m}{%
13 \def\LWR@tempone{#2}%
14 \def\LWR@temptwo{\@nameuse{#1name}}%
15 \ifdefequal{\LWR@tempone}{\LWR@temptwo}{}%
16 \SetupFloatingEnvironment{#1}{name=#2}%
17 }%
18 }
```

\floatplacement {<type>} {<placement>}

Float placement is ignored.

```
19 \newcommand*{\floatplacement}[2]{%
```

```
20 \SetupFloatingEnvironment{#1}{placement=#2}%
21 }
```

`\floatstyle`    `{<style>}`

Remember the style for future floats:

```
22 \newcommand{\floatstyle}[1]{%
23 \def\LWR@floatstyle{#1}%
24 }
```

`\restylefloat`    `*{<type>}`

Remember the style for this float:

```
25 \NewDocumentCommand{\restylefloat}{s m}{%
26 \csedef{LWR@floatstyle@#2}{\LWR@floatstyle}%
27 }
```

`\listof`    See section [76.2](#) for the `\listof` command in the `lwarp` core.

File 159    **lwarp-floatflt.sty**

§ 265    Package    **floatflt**

*(Emulates or patches code by MATS DAHLGREN.)*

Pkg floatflt    floatflt is emulated.

for HTML output:    Discard all options for `lwarp-floatflt`:

```
1 \LWR@ProvidesPackageDrop{floatflt}[1997/07/16]
```

Env    [`<>`]    `offset {<type>} {<width>}` Borrowed from the `lwarp` version of `keyfloat`:

```
2 \NewDocumentEnvironment{KFLTfloatflt@marginfloat}{0{-1.2ex} m m}
3 {%
4 \begin{LWR@setvirtualpage}*%
5 \ifblank{#3}{%
6 \LWR@BlockClassWP{%
7 float:right; %
8 width: 1.5in; % reasonable dummy width for word processor
9 margin:10pt%
10 }{%
11 {marginblock}%
12 }{%
13 \setlength{\LWR@templengthone}{#3}%
14 \LWR@BlockClassWP{%
15 float:right; %
16 width:\LWR@printlength{\LWR@templengthone}; % extra space
17 margin:10pt%
18 }{%
19 width:\LWR@printlength{\LWR@templengthone}%

```

```

20 }%
21 {marginblock}%
22 }%
23 \renewcommand*\@capttype{#2}%
24 }
25 {%
26 \endLWR@BlockClassWP%
27 \end{LWR@setvirtualpage}%
28 }

```

Env floatingfigure [*<placement>*] [*<width>*]

```

29 \DeclareDocumentEnvironment{floatingfigure}{o m}
30 {\begin{KFLTfloatflt@marginfloat}{figure}{#2}}
31 {\end{KFLTfloatflt@marginfloat}}

```

Env floatingtable [*<placement>*]

```

32 \DeclareDocumentEnvironment{floatingtable}{o}
33 {\begin{KFLTfloatflt@marginfloat}{table}{} }
34 {\end{KFLTfloatflt@marginfloat}}

```

---

File 160 **lwarp-floatpag.sty**

§ 266 Package **floatpag**  
*(Emulates or patches code by VYTAS STATULEVIČIUS AND SIGITAS TOLUŠIS.)*

Pkg floatpag floatpag is ignored.

**for HTML output:** Discard all options for lwarp-floatpag:

```

1 \LWR@ProvidesPackageDrop{floatpag}[2012/05/29]

2 \newcommand*\floatpagestyle[1]{}
3 \newcommand*\rotfloatpagestyle[1]{}
4 \newcommand*\thisfloatpagestyle[1]{}

```


---


File 161 **lwarp-floatrow.sty**

§ 267 Package **floatrow**  
*(Emulates or patches code by OLGA LAPKO.)*

Pkg floatrow floatrow is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{floatrow}[2008/08/02]

 **Misplaced alignment tab character &** Use `\StartDefiningTabulars` and `\StopDefiningTabulars` before and after defining macros using `\ttabbox` with a tabular inside. See section 8.10.1.

 **subfig package** When combined with the subfig package, while inside a subfloatrow `\ffigbox` and `\ttabbox` must have the caption in the first of the two of the mandatory arguments.

The emulation of floatrow does not support `\FBwidth` or `\FBheight`. These values are pre-set to `.3\linewidth` and `2in`. Possible solutions include:

 **`\FBwidth`, `\FBheight`**

- Use fixed lengths. `lwarp` will scale the HTML lengths appropriately.
- Use `warpprint` and `warpHTML` environments to select appropriate values for each case.
- Inside a `warpHTML` environment, manually change `\FBwidth` or `\FBheight` before the `\ffigbox` or `\ttabbox`. Use `\FBwidth` or `\FBheight` normally afterwards; it will be used as expected in print output, and will use your custom-selected value in HTML output. This custom value will be used repeatedly, until it is manually changed to a new value.

After everything has loaded, remember whether `subcaption` was loaded. If not, it is assumed that `subfig` is used instead:

```
2 \newbool{LWR@subcaptionloaded}
3
4 \AtBeginDocument{
5 \ifpackageloaded{subcaption}
6 {\booltrue{LWR@subcaptionloaded}}
7 {\boolfalse{LWR@subcaptionloaded}}
8 }
```

`\floatbox` [*1 preamble*] [*2 captype*] [*3 width*] [*4 height*] [*5 vert pos*] [*6 caption*]  
{*7 object*}

Only parameters for captype, width, caption, and object are used.

`LWR@insubfloatrow` is true if inside a subfloatrow environment.

There are two actions, depending on the use of `subcaption` or `subfig`.

```
9 \NewDocumentCommand{\floatbox}{o m o o +m +m}{%
10 \ifbool{LWR@subcaptionloaded}%
11 {% subcaption
```

For `subcaption`:

```
12 \ifbool{LWR@insubfloatrow}%
13 {% subcaption in a subfloatrow
```

`subfigure` and `subtable` environments take width as an argument.

```
14 \IfValueTF{#3}%
15 {\@nameuse{sub#2}{#3}}%
16 {\@nameuse{sub#2}{\linewidth}}%
17 }% subcaption in a subfloatrow
18 {% subcaption not in subfloatrow
```

`figure` and `table` environments do not take a width argument.

```
19 \@nameuse{#2}%
20 }% subcaption not in subfloatrow
```

```
21 #6
22
23 #7
```

End the environments:

```
24 \ifbool{LWR@insubfloatrow}%
25 {\@nameuse{endsub#2}}%
26 {\@nameuse{end#2}}%
27 }% subcaption
28 {% assume subfig
```

For subfig:

```
29 \ifbool{LWR@insubfloatrow}%
30 {% subfig in a subfloatrow
```

`\subfloat` is a macro, not an environment.

Package `subfig`'s `\subfloat` command takes an optional argument which is the caption, but `\floatbox` argument #6 contains commands to create the caption and label, not the caption itself. Thus, `\caption` is temporarily disabled to return its own argument without braces.

```
31 \begingroup
32 \let\caption\@firstofone
33 \subfloat[#6]{#7}
34 \endgroup
35 }% subfig in a subfloatrow
36 {% subfig package, but not a subfig
```

`figure` and `table` are environments:

```
37 \@nameuse{#2}
38 #6
39
40 #7
41 \@nameuse{end#2}
42 }% subfig package, but not a subfig
43 }% assume subfig
44 }
```

Not used:

```
45 \newcommand*\nocapbeside{}
46 \newcommand*\capbeside{}
47 \newcommand*\captop{}
48 \newlength{\FBwidth}
49 \setlength{\FBwidth}{.3\linewidth}
50 \newlength{\FBheight}
51 \setlength{\FBheight}{2in}
52 \newcommand*\useFCwidth{}
53 \newcommand{\floatsetup}[2][{}]{
54 \newcommand{\thisfloatsetup}[1]{
55 \newcommand{\clearfloatsetup}[1]{
56 \newcommand*\killfloatstyle}
```

`\newfloatcommand`     $\langle 1 \text{ command} \rangle$   $\langle 2 \text{ captyp} \rangle$   $[\langle 3 \text{ preamble} \rangle]$   $[\langle 4 \text{ default width} \rangle]$



Preamble and default width are ignored.

```
57 \NewDocumentCommand{\newfloatcommand}{m m o o}{%
58 \@namedef{#1}{
59 \floatbox{#2}
60 }
61 }
```

`\renewfloatcommand` [*⟨1 command⟩*] [*⟨2 captype⟩*] [*⟨3 preamble⟩*] [*⟨4 default width⟩*]

Preamble and default width are ignored.

```
62 \NewDocumentCommand{\renewfloatcommand}{m m o o}{%
63 \@namedef{#1}{%
64 \floatbox{#2}
65 }
66 }
```

`\ffigbox` [*⟨width⟩*] [*⟨height⟩*] [*⟨vposn⟩*] [*⟨caption commands⟩*] [*⟨contents⟩*]

```
67 \newfloatcommand{ffigbox}{figure}[\nocapbeside][[]]
```

`\ttabbox` [*⟨width⟩*] [*⟨height⟩*] [*⟨vposn⟩*] [*⟨caption commands⟩*] [*⟨contents⟩*]

```
68 \newfloatcommand{ttabbox}{table}[\capttop][\FBwidth]
```

`\fcapside` [*⟨width⟩*] [*⟨height⟩*] [*⟨vposn⟩*] [*⟨caption commands⟩*] [*⟨contents⟩*]

```
69 \newfloatcommand{fcapside}{figure}[\capbeside][[]]
```

Env `floatrow` [*⟨numfloats⟩*]

The row of floats is placed into a `<div>` of class `floatrow`.

```
70 \newenvironment*{floatrow}[1][2]
71 {%
72 \begin{LWR@setvirtualpage}*%
73 \BlockClass{floatrow}%
74 }
75 {
76 \endBlockClass%
77 \end{LWR@setvirtualpage}%
78 }
```

Keys for `\DeclareNewFloatType`:

```
79 \newcommand*{\LWR@frowkeyplacement}{}
80 \newcommand*{\LWR@frowkeyname}{}
81 \newcommand*{\LWR@frowkeyfileext}{}
82 \newcommand*{\LWR@frowkeywithin}{}
83 \newcommand*{\LWR@frowkeycapstyle}{}
84
85 \define@key{frowkeys}{placement}{}%
86 \define@key{frowkeys}{name}{\renewcommand{\LWR@frowkeyname}{#1}}%
87 \define@key{frowkeys}{fileext}{\renewcommand{\LWR@frowkeyfileext}{#1}}%
88 \define@key{frowkeys}{within}{\renewcommand{\LWR@frowkeywithin}{#1}}%
```

```
89 \define@key{frowkeys}{relatedcapstyle}{}%
```

```
\DeclareNewFloatType {<type>} {<options>}
```

Use `\listof{type}{Title}` to print a list of the floats.

```
90 \newcommand*\DeclareNewFloatType[2]{%
```

Reset key values:

```
91 \renewcommand*\LWR@frowkeyplacement}{}%
```

```
92 \renewcommand*\LWR@frowkeyname}{}%
```

```
93 \renewcommand*\LWR@frowkeyfileext}{}%
```

```
94 \renewcommand*\LWR@frowkeywithin}{}%
```

```
95 \renewcommand*\LWR@frowkeycapstyle}{}%
```

Read new key values:

```
96 \LWR@traceinfo{about to setkeys frowkeys}%
```

```
97 \setkeys{frowkeys}{#2}%
```

```
98 \LWR@traceinfo{finished setkeys frowkeys}%
```

Create a new float with optional [within]:

```
99 \ifthenelse{\equal{\LWR@frowkeywithin}{} }{%
```

```
100 {%
```

```
101 \DeclareFloatingEnvironment[
```

```
102 placement=\LWR@frowkeyplacement,
```

```
103 fileext=\LWR@frowkeyfileext
```

```
104]{#1}%
```

```
105 }%
```

```
106 {%
```

```
107 \DeclareFloatingEnvironment[
```

```
108 placement=\LWR@frowkeyplacement,
```

```
109 fileext=\LWR@frowkeyfileext,
```

```
110 within=\LWR@frowkeywithin
```

```
111]{#1}%
```

```
112 % \LWR@traceinfo{finished newfloat #1}%
```

```
113 }%
```

Rename the float if a name was given:

```
114 \ifthenelse{\equal{\LWR@frowkeyname}{} }{%
```

```
115 {}%
```

```
116 {%
```

```
117 \SetupFloatingEnvironment{#1}{name={\LWR@frowkeyname}}%
```

```
118 }%
```

```
119 }
```

Not used:

```
120 \newcommand{\buildFBBOX}[2]{}
```

```
121 \newcommand*\CenterFloatBoxes{}%
```

```
122 \newcommand*\TopFloatBoxes{}%
```

```
123 \newcommand*\BottomFloatBoxes{}%
```

```
124 \newcommand*\PlainFloatBoxes{}%
```

```
125
```

```
126 \newcommand{\capsubrowsettings}{}%
```

```
127
```

```
128 \NewDocumentCommand{\RawFloats}{o o}{}

```

`\RawCaption`     $\langle text \rangle$

To be used inside a minipage or parbox.

```
129 \newcommand{\RawCaption}[1]{#1}

```

`\floatfoot`     $\langle text \rangle$

Places additional text inside a float, inside a CSS `<div>` of class `floatfoot`.

```
130 \NewDocumentCommand{\floatfoot}{s +m}{%
131 \begin{BlockClass}{floatfoot}
132 #2
133 \end{BlockClass}
134 }

```

Used to compute `\linewidth`.

```
135 \newbool{LWR@insubfloatrow}
136 \boolfalse{LWR@insubfloatrow}

```

Env `subfloatrow`     $[\langle num\_floats \rangle]$

```
137 \newenvironment*{subfloatrow}[1][2]
138 {

```

The row of floats is placed into a `<div>` of class `floatrow`:

```
139 \LWR@forcenewpage
140 \BlockClass{floatrow}

```

While inside the `floatrow`, `LWR@insubfloatrow` is set true, which tells `\floatbox` to use `\subfigure` or `\subtable`.

```
141 \begingroup%
142 \booltrue{LWR@insubfloatrow}%
143 }
144 {%
145 \endgroup%
146 \endBlockClass%
147 \boolfalse{LWR@insubfloatrow}%
148 }

```

File 162    **lwarp-fltrace.sty**

§ 268    Package    **fltrace**

Pkg `fltrace`    `fltrace` is ignored.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{fltrace}[2018/01/08]

```
2 \def\tracefloats{}
```

```

3 \def\tracefloatsoff{}
4 \def\tracefloatvals{}

```

---

File 163 **lwarp-flushend.sty**

§ 269 Package **flushend**

*(Emulates or patches code by SIGITAS TOLUŠIS.)*

Pkg flushend flushend is ignored.

**for HTML output:** Discard all options for lwarp-flushend:

```

1 \LWR@ProvidesPackageDrop{flushend}[2017/03/27]

2 \newcommand*\flushend{}
3 \newcommand*\raggedend{}
4 \newcommand*\flushcolsend{}
5 \newcommand*\raggedcolsend{}
6 \newcommand*\atColsBreak}[1]{}
7 \newcommand*\atColsEnd}[1]{}
8 \newcommand*\showcolsendrule{}

```

---

File 164 **lwarp-fnbreak.sty**

§ 270 Package **fnbreak**

Pkg fnbreak fnbreak is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{fnbreak}[2012/01/01]

```

2 \newcommand*\fnbreakverbose{}
3 \newcommand*\fnbreaknonverbose{}
4 \newcommand*\fnbreaklabel{}
5 \newcommand*\fnbreaknolabel{}

```

---

File 165 **lwarp-fncychap.sty**

§ 271 Package **fncychap**

*(Emulates or patches code by ULF A. LINDGREN.)*

Pkg fncychap fncychap is ignored.

**for HTML output:** Discard all options for lwarp-fncychap:

```

1 \LWR@ProvidesPackageDrop{fncychap}[2007/07/30]

```

---

```

2 \def\mghrulefill#1{}
3 \def\ChNameLowerCase{}
4 \def\ChNameUpperCase{}
5 \def\ChNameAsIs{}
6 \def\ChTitleLowerCase{}
7 \def\ChTitleUpperCase{}
8 \def\ChTitleAsIs{}
9 \newcommand{\ChRuleWidth}[1]{}
10 \newcommand{\ChNameVar}[1]{}
11 \newcommand{\ChNumVar}[1]{}
12 \newcommand{\ChTitleVar}[1]{}
13 \newcommand{\TheAlphaChapter}{}
14 \newcommand{\DOCH}{}
15 \newcommand{\DOTI}[1]{}
16 \newcommand{\DOTIS}[1]{}
17 \newlength{\mylen}
18 \newlength{\myhi}
19 \newlength{\px}
20 \newlength{\py}
21 \newlength{\pyy}
22 \newlength{\pxx}
23 \newlength{\RW}
24 \newcommand{\FmN}[1]{#1}
25 \newcommand{\FmTi}[1]{#1}

```

---

File 166 **lwarp-fnlineno.sty**

§ 272 Package **fnlineno**

Pkg fnlineno fnlineno is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{fnlineno}[2011/01/07]

---

File 167 **lwarp-fnpara.sty**

§ 273 Package **fnpara**

Pkg fnpara fnpara is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{fnpara}

---

File 168 **lwarp-fnpos.sty**

§ 274 Package **fnpos**

*(Emulates or patches code by HIROSHI NAKASHIMA.)*

Pkg fnpos fnpos is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{fnpos}[1999/07/14]

2 \newcommand*\makeFNbottom{}
3 \newcommand*\makeFNmid{}
4 \newcommand*\makeFNbelow{}
5 \newcommand*\makeFNabove{}

```

---


File 169 **lwarp-fontawesome.sty**

§ 275 Package **fontawesome**

*(Emulates or patches code by XAVIER DANAUX.)*

Pkg fontawesome fontawesome is patched for use by lwarp.

Hashed inline images are used, as there may not be Unicode support for all icons.

 **poppler syntax warning** If using pdfL<sup>A</sup>T<sub>E</sub>X, *poppler* may issue a syntax warning regarding parsing a ligature component. X<sub>H</sub>L<sup>A</sup>T<sub>E</sub>X or LuaL<sup>A</sup>T<sub>E</sub>X may be used to avoid this warning.

In the following, the general strategy is to intercept `\symbol` and embed it inside a `lateximage`. These changes are done inside a local group.

For pdfL<sup>A</sup>T<sub>E</sub>X, the `alt` tag includes the icon (symbol) number. For X<sub>H</sub>L<sup>A</sup>T<sub>E</sub>X and LuaL<sup>A</sup>T<sub>E</sub>X, the `alt` tag is generic.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{fontawesome}[2016/05/15]

2 \LetLtxMacro\LWR@orig@symbol\symbol
3
4 \ifxetexorluatex
5
6 \newfontfamily{\LWR@orig@FA}{FontAwesome}
7
8 \newcommand*\LWR@fontawesome@xelatex@symbol}[1]{%
9 \LWR@findcurrenttextcolor%
10 \begin{lateximage}*[icon][fontawesomexetex#1SZ\LWR@font@size{}CL\LWR@tempcolor]%
11 \csuse{\LWR@font@size}%
12 \LWR@orig@FA%
13 \LWR@orig@symbol{#1}%
14 \end{lateximage}%
15 }
16
17 \RenewDocumentCommand{\FA}{}{%
18 \LetLtxMacro\symbol\LWR@fontawesome@xelatex@symbol%
19 }
20
21 \else
22
23 \newcommand*\LWR@fontawesome@symbolX}[2]{%

```

```

24 \LWR@findcurrenttextcolor%
25 \begin{lateximage}*[icon #1][fontawesome#2#1SZ\LWR@font@size{}CL\LWR@tempcolor]%
26 \csuse{\LWR@font@size}%
27 \fontencoding{U}\fontfamily{fontawesome#2}\selectfont%
28 \LWR@orig@symbol{#1}%
29 \end{lateximage}%
30 }
31
32 \newcommand*\LWR@fontawesome@symbolone}[1]{%
33 \LWR@fontawesome@symbolX{#1}{one}%
34 }
35
36 \newcommand*\LWR@fontawesome@symboltwo}[1]{%
37 \LWR@fontawesome@symbolX{#1}{two}%
38 }
39
40 \newcommand*\LWR@fontawesome@symbolthree}[1]{%
41 \LWR@fontawesome@symbolX{#1}{three}%
42 }
43
44 \renewrobustcmd\FAone{%
45 \LetLtxMacro\symbol\LWR@fontawesome@symbolone%
46 }
47
48 \renewrobustcmd\FAtwo{%
49 \LetLtxMacro\symbol\LWR@fontawesome@symboltwo%
50 }
51
52 \renewrobustcmd\FAthree{%
53 \LetLtxMacro\symbol\LWR@fontawesome@symbolthree%
54 }
55 \fi

```

---

File 170 **lwarp-fontawesome5.sty**

§ 276 Package **fontawesome5**

*(Emulates or patches code by MARCEL KRÜGER.)*

Pkg fontawesome5 fontawesome5 is patched for use by lwarp.

Hashed inline images are used, as there may not be Unicode support for all icons.

The alt tag has the name of the icon.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{fontawesome5}[2018/07/27]
2 \ExplSyntaxOn
3 \cs_set:Nn\fontawesome_use_icon:nn{
4 \LWR@findcurrenttextcolor
5 \cs_if_exist:cTF{c__fontawesome_slot_#2_tl}{
6 \begin{lateximage}*[#2][fontawesome5#1SZ\LWR@font@size{}CL\LWR@tempcolor]
7 \csuse{\LWR@font@size}

```

---

```

8 \exp_last_unbraced:Nv
9 __fontawesome_icon_at:nnnn
10 {c__fontawesome_slot_#2_tl}
11 {#1}{#2}
12 \end{lateximage}
13 }{
14 \msg_error:nxxx{fontawesome5}{icon-not-found}{#2}{#1}
15 }
16 }
17 \ExplSyntaxOff

```

---

File 171 **lwarp-fontaxes.sty**

§ 277 Package **fontaxes**

*(Emulates or patches code by ANDREAS BÜHMANN, MICHAEL UMMELS.)*

Pkg fontaxes fontaxes is emulated for HTML, and used as-is for print output.

Functionality for small caps is in the `lwarp` core. Swashes and figure styles are ignored for HTML.

**for HTML output:** 1 \LWR@ProvidesPackagePass{fontaxes}[2014/03/23]

```

2 \ifdef{\LWR@HTML@swshape}{}{% duplicated by nfssect-cfr
3 \newcommand{\LWR@HTML@swshape}{}
4 \LWR@formatted{swshape}
5
6 \newrobustcmd{\LWR@HTML@textsw}[1]{#1}
7 \LWR@formatted{textsw}
8
9 \FilenameNullify{%
10 \LetLtxMacro\swshape\@empty%
11 \LetLtxMacro\textsw\firstofone%
12 }
13 }

```

---

File 172 **lwarp-fontenc.sty**

§ 278 Package **fontenc**

Pkg fontenc If using pdfL<sup>A</sup>T<sub>E</sub>X, `lwarp` used to require `fontenc` be loaded before `lwarp`, but now `lwarp` itself loads `\fontenc` with T1 encoding, which `lwarp` requires. `fontenc` is now allowed to be loaded with another encoding after `lwarp`.

`lwarp-fontenc` is no longer necessary, but is still provided to overwrite older versions.

**for HTML output:** 1 \LWR@ProvidesPackagePass{fontenc}[2017/04/05]



File 173 **lwarp-footmisc.sty**

§ 279 Package **footmisc**

*(Emulates or patches code by ROBIN FAIRBAIRNS.)*

Pkg footmisc **footmisc** is emulated.

**lwarp** incidentally happens to emulate the stable option.

```
1 \LWR@ProvidesPackageDrop{footmisc}[2011/06/06]
```

Some nullified commands:

```
2 \newcommand{\footnotelayout}{}
3 \newcommand{\setfnsymbol}[1]{}
4 \NewDocumentCommand{\DefineFNSymbols}{s m o m}{}
5
6 \newdimen\footnotemargin
7 \footnotemargin1.8em\relax
8
9 \newcommand*\hangfootparskip{0.5\baselineskip}
10 \newcommand*\hangfootparindent{0em}%
11
12 \let\pagefootnoterule\footnoterule
13 \let\mpfootnoterule\footnoterule
14 \def\splitfootnoterule{\kern-3\p@ \hrule \kern2.6\p@}
15
16 \providecommand*\multiplefootnotemarker}{3sp}
17 \providecommand*\multfootsep}{,}
```

Using **cleveref**. `\labelcref` only prints the number of the object, not its type.

```
18 \providecommand*\footref}[1]{\labelcref{#1}}
```

The following work as-is:

```
19 \newcommand\mpfootnotemark{%
20 \@ifnextchar[%
21 \@xmpfootnotemark%
22 {%
23 \stepcounter\@mpfn%
24 \protected@xdef\@thefnmark{\thempfn}%
25 \@footnotemark%
26 }%
27 }
28 \def\@xmpfootnotemark[#1]{%
29 \begingroup%
30 \csname c@\@mpfn\endcsname #1\relax%
31 \unrestored@protected@xdef\@thefnmark{\thempfn}%
```

```

32 \endgroup%
33 \@footnotemark%
34 }

```

---

File 174 **lwarp-footnote.sty**

§ 280 Package **footnote**

*(Emulates or patches code by MARK WOODING.)*

Pkg footnote **footnote** is used with minor patches.

**for HTML output:** 1 \LWR@ProvidesPackagePass{footnote}[1997/01/28]

Removed print-version formatting:

```

2 \def\fn@startnote{%
3 % \parboxrestore%
4 \protected@edef\@currentlabel{\csname p@\@mpfn\endcsname\@thefnmark}%
5 % \color@begingroup% *** conflicts with lwarp
6 }
7
8 % \let\fn@endnote\color@endgroup% *** conflicts with lwarp
9 \def\fn@endnote{%
10 \LWR@htmltagc{/\LWR@tagregularparagraph}%
11 \LWR@orignewline%
12 }

```

Removed print-version formatting:

```

13 \def\fn@startfntext{%
14 \setbox\z@\vbox\bgroup%
15 \fn@startnote%
16 \ignorespaces%
17 }

```

Removed print-version formatting, added closing paragraph tag:

```

18 \def\fn@endfntext{%
19 \LWR@htmltagc{/\LWR@tagregularparagraph}%
20 \LWR@orignewline%
21 \egroup%
22 \begingroup%
23 \let\@makefntext\@empty%
24 \let\@finalstrut\@gobble%
25 \LetLtxMacro\rule\@gobbletwo% *8* also the optional argument?
26 \@footnotetext{\unvbox\z@}%
27 \endgroup%
28 }

```

These have been redefined, so re-\let them again:

```
29 \let\endfootnote\fn@endfntext
30 \let\endfootnotetext\endfootnote
```

---

File 175 **lwarp-footnotebackref.sty**

§ 281 Package **footnotebackref**

Pkg footnotebackref footnotebackref is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{footnotebackref}[2012/07/01]

---

File 176 **lwarp-footnotehyper.sty**

§ 282 Package **footnotehyper**

Pkg footnotehyper footnotehyper is a hyperref-safe version of footnote. For lwarp, footnotehyper is emulated.

**for HTML output:** Discard all options for lwarp-footnotehyper:

```
1 \RequirePackage{footnote}
2 \LWR@ProvidesPackageDrop{footnotehyper}[2018/01/23]
```

---

File 177 **lwarp-footnoterange.sty**

§ 283 Package **footnoterange**

*(Emulates or patches code by H.-MARTIN MÜNCH.)*

Pkg footnoterange footnoterange is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{footnoterange}[2012/02/17]

```
2 \csletcs{footnoterange}{footnoterange*}
3 \csletcs{endfootnoterange}{endfootnoterange*}
```

---

File 178 **lwarp-footnpag.sty**

§ 284 Package **footnpag**

Pkg footnpag footnpag is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{footnpag}

File 179 **lwarp-foreign.sty**

§ 285 Package **foreign**

*(Emulates or patches code by PHILIP G. RATCLIFFE.)*

Pkg foreign foreign is patched for use by lwarp.

**for HTML output:**


```
1 \LWR@ProvidesPackagePass{foreign}[2012/09/25]
2 \renewcommand\foreignabbrfont{\emph}
```

File 180 **lwarp-forest.sty**

§ 286 Package **forest**

*(Emulates or patches code by SAŠO ŽIVANOVIĆ.)*

Pkg forest forest is patched for use by lwarp.

 **\Forest\*** The starred version of the macro `\Forest*` is not supported. `lwarp` encases each `lateximage` in an environment, so the global results of the starred `\Forest*` are lost.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{forest}[2017/07/14]
2 \BeforeBeginEnvironment{forest}{%
3 \begin{lateximage}[-forest-~\PackageDiagramAltText]%
4 }
5
6 \AfterEndEnvironment{forest}{\end{lateximage}}
7
8 \RenewDocumentCommand{\Forest}{s D(){} m}{%
9 \forest@config{#2}%
10 \IfBooleanTF{#1}{%
11 \PackageError{lwarp-forest}%
12 {\protect\Forest* is not supported}%
13 {Lwarp uses an environment for images,\MessageBreak
14 but \protect\Forest* cannot work in an environment.}%
15 \let\forest@next\forest@env%
16 }{\let\forest@next\forest@group@env}%
17 \begin{lateximage}[-forest-~\PackageDiagramAltText] lwarp
18 \forest@next{#3}%
19 \end{lateximage}%
20 }
```

---

File 181 **lwarp-fouridx.sty**

§ 287 Package **fouridx**

(Emulates or patches code by STEFAN KARRMANN.)

Pkg fouridx fouridx works as-is with SVG math, and is emulated for MATHJAX.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{fouridx}[2013/11/21]
2 \begin{warpMathJax}
3 \CustomizeMathJax{%
4 \newcommand{\fourIdx}[5]{%
5 \vphantom{#5}^{\hphantom{#2}#1}_{\hphantom{#1}#2}{#5}^{\#3}_{#4}%
6 }%
7 }
8 \end{warpMathJax}

```


---

File 182 **lwarp-fourier.sty**

§ 288 Package **fourier**

(Emulates or patches code by MICHEL BOVANI.)

Pkg fourier fourier is used as-is for SVG math, and is emulated for MATHJAX.

 **limitations** The MATHJAX emulation ignores all package options, except `sloped` and `upright` are honored for Greek characters, but MATHJAX cannot yet honor these for Latin characters.

The dedicated macros for upright and italic Greek letters do work correctly.

SVG math should appear the same as the printed output.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{fourier}[2020/03/03]
2
3 \LWR@infoprocessingmathjax{fourier}

4 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
5
6 \LWR@origRequirePackage{lwarp-common-mathjax-overlaysymbols}
7
8 \begin{warpMathJax}
9
10 \@ifpackagewith{fourier}{sloped}
11 {
12 \LWR@mathjax@addgreek@l@up{other}{}
13 \LWR@mathjax@addgreek@u@it*{other}{}
14 }% sloped

```

```

15 {% not sloped
16 \@ifpackagewith{fourier}{upright}
17 {% upright option
18 \LWR@mathjax@addgreek@l@up{}{}
19 \LWR@mathjax@addgreek@u@up*{}{}
20 \LWR@mathjax@addgreek@l@it{other}{}
21 \LWR@mathjax@addgreek@u@it*{other}{}
22 }
23 {% neither sloped nor upright
24 \LWR@mathjax@addgreek@l@up{other}{}
25 \LWR@mathjax@addgreek@u@it*{other}{}
26 }
27 }
28
29 \CustomizeMathJax{\newcommand{\othergreek}[1]{#1}}
30 \CustomizeMathJax{\let\varvarrho\varrho}
31 \CustomizeMathJax{\let\varvarpi\varpi}
32 \CustomizeMathJax{\let\othervarvarpi\othervarpi}
33 \CustomizeMathJax{\let\othervarvarrho\othervarrho}
34 \CustomizeMathJax{\let\varpartialdiff\partial}

```

lwarp\_mathjax.txt adds \left/\right support for delimiters.

```

35 \CustomizeMathJax{\let\llbracket\lBrack}
36 \CustomizeMathJax{\let\rrbracket\rBrack}
37 \CustomizeMathJax{\let\dblbrackleft\lBrack}
38 \CustomizeMathJax{\let\dblbrackright\rBrack}
39
40 \CustomizeMathJax{\let\VERT|}
41
42 \CustomizeMathJax{\newcommand{\parallelslant}{\mathrel{\unicode{x02AFD}}}}
43 \CustomizeMathJax{\newcommand{\thething}{\mathord{\unicode{x1F60E}}}}
44 \CustomizeMathJax{\newcommand{\nparallelslant}{%
45 \mathrel{\LWRoverlaysymbols{-}{\unicode{x02AFD}}}%
46 }}
47 \CustomizeMathJax{\newcommand{\xswordsup}{\mathord{\unicode{x2694}}}}
48 \CustomizeMathJax{\newcommand{\xswordsdown}{\mathord{\unicode{x2694}}}}% up
49 \CustomizeMathJax{\newcommand{\notowns}{\mathrel{\unicode{x220C}}}}
50
51 \CustomizeMathJax{\newcommand{\iintop}{\mathop{\unicode{x222C}}\limits}}
52 \CustomizeMathJax{\newcommand{\iiintop}{\mathop{\unicode{x222D}}\limits}}
53 \CustomizeMathJax{\newcommand{\oiint}{\mathop{\unicode{x222F}}\limits}}
54 \CustomizeMathJax{\let\oiintop\oiint}
55 \CustomizeMathJax{\newcommand{\oiiint}{\mathop{\unicode{x2230}}\limits}}
56 \CustomizeMathJax{\let\oiiintop\oiiint}
57 \CustomizeMathJax{\newcommand{\slashint}{\mathop{\unicode{x2A0D}}\limits}}
58 \CustomizeMathJax{\let\slashintop\slashint}
59
60 \CustomizeMathJax{\let\overgroup\overparen}
61 \CustomizeMathJax{\let\wideparen\overparen}
62 \CustomizeMathJax{\let\widearc\overparen}
63 \CustomizeMathJax{\let\wideOarc\overrightarrow}
64 \CustomizeMathJax{\newcommand{\widering}[1]{\stackrel{\unicode{x2218}}{\overgroup{#1}}}}
65
66 \end{warpMathJax}

```

File 183 **lwarp-framed.sty**

§ 289 Package **framed**

*(Emulates or patches code by DONALD ARSENEAU.)*

Pkg framed **framed** is supported and patched by lwarp.

**for HTML output:** Accept all options for lwarp-framed:

```

1 \LWR@ProvidesPackagePass{framed}[2011/10/22]
2 \AtBeginDocument{\RequirePackage{xcolor}}% for \convertcolorspec

3
4 \renewenvironment{framed}{%
5 \LWR@forcenewpage
6 \BlockClass{framed}%
7 }
8 {\endBlockClass}
9
10 \renewenvironment{oframed}{%
11 \LWR@forcenewpage
12 \BlockClass{framed}%
13 }
14 {\endBlockClass}
15
16
17 \renewenvironment{shaded}{%
18 \convertcolorspec{named}{shadecolor}{HTML}\LWR@tempcolor%
19 \LWR@forcenewpage
20 \BlockClass[background: \LWR@origpound\LWR@tempcolor]{shaded}%
21 }
22 {\endBlockClass}
23
24 \renewenvironment{shaded*}{%
25 \convertcolorspec{named}{shadecolor}{HTML}\LWR@tempcolor%
26 \LWR@forcenewpage
27 \BlockClass[background: \LWR@origpound\LWR@tempcolor]{shaded}%
28 }
29 {\endBlockClass}
30
31
32 \renewenvironment{leftbar}{%
33 \LWR@forcenewpage
34 \BlockClass{framedleftbar}
35 \def\FrameCommand{%
36 \MakeFramed {}
37 }%
38 {\endMakeFramed\endBlockClass}
39
40
```

```

41 \renewenvironment{snugshade}{%
42 \convertcolorspec{named}{shadecolor}{HTML}\LWR@tempcolor%
43 \LWR@forcenewpage
44 \BlockClass[background: \LWR@origpound\LWR@tempcolor]{snugframed}%
45 }
46 {\endBlockClass}
47
48 \renewenvironment{snugshade*}{%
49 \convertcolorspec{named}{shadecolor}{HTML}\LWR@tempcolor%
50 \LWR@forcenewpage
51 \BlockClass[background: \LWR@origpound\LWR@tempcolor]{snugframed}%
52 }
53 {\endBlockClass}
54
55 \let\oframed\framed
56 \let\endoframed\endframed
57
58
59 \RenewEnviron{titled-frame}[1]{%
60 \CustomFBox{#1}{0pt}{0pt}{0pt}{0pt}{\BODY}
61 }

\CustomFBox {<toptitle>} {<bottitle>} {<thicknesstop>} {<bottom>} {<left>} {<right>}
{<text contents>}

62 \renewcommand{\CustomFBox}[7]{%
63 \convertcolorspec{named}{TFFrameColor}{HTML}\LWR@tempcolor%
64 \LWR@forcenewpage
65 \begin{BlockClass}[border: 3px solid \LWR@origpound\LWR@tempcolor]{framed}%
66 \ifthenelse{\isempty{#1}}{0pt}{% not empty
67 \begin{BlockClass}[background: \LWR@origpound\LWR@tempcolor]{framedtitle}%
68 \textcolor{TFTitleColor}{\textbf{#1}}%
69 \end{BlockClass}
70 }% not empty
71
72 #7
73
74 \ifthenelse{\isempty{#2}}{0pt}{% not empty
75 \convertcolorspec{named}{TFFrameColor}{HTML}\LWR@tempcolor%
76 \begin{BlockClass}[background: \LWR@origpound\LWR@tempcolor]{framedtitle}%
77 \textcolor{TFTitleColor}{\textbf{#2}}%
78 \end{BlockClass}
79 }% not empty
80 \end{BlockClass}
81 }

\TitleBarFrame [<marker>] {<title>} {<contents>}

82 \renewcommand\TitleBarFrame[3][[]
83 \CustomFBox
84 {#2}{%
85 \fboxrule\fboxrule\fboxrule\fboxrule
86 {#3}%
87 }

```



```

88 \renewcommand{\TF@Title}[1]{#1}

MakeFramed {<settings>}

89 \let\MakeFramed\relax
90 \let\endMakeFramed\relax
91
92 \NewEnviron{MakeFramed}[1]{%
93 \FrameCommand{\begin{minipage}{\linewidth}\BODY\end{minipage}}%
94 }

\fb@put@frame {<frame cmd no split>} {<frame cmd split>}

95 \renewcommand*\fb@put@frame[2]{%
96 \relax%
97 \@tempboxa%
98 }

```

---

File 184 **lwarp-ftcap.sty**

§ 290 Package **ftcap**

Pkg ftcap ftcap is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{ftcap}

---

File 185 **lwarp-ftnright.sty**

§ 291 Package **ftnright**

Pkg ftnright ftnright is ignored.

**for HTML output:** Discard all options for lwarp-ftnright:

1 \LWR@ProvidesPackageDrop{ftnright}[2014/10/28]

---

File 186 **lwarp-fullminipage.sty**

§ 292 Package **fullminipage**

Pkg fullminipage fullminipage is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{fullminipage}[2014/07/06]

2 \newenvironment{fullminipage}[1][{}]{}

---

File 187 **lwarp-fullpage.sty**

§ 293 Package **fullpage**

Pkg fullpage fullpage is ignored.

**for HTML output:** Discard all options for lwarp-fullpage:

```
1 \LWR@ProvidesPackageDrop{fullpage}[1994/06/01]
```

---

File 188 **lwarp-fullwidth.sty**

§ 294 Package **fullwidth**

*(Emulates or patches code by MARCO DANIEL.)*

Pkg fullwidth fullwidth is emulated.

A minipage is used, of no HTML width.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{fullwidth}[2011/11/18]

```
2 \newenvironment*{fullwidth}[1][]{%
3 \minipagefullwidth%
4 \minipage{\linewidth}%
5 }
6 {%
7 \endminipage%
8 }
```

---

File 189 **lwarp-fvextra.sty**

§ 295 Package **fvextra**

*(Emulates or patches code by GEOFFREY M. POORE.)*

Pkg fvextra fvextra is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{fvextra}[2019/02/04]

Ignored are highlight, showtabs, obeytabs, tab, tabcolor. Also ignored are all options regarding line breaking except breaklines, which is emulated as true.

tabsize is honored.

If line numbers on the right side are used along with breaklines, the line numbers will not be aligned.

```

2
3 \define@booleankey{FV}{obeytabs}%
4 % {\let\FV@ObeyTabsInit\FV@ObeyTabsInit}%
5 {\let\FV@ObeyTabsInit\relax}
6 {\let\FV@ObeyTabsInit\relax}
7
8 \define@key{FV}{tabcolor}%
9 {}
10
11 \define@key{FV}{tab}{=}
12
13 \define@booleankey{FV}{showtabs}%
14 % {\def\FV@TabChar{\FV@TabColor{\FancyVerbTab}}}%
15 {\let\FV@TabChar\relax}
16 {\let\FV@TabChar\relax}
17
18 \newbool{LWR@FV@breaklines}
19
20 \define@booleankey{FV}{breaklines}%
21 {\FV@BreakLinesfalse}
22 \booltrue{LWR@FV@breaklines}
23 \let\FV@ListProcessLine\FV@ListProcessLine@NoBreak}
24 {\FV@BreakLinesfalse}
25 \boolfalse{LWR@FV@breaklines}
26 \let\FV@ListProcessLine\FV@ListProcessLine@NoBreak}
27 % \fvset{breaklines}
28
29 \define@key{FV}{breakanywheresymbolpre}{\def\FancyVerbBreakAnywhereSymbolPre{}}
30 \fvset{breakanywheresymbolpre={}}
31
32 \define@key{FV}{breakanywheresymbolpost}{\def\FancyVerbBreakAnywhereSymbolPost{}}
33 \fvset{breakanywheresymbolpost={}}
34
35 \define@key{FV}{breakbeforesymbolpre}{\def\FancyVerbBreakBeforeSymbolPre{}}
36 \fvset{breakbeforesymbolpre={}}
37
38 \define@key{FV}{breakbeforesymbolpost}{\def\FancyVerbBreakBeforeSymbolPost{}}
39 \fvset{breakbeforesymbolpost={}}
40
41 \define@key{FV}{breakaftersymbolpre}{\def\FancyVerbBreakAfterSymbolPre{}}
42 \fvset{breakaftersymbolpre={}}
43
44 \define@key{FV}{breakaftersymbolpost}{\def\FancyVerbBreakAfterSymbolPost{}}
45 \fvset{breakaftersymbolpost={}}
46
47 \define@key{FV}{breaksymbolleft}{\def\FancyVerbBreakSymbolLeft{}}
48
49 \define@key{FV}{breaksymbol}{\fvset{breaksymbolleft={}}}
50
51 \fvset{breaksymbolleft={}}
52
53 \define@key{FV}{breaksymbolright}{\def\FancyVerbBreakSymbolRight{}}

```

```

54 \fvset{breaksymbolright={}}
55
56 \def\FV@ListProcessLine@NoBreak#1{%
57 % \hbox to \hsize{%
58 % \kern\leftmargin
59 % \hbox to \linewidth{%
60 % \FV@LeftListNumber%
61 % \FV@LeftListFrame%
62 % \FancyVerbFormatLine{%
63 % \FancyVerbHighlightLine{%
64 % \FV@ObeyTabs{\FancyVerbFormatText{#1}}}%\hss
65 % \FV@RightListFrame%
66 % \FV@RightListNumber%
67 % }%
68 % \hss}%
69 \null\par% lwarp
70 }
71
72
73 \newcommand*\LWR@FV@linethensep{%
74 \ifbool{LWR@FV@breakLines}%
75 {\theFancyVerbLine\kern\FV@NumberSep}%
76 {\hbox to\z@{\hss\theFancyVerbLine\kern\FV@NumberSep}}%
77 }
78
79 \newcommand*\LWR@FV@sephenline{%
80 \ifbool{LWR@FV@breakLines}%
81 {\kern\FV@NumberSep\theFancyVerbLine}%
82 {\hbox to\z@{\kern\FV@NumberSep\theFancyVerbLine\hss}}%
83 }
84
85 \xpatchcmd{\FV@Numbers@left}
86 {\hbox to\z@{\hss\theFancyVerbLine\kern\FV@NumberSep}}
87 {\LWR@FV@linethensep}
88 {}
89 {\LWR@patcherror{fvextra}{FV@Numbers@left A}}
90
91 \xpatchcmd{\FV@Numbers@left}
92 {\hbox to\z@{\hss\theFancyVerbLine\kern\FV@NumberSep}}
93 {\LWR@FV@linethensep}
94 {}
95 {\LWR@patcherror{fvextra}{FV@Numbers@left B}}
96
97 \xpatchcmd{\FV@Numbers@left}
98 {\hbox to\z@{\hss\theFancyVerbLine\kern\FV@NumberSep}}
99 {\LWR@FV@linethensep}
100 {}
101 {\LWR@patcherror{fvextra}{FV@Numbers@left C}}
102
103 \xpatchcmd{\FV@Numbers@right}
104 {\hbox to\z@{\kern\FV@NumberSep\theFancyVerbLine\hss}}
105 {\LWR@FV@sephenline}
106 {}
107 {\LWR@patcherror{fvextra}{FV@Numbers@right A}}
108

```

```

109 \xpatchcmd{\FV@Numbers@right}
110 {\hbox to\z@{\kern\FV@NumberSep\theFancyVerbLine\hss}}
111 {\LWR@FV@sephenline}
112 {}
113 {\LWR@patcherror{fvextra}{FV@Numbers@right B}}
114
115 \xpatchcmd{\FV@Numbers@right}
116 {\hbox to\z@{\hss\theFancyVerbLine\kern\FV@NumberSep}}
117 {\LWR@FV@linethensep}
118 {}
119 {\LWR@patcherror{fvextra}{FV@Numbers@right C}}
120
121 \xpatchcmd{\FV@Numbers@both}
122 {\hbox to\z@{\hss\theFancyVerbLine\kern\FV@NumberSep}}
123 {\LWR@FV@linethensep}
124 {}
125 {\LWR@patcherror{fvextra}{FV@Numbers@both A}}
126
127 \xpatchcmd{\FV@Numbers@both}
128 {\hbox to\z@{\hss\theFancyVerbLine\kern\FV@NumberSep}}
129 {\LWR@FV@linethensep}
130 {}
131 {\LWR@patcherror{fvextra}{FV@Numbers@both B}}
132
133 \xpatchcmd{\FV@Numbers@both}
134 {\hbox to\z@{\hss\theFancyVerbLine\kern\FV@NumberSep}}
135 {\LWR@FV@linethensep}
136 {}
137 {\LWR@patcherror{fvextra}{FV@Numbers@both C}}
138
139 \xpatchcmd{\FV@Numbers@both}
140 {\hbox to\z@{\kern\FV@NumberSep\theFancyVerbLine\hss}}
141 {\LWR@FV@sephenline}
142 {}
143 {\LWR@patcherror{fvextra}{FV@Numbers@both D}}
144
145 \xpatchcmd{\FV@Numbers@both}
146 {\hbox to\z@{\kern\FV@NumberSep\theFancyVerbLine\hss}}
147 {\LWR@FV@sephenline}
148 {}
149 {\LWR@patcherror{fvextra}{FV@Numbers@both E}}
150
151 \xpatchcmd{\FV@Numbers@both}
152 {\hbox to\z@{\hss\theFancyVerbLine\kern\FV@NumberSep}}
153 {\LWR@FV@linethensep}
154 {}
155 {\LWR@patcherror{fvextra}{FV@Numbers@both F}}

```

---

File 190 **lwarp-fwlw.sty**

§ 296 Package **fwlw**

Pkg fwlw **fwlw** is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{fwlw}

2 \newbox\FirstWordBox \global\setbox\FirstWordBox\hbox{}
3 \newbox\NextWordBox \global\setbox\NextWordBox\hbox{}
4 \newbox\LastWordBox \global\setbox\LastWordBox\hbox{}
5 \def\ps@fwlwhead{}
6 \def\ps@NextWordFoot{}

```

---

File 191 **lwarp-gensymb.sty**

§ 297 Package **gensymb**

*(Emulates or patches code by WALTER SCHMIDT.)*

Pkg gensymb gensymb works as-is for SVG math, and is emulated for MATHJAX.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{gensymb}[2003/07/02]

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\degree}{\mathrm{^\circ}}}
4 \CustomizeMathJax{\newcommand{\celsius}{\unicode{x2103}}}
5 \CustomizeMathJax{\newcommand{\perthousand}{\unicode{x2030}}}
6 \CustomizeMathJax{\newcommand{\ohm}{\mathrm{\Omega}}}
7 \CustomizeMathJax{\newcommand{\micro}{\mathrm{\unicode{x00B5}}}}
8 \end{warpMathJax}

```

---

File 192 **lwarp-gentombow.sty**

§ 298 Package **gentombow**

Pkg gentombow gentombow is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{gentombow}[2018/05/17]

2 \newcommand{\settombowbanner}[1]{}
3 \newcommand{\settombowbannerfont}[1]{}
4 \newcommand{\settombowwidth}[1]{}
5 \newcommand{\settombowbleed}[1]{}
6 \newcommand{\settombowcolor}[1]{}

```

---

File 193 **lwarp-geometry.sty**

§ 299 Package **geometry**

*(Emulates or patches code by HIDEO UMEKI.)*

Pkg geometry geometry is preloaded by lwarp, but must be nullified as seen by the user's source code.

for HTML output: Discard all options for lwarp-geometry:

```
1 \LWR@ProvidesPackageDropA{geometry}{2018/04/16}
```

If geometry is never loaded by the user, it will be loaded by lwarp \AtBeginDocument. If this is the case, the page layout should not be changed but the user macros should still be nullified.

```
2 \ifbool{LWR@allowanothergeometry}{%
```

Assign and set the selected geometry with reset prepended. \AtEndPreamble lwarp will save this, then set its own geometry.

```
3 \edef\LWR@tempone{reset,\optionlist{\@currname.\@current}}%
4 \expandafter\LWR@origgeometry\expandafter{\LWR@tempone}%
5 }{}% LWR@allowanothergeometry
```

The user-level commands are nullified:

```
6 \renewcommand*\geometry[1]{}
7 \renewcommand*\newgeometry[1]{}
8 \renewcommand*\restoregeometry{}
9 \renewcommand*\savegeometry[1]{}
10 \renewcommand*\loadgeometry[1]{}

```

File 194 **lwarp-ghsystem.sty**

§ 300 Package **ghsystem**

(Emulates or patches code by CLEMENS NIEDERBERGER.)

Pkg ghsystem ghsystem is patched for use by lwarp.

△ \ghspic images Images must be provided in svg format, unless jpg is specified. It is recommended to create a local images directory, copy into it the relevant PDF ghsystem images, and then convert them with

```
Enter ⇒ lwarpmk pdftosvg images/*.pdf
```

for HTML output: 1 \LWR@ProvidesPackagePass{ghsystem}[2020/02/17]

```
2 \ExplSyntaxOn
3
4 \cs_set_protected:Npn \ghsystem_filler:n #1
5 { \emph { \textless #1 \textgreater } }
6
7 \cs_set_protected:Npn \ghsystem_pic:n #1
8 {
9 __ghsystem_includegraphics:xn
```

```

10 {
11 % scale = \fp_to_tl:N \l__ghsystem_picture_scale_fp
12 width = 1.25cm
13 \exp_not:V \l__ghsystem_picture_includegraphics_tl
14 }
15 { ghsystem_ #1 . \l__ghsystem_picture_type_tl }
16 }
17
18 \ExplSyntaxOff

```

---

File 195 **lwarp-gindex.sty**

§ 301 Package **gindex**

*(Emulates or patches code by JAVIER BEZOS.)*

Pkg gindex gindex is patched for use by lwarp.

See section [8.6.15](#).

**for HTML output:** 1 \LWR@ProvidesPackagePass{gindex}[2019/10/07]

Set the index page and range separators. These are set \AtBeginDocument to allow the user to change them. They are then protected so that the lwarp core looks for the tokens instead of their expanded contents, since the \*.ind files will contain \indexpagessep and \indexrangesep instead of their literal contents. Finally, lwarp is told of the gindex macros.

```

2 \AtBeginDocument{
3 \robustify{\indexpagessep}
4 \robustify{\indexrangesep}
5 \renewcommand*\IndexPageSeparator{\indexpagessep}
6 \renewcommand*\IndexRangeSeparator{\indexrangesep}
7 }

```

\hyperindexref is added:

```

8 \def\addindexitem#1#2{%
9 \indexflushitem
10 \gix@getspecial#1\indexspecial\indexspecial\@@\indexitem{\hyperindexref{#2}}
11
12 \def\addindexsubitem#1#2{%
13 \stepcounter{indexsubitems}%
14 \gix@getspecial#1\indexspecial\indexspecial\@@\indexsubitem{\hyperindexref{#2}}
15
16 \def\addindexsubsubitem#1#2{%
17 \gix@getspecial#1\indexspecial\indexspecial\@@\indexsubsubitem{\hyperindexref{#2}}

```

Uses a <div> of class indexheading:

```

18 \renewcommand\indexheading[1]{%
19 \begin{BlockClass}{indexheading}

```



```

20 \MakeUppercase{#1}%
21 \end{BlockClass}
22 }

```

---

File 196 **lwarp-gloss.sty**

§ 302 Package **gloss**

(Emulates or patches code by JOSE LUIS DÍAZ, JAVIER BEZOS.)

Pkg gloss **gloss** is patched for use by **lwarp**.

To process the HTML glossary:

```

bibtex <projectname>_html.gls

```

**for HTML output:** 1 \LWR@ProvidesPackagePass{gloss}[2002/07/26]

\BaseJobname is added to the label in case **xr** or **xr-hyper** are used.

```

2 \xpatchcmd{\gls@gloss@iii}
3 {\thepage}
4 {\theLWR@previousautopagelabel}
5 {}
6 {\LWR@patcherror{gloss}{gls@gloss@iii}}
7
8 \def\gls@page@i#1#2{%
9 \endgroup%
10 \global\@namedef{gls@#1}{\nameref{\BaseJobname-autopage-#2}}}%

```

---

File 197 **lwarp-glossaries.sty**

§ 303 Package **glossaries**


(Emulates or patches code by NICOLA L.C. TALBOT.)

Pkg glossaries **lwarpmk** has the commands **lwarpmk printglossary** and **lwarpmk htmlglossary**, which process the glossaries created by the **glossaries** package using that package's **makeglossaries** program.

Opt GlossaryCmd  
 Default: **makeglossaries**

Opt [lwarpmk] **printglossary**  
 Opt [lwarpmk] **htmlglossary**

The shell command to execute is set by the **lwarp** option **GlossaryCmd**, which defaults to **makeglossaries**. The print or HTML glossary filename is appended to this command.

 **makeglossaries not found** In some situations it may be required to modify the default command, such as to add the **perl** command in front:

```

\usepackage[
 GlossaryCmd={perl makeglossaries},
] {lwarp}

```

*xindy* language To set the language to use for processing glossaries with *xindy*:

```
\usepackage[
 GlossaryCmd={makeglossaries -L english},
] {lwarp}
```

Other options for *makeglossaries* may be set as well.

placement and toc options The glossaries may be placed in a numbered or unnumbered section, given a toc entry, and placed inline or on their own HTML page:

**Numbered section, on its own HTML page:**

```
\usepackage[xindy,toc,numberedsection=nolabel]{glossaries}
...
\printglossaries
```

**Unnumbered section, inline with the current HTML page:**

```
\usepackage[xindy,toc]{glossaries}
...
\printglossaries
```

**Unnumbered section, on its own HTML page:**

```
\usepackage[xindy,toc]{glossaries}
...
\ForceHTMLPage
\printglossaries
```

△ **glossary style** The default `style=item` option for glossaries conflicts with *lwarp*, so the style is forced to `index` instead.

△ **number list** The page number list in the printed form would become `\namerefs` in HTML, which could become a very long string if many items are referenced. For now, the number list is simply turned off.

print/HTML versions The print and HTML versions of the glossary differ in their internal page numbers. Separate commands for generating print and HTML glossaries are used, even though the page number is currently ignored.

```
for HTML output: 1 \PassOptionsToPackage{xindy}{glossaries}
2
3 \LWR@ProvidesPackagePass{glossaries}[2018/07/23]
4
5 \setupglossaries{nonumberlist}
6 \setglossarystyle{index}
```

Patched to fix toc pointing to the previous page:

```
7 \renewcommand*{\@p@glossarysection}[2]{%
8 \glsclearpage
9 \LWR@phantomsection
10 \ifdefempty\@glossarysecstar
11 {%
12 \csname\@glossarysec\endcsname{#2}%
13 }%
14 {%
```

In the original, the toc entry was made before the section, thus linking to the phantomsection in the printed version, but for HTML, this caused the link to point to the page before the glossaries, which could be a different HTML file. Here, the toc entry is made after the section is created:

```

15 \csname\@glossarysec\endcsname*{#2}%
16 \@gls@toc{#1}{\@glossarysec}% Moved after the previous line.
17 }%
18 \@glossaryseclabel
19 }

```

lwarp's sectioning commands cannot handle robust macros when splitting HTML into named filenames. glossaries uses \translate in sectioning names, and \translate is robust and cannot be expanded. The following pre-expands the translations at this moment, making use of \translatelet.

```

20 \newcommand*\LWR@comp@glossaryname{\translate{Glossary}}
21
22 \ifdefstrequal{\glossaryname}{\LWR@comp@glossaryname}{
23 \translatelet\LWR@translatetemp{Glossary}
24 \edef\glossaryname{\LWR@translatetemp}
25 }{}
26
27 \newcommand*\LWR@comp@acronymname{\translate{Acronym}}
28
29 \ifdefstrequal{\acronymname}{\LWR@comp@acronymname}{
30 \translatelet\LWR@translatetemp{Acronym}
31 \edef\acronymname{\LWR@translatetemp}
32 }{}
33
34 \newcommand*\LWR@comp@glsymbolsgroupname{\translate{Symbols (glossaries)}}
35
36 \ifdefstrequal{\glsymbolsgroupname}{\LWR@comp@glsymbolsgroupname}{
37 \translatelet\LWR@translatetemp{Symbols (glossaries)}
38 \edef\glsymbolsgroupname{\LWR@translatetemp}
39 }{}
40
41 \newcommand*\LWR@comp@glsnumbersgroupname{\translate{Numbers (glossaries)}}
42
43 \ifdefstrequal{\glsnumbersgroupname}{\LWR@comp@glsnumbersgroupname}{
44 \translatelet\LWR@translatetemp{Numbers (glossaries)}
45 \edef\glsnumbersgroupname{\LWR@translatetemp}
46 }{}

```

---

File 198 **lwarp-gmeometric.sty**

§ 304 Package **gmeometric**

Pkg gmeometric gmeometric is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{gmeometric}[2008/11/22]
2 \RequirePackageWithOptions{geometry}

```

File 199 **lwarp-graphics.sty**

§ 305 Package **graphics**

*(Emulates or patches code by D. P. CARLISLE.)*

Pkg graphics graphics is emulated.

**for HTML output:** 1 \LWR@ProvidesPackagePass{graphics}[2020/08/30]

§ 305.1 **Graphics extensions**

\DeclareGraphicsExtensions  $\{\langle list \rangle\}$

\AtBeginDocument allow SVG files instead of PDF:

```
2 \AtBeginDocument{
3 \DeclareGraphicsExtensions{.svg,.SVG,.gif,.GIF,.png,.PNG,.jpg,.JPG,.jpeg,.JPEG}
4 \DeclareGraphicsRule{.svg}{svg}{.svg}{}
5 \DeclareGraphicsRule{.SVG}{svg}{.SVG}{}
6 }
```

Inside a lateximage, allow PDF instead of SVG:

```
7 \ifpdf
8 \appto\LWR@restoreorigformatting{%
9 \DeclareGraphicsExtensions{.pdf,.PDF,.gif,.GIF,.png,.PNG,.jpg,.JPG,.jpeg,.JPEG}%
10 }
11 \else% \ifpdf
12 \ifXeTeX
13 \appto\LWR@restoreorigformatting{%
14 \DeclareGraphicsExtensions{.pdf,.PDF,.gif,.GIF,.png,.PNG,.jpg,.JPG,.jpeg,.JPEG}%
15 }
16 \else
17 \appto\LWR@restoreorigformatting{%
18 \DeclareGraphicsExtensions{.eps,.EPS,.gif,.GIF,.png,.PNG,.jpg,.JPG,.jpeg,.JPEG}%
19 }
20 \fi
21 \fi
```

## § 305.2 Length conversions and graphics options



whitespace

A scaled image in  $\LaTeX$  by default takes only as much space on the page as it requires, but HTML browsers use as much space as the original unscaled image would have taken, with the scaled image over- or under-flowing the area.

Used to store the user's selected dimensions and HTML class.

The class defaults to “inlineimage” unless changed by a `class=xyx` option.

```

22 \newlength{\LWR@igwidth}
23 \newlength{\LWR@igheight}
24 \newcommand*\LWR@igwidthstyle{}
25 \newcommand*\LWR@igheightstyle{}
26 \newcommand*\LWR@igorigin{}
27 \newcommand*\LWR@igangle{}
28 \newcommand*\LWR@igxscale{1}
29 \newcommand*\LWR@igyscale{1}
30 \newcommand*\LWR@igclass{inlineimage}

31 \newcommand*\LWR@igalt{\ImageAltText}

```

Set the actions of each of the key/value combinations for `\includegraphics`. Many are ignored.

If an optional width was given, set an HTML style:

```

32 \define@key{igraph}{width}{%
33 \setlength{\LWR@igwidth}{#1}%
34 \ifthenelse{\lengthtest{\LWR@igwidth > 0pt}}%
35 {%

```

Default to use the converted fixed length given:

```

36 \renewcommand*\LWR@igwidthstyle{width:\LWR@printlength{\LWR@igwidth}}%

```

If ex or em dimensions were given, use those instead:

```

37 \IfEndWith{#1}{ex}%
38 {\renewcommand*\LWR@igwidthstyle{width:#1}}% yes ex
39 {}% not ex
40 \IfEndWith{#1}{em}%
41 {\renewcommand*\LWR@igwidthstyle{width:#1}}% yes em
42 {}% not em
43 \IfEndWith{#1}{\}%
44 {\renewcommand*\LWR@igwidthstyle{width:#1}}% yes percent
45 {}% not percent
46 \IfEndWith{#1}{px}%
47 {\renewcommand*\LWR@igwidthstyle{width:#1}}% yes px
48 {}% not px
49 }{}% end of length > 0pt
50 }

```

If an optional height was given, set an HTML style:

```
51 \define@key{igraph}{height}{%
52 \setlength{\LWR@igheight}{#1}%
53 \ifthenelse{\lengthtest{\LWR@igheight > 0pt}}%
54 {%
```

Default to use the converted fixed length given:

```
55 \renewcommand*\LWR@igheightstyle{%
56 height:\LWR@printlength{\LWR@igheight} % extra space
57 }%
```

If ex or em dimensions were given, use those instead:

```
58 \IfEndWith{#1}{ex}%
59 {\renewcommand*\LWR@igheightstyle}{height:#1}}% yes ex
60 {}% not ex
61 \IfEndWith{#1}{em}%
62 {\renewcommand*\LWR@igheightstyle}{height:#1}}% yes em
63 {}% not em
64 \IfEndWith{#1}{\}%
65 {\renewcommand*\LWR@igheightstyle}{height:#1}}% yes percent
66 {}% not percent
67 \IfEndWith{#1}{px}%
68 {\renewcommand*\LWR@igheightstyle}{height:#1}}% yes px
69 {}% not px
70 }{}% end of length > 0pt
71 }
```

Handle origin key:

```
72 \define@key{igraph}{origin}[c]{%
73 \renewcommand*\LWR@igorigin}{#1}%
74 }
```

Handle angle key:

```
75 \define@key{igraph}{angle}{\renewcommand*\LWR@igangle}{#1}}
```

Handle class key:

```
76 \define@key{igraph}{class}{\renewcommand*\LWR@igclass}{#1}}
```

Handle alt key:

```
77 \define@key{igraph}{alt}{\renewcommand*\LWR@igalt}{#1}}
```

It appears that `graphicx` does not have separate keys for `xscale` and `yscale`. `scale` adjusts both at the same time.

```
78 \define@key{igraph}{scale}{%
79 \ifthenelse{equal{#1}{1}}{}{}% must expand #1
80 \PackageWarning{lwarp}{%
```

```

81 It is recommended to use ‘‘[width=xx\protect\linewidth]’’\MessageBreak
82 instead of ‘‘[scale=yy]’’,%
83]%
84 }%
85 \renewcommand*\LWR@igxscale{#1}%
86 \renewcommand*\LWR@igyscale{#1}%
87 }

```

Numerous ignored keys:

```

88 \define@key{igraph}{bb}{}
89 \define@key{igraph}{bblx}{}
90 \define@key{igraph}{bblly}{}
91 \define@key{igraph}{bburx}{}
92 \define@key{igraph}{bbury}{}
93 \define@key{igraph}{natwidth}{}
94 \define@key{igraph}{natheight}{}
95 \define@key{igraph}{hiresbb}[true]{}
96 \define@key{igraph}{viewport}{}
97 \define@key{igraph}{trim}{}
98 \define@key{igraph}{totalheight}{}
99 \define@key{igraph}{keepaspectratio}[true]{}
100 \define@key{igraph}{clip}[true]{}
101 \define@key{igraph}{draft}[true]{}
102 \define@key{igraph}{type}{}
103 \define@key{igraph}{ext}{}
104 \define@key{igraph}{read}{}
105 \define@key{igraph}{command}{}

```

New in v1.1a:

```

106 \define@key{igraph}{quite}{}
107 \define@key{igraph}{page}{}
108 \define@key{igraph}{pagebox}{}
109 \define@key{igraph}{interpolate}[true]{}

```

New in v1.1b:

```

110 \define@key{igraph}{decodearray}{}

```

### § 305.3 **Printing HTML styles**

`\LWR@rotstyle`     $\{\langle prefix \rangle\} \{\langle degrees \rangle\}$

Prints the rotate style with the given prefix.

`prefix` is `-ms-` or `-webkit-` or nothing, and is used to generate three versions of the `transform:rotate` style.

```

111 \newcommand*\LWR@rotstyle}[2]{%
112 \edef\LWR@tempone{#2}%
113 \setcounter{LWR@tempcountone}{-1*\real{\LWR@tempone}} % space
114 #1transform:rotate(\arabic{LWR@tempcountone}deg); % space
115 }

```

`\LWR@scalestyle`     $\{\langle prefix \rangle\} \{\langle xscale \rangle\} \{\langle yscale \rangle\}$

Prints the scale style with the given prefix.

prefix is `-ms-` or `-webkit-` or nothing, and is used to generate three versions of the `transform:scale` style.

```
116 \newcommand*\LWR@scalestyle}[3]{%
117 #1transform:scale(#2,#3);
118 }
```

### § 305.4 **\includegraphics**

`\LWR@opacity` For HTML, used only for `\includegraphics`.

`\LWR@opacity` may be set by the `transparent` package.

```
119 \def\LWR@opacity{1}
```

`\LWR@imagesizebox` Used to determine the actual image size if needed.

```
120 \newsavebox{\LWR@imagesizebox}
```

`\LWR@HTML@Gin@setfile`  $\langle w \rangle$   $\langle h \rangle$   $\langle filename \rangle$  Sets the parsed filename for HTML output.

```
121 \newcommand*\LWR@HTML@Gin@setfile}[3]{%
122 \xdef\LWR@parsedfilename{#3}%
123 }
```

`Key [Gin]` `class` CSS class for the image.

Define the new class `key` for the print-mode version of `\includegraphics`, which is enabled inside a `lateximage`.

```
124 \AtBeginDocument{
125 \define@key{Gin}{class}{}
126 \define@key{Gin}{alt}{}
127 }
```

`\LWR@replaceEPSSVG`

Usually, references to EPS files become SVG files, but if the `epstopdf` package is being used, it automatically converts EPS to PDF, and the following must NOT be done.

```
128 \AtBeginDocument{
129 \@ifpackageloaded{epstopdf}
130 {
131 \newcommand*\LWR@replaceEPSSVG{}
132 }{}
133 \newcommand*\LWR@replaceEPSSVG{%
134 \StrSubstitute{\LWR@tempone}{.eps}{.svg}[\LWR@tempone]%
135 \StrSubstitute{\LWR@tempone}{.EPS}{.SVG}[\LWR@tempone]%
136 }
137 }%
138 }
```

`\LWR@ig@wpimagesizes` \* [ $\langle 2: options \rangle$ ] [ $\langle 3: options \rangle$ ]  $\langle 4: filename \rangle$



If formatting for a word processor, find and set the actual image size, without rotation, using PDF instead of SVG to find the original bounding box:

```

139 \newcommand*\LWR@ig@wpimagesizes}[4]{%
140 \ifbool{FormatWP}{%
141 \begingroup%
142 \LWR@restoreorigformatting%
143 \ifpdf%
144 \appto\LWR@restoreorigformatting{%
145 \DeclareGraphicsExtensions{%
146 .pdf, .PDF, .gif, .GIF, .png, .PNG, .jpg, .JPG, .jpeg, .JPEG%
147 }%
148 }%
149 \else% \ifpdf
150 \ifXeTeX%
151 \appto\LWR@restoreorigformatting{%
152 \DeclareGraphicsExtensions{%
153 .pdf, .PDF, .gif, .GIF, .png, .PNG, .jpg, .JPG, .jpeg, .JPEG%
154 }%
155 }%
156 \else%
157 \appto\LWR@restoreorigformatting{%
158 \DeclareGraphicsExtensions{%
159 .eps, .EPS, .gif, .GIF, .png, .PNG, .jpg, .JPG, .jpeg, .JPEG%
160 }%
161 }%
162 \fi%
163 \fi% \ifpdf
164 \define@key{Gin}{angle}{}%
165 \IfBooleanTF{#1}%
166 {% starred
167 \IfValueTF{#3}%
168 {%
169 \global\abox{\LWR@imagesizebox}{%
170 \LWR@originincludegraphics*[#2][#3]{#4}%
171 }%
172 }%
173 {%
174 \IfValueTF{#2}%
175 {%
176 \global\abox{\LWR@imagesizebox}{%
177 \LWR@originincludegraphics*[#2]{#4}%
178 }%
179 }{%
180 \global\abox{\LWR@imagesizebox}{%
181 \LWR@originincludegraphics*{#4}%
182 }%
183 }%
184 }%
185 }% starred
186 {% not starred
187 \IfValueTF{#3}%
188 {%
189 \global\abox{\LWR@imagesizebox}{%
190 \LWR@originincludegraphics[#2][#3]{#4}%
191 }%

```

```

192 }%
193 {%
194 \IfValueTF{#2}%
195 {%
196 \global\abox{\LWR@imagesizebox}{%
197 \LWR@originincludegraphics[#2]{#4}%
198 }%
199 }{%
200 \global\abox{\LWR@imagesizebox}{%
201 \LWR@originincludegraphics{#4}%
202 }%
203 }%
204 }%
205 }% not starred
206 \endgroup%
207 \settowidth{\LWR@igwidth}{\usebox{\LWR@imagesizebox}}%
208 \global\renewcommand*\LWR@igwidthstyle{%
209 width:\LWR@printlength{\LWR@igwidth}%
210 }%
211 \settoheight{\LWR@igheight}{\usebox{\LWR@imagesizebox}}%
212 \global\renewcommand*\LWR@igheightstyle{%
213 height:\LWR@printlength{\LWR@igheight}%
214 }%
215 }{}% FormatWP
216 }

```

`\LWR@ig@htmltag` For the HTML reference, add the graphicspath, filename, extension, alt tag, style, and class.

```

217 \newcommand*\LWR@ig@htmltag{%
218 img\LWR@indentHTML%
219 src="%
220 \detokenize\expandafter{\LWR@parsedfilename}%
221 "\LWR@indentHTML%

```

Only include a style tag if a width, height, angle, or scale was given:

```

222 \ifthenelse{
223 \NOT\equal{\LWR@igwidthstyle}{} \OR
224 \NOT\equal{\LWR@igheightstyle}{} \OR
225 \NOT\equal{\LWR@igorigin}{} \OR
226 \NOT\equal{\LWR@igangle}{} \OR
227 \NOT\equal{\LWR@igxscale}{1} \OR
228 \NOT\equal{\LWR@igyscale}{1}
229 }%
230 {%
231 style="\LWR@indentHTML
232 \ifthenelse{\NOT\equal{\LWR@igwidthstyle}{} }%
233 {\LWR@igwidthstyle;\LWR@indentHTML}{}%
234 \ifthenelse{\NOT\equal{\LWR@igheightstyle}{} }%
235 {\LWR@igheightstyle;\LWR@indentHTML}{}%
236 \ifthenelse{\NOT\equal{\LWR@igorigin}{} }%
237 {%
238 transform-origin: \LWR@originnames{\LWR@igorigin};%

```

```

239 \LWR@indentHTML%
240 }{}%
241 \ifthenelse{\NOT\equal{\LWR@igangle}{}}%
242 {%
243 \LWR@rotstyle{-ms-}{\LWR@igangle}\LWR@indentHTML
244 \LWR@rotstyle{-webkit-}{\LWR@igangle}\LWR@indentHTML
245 \LWR@rotstyle{}{\LWR@igangle } \LWR@indentHTML
246 }{}%
247 \ifthenelse{%
248 \NOT\equal{\LWR@igxscale}{1}\OR%
249 \NOT\equal{\LWR@igyscale}{1}%
250 }%
251 {%
252 \LWR@scalestyle{-ms-}{\LWR@igxscale}{\LWR@igyscale}%
253 \LWR@indentHTML
254 \LWR@scalestyle{-webkit-}{\LWR@igxscale}{\LWR@igyscale}%
255 \LWR@indentHTML
256 \LWR@scalestyle{}{\LWR@igxscale}{\LWR@igyscale}%
257 \LWR@indentHTML
258 }{}%
259 %
260 \ifthenelse{\NOT\equal{\LWR@opacity}{1}}%
261 {opacity:\LWR@opacity;\LWR@indentHTML}{}%
262 %
263 "\LWR@indentHTML%
264 }{}%

```

Set the class and alt tag:

```

265 class="\LWR@igclass"\LWR@indentHTML%
266 alt="\AltTextOpen\LWR@igalt\AltTextClose" \LWR@orignewline%
267 }% end of image tags

```

`\LWR@includegraphicsb` \* [*2: options*] [*3: options*] [*4: filename*]  
**graphics** syntax is `\includegraphics` \* [*llx,lly*] [*urx,ury*] [*file*]  
**graphicx** syntax is `\includegraphics` [*key values*] [*file*]

If #3 is empty, only one optional argument was given, thus **graphicx** syntax.

If using `\epsfig` or `\psfig` from the `epsfig` package, #4 will be `\LWR@epsfig@filename`, which will have been set by the file or figure keys. Therefore, #4 must not be used until after the keys have been processed.

```

268 \NewDocumentCommand{\LWR@includegraphicsb}{s o o m}
269 {%

```

Start the image tag on a new line, allow PDF output word wrap:

```

270 \LWR@origtilde \LWR@orignewline%

```

Temporarily compute `\linewidth`, `\textwidth`, `\textheight` arguments with a 6x9 inch size until the next `\endgroup`.

```

271 \begin{LWR@setvirtualpage}%

```

For correct em sizing during the width and height conversions:

```

272 \large%

```

Reset some defaults, possibly will be changed below if options were given:

```

273 \setlength{\LWR@igwidth}{0pt}%
274 \setlength{\LWR@igheight}{0pt}%
275 \renewcommand*\LWR@igwidthstyle{}%
276 \renewcommand*\LWR@igheightstyle{}%
277 \renewcommand*\LWR@igorigin{}%
278 \renewcommand*\LWR@igangle{}%
279 \renewcommand*\LWR@igxscale{1}%
280 \renewcommand*\LWR@igyyscale{1}%
281 \renewcommand*\LWR@igclass}{inlineimage}%

282 \ifdefvoid{\LWR@ThisAltText}{%
283 \edef\LWR@igalt{\ImageAltText}%
284 }{%
285 \edef\LWR@igalt{\LWR@ThisAltText}%
286 }%
```

If #3 is empty, only one optional argument was given, thus graphicx syntax:

```

287 \IfValueF{#3}{%
288 \IfValueTF{#2}%
289 {\setkeys{igraph}{#2}}%
290 {\setkeys{igraph}}}%
291 }%
```

Fully expand and detokenize the filename, changing the file extension to .svg if necessary.

```

292 \begingroup%
293 \LetLtxMacro\Gin@setfile\LWR@HTML@Gin@setfile%
294 \edef\LWR@tempone{#4}%
295 \StrSubstitute{\LWR@tempone}{.pdf}{.svg}[\LWR@tempone]%
296 \StrSubstitute{\LWR@tempone}{.PDF}{.SVG}[\LWR@tempone]%
297 \LWR@replaceEPSSVG%
298 \xdef\LWR@parsedfilename{\LWR@tempone}%
299 \Gininclude@graphics{\detokenize\expandafter{\LWR@tempone}}%
300 \endgroup%
301 \filename@parse{\LWR@parsedfilename}%
```

Remove doubled // in the directory path, from the 2020/10/01 L<sup>A</sup>T<sub>E</sub>X kernel change.

```

302 \StrSubstitute{\LWR@parsedfilename}{//}{/}[\LWR@parsedfilename]%

303 \LWR@traceinfo{\LWR@parsedfilename is \LWR@parsedfilename}%
```

If formatting for a word processor, find and set the actual image size, without rotation, using PDF instead of SVG to find the original bounding box:

```

304 \LWR@ig@wpimagesizes{#1}{#2}{#3}{#4}%
```

Create the HTML reference with the graphicspath, filename, extension, alt tag, style, and class:

```

305 \LWR@traceinfo{\LWR@includegraphicsb: about to create href}%
306 \LWR@href{\LWR@parsedfilename}%
307 {% start of href
308 \LWR@traceinfo{\LWR@includegraphicsb: about to LWR@htmltag}%
309 \LWR@htmltag{\LWR@ig@htmltag}%
310 }% end of href
```

Return to original page size and font size:

```
311 \end{LWR@setvirtualpage}%
```

Clear the single-use alt text:

```
312 \gdef\LWR@ThisAltText{%
313 \LWR@traceinfo{LWR@includegraphicsb done}%
314 }
```

`\includegraphics` [*<key=val>*] {*<filename>*}

Handles width and height, converted to fixed width and heights.

The user should always use no file suffix in the document source.

```
315 \AtBeginDocument{
316
317 \LWR@traceinfo{Patching includegraphics.}
318
319 \LetLtxMacro\LWR@originincludegraphics\includegraphics

320 \renewrobustcmd*{\includegraphics}
321 {%
```

This graphic should trigger an HTML paragraph even if alone, so ensure that are doing paragraph handling:

```
322 \LWR@traceinfo{includegraphics}%
323 \LWR@ensuredoingapar%
324 \LWR@includegraphicsb%
325 }% includegraphics
326 }% AtBeginDocument
```

### § 305.5 Boxes

`\LWR@rotboxorigin` Holds the origin key letters.

```
327 \newcommand*\LWR@rotboxorigin{}
```

`\LWR@originname` {*<letter>*}

Given one L<sup>A</sup>T<sub>E</sub>X origin key value, translate into an HTML origin word:

```
328 \newcommand*\LWR@originname[1]{%
329 \ifthenelse{\equal{#1}{t}}{top}{}%
330 \ifthenelse{\equal{#1}{b}}{bottom}{}%
331 \ifthenelse{\equal{#1}{c}}{center}{}%
332 \ifthenelse{\equal{#1}{l}}{left}{}%
333 \ifthenelse{\equal{#1}{r}}{right}{}%
334 }
```

`\LWR@originnames` {*<letters>*}

Given one- or two-letter L<sup>A</sup>T<sub>E</sub>X origin key values, translate into HTML origin words:

```

335 \newcommand*{\LWR@originnames}[1]{%
336 \StrChar{#1}{1}[\LWR@strresult]%
337 \LWR@originname{\LWR@strresult}
338 \StrChar{#1}{2}[\LWR@strresult]%
339 \LWR@originname{\LWR@strresult}
340 }

```

Handle the origin key for `\rotatebox`:

```

341 \define@key{krotbox}{origin}{%
342 \renewcommand*{\LWR@rotboxorigin}{#1}%
343 }

```

These keys are ignored:

```

344 \define@key{krotbox}{x}{}
345 \define@key{krotbox}{y}{}
346 \define@key{krotbox}{units}{}

```

`\rotatebox` [*⟨keyval list⟩*] {*⟨angle⟩*} {*⟨text⟩*}

```

347 \AtBeginDocument{

```

The HTML version:

```

348 \NewDocumentCommand{\LWR@HTML@rotatebox}{O{} m +m}{%

```

Reset the origin to “none-given”:

```

349 \renewcommand*{\LWR@rotboxorigin}{}

```

Process the optional keys, which may set `\LWR@rotateboxorigin`:

```

350 \setkeys{krotbox}{#1}%

```

Select inline-block so that HTML will transform this span:

```

351 \LWR@htmltagc{%
352 span\LWR@indentHTML
353 style="\LWR@indentHTML
354 display: inline-block;\LWR@indentHTML

```

If an origin was given, translate and print the origin information:

```

355 \ifthenelse{\NOT\equal{\LWR@rotboxorigin}{} }{
356 {transform-origin: \LWR@originnames{\LWR@rotboxorigin};\LWR@indentHTML}%
357 }{}%

```

Print the rotation information:

```

358 \LWR@rotstyle{-ms-}{#2}\LWR@indentHTML
359 \LWR@rotstyle{-webkit-}{#2}\LWR@indentHTML
360 \LWR@rotstyle{#2}"\LWR@originewline%
361 }\LWR@originewline%

```

Print the text to be rotated:

```
362 \begin{LWR@nestspan}%
363 #3%
```

Close the span:

```
364 \LWR@htmltagc{/span}%
365 \end{LWR@nestspan}%
366 }
```

The high-level interface:

```
367 \LWR@formatted{rotatebox}
368
369 }% AtBeginDocument
```

`\scalebox`  $\langle h-scale \rangle$  [ $\langle v-scale \rangle$ ]  $\langle text \rangle$

```
370 \AtBeginDocument{
```

The HTML version:

```
371 \NewDocumentCommand{\LWR@HTML@scalebox}{m o m}{%
```

Select inline-block so that HTML will transform this span:

```
372 \LWR@htmltagc{%
373 span\LWR@indentHTML
374 style="\LWR@indentHTML
375 display: inline-block;\LWR@indentHTML
```

Print the scaling information:

```
376 \LWR@scalestyle{-ms-}{#1}{\IfNoValueTF{#2}{#1}{#2}}\LWR@indentHTML
377 \LWR@scalestyle{-webkit-}{#1}{\IfNoValueTF{#2}{#1}{#2}}\LWR@indentHTML
378 \LWR@scalestyle{#1}{\IfNoValueTF{#2}{#1}{#2}}
379 "\LWR@orignewLine
380 }\LWR@orignewLine%
```

Print the text to be scaled:

```
381 \begin{LWR@nestspan}%
382 #3%
```

Close the span:

```
383 \LWR@htmltagc{/span}%
384 \end{LWR@nestspan}%
385 }
```

The high-level interface:

```

386 \LWR@formatted{scalebox}
387
388 }% AtBeginDocument

```

`\reflectbox`  $\{\langle text \rangle\}$

```

389 \AtBeginDocument{
390
391 \newcommand{\LWR@HTML@reflectbox}[1]{%
392 \scalebox{-1}[1]{#1}%
393 }% \reflectbox
394
395 \LWR@formatted{reflectbox}
396
397 }% AtBeginDocument

```

`\resizebox`  $\{\langle h-length \rangle\} \{\langle v-length \rangle\} \{\langle text \rangle\}$

Simply prints its text argument.

```

398 \AtBeginDocument{
399
400 \NewDocumentCommand{\LWR@HTML@resizebox}{s m m m}{%
401 #4%
402 }
403
404 \LWR@formatted{resizebox}
405
406 }% AtBeginDocument

```

---

File 200 **lwarp-graphics.sty**

§ 306 Package **graphicx**

Pkg graphicx graphicx is emulated.

graphicx loads graphics, which also loads lwarp-graphics, which remembers the original graphics definitions for use inside a lateximage, and then patches them \AtBeginDocument for HTML output.

lwarp-graphics handles the syntax of either graphics or graphicx.

**for HTML output:** 1 \LWR@ProvidesPackagePass{graphicx}[2020/09/09]

---

File 201 **lwarp-grffile.sty**

§ 307 Package **grffile**

Pkg grffile grffile is supported as-is. File types known to the browser are displayed, and unknown



**matching PDF and SVG**

file types are given a link. Each PDF image for print mode should be accompanied by an SVG, PNG, or JPG version for HTML.

lwarp-grffile now exists as a placeholder since grffile used to be emulated by lwarp, and thus older versions of lwarp-grffile may exist and should be overwritten by this newer version.

**for HTML output:** `1 \LWR@ProvidesPackagePass{grffile}[2017/06/30]`

File 202 **lwarp-grid.sty**

§ 308 Package **grid**

Pkg grid grid is ignored.

**for HTML output:** `1 \LWR@ProvidesPackageDrop{grid}[2009/06/16]`

`2 \newenvironment*{gridenv}{}{}`

File 203 **lwarp-grid-system.sty**

§ 309 Package **grid-system**

*(Emulates or patches code by MARCUS BITZL.)*

Pkg grid-system grid-system is patched for use by lwarp.

**for HTML output:** `1 \LWR@ProvidesPackagePass{grid-system}[2014/02/16]`

`(\ifdef is in case the older syntax is removed.)`

`2 \AtBeginEnvironment{Row}{\setlength{\linewidth}{6in}}`

`3`

`4 \ifdef{\endrow}{`

`5 \AtBeginEnvironment{row}{\setlength{\linewidth}{6in}}`

`6 }{}`

`7`

`8 \renewcommand{\gridsystem@finishcell}{\hspace{\gridsystem@cellsep}}`

File 204 **lwarp-gridset.sty**

§ 310 Package **gridset**

Pkg gridset gridset is ignored.

**for HTML output:** `1 \LWR@ProvidesPackageDrop{gridset}[2020-02-12]`

```

2 \newcommand*\gridbase{}
3 \newcommand*\gridinterval{}
4 \newcommand*\SavePos}[1]{}
5 \ifLuaTeX
6 \else
7 \let\savepos\SavePos
8 \fi
9 \newcommand*\vskipnextgrid{}
10 \newcommand*\thegridinfo}[1]{(thegridinfo)}
11 \newcommand*\theposinfo}[1]{(theposinfo)}
12 \newcommand*\theypos}[1]{(theypos)}

```

File 205 **lwarp-hang.sty**

§ 311 Package **hang**

*(Emulates or patches code by ANDREAS NOLDA.)*

Pkg hang **hang** is emulated.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{hang}[2017/02/18]

2 \newlength{\hangingindent}
3 \setlength{\hangingindent}{1em}
4 \newlength{\hangingleftmargin}
5 \setlength{\hangingleftmargin}{0em}
6
7 \newcommand*\LWR@findhangingleftmargin{%
8 \setlength{\LWR@templengthone}{\hangingleftmargin}%
9 \addtolength{\LWR@templengthone}{\hangingindent}%
10 }
11
12 \newenvironment{hangingpar}
13 {
14 \LWR@findhangingleftmargin%
15 \BlockClass[%
16 \LWR@print@mbx{margin-left:\LWR@printlength{\LWR@templengthone}} ; %
17 \LWR@print@mbx{text-indent:-\LWR@printlength{\hangingindent}}%
18]%
19 {hangingpar}%
20 }
21 {\endBlockClass}
22
23 \newenvironment{hanginglist}
24 {%
25 \renewcommand*\LWR@printcloselist{\LWR@printcloseitemize}%
26 \renewcommand*\LWR@printopenlist{%
27 \LWR@findhangingleftmargin%
28 ul style=""
29 \LWR@print@mbx{list-style-type:none;} % extra space
30 \LWR@print@mbx{%
31 margin-left:\LWR@printlength{\LWR@templengthone}%
32 } ; % extra space

```

```

33 \LWR@print@mbbox{%
34 text-indent:-\LWR@printlength{\hangingindent}%
35 }%
36 "%
37 }%
38 \let\item\LWR@itemizeitem%
39 \list{}{}%
40 }
41 {\endlist}
42
43 \newenvironment{compacthang}
44 {\hanginglist}
45 {\endhanginglist}
46
47 \newlength{\labeledleftmargin}
48 \setlength{\labeledleftmargin}{0em}
49
50 \newenvironment{labeledpar}[2]
51 {%
52 \BlockClass[%
53 \LWR@findhangingleftmargin%
54 \LWR@print@mbbox{margin-left:\LWR@printlength{\LWR@templengthone}} ; %
55 \LWR@print@mbbox{text-indent:-\LWR@printlength{\hangingindent}}%
56]{labeledpar}#2%
57 }
58 {\endBlockClass}
59
60 \newenvironment{labeledlist}[1]
61 {\hanginglist}
62 {\endhanginglist}
63
64 \newenvironment{compactlabel}[1]
65 {\hanginglist}
66 {\endhanginglist}

```

---

File 206 **lwarp-hanging.sty**

§ 312 Package **hanging**

Pkg hanging **hanging** is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{hanging}[2009/09/02]

```

2 \@ifclassloaded{memoir}{
3 \let\hangpara\relax
4 \let\hangparas\relax
5 \let\endhangparas\relax
6 \let\hangpunct\relax
7 \let\endhangpunct\relax
8 }{}

```

`\hangpara`     $\langle indent \rangle \langle afternum \rangle$

Use `hangparas` instead.

```
9 \newcommand*\hangpara[2]{}
```

Env `hangparas`     $\langle indent \rangle \langle afternum \rangle$

```
10 \newenvironment*{hangparas}[2]
11 {%
12 \BlockClass[%
13 \LWR@print@mbx{margin-left:\LWR@printlength{#1}} ; %
14 \LWR@print@mbx{text-indent:-\LWR@printlength{#1}}}%
15]%
16 {hangingpar}%
17 }
18 {\endBlockClass}
```

Env `hangpunct`

```
19 \newenvironment*{hangpunct}
20 {\BlockClass{hangpunct}}
21 {\endBlockClass}

22 \newcommand{\nhpt}{.}
23 \newcommand{\nhlq}{'}
24 \newcommand{\nhrq}{'}
```

File 207    **lwarp-hepunits.sty**

§ 313    Package    **hepunits**

*(Emulates or patches code by ANDY BUCKLEY.)*

Pkg `hepunits`    `hepunits` is used as-is, and emulated for MATHJAX.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{hepunits}[2020/04/10]

2 \begin{warpMathJax}
3 \LWR@infoprocessingmathjax{hepunits}
4
5 \ifx\@HEPopt@sicmds\eyes
6 \CustomizeMathJax{\newcommand{\micron}{\micro\metre}}
7 \CustomizeMathJax{\newcommand{\mrad}{\milli\radian}}
8 \fi
9
10 \CustomizeMathJax{\newcommand{\gauss}{\mathrm{G}}}
11
12 \CustomizeMathJax{\newcommand{\invcmsq}{\centi\metre\tothe{-2}}}
13 \CustomizeMathJax{\newcommand{\invcmsqpersecond}{\invcmsq\second\tothe{-1}}}
14 \CustomizeMathJax{\newcommand{\invcmsqpersec}{\invcmsqpersecond}}
15
16 %% (Inverse) cross-sections
```

```
17 \CustomizeMathJax{\newcommand{\invbarn}{\barn\tothe{-1}}}
18
19 \ifx\@HEPopt@noprefixcmds\@empty
20 \CustomizeMathJax{\newcommand{\millibarn}{\milli\barn}}
21 \CustomizeMathJax{\newcommand{\microbarn}{\micro\barn}}
22 \CustomizeMathJax{\newcommand{\nanobarn}{\nano\barn}}
23 \CustomizeMathJax{\newcommand{\picobarn}{\pico\barn}}
24 \CustomizeMathJax{\newcommand{\femtobarn}{\femto\barn}}
25 \CustomizeMathJax{\newcommand{\attobarn}{\atto\barn}}
26 \CustomizeMathJax{\newcommand{\zeptobarn}{\zepto\barn}}
27 \CustomizeMathJax{\newcommand{\yoctobarn}{\yocto\barn}}
28 \CustomizeMathJax{\newcommand{\invnanobarn}{\nano\invbarn}}
29 \CustomizeMathJax{\newcommand{\invpicobarn}{\pico\invbarn}}
30 \CustomizeMathJax{\newcommand{\invfemtobarn}{\femto\invbarn}}
31 \CustomizeMathJax{\newcommand{\invattobarn}{\atto\invbarn}}
32 \CustomizeMathJax{\newcommand{\invzeptobarn}{\zepto\invbarn}}
33 \CustomizeMathJax{\newcommand{\invyoctobarn}{\yocto\invbarn}}
34 \CustomizeMathJax{\newcommand{\invnb}{\invnanobarn}}
35 \CustomizeMathJax{\newcommand{\invpb}{\invpicobarn}}
36 \CustomizeMathJax{\newcommand{\invfb}{\invfemtobarn}}
37 \CustomizeMathJax{\newcommand{\invab}{\invattobarn}}
38 \CustomizeMathJax{\newcommand{\invzb}{\invzeptobarn}}
39 \CustomizeMathJax{\newcommand{\invyb}{\invyoctobarn}}
40 \fi
41
42 \CustomizeMathJax{\newcommand{\electronvoltc}{\electronvolt\per\mathit{c}}}
43 \CustomizeMathJax{\newcommand{\electronvoltcsg}{\electronvolt\per\mathit{c}\squared}}
44 \CustomizeMathJax{\let\evc\electronvoltc}
45 \CustomizeMathJax{\let\evcsg\electronvoltcsg}
46
47 \ifx\@HEPopt@noprefixcmds\@empty
48 \CustomizeMathJax{\newcommand{\meV}{\milli\ev}}
49 \CustomizeMathJax{\newcommand{\keV}{\kilo\ev}}
50 \CustomizeMathJax{\newcommand{\MeV}{\mega\ev}}
51 \CustomizeMathJax{\newcommand{\GeV}{\giga\ev}}
52 \CustomizeMathJax{\newcommand{\TeV}{\tera\ev}}
53 \CustomizeMathJax{\newcommand{\meVc}{\milli\evc}}
54 \CustomizeMathJax{\newcommand{\keVc}{\kilo\evc}}
55 \CustomizeMathJax{\newcommand{\MeVc}{\mega\evc}}
56 \CustomizeMathJax{\newcommand{\GeVc}{\giga\evc}}
57 \CustomizeMathJax{\newcommand{\TeVc}{\tera\evc}}
58 \CustomizeMathJax{\newcommand{\meVcsg}{\milli\evcsg}}
59 \CustomizeMathJax{\newcommand{\keVcsg}{\kilo\evcsg}}
60 \CustomizeMathJax{\newcommand{\MeVcsg}{\mega\evcsg}}
61 \CustomizeMathJax{\newcommand{\GeVcsg}{\giga\evcsg}}
62 \CustomizeMathJax{\newcommand{\TeVcsg}{\tera\evcsg}}
63 \fi
64 \end{warpMathJax}
```

File 208 **lwarp-hhline.sty**

§ 314 Package **hhline**

(Emulates or patches code by DAVID CARLISLE.)

Pkg hhline **hhline** is patched for use by **lwarp**.

Only a rudimentary emulation is provided so far. If the argument contains any = characters, the result is a double `\hline`. If none, the result is a single `\hline`.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{hhline}[2014/10/28]

2 \newrobustcmd*{\LWR@HTML@hhline}[1]{%
3 \edef\LWR@tempone{\detokenize\expandafter{#1}}%
4 \IfSubStr[1]{\LWR@tempone}{=}{\hline\hline}{\hline}%
5 }
6 % ^^A or:
7 % ^^A \newrobustcmd*{\LWR@HTML@hhline}[1]{\LWR@getmynexttoken}
8
9 \AtBeginDocument{\LWR@expandableformatted{hhline}}
```

For MATHJAX. A simple `\hline` is used.

```

10 \begin{warpMathJax}
11 \CustomizeMathJax{\newcommand{\hhline}[1]{\hline}}
12 \end{warpMathJax}
```

File 209 **lwarp-hhtensor.sty**

§ 315 Package **hhtensor**

(Emulates or patches code by HARALD HARDERS.)

Pkg hhtensor **hhtensor** is used as-is, and emulated for MATHJAX.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{hhtensor}[2011/12/29]

2 \begin{warpMathJax}
3 \iftensor@bold
4 \CustomizeMathJax{\newcommand{\vec}[1]{\boldsymbol{#1}}}
5 \CustomizeMathJax{\newcommand{\matr}[1]{\boldsymbol{#1}}}
6 \CustomizeMathJax{\newcommand{\tens}[2]{\boldsymbol{#1}}}
7 \else
8 \iftensor@uline
9 \CustomizeMathJax{\newcommand{\vec}[1]{\ushort{#1}}}
10 \CustomizeMathJax{\newcommand{\matr}[1]{\ushortd{#1}}}
11 \CustomizeMathJax{\newcommand{\tens}[2]{
```

```

12 \underset{
13 \raise{.5ex}{\underset{#2}{\sim}}}
14 }{#1}
15 }
16 \else
17 \CustomizeMathJax{\newcommand{\matr}[1]{\vec{\vec{#1}}}}
18 \CustomizeMathJax{\newcommand{\tens}[2]{
19 \underset{
20 \raise{.5ex}{\underset{#2}{\sim}}}
21 }{#1}
22 }}
23 \fi
24 \fi
25 \CustomizeMathJax{\newcommand{\dcdot}{\mathrel{\cdot\mkern 0.0mu \cdot}}}
26 \CustomizeMathJax{\newcommand{\trans}{{}^{\mathrm{T}}}}
27 \end{warpMathJax}

```

---

File 210 **lwarp-hypbmsec.sty**

§ 316 Package **hypbmsec**

Pkg hypbmsec hypbmsec is emulated by the lwarp core.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{hypbmsec}[2016/05/16]

---

File 211 **lwarp-hypcap.sty**

§ 317 Package **hypcap**

Pkg hypcap hypcap is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{hypcap}[2016/05/16]

```

2 \newcommand*{\capstart}{}
3 \newcommand*{\hypcapspace}{}
4 \newcommand*{\hypcapredef}[1]{}
5 \newcommand*{\capstartfalse}{}
6 \newcommand*{\capstarttrue}{}

```

---

File 212 **lwarp-hypdestopt.sty**

§ 318 Package **hypdestopt**

Pkg hypdestopt hypdestopt is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{hypdestopt}[2016/05/21]

---

File 213 **lwarp-hypernat.sty**

§ 319 Package **hypernat**

Pkg hypernat hypernat is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{hypernat}[2001/07/09]

---

File 214 **lwarp-hyperref.sty**

§ 320 Package **hyperref**

*(Emulates or patches code by SEBASTIAN RAHTZ, HEIKO OBERDIEK, THE L<sup>A</sup>T<sub>E</sub>X3 PROJECT.)*

Pkg hyperref hyperref is emulated.

**for HTML output:** 1 % \LWR@ProvidesPackageDrop{hyperref}% not allowed  
 2 % \ProvidesPackage{lwarp-#1-#2}% not allowed  
 3 \PackageInfo{lwarp}{%  
 4 Using the lwarp HTML version of package ‘hyperref’,\MessageBreak  
 5 and discarding options except backref, pagebackref.\MessageBreak  
 6 (Not using \protect\ProvidesPackage, so that other packages\MessageBreak  
 7 do not attempt to patch lwarp’s version of ‘hyperref’.)\MessageBreak}

8 \SetupKeyvalOptions{family=LWR@hyperref,prefix=LWR@hyperref@}  
 9  
 10 \newcommand{\hypersetup}[1]{\setkeys{LWR@hyperref}{#1}}  
 11  
 12 \define@key{LWR@hyperref}{a4paper}[]{}  
 13 \define@key{LWR@hyperref}{a5paper}[]{}  
 14 \define@key{LWR@hyperref}{b5paper}[]{}  
 15 \define@key{LWR@hyperref}{letterpaper}[]{}  
 16 \define@key{LWR@hyperref}{legalpaper}[]{}  
 17 \define@key{LWR@hyperref}{executivepaper}[]{}  
 18 \define@key{LWR@hyperref}{implicit}[]{}  
 19 \define@key{LWR@hyperref}{draft}[]{}  
 20 \define@key{LWR@hyperref}{final}[]{}  
 21 \define@key{LWR@hyperref}{setpagesize}[]{}  
 22 \define@key{LWR@hyperref}{debug}[]{}  
 23 \define@key{LWR@hyperref}{linktocpage}[]{}  
 24 \define@key{LWR@hyperref}{linktoc}[]{}  
 25 \define@key{LWR@hyperref}{extension}[]{}  
 26 \define@key{LWR@hyperref}{verbose}[]{}  
 27 \define@key{LWR@hyperref}{typexml}[]{}  
 28 \define@key{LWR@hyperref}{raiselinks}[]{}  
 29 \define@key{LWR@hyperref}{breaklinks}[]{}  
 30 \define@key{LWR@hyperref}{localanchorname}[]{}  
 31 \define@key{LWR@hyperref}{pageanchor}[]{}



```
32 \define@key{LWR@hyperref}{plainpages}[]{}
33 \define@key{LWR@hyperref}{naturalnames}[]{}
34 \define@key{LWR@hyperref}{hypertextnames}[]{}
35 \define@key{LWR@hyperref}{nesting}[]{}
36 \define@key{LWR@hyperref}{destlabel}[]{}
37 \define@key{LWR@hyperref}{unicode}[]{}
38 \define@key{LWR@hyperref}{pdfencoding}[]{}
39 \define@key{LWR@hyperref}{psdextra}[]{}
40 \define@key{LWR@hyperref}{pdfversion}[]{}
41 \define@key{LWR@hyperref}{dvipdfmx-outline-open}[]{}
42 \define@key{LWR@hyperref}{driverfallback}[]{}
43 \define@key{LWR@hyperref}{customdriver}[]{}
44 \define@key{LWR@hyperref}{hyperfigures}[]{}
45 \define@key{LWR@hyperref}{hyperfootnotes}[]{}
46 \define@key{LWR@hyperref}{hyperindex}[]{}
47 \define@key{LWR@hyperref}{encap}[]{}
48 \define@key{LWR@hyperref}{colorlinks}[]{}
49 \define@key{LWR@hyperref}{ocgcolorlinks}[]{}
50 \define@key{LWR@hyperref}{frenchlinks}[]{}
51 \define@key{LWR@hyperref}{bookmarks}[]{}
52 \define@key{LWR@hyperref}{bookmarksopen}[]{}
53 \define@key{LWR@hyperref}{bookmarksdepth}[]{}
54 \define@key{LWR@hyperref}{bookmarksopenlevel}[]{}
55 \define@key{LWR@hyperref}{bookmarkstype}[]{}
56 \define@key{LWR@hyperref}{bookmarksnumbered}[]{}
57 \define@key{LWR@hyperref}{CJKbookmarks}[]{}
58 \define@key{LWR@hyperref}{link}[]{}
59 \define@key{LWR@hyperref}{anchor}[]{}
60 \define@key{LWR@hyperref}{cite}[]{}
61 \define@key{LWR@hyperref}{file}[]{}
62 \define@key{LWR@hyperref}{url}[]{}
63 \define@key{LWR@hyperref}{menu}[]{}
64 \define@key{LWR@hyperref}{run}[]{}
65 \define@key{LWR@hyperref}{linkbordercolor}[]{}
66 \define@key{LWR@hyperref}{anchorbordercolor}[]{}
67 \define@key{LWR@hyperref}{citebordercolor}[]{}
68 \define@key{LWR@hyperref}{filebordercolor}[]{}
69 \define@key{LWR@hyperref}{urlbordercolor}[]{}
70 \define@key{LWR@hyperref}{menubordercolor}[]{}
71 \define@key{LWR@hyperref}{runbordercolor}[]{}
72 \define@key{LWR@hyperref}{pagecolor}[]{}
73 \define@key{LWR@hyperref}{baseurl}[]{}
74 \define@key{LWR@hyperref}{linkfileprefix}[]{}
75 \define@key{LWR@hyperref}{pdfpagetransition}[]{}
76 \define@key{LWR@hyperref}{pdfpageduration}[]{}
77 \define@key{LWR@hyperref}{pdfpagehidden}[]{}
78 \define@key{LWR@hyperref}{pagebordercolor}[]{}
79 \define@key{LWR@hyperref}{allbordercolors}[]{}
80 \define@key{LWR@hyperref}{pdfhighlight}[]{}
81 \define@key{LWR@hyperref}{pdfborder}[]{}
82 \define@key{LWR@hyperref}{pdfborderstyle}[]{}
83 \define@key{LWR@hyperref}{pdfprintpagerange}[]{}
84 \define@key{LWR@hyperref}{pdfusetitle}[]{}
85 \define@key{LWR@hyperref}{pdftitle}[]{}
86 \define@key{LWR@hyperref}{pdfauthor}[]{}

```

```
87 \define@key{LWR@hyperref}{pdfproducer}[]{}
88 \define@key{LWR@hyperref}{pdfcreator}[]{}
89 \define@key{LWR@hyperref}{addtopdfcreator}[]{}
90 \define@key{LWR@hyperref}{pdfcreationdate}[]{}
91 \define@key{LWR@hyperref}{pdfmoddate}[]{}
92 \define@key{LWR@hyperref}{pdfsubject}[]{}
93 \define@key{LWR@hyperref}{pdfkeywords}[]{}
94 \define@key{LWR@hyperref}{pdftrapped}[]{}
95 \define@key{LWR@hyperref}{pdfinfo}[]{}
96 \define@key{LWR@hyperref}{pdfview}[]{}
97 \define@key{LWR@hyperref}{pdflinkmargin}[]{}
98 \define@key{LWR@hyperref}{pdfstartpage}[]{}
99 \define@key{LWR@hyperref}{pdfstartview}[]{}
100 \define@key{LWR@hyperref}{pdfremotestartview}[]{}
101 \define@key{LWR@hyperref}{pdfpagescrop}[]{}
102 \define@key{LWR@hyperref}{pdftoolbar}[]{}
103 \define@key{LWR@hyperref}{pdfmenubar}[]{}
104 \define@key{LWR@hyperref}{pdfwindowui}[]{}
105 \define@key{LWR@hyperref}{pdffitwindow}[]{}
106 \define@key{LWR@hyperref}{pdfcenterwindow}[]{}
107 \define@key{LWR@hyperref}{pdfdisplaydoctitle}[]{}
108 \define@key{LWR@hyperref}{pdfa}[]{}
109 \define@key{LWR@hyperref}{pdfnewwindow}[]{}
110 \define@key{LWR@hyperref}{pdflang}[]{}
111 \define@key{LWR@hyperref}{pdfpagelabels}[]{}
112 \define@key{LWR@hyperref}{pdfescapeform}[]{}
113 \define@key{LWR@hyperref}{english}[]{}
114 \define@key{LWR@hyperref}{UKenglish}[]{}
115 \define@key{LWR@hyperref}{british}[]{}
116 \define@key{LWR@hyperref}{USenglish}[]{}
117 \define@key{LWR@hyperref}{american}[]{}
118 \define@key{LWR@hyperref}{german}[]{}
119 \define@key{LWR@hyperref}{austrian}[]{}
120 \define@key{LWR@hyperref}{ngerman}[]{}
121 \define@key{LWR@hyperref}{naustrian}[]{}
122 \define@key{LWR@hyperref}{russian}[]{}
123 \define@key{LWR@hyperref}{brazil}[]{}
124 \define@key{LWR@hyperref}{brazilian}[]{}
125 \define@key{LWR@hyperref}{portuguese}[]{}
126 \define@key{LWR@hyperref}{spanish}[]{}
127 \define@key{LWR@hyperref}{catalan}[]{}
128 \define@key{LWR@hyperref}{afrikaans}[]{}
129 \define@key{LWR@hyperref}{french}[]{}
130 \define@key{LWR@hyperref}{frenchb}[]{}
131 \define@key{LWR@hyperref}{français}[]{}
132 \define@key{LWR@hyperref}{acadian}[]{}
133 \define@key{LWR@hyperref}{canadien}[]{}
134 \define@key{LWR@hyperref}{italian}[]{}
135 \define@key{LWR@hyperref}{magyar}[]{}
136 \define@key{LWR@hyperref}{hungarian}[]{}
137 \define@key{LWR@hyperref}{greek}[]{}
138 \define@key{LWR@hyperref}{dutch}[]{}
139 \define@key{LWR@hyperref}{tex4ht}[]{}
140 \define@key{LWR@hyperref}{pdftex}[]{}
141 \define@key{LWR@hyperref}{luatex}[]{}

```

```
142 \define@key{LWR@hyperref}{nativepdf}[]{}
143 \define@key{LWR@hyperref}{dvipdfm}[]{}
144 \define@key{LWR@hyperref}{dvipdfmx}[]{}
145 \define@key{LWR@hyperref}{xetex}[]{}
146 \define@key{LWR@hyperref}{pdfmark}[]{}
147 \define@key{LWR@hyperref}{dvips}[]{}
148 \define@key{LWR@hyperref}{hypertex}[]{}
149 \define@key{LWR@hyperref}{vtex}[]{}
150 \define@key{LWR@hyperref}{vtexpdfmark}[]{}
151 \define@key{LWR@hyperref}{dviwindo}[]{}
152 \define@key{LWR@hyperref}{dvipsone}[]{}
153 \define@key{LWR@hyperref}{textures}[]{}
154 \define@key{LWR@hyperref}{latex2html}[]{}
155 \define@key{LWR@hyperref}{ps2pdf}[]{}
156 \define@key{LWR@hyperref}{vietnamese}[]{}
157 \define@key{LWR@hyperref}{vietnam}[]{}
158 \define@key{LWR@hyperref}{arabic}[]{}
159 \define@key{LWR@hyperref}{hidelinks}[]{}
160 \define@key{LWR@hyperref}{draft}[]{}
161 \define@key{LWR@hyperref}{nolinks}[]{}
162 \define@key{LWR@hyperref}{final}[]{}
163 \define@key{LWR@hyperref}{pdfa}[]{}
164 \define@key{LWR@hyperref}{pdfversion}[]{}
165 \define@key{LWR@hyperref}{typexml}[]{}
166 \define@key{LWR@hyperref}{tex4ht}[]{}
167 \define@key{LWR@hyperref}{pdftex}[]{}
168 \define@key{LWR@hyperref}{nativepdf}[]{}
169 \define@key{LWR@hyperref}{dvipdfm}[]{}
170 \define@key{LWR@hyperref}{dvipdfmx}[]{}
171 \define@key{LWR@hyperref}{dvipdfmx-outline-open}[]{}
172 \define@key{LWR@hyperref}{pdfmark}[]{}
173 \define@key{LWR@hyperref}{dvips}[]{}
174 \define@key{LWR@hyperref}{hypertex}[]{}
175 \define@key{LWR@hyperref}{vtex}[]{}
176 \define@key{LWR@hyperref}{vtexpdfmark}[]{}
177 \define@key{LWR@hyperref}{dviwindo}[]{}
178 \define@key{LWR@hyperref}{dvipsone}[]{}
179 \define@key{LWR@hyperref}{textures}[]{}
180 \define@key{LWR@hyperref}{latex2html}[]{}
181 \define@key{LWR@hyperref}{ps2pdf}[]{}
182 \define@key{LWR@hyperref}{xetex}[]{}
183 \define@key{LWR@hyperref}{driverfallback}[]{}
184 \define@key{LWR@hyperref}{customdriver}[]{}
185 \define@key{LWR@hyperref}{pdfversion}[]{}
186 \define@key{LWR@hyperref}{bookmarks}[]{}
187 \define@key{LWR@hyperref}{ocgcolorlinks}[]{}
188 \define@key{LWR@hyperref}{colorlinks}[]{}
189 \define@key{LWR@hyperref}{frenchlinks}[]{}
190 \define@key{LWR@hyperref}{backref}[]{}
191 \define@key{LWR@hyperref}{pagebackref}[]{}
192 \define@key{LWR@hyperref}{destlabel}[]{}
193 \define@key{LWR@hyperref}{pdfpagescrop}[]{}
194 \define@key{LWR@hyperref}{pdfpagemode}[]{}
195 \define@key{LWR@hyperref}{pdfnonfullscreenpagemode}[]{}
196 \define@key{LWR@hyperref}{pdfdirection}[]{}

```

```

197 \define@key{LWR@hyperref}{pdfviewarea}[]{}
198 \define@key{LWR@hyperref}{pdfviewclip}[]{}
199 \define@key{LWR@hyperref}{pdfprintarea}[]{}
200 \define@key{LWR@hyperref}{pdfprintclip}[]{}
201 \define@key{LWR@hyperref}{pdfprintsclaling}[]{}
202 \define@key{LWR@hyperref}{pdfduplex}[]{}
203 \define@key{LWR@hyperref}{pdfpicktraybypdfsize}[]{}
204 \define@key{LWR@hyperref}{pdfprintpagerange}[]{}
205 \define@key{LWR@hyperref}{pdfnumcopies}[]{}
206 \define@key{LWR@hyperref}{pdfstartview}[]{}
207 \define@key{LWR@hyperref}{pdfstartpage}[]{}
208 \define@key{LWR@hyperref}{pdftoolbar}[]{}
209 \define@key{LWR@hyperref}{pdfmenubar}[]{}
210 \define@key{LWR@hyperref}{pdfwindowui}[]{}
211 \define@key{LWR@hyperref}{pdffitwindow}[]{}
212 \define@key{LWR@hyperref}{pdfcenterwindow}[]{}
213 \define@key{LWR@hyperref}{pdfdisplaydoctitle}[]{}
214 \define@key{LWR@hyperref}{pdfpagelayout}[]{}
215 \define@key{LWR@hyperref}{pdflang}[]{}
216 \define@key{LWR@hyperref}{baseurl}[]{}
217 \define@key{LWR@hyperref}{pdfusetitle}[]{}
218 \define@key{LWR@hyperref}{pdfpagelabels}[]{}
219 \define@key{LWR@hyperref}{hyperfootnotes}[]{}
220 \define@key{LWR@hyperref}{hyperfigures}[]{}
221 \define@key{LWR@hyperref}{hyperindex}[]{}
222 \define@key{LWR@hyperref}{encap}[]{}
223 \define@key{LWR@hyperref}{linkcolor}[]{}
224 \define@key{LWR@hyperref}{anchorcolor}[]{}
225 \define@key{LWR@hyperref}{citecolor}[]{}
226 \define@key{LWR@hyperref}{filecolor}[]{}
227 \define@key{LWR@hyperref}{urllcolor}[]{}
228 \define@key{LWR@hyperref}{menucolor}[]{}
229 \define@key{LWR@hyperref}{runcolor}[]{}
230 \define@key{LWR@hyperref}{allcolors}[]{}
231
232 \DeclareStringOption[false]{backref}[section]
233
234 \DeclareBoolOption{pagebackref}
235
236 \DeclareDefaultOption{}
237
238 \ProcessKeyvalOptions*\relax

```

Maybe load backref:

```

239 \ifdefstring{\LWR@hyperref@backref}{section}
240 {\RequirePackage{backref}}
241 {}
242
243 \ifdefstring{\LWR@hyperref@backref}{slide}
244 {\RequirePackage{backref}}
245 {}
246
247 \ifdefstring{\LWR@hyperref@backref}{page}
248 {\RequirePackage{backref}}

```

```

249 {}
250
251 \ifLWR@hyperref@pagebackref
252 \RequirePackage{backref}
253 \fi

254 \LetLtxMacro\href\LWR@href
255 \LetLtxMacro\nolinkurl\LWR@nolinkurl
256 \LetLtxMacro\url\LWR@url
257 \LetLtxMacro\phantomsection\LWR@phantomsection

258 \newcommand*{\hyperbaseurl}[1]{}

```

`\hyperimage`     $\{\langle URL \rangle\} \{\langle alt \text{ text} \rangle\}$

Insert an image with alt text:

```

259 \NewDocumentCommand{\LWR@hyperimageb}{m +m}{%
260 \LWR@ensuredoingapar%
261 \def\LWR@templink{#1}%
262 \@onelevel@sanitize\LWR@templink%
263 \LWR@htmltag{img src="\LWR@templink" alt="#2" class="hyperimage"%}
264 \LWR@ensuredoingapar%
265 \endgroup%
266 }
267
268 \newrobustcmd*{\hyperimage}{%
269 \begingroup%
270 \LWR@linkcatcodes%
271 \LWR@hyperimageb%
272 }
273

```

`\hyperdef`     $\{\langle 1: category \rangle\} \{\langle 2: name \rangle\} \{\langle 3: text \rangle\}$

Creates an HTML anchor to `category.name` with the given text.

```

274 \NewDocumentCommand{\LWR@hyperdefb}{m m +m}{%
275 \LWR@ensuredoingapar%
276 \LWR@label@createtag{#1.#2}%
277 #3%
278 \endgroup%
279 }
280
281 \newcommand*{\hyperdef}{%
282 \begingroup%
283 \LWR@linkcatcodes%
284 \LWR@hyperdefb%
285 }
286

```

`\LWR@hyperrefb`     $\{\langle 1: URL \rangle\} \{\langle 2: category \rangle\} \{\langle 3: name \rangle\} \{\langle 4: text \rangle\}$

Creates an HTML link to `URL#category.name` with the given text.

To avoid nested links, `\ref` is temporarily redefined to the print version.

```

287 \newcommand{\LWR@hyperreffinish}[1]{%
288 \begingroup%
289 \RenewDocumentCommand{\ref}{s m}{\LWR@print@ref{##2}}%
290 #1%
291 \endgroup%
292 \LWR@htmltag{/a}%
293 }
294
295 \newcommand*\LWR@hyperrefbb}[3]{%
296 \LWR@htmltag{%
297 a href="%
298 \detokenize\expandafter{#1}\LWR@hashmark%
299 \detokenize\expandafter{#2}.\detokenize\expandafter{#3}%
300 "%
301 \LWR@addlinktitle%
302 }%
303 \endgroup%
304 \LWR@hyperreffinish%
305 }
306
307 \newrobustcmd*\LWR@hyperrefb}{%
308 \begingroup%
309 \LWR@linkcatcodes%
310 \LWR@hyperrefbb%
311 }

```

`\LWR@hyperrefc` [*label*] {*text*}

Creates text as an HTML link to the L<sup>A</sup>T<sub>E</sub>X label.

```

312
313 \NewDocumentCommand{\LWR@hyperrefcb}{0{label}}{%
314 \LWR@startref{#1}%
315 \endgroup%
316 \LWR@hyperreffinish%
317 }
318
319 \newcommand*\LWR@hyperrefc}{%
320 \begingroup%
321 \LWR@linkcatcodes%
322 \LWR@hyperrefcb%
323 }

```

`\hyperref` {*1: URL*} {*2: category*} {*3: name*} {*4: text*} — or —  
 [*1: label*] {*2: text*}

```

324 \DeclareRobustCommand*\hyperref}{%
325 \LWR@ensuredoingapar%
326 \ifnextchar[\LWR@hyperrefc\LWR@hyperrefb%
327 }

```

`\hypertarget` {*name*} {*text*}

Creates an anchor to name with the given text.

```

328 \NewDocumentCommand{\LWR@hypertargetb}{m +m}{%
329 \label{LWR-ht-#1}%
330 #2%
331 \endgroup%
332 }
333
334 \newcommand*{\hypertarget}{%
335 \begingroup%
336 \LWR@linkcatcodes%
337 \LWR@hypertargetb%
338 }

```

`\hyperlink`     $\langle name \rangle$   $\langle text \rangle$

Creates a link to the anchor created by `hypertarget`, with the given link text.

Declared because also defined by `memoir`.

```

339 \DeclareDocumentCommand{\LWR@hyperlinkb}{m}{%
340 \LWR@hyperrefcb[LWR-ht-#1]%
341 }
342
343 \DeclareDocumentCommand{\hyperlink}{}{%
344 \LWR@ensuredoingapar%
345 \begingroup%
346 \LWR@linkcatcodes%
347 \LWR@hyperlinkb%
348 }

```

`\autoref`    \*  $\langle label \rangle$

For HTML, `\cleveref` is used instead.

```

349 \NewDocumentCommand{\autoref}{s m}{%
350 \IfBooleanTF{#1}{\ref{#2}}{\cref{#2}}%
351 }

```

`\autopageref`     $\langle label \rangle$

For HTML, `\cleveref` is used instead.

```

352 \NewDocumentCommand{\autopageref}{s m}{%
353 \IfBooleanTF{#1}{\cpageref{#2}}{\cref{#2}}%
354 }

```

`\pdfstringdef`     $\langle macroname \rangle$   $\langle TEXstring \rangle$

```

355 \newcommand{\pdfstringdef}[2]{}

```

`\pdfbookmark`    [ $\langle level \rangle$ ]  $\langle text \rangle$   $\langle name \rangle$

```

356 \newcommand{\pdfbookmark}[3][{}]{

```

---

```

\currentpdfbookmark {\langle text \rangle} {\langle name \rangle}
357 \newcommand{\currentpdfbookmark}[2]{}

\subpdfbookmark {\langle text \rangle} {\langle name \rangle}
358 \newcommand{\subpdfbookmark}[2]{}

\belowpdfbookmark {\langle text \rangle} {\langle name \rangle}
359 \newcommand{\belowpdfbookmark}[2]{}

\texorpdfstring {\langle T E Xstring \rangle} {\langle PDFstring \rangle}
360 \let\texorpdfstring\relax
361 \newcommand{\texorpdfstring}[2]{#1}

\pdfstringdefDisableCommands
362 \newcommand{\pdfstringdefDisableCommands}[1]{}

\hypercalcbp {\langle dimen \rangle} From hyperref.
363 \def\hypercalcbp#1{%
364 \strip@pt\dimexpr 0.99626401\dimexpr(#1)\relax\relax
365 }%

\Acrobatmenu {\langle menuoption \rangle} {\langle text \rangle}
366 \newcommand{\Acrobatmenu}[2]{}

\TextField [\langle parameters \rangle] {\langle label \rangle}
367 \DeclareRobustCommand{\TextField}[2]{}

\CheckBox [\langle parameters \rangle] {\langle label \rangle}
368 \DeclareRobustCommand{\CheckBox}[2]{}

\ChoiceMenu [\langle parameters \rangle] {\langle label \rangle} {\langle choices \rangle}
369 \DeclareRobustCommand{\ChoiceMenu}[3]{}

\PushButton [\langle parameters \rangle] {\langle label \rangle}
370 \DeclareRobustCommand{\PushButton}[2]{}

\Submit [\langle parameters \rangle] {\langle label \rangle}
371 \DeclareRobustCommand{\Submit}[2]{}

```



---

|                                 |                                                                     |
|---------------------------------|---------------------------------------------------------------------|
| <code>\Reset</code>             | <code>[\langle parameters \rangle] \{\langle label \rangle\}</code> |
|                                 | 372 <code>\DeclareRobustCommand{\Reset}[2]{}{}</code>               |
| <code>\Gauge</code>             | <code>[\langle parameters \rangle] \{\langle label \rangle\}</code> |
|                                 | 373 <code>\DeclareRobustCommand{\Gauge}[2]{}{}</code>               |
| <code>\LayoutTextField</code>   | <code>\{\langle label \rangle\} \{\langle field \rangle\}</code>    |
|                                 | 374 <code>\newcommand*{\LayoutTextField}[2]{}{}</code>              |
| <code>\LayoutChoiceField</code> | <code>\{\langle label \rangle\} \{\langle field \rangle\}</code>    |
|                                 | 375 <code>\newcommand*{\LayoutChoiceField}[2]{}{}</code>            |
| <code>\LayoutCheckField</code>  | <code>\{\langle label \rangle\} \{\langle field \rangle\}</code>    |
|                                 | 376 <code>\newcommand*{\LayoutCheckField}[2]{}{}</code>             |
| <code>\MakeRadioField</code>    | <code>\{\langle width \rangle\} \{\langle height \rangle\}</code>   |
|                                 | 377 <code>\newcommand*{\MakeRadioField}[2]{}{}</code>               |
| <code>\MakeCheckField</code>    | <code>\{\langle width \rangle\} \{\langle height \rangle\}</code>   |
|                                 | 378 <code>\newcommand*{\MakeCheckField}[2]{}{}</code>               |
| <code>\MakeTextField</code>     | <code>\{\langle width \rangle\} \{\langle height \rangle\}</code>   |
|                                 | 379 <code>\newcommand*{\MakeTextField}[2]{}{}</code>                |
| <code>\MakeChoiceField</code>   | <code>\{\langle width \rangle\} \{\langle height \rangle\}</code>   |
|                                 | 380 <code>\newcommand*{\MakeChoiceField}[2]{}{}</code>              |
| <code>\MakeFieldButton</code>   | <code>\{\langle text \rangle\}</code>                               |
|                                 | 381 <code>\newcommand{\MakeFieldButton}[1]{}{}</code>               |

---

File 215 **lwarp-hyperxmp.sty**

§ 321 Package **hyperxmp**

Pkg hyperxmp hyperxmp is ignored.

**for HTML output:** Discard all options for lwarp-hyperxmp:

1 `\LWR@ProvidesPackageDrop{hyperxmp}[2018/11/27]`

---

File 216 **lwarp-hyphenat.sty**

§ 322 Package **hyphenat**

Pkg hyphenat **hyphenat** is emulated during HTML output, while the print-mode version is used inside a `lateximage`.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{hyphenat}[2009/09/02]
2 \LetLtxMacro\LWRHYNAT@origtextnhtt\textnhtt
3 \LetLtxMacro\LWRHYNAT@originhttfamily\nhttfamily
4 \LetLtxMacro\LWRHYNAT@originohyphens\nohyphens
5 \LetLtxMacro\LWRHYNAT@origbshyp\bshyp
6 \LetLtxMacro\LWRHYNAT@origfshyp\fshyp
7 \LetLtxMacro\LWRHYNAT@origdothyp\dothyp
8 \LetLtxMacro\LWRHYNAT@origcolonhyp\colonhyp
9 \LetLtxMacro\LWRHYNAT@orighyp\hyp
10
11 \LetLtxMacro\textnhtt\texttt
12 \LetLtxMacro\nhttfamily\ttfamily
13
14 \renewcommand{\nohyphens}[1]{#1}
15 \renewrobustcmd{\bshyp}{%
16 \ifmmode\backslash\else\textbackslash\fi%
17 }
18 \renewrobustcmd{\fshyp}{/}
19 \renewrobustcmd{\dothyp}{.}
20 \renewrobustcmd{\colonhyp}{:}
21 \renewrobustcmd{\hyp}{-}
22
23 \appto\LWR@restoreorigformatting{%
24 \LetLtxMacro\textnhtt\LWRHYNAT@origtextnhtt%
25 \LetLtxMacro\nhttfamily\LWRHYNAT@originhttfamily%
26 \LetLtxMacro\nohyphens\LWRHYNAT@originohyphens%
27 \LetLtxMacro\bshyp\LWRHYNAT@origbshyp%
28 \LetLtxMacro\fshyp\LWRHYNAT@origfshyp%
29 \LetLtxMacro\dothyp\LWRHYNAT@origdothyp%
30 \LetLtxMacro\colonhyp\LWRHYNAT@origcolonhyp%
31 \LetLtxMacro\hyp\LWRHYNAT@orighyp%
32 }

```

---

File 217 **lwarp-idxlayout.sty**

§ 323 Package **idxlayout**

*(Emulates or patches code by THOMAS TITZ.)*

Pkg idxlayout **idxlayout** is emulated.

**for HTML output:** Discard all options for lwarp-idxlayout:

```
1 \LWR@ProvidesPackageDrop{idxlayout}[2012/03/30]
```

```
2 \newcommand{\LWR@indexprenote}{}
```

\AtBeginDocument to help with package load order.

```
3 \AtBeginDocument{
4 \preto\printindex{
5
6 \LWR@maybe@orignewpage
7 \LWR@startpars
8
9 \LWR@indexprenote
10
11 }
12 }
```

```
13 \newcommand{\setindexprenote}[1]{\renewcommand{\LWR@indexprenote}{#1}}
```

```
14 \newcommand*{\noindexprenote}{\renewcommand{\LWR@indexprenote}{}}
```

```
15
```

```
16 \newcommand{\idxlayout}[1]{}

```

```
17 \newcommand*{\indexfont}{}

```

```
18 \newcommand*{\indexjustific}{}

```

```
19 \newcommand*{\indexsubsdelim}{}

```

```
20 \newcommand*{\indexstheadcase}{}

```

File 218 **lwarp-ifoddpag.e.sty**

§ 324 Package **ifoddpag.e**

*(Emulates or patches code by MARTIN SCHARRER.)*

Pkg ifoddpag.e ifoddpag.e is emulated.

**for HTML output:** Discard all options for lwarp-ifoddpag.e:

```
1 \LWR@ProvidesPackageDrop{ifoddpag.e}[2016/04/23]
```

```
2 \newif\ifoddpag.e

```

```
3

```

```
4 \newif\ifoddpag.eoroneside

```

```
5

```

```
6 \DeclareRobustCommand{\checkoddpag.e}{\oddpag.e>true\oddpag.eoroneside>true}

```

```
7

```

```
8 \def\oddpag.e@page{1}

```

```
9

```

```
10 \def\@ifoddpag.e{%

```

```
11 \expandafter\@firstoftwo

```

```
12 }

```

```
13

```

```

14 \def\@ifoddpagoroneside{%
15 \expandafter\@firstoftwo
16 }

```

File 219 **lwarp-imakeidx.sty**

§ 325 Package **imakeidx**

(Emulates or patches code by ENRICO GREGORIO.)

Pkg imakeidx imakeidx is patched for use by lwarp.

**letter headings** When using *makeindex*, to match the print and HTML output's display of index letter headings, specify the `lwarp.ist` style:

```
\makeindex[options={-s lwarp.ist}]
```

(For HTML the `lwarp.ist` style is used automatically, which displays letter headings. When using *xindy* the default style also displays letter headings.)

**index setup** See section 8.6.18 for how to setup *lwarpmk* to process the indexes with imakeidx, both with and without shell escape.

**for HTML output:** 1 \LWR@ProvidesPackagePass{imakeidx}[2016/10/15]

Use the new HTML suffix:

```

2 \catcode'_ =12%
3 \define@key{imki}{name}{\def\imki@name{#1_html}}
4 \catcode'_ =8%

```

`\printindex` The HTML version of `\printindex`:

```

5 \catcode'_ =12%
6
7 \renewcommand*\printindex[1][\imki@jobname]{%
8 \LWR@maybe@orignewpage%
9 \LWR@startpars%
10 \ifstrequal{#1}{\imki@jobname}{%
11 \@ifundefined{#1@idxfile}{%
12 \imki@error{#1}%
13 }{%
14 \imki@putindex{#1}%
15 }%
16 }{%
17 \@ifundefined{#1_html@idxfile}{\imki@error{#1_html}}{\imki@putindex{#1_html}}%
18 }%
19 }
20
21 \catcode'_ =8%

```

`\@index`    The HTML version of `\@index`:

```

22 \catcode'_ =12%
23
24 \def\@index[#1]{%
25 \ifstrequal{#1}{\imki@jobname}%
26 {%
27 \@ifundefined{#1@idxfile}%
28 {%
29 \PackageWarning{lwarp-imakeidx}{Undefined index file '#1'}%
30 \begingroup
31 \@sanitize
32 \imki@nowrindex%
33 }%
34 {%
35 \edef\@idxfile{#1}%
36 \begingroup
37 \@sanitize
38 \@wrindex\@idxfile%
39 }%
40 }%
41 {%
42 \@ifundefined{#1_html@idxfile}%
43 {%
44 \PackageWarning{lwarp-imakeidx}{Undefined index file '#1_html'}%
45 \begingroup
46 \@sanitize
47 \imki@nowrindex%
48 }%
49 {%
50 \edef\@idxfile{#1_html}%
51 \begingroup
52 \@sanitize
53 \@wrindex\@idxfile%
54 }%
55 }%
56 }
57
58 \catcode'_ =8%
```

`\item`

`\subitem`

`\subsubitem`    HTML versions of `\item`, etc.:

```

59 \appto\theindex{%
60 \let\item\LWR@indexitem%
61 \let\subitem\LWR@indexsubitem%
62 \let\subsubitem\LWR@indexsubsubitem%
63 }
```

`\imki@wrindexentrysplit`     $\{\langle file \rangle\} \{\langle entry \rangle\} \{\langle page \rangle\}$

`\imki@wrindexentryunique`     $\{\langle file \rangle\} \{\langle entry \rangle\} \{\langle page \rangle\}$

While writing index entries, adds an HTML label, and writes the label's index instead of the page number:

```

64 \renewcommand\imki@wrindexentrysplit[3]{%
65 \addtocounter{LWR@autoindex}{1}%
66 \label{LWRindex-\arabic{LWR@autoindex}}%
67 \expandafter\protected@write\csname#1@idxfile\endcsname{%
68 {\string\indexentry{#2}{\arabic{LWR@autoindex}}}%
69 }
70
71 \renewcommand\imki@wrindexentryunique[3]{%
72 \addtocounter{LWR@autoindex}{1}%
73 \label{LWRindex-\arabic{LWR@autoindex}}%
74 \protected@write\@indexfile{%
75 {\string\indexentry[#1]{#2}{\arabic{LWR@autoindex}}}%
76 }
77
78 \def\imki@wrindexsplit#1#2{%
79 \imki@wrindexentrysplit{#1}{#2}{\thepage}%
80 \endgroup\imki@showindexentry{#1}{#2}%
81 \@esphack%
82 }
83
84 \def\imki@wrindexunique#1#2{%
85 \imki@wrindexentryunique{#1}{#2}{\thepage}%
86 \endgroup\imki@showindexentry{#1}{#2}%
87 \@esphack%
88 }
89

```

`\LWR@imki@setxdydefopts`

Sets the *xindy* HTML options, ignoring the user's settings.

```

90 \newcommand*\LWR@imki@setxdydefopts{%
91 \edef\imki@options{ \space %
92 -M \space \LWR@xindyStyle\space %
93 -L \space \LWR@xindyLanguage\space %
94 -C \space \LWR@xindyCodepage\space %
95 }%
96 }

```

`\LWR@imki@setdefopts`    *{(user options)}*

Sets the HTML options, added to the user's settings, depending on whether *makeindex* or *xindy* are used.

For *makeindex*, the user's choice is ignored, and only the lwarp version is used. (Only one style at a time is possible.)

For *xindy*, multiple modules may be specified, and the lwarp version is appended.

```

97 \newcommand*\LWR@imki@setdefopts[1]{%
98 \ifblank{#1}{%
99 \edef\imki@options{\space -s \space \LWR@makeindexStyle \space}%
100 \ifdefstring{\imki@progdefault}{xindy}{\LWR@imki@setxdydefopts}{%
101 \ifdefstring{\imki@progdefault}{texindy}{\LWR@imki@setxdydefopts}{%
102 \ifdefstring{\imki@progdefault}{truexindy}{\LWR@imki@setxdydefopts}{%

```

```

103 }{%
104 \edef\imki@options{\space #1 \space}%
105 }%
106 }

```

`\imki@makeindex` Use the new HTML options:

```

107 \xpatchcmd{\imki@makeindex}
108 {\let\imki@options\space}
109 {\LWR@imki@setdefopts{}}%
110 {}
111 {\LWR@patcherror{imakeidx}{makeindex}}

```

Use the new HTML options.

```

112 \define@key{imki}{options}{\LWR@imki@setdefopts{#1}}

```

`\imki@resetdefaults` Use the new HTML options:

```

113 \xpatchcmd{\imki@resetdefaults}
114 {\def\imki@options{ }}
115 {\LWR@imki@setdefopts{}}
116 {}
117 {\LWR@patcherror{imakeidx}{resetdefaults}}

```

`theindex` was already defined `\AtBeginDocument` by the `lwarp` core, so it must be redefined here similarly, but patched for `imakeidx`:

Env `theindex`

```

118 \AtBeginDocument{
119 \renewenvironment*{theindex}{%
120 \imki@maybeaddtoc
121 \imki@indexlevel{\indexname}
122 \let\item\LWR@indexitem%
123 \let\subitem\LWR@indexsubitem%
124 \let\subsubitem\LWR@indexsubsubitem%
125 }{}
126 }% \AtBeginDocument

```

Update to the new defaults:

```

127 \imki@resetdefaults

```

Update to the new patches:

`\AtBeginDocument` is because `\@wrindex` is previously defined as `\AtBeginDocument` in the `lwarp` core.

```

128 \ifimki@splitindex
129 \let\imki@startidx\imki@startidxunique
130 \AtBeginDocument{\let\@wrindex\imki@wrindexunique}
131 \let\imki@putindex\imki@putindexunique
132 \let\imki@wrindexentry\imki@wrindexentryunique
133 \let\imki@startidxsplit\@undefined

```

```

134 \let\imki@wrindexsplit\undefined
135 \let\imki@putindexsplit\undefined
136 \else
137 \let\imki@startidx\imki@startidxsplit
138 \AtBeginDocument{\let\@wrindex\imki@wrindexsplit}
139 \let\imki@putindex\imki@putindexsplit
140 \let\imki@wrindexentry\imki@wrindexentrysplit
141 \let\imki@startidxunique\undefined
142 \let\imki@wrindexunique\undefined
143 \let\imki@putindexunique\undefined
144 \fi

```

---

File 220 **lwarp-index.sty**

§ 326 Package **index**

*(Emulates or patches code by DAVID M. JONES.)*

Pkg index **index** is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{index}[2004/01/20]

Use `\theLWR@autoindex` instead of `\thepage`. `\@tempwatrue` is used to force an immediate write to the index file instead of waiting until the end of the page.

```

2 \xpatchcmd{\newindex}
3 {\x@newindex[thepage]}
4 {%
5 \@tempwatrue%
6 \x@newindex[theLWR@autoindex]%
7 }
8 {}
9 {\LWR@patcherror{index}{newindex}}
10
11 \xpatchcmd{\renewindex}
12 {\x@renewindex[thepage]}
13 {%
14 \@tempwatrue%
15 \x@renewindex[theLWR@autoindex]%
16 }
17 {}
18 {\LWR@patcherror{index}{renewindex}}

```

Patched to set a new autoindex:

```

19 \xpatchcmd{\@wrindex}
20 {\begingroup}
21 {%
22 \addtocounter{LWR@autoindex}{1}% lwarp
23 \label{LWRindex-\arabic{LWR@autoindex}}% lwarp
24 \begingroup%
25 }

```



```

26 {}
27 {\LWR@patcherror{index}{@windex}}

```

\AtBeginDocument **lwarp** core \lets \@windex to \LWR@windex. Since the `index` package has been loaded, \let to its version instead:

```

28 \let\LWR@index@windex\@windex
29
30 \AtBeginDocument{
31 \let\@windex\LWR@index@windex
32 }

```

Modified to add \index@prologue:

```

33 \AtBeginDocument{
34 \renewenvironment*{theindex}{%
35 \LWR@indexsection{\indexname}%
36 \ifx\index@prologue\@empty\else
37 \index@prologue
38 \bigskip
39 \fi
40 \let\item\LWR@indexitem%
41 \let\subitem\LWR@indexsubitem%
42 \let\subsubitem\LWR@indexsubsubitem%
43 }{}
44 }% AtBeginDocument

```

Disabled:

```

45 \def\@showidx#1{}
46 \let\@texttop\relax
47 \renewcommand*{\raggedbottom}{}
48 \renewcommand*{\flushbottom}{}
49 \renewcommand*{\markboth}[2]{}
50 \renewcommand*{\markright}[1]{}

```

File 221 **lwarp-inputtrc.sty**

§ 327 Package **inputtrc**

*(Emulates or patches code by Uwe Lück.)*

Pkg inputtrc inputtrc is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{inputtrc}[2012/10/10]

Patched to remove extraneous spaces, which sometimes showed up in logos inside a lateximage.

```

2 \renewcommand*{\IT@prim@input}[1]{%
3 \typeout{\IT@indent\IT@currfile INPUTTING #1}%
4 %% ... TODO: option to write to '.log' only.

```

```

5 \xdef\IT@filestack{{\IT@currfile}\IT@filestack}%
6 \xdef\IT@currfile{#1}%
7 \expandafter \gdef\expandafter \IT@indent\expandafter{%
8 \IT@indent \IT@indent@unit}% lwarp
9 \@input#1% lwarp
10 \expandafter\IT@pop@indent\IT@indent \@nil% lwarp
11 \expandafter\IT@pop@file \IT@filestack\@nil% lwarp
12 \IT@maybe@returnmessage%% v0.2 lwarp
13 }

```

---

File 222 **lwarp-intopdf.sty**

§ 328 Package **intopdf**

Pkg intopdf intopdf is emulated.

The filespec, MIME type, and description are ignored for now.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop[intopdf][2019/05/28]

2 \NewDocumentCommand{\attachandlink}{o m o m m}{%
3 \LWR@href{#2}{#5}%
4 }

```

---

File 223 **lwarp-jurabib.sty**

§ 329 Package **jurabib**

*(Emulates or patches code by JENS BERGER.)*

Pkg jurabib jurabib is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass[jurabib][2004/01/25]

2 \renewrobustcmd{\jblangle}{\textless}
3
4 \renewrobustcmd{\jbrangle}{\textgreater}
5
6 \renewcommand*{\jb@biblaw@item}{%
7 \hspace{0.5em}%
8 \triangleright
9 \HTMLUnicode{25B7}% lwarp
10 \hspace{0.5em}%
11 }
12
13 \renewrobustcmd{\jbarchsig}[2]{%
14 \ifjbweareinbib
15 \settowidth{\jb@subarchitemwidth}{\jbsamesubarchindent+#1}%
16 \setlength{\jb@subarchentrywidth}{\textwidth-\jb@subarchitemwidth-4em}%
17 % \begin{tabular}{@{}p{\jb@subarchitemwidth}@{}j{\jb@subarchentrywidth}@{}}%

```

```

18 #1\ifjb@dot\unskip\unskip\unskip.\fi
19 % &
20 \quad% lwarp
21 \ifthenelse{\equal{#2}{}}{\jbarchnameformat{#2}}%
22 % \end{tabular}
23 \fi
24 }%
25
26
27 \xpatchcmd{\jb@do@post@item}
28 {\begin{tabular}{p{\jb@biblaw@item@width}j{\jb@biblaw@entry@width}}}
29 {}
30 {}
31 {\LWR@patcherror{jurabib}{jb@do@post@item 1}}
32
33 \xpatchcmd{\jb@do@post@item}
34 {\multicolumn{2}{p{\columnwidth}}{\jb@name}}
35 {\jb@name}
36 {}
37 {\LWR@patcherror{jurabib}{jb@do@post@item 2}}
38
39 \xpatchcmd{\jb@do@post@item}
40 {\jb@biblaw@item & \jb@fulltitle}
41 {\jb@biblaw@item \quad \jb@fulltitle}
42 {}
43 {\LWR@patcherror{jurabib}{jb@do@post@item 3}}
44
45 \xpatchcmd{\jb@do@post@item}
46 {\end{tabular}}
47 {}
48 {}
49 {\LWR@patcherror{jurabib}{jb@do@post@item 4}}
50
51 \xpatchcmd{\jb@do@post@item}
52 {\begin{minipage}[t]{\bibnumberwidth}}
53 {}
54 {}
55 {\LWR@patcherror{jurabib}{jb@do@post@item 5}}
56
57 \xpatchcmd{\jb@do@post@item}
58 {\end{minipage}}
59 {\quad}
60 {}
61 {\LWR@patcherror{jurabib}{jb@do@post@item 6}}

```

---

File 224 **lwarp-karnaugh-map.sty**

§ 330 Package **karnaugh-map**

*(Emulates or patches code by MATTIAS JACOBSSON.)*

Pkg karnaugh-map karnaugh-map is patched for use by lwarp.

for HTML output: 1 \LWR@ProvidesPackagePass{karnaugh-map}[2017/02/20]

This patch is needed only because lwarp changes the definition of  $\&$ , and the original uses `\ifnum` to compare 0 with  $\&$ . It is hard to patch this environment, so the entire thing is redefined here, with the lwarp modifications identified in comments.

```

2 \RenewDocumentEnvironment{karnaugh-map}{s 0{4} 0{4} 0{1} 0{X_1X_0$} 0{X_3X_2$} 0{X_5X_4$}} {%
3 \begingroup
4 % store map size {[START]
5 \renewcommand{\@karnaughmap@var@mapsize@}{#2}%
6 \renewcommand{\@karnaughmap@var@mapsizey@}{#3}%
7 \renewcommand{\@karnaughmap@var@mapsizez@}{#4}%
8 % [END]}
9 % determinate if markings should be color or black and white
10 \IfBooleanTF{#1}{%
11 % should be black and white
12 \renewcommand{\@karnaughmap@var@bw@}{1}%
13 }{%
14 % should be color
15 \renewcommand{\@karnaughmap@var@bw@}{0}%
16 }%
17 %
18 % find matching matrix template and alignment parameters {[START]
19 \newcommand{\@karnaughmap@local@matrixtemplate@}{0}% '0' is considered as missing matrix template
20 \newcommand{\@karnaughmap@local@maprealignmentx@}{0}%
21 \newcommand{\@karnaughmap@local@maprealignmenty@}{0}%
22 \ifnum\@karnaughmap@var@mapsize@>\@karnaughmap@var@mapsizey@&\@karnaughmap@var@mapsizez@=221
23 \renewcommand{\@karnaughmap@local@matrixtemplate@}{%
24 \& \& \& \&
25 0 \& |(000000)| \& |(000001)| \& \&
26 1 \& |(000010)| \& |(000011)| \& \&
27 \& \& \& \&
28 }%
29 \fi
30 \ifnum\@karnaughmap@var@mapsize@>\@karnaughmap@var@mapsizey@&\@karnaughmap@var@mapsizez@=241
31 \renewcommand{\@karnaughmap@local@matrixtemplate@}{%
32 \& \& \& \& \&
33 00 \& |(000000)| \& |(000001)| \& |(000011)| \& \&
34 01 \& |(000010)| \& |(000011)| \& |(000011)| \& \&
35 11 \& |(000110)| \& |(000111)| \& |(000111)| \& \&
36 10 \& |(000100)| \& |(000101)| \& |(000101)| \& \&
37 \& \& \& \& \&
38 }%
39 \fi
40 \ifnum\@karnaughmap@var@mapsize@>\@karnaughmap@var@mapsizey@&\@karnaughmap@var@mapsizez@=421
41 \renewcommand{\@karnaughmap@local@matrixtemplate@}{%
42 \& \& \& \& \& \&
43 0 \& |(000000)| \& |(000001)| \& |(000011)| \& |(000011)| \& |(000011)| \&
44 1 \& |(000100)| \& |(000101)| \& |(000101)| \& |(000111)| \& |(000111)| \&
45 \& \& \& \& \& \&
46 }%
47 \fi
48 \ifnum\@karnaughmap@var@mapsize@>\@karnaughmap@var@mapsizey@&\@karnaughmap@var@mapsizez@=441
49 \renewcommand{\@karnaughmap@local@matrixtemplate@}{%
50 \& \& \& \& \& \& \&

```

```

51 00 \& |(000000)| \& |(000001)| \& |(000011)| \& |(0000
52 01 \& |(000100)| \& |(000101)| \& |(000111)| \& |(0001
53 11 \& |(001100)| \& |(001101)| \& |(001111)| \& |(0011
54 10 \& |(001000)| \& |(001001)| \& |(001011)| \& |(0010
55 \&
56 \&
57 \&
58 \&
59 \&
60 \&
61 00 \& |(000000)| \& |(000001)| \& |(000011)| \& |(0000
62 01 \& |(000100)| \& |(000101)| \& |(000111)| \& |(0001
63 11 \& |(001100)| \& |(001101)| \& |(001111)| \& |(0011
64 10 \& |(001000)| \& |(001001)| \& |(001011)| \& |(0010
65 \&
66 \&
67 \&
68 \&
69 \&
70 \&
71 00 \& |(000000)| \& |(000001)| \& |(000011)| \& |(0000
72 01 \& |(000100)| \& |(000101)| \& |(000111)| \& |(0001
73 11 \& |(001100)| \& |(001101)| \& |(001111)| \& |(0011
74 10 \& |(001000)| \& |(001001)| \& |(001011)| \& |(0010
75 \&
76 \&
77 \&
78 \&
79 \&
80 \&
81 00 \& |(100000)| \& |(100001)| \& |(100011)| \& |(1000
82 01 \& |(100100)| \& |(100101)| \& |(100111)| \& |(1001
83 11 \& |(101100)| \& |(101101)| \& |(101111)| \& |(1011
84 10 \& |(101000)| \& |(101001)| \& |(101011)| \& |(1010
85 \&
86 \&
87 \&
88 \&
89 \&
90 \&
91 00 \& |(100000)| \& |(100001)| \& |(100011)| \& |(1000
92 01 \& |(100100)| \& |(100101)| \& |(100111)| \& |(1001
93 11 \& |(101100)| \& |(101101)| \& |(101111)| \& |(1011
94 10 \& |(101000)| \& |(101001)| \& |(101011)| \& |(1010
95 \&
96 \&
97 \&
98 \&
99 \&
100 \&
101 \renewcommand{\@karnaughmap@local@maprealignx}{2.5}%
102 \renewcommand{\@karnaughmap@local@maprealigny}{-2.5}%
103 \fi
104 % [END]}
105 % test if a matrix template is found or not(aka "\@karnaughmap@local@matrixtemplate@" equals to '0')
106 \ifdefstring{\@karnaughmap@local@matrixtemplate@}{0}{% lwarp
107 \ifnum0=\@karnaughmap@local@matrixtemplate@% original
108 % print error if no template could be found
109 \PackageError{lwarp-karnaugh-map}{%
110 Can not find a template fitting your specification (\@karnaughmap@var@mapsizex\space x \@karnaughma
111 }{%
112 Existing templates have the following dimensions: 2x2x1, 2x4x1, 4x2x1, 4x4x1, 4x4x2, and 4x4x4.
113 }%
114 \fi original
115 }{\relax}% lwarp
116 \begin{tikzpicture}
117 % grid
118 % for all dimensions
119 \draw[ultra thin] (0,0) grid (\@karnaughmap@var@mapsizex,\@karnaughmap@var@mapsizex);
120 % when there are 2 sub maps
121 \ifnum\@karnaughmap@var@mapsizex=2
122 \draw[ultra thin] (5,0) grid (9,4);
123 \fi

```

```

106 % when there are 4 sub maps
107 \ifnum\@karnaughmap@var@mapsize@=4
108 \draw[color=black, ultra thin] (5,0) grid (9,4);
109 \draw[color=black, ultra thin] (0,-5) grid (4,-1);
110 \draw[color=black, ultra thin] (5,-5) grid (9,-1);
111 \fi
112 % labels
113 % for all dimensions
114 \node[above] at (\@karnaughmap@var@mapsize@*0.5,\@karnaughmap@var@mapsize@+0.9) {\small{#5}};
115 \node[left] at (-0.9,\@karnaughmap@var@mapsize@*0.5) {\small{#6}};
116 % when there are 2 sub maps
117 \ifnum\@karnaughmap@var@mapsize@=2
118 \node[above] at (7,4.9) {\small{#5}};
119 % extra sub maps labels
120 \node[below] at (2,-0.1) {\small{#7$=0$}};
121 \node[below] at (7,-0.1) {\small{#7$=1$}};
122 \fi
123 % when there are 4 sub maps
124 \ifnum\@karnaughmap@var@mapsize@=4
125 \node[above] at (7,4.9) {\small{#5}};
126 \node[left] at (-0.9,-3) {\small{#6}};
127 % extra sub maps labels
128 \node[below] at (2,-0.1) {\small{#7$=00$}};
129 \node[below] at (7,-0.1) {\small{#7$=01$}};
130 \node[below] at (2,-5.1) {\small{#7$=10$}};
131 \node[below] at (7,-5.1) {\small{#7$=11$}};
132 \fi
133 % data
134 \matrix[
135 matrix of nodes,
136 ampersand replacement=\&,
137 column sep={1cm,between origins},
138 row sep={1cm,between origins},
139] at (\@karnaughmap@var@mapsize@*0.5+\@karnaughmap@local@maprealignment@,\@karnaughmap@var@mapsize@*0.5)
140 \@karnaughmap@local@matrixtemplate@
141 };
142 }{
143 \end{tikzpicture}
144 \endgroup
145 }

```

---

File 225 **lwarp-keyfloat.sty**

§ 331 Package **keyfloat**

(Emulates or patches code by BRIAN DUNN.)

Pkg keyfloat **keyfloat** is supported with a considerable amount of hacking. (It's a mashup of **lwarp**, **keyfloat**, and **tocdata**.)

⚠ **keywrap** If placing a `\keyfig[H]` inside a **keywrap**, use an absolute width for `\keyfig`, instead of **lw**-proportional widths. (The `[H]` option forces the use of a minipage, which internally adjusts for a virtual 6-inch wide minipage, which then corrupts the **lw** option.)

for HTML output:

```

1 \LWR@ProvidesPackagePass[keyfloat][2019/09/23]
2
3 \@ifpackagelater{keyfloat}{2019/09/23}{\relax}{
4 \PackageError{lwarp-keyfloat}
5 {%
6 The keyfloat package is out of date.\MessageBreak
7 Update to keyfloat v2.01 2019/09/23 or later%
8 }
9 {%
10 Please update the keyfloat package. It's worth it!%
11 }
12 }
```

After keyfloat has loaded:

```

13 \AtBeginDocument{

14 \providecommand*\KFLT@LWR@hook@boxouter{}
15 \renewcommand*\KFLT@LWR@hook@boxouter{%
16 \ifbool{KFLT@keywrap}{%
17 }{%
18 \ifnumequal{\value{KFLT@keyfloatdepth}}{0}{%
19 \setlength{\linewidth}{6in}%
20 \setlength{\textwidth}{6in}%
21 \setlength{\textheight}{9in}%
22 }{}%
23 }%
24 \normalcolor%
25 }

26 \let\ltxMacro\KFLT@LWR@hook@keysubfloats\KFLT@LWR@hook@boxouter
27
28 \let\KFLT@LWR@hook@keyfloatsminipage\relax
29 \let\endKFLT@LWR@hook@keyfloatsminipage\relax
30 \newenvironment{KFLT@LWR@hook@keyfloatsminipage}[1]{}{}

31 \let\ltxMacro\KFLT@LWR@hook@keyfloats\KFLT@LWR@hook@boxouter
32
33 \renewcommand*\KFLT@maybeendfloatrow{%
34 \ifnumless{\value{KFLT@thiscol}}{\value{KFLT@numcols}}%
35 }{% thiscol < numcols
36 }{% >=
37 \defcounter{KFLT@thiscol}{0}%
38 }%
39 }%
40
41 \renewcommand{\KFLT@trackrows}%
42 {%
```

If are nested inside a keyfloats or a subfloat:

```

43 \ifboolexpr{%
44 test {\ifnumgreater{\value{KFLT@keyfloatdepth}}{0}} or%
```

```

45 bool{KFLT@inkeysubfloats}%
46 }%
47 {% nested

```

Tracks row start and end:

```

48 \KFLT@maybestartfloatrow%

```

Possibly fill space between columns:

```

49 \ifnumgreater{\value{KFLT@thiscol}}{1}%
50 {%
51 % \hfill%
52 }%
53 }%
54 }% nested
55 }% not nested
56 }

57 \RenewDocumentCommand{\KFLT@onefigureimage}{m}
58 {%
59 \LWR@traceinfo{KFLT@onefigureimage}%
60 % \begin{lrbox}{\KFLT@envbox}%
61 \ifthenelse{\NOT\equal{\KFLT@lw}{}}%
62 {%
63 \KFLT@frame{\includegraphics%
64 [scale=\KFLT@s,width=\KFLT@imagewidth]{#1}}%
65 }%
66 {% not linewidth
67 \ifthenelse{\dimtest{\KFLT@w}{>}{0pt}}%
68 {% width is given
69 \ifthenelse{\dimtest{\KFLT@h}{>}{0pt}}%
70 {% w and h
71 \KFLT@frame{\includegraphics%
72 [scale=\KFLT@s,%
73 width=\KFLT@imagewidth,height=\KFLT@h]{#1}}%
74 }% w and h
75 {% only w
76 \KFLT@frame{\includegraphics%
77 [scale=\KFLT@s,width=\KFLT@imagewidth]{#1}}%
78 }% only w
79 }% width is given
80 {% width is not given
81 \ifthenelse{\dimtest{\KFLT@h}{>}{0pt}}%
82 {%
83 \KFLT@frame{\includegraphics%
84 [scale=\KFLT@s,height=\KFLT@h]{#1}}%
85 }%
86 {%
87 \KFLT@frame{\includegraphics%
88 [scale=\KFLT@s]{#1}}%
89 }%
90 }% width is not given
91 }% not linewidth
92 % \end{lrbox}%

```



```

93 % \unskip%
94 % \KFLT@findenvboxwidth%
95 % \begin{turn}{\KFLT@r}%
96 % \KFLT@frame{\usebox{\KFLT@envbox}}%
97 % \unskip%
98 % \end{turn}%
99 \LWR@traceinfo{KFLT@onefigureimage: done}%
100 }

101 \RenewDocumentEnvironment{KFLT@boxinner}{%
102 {%
103 \LWR@traceinfo{KFLT@boxinner}%
104 \LWR@stoppars%
105 \minipagefullwidth%
106 \ifboolexpr{bool{KFLT@ft} or bool{KFLT@f}}{%
107 \fminipage{\KFLT@imagewidth}%
108 }{%
109 \minipage{\KFLT@imagewidth}%
110 }%
111 }
112 {%
113 \ifboolexpr{bool{KFLT@ft} or bool{KFLT@f}}{%
114 \endfminipage%
115 }{%
116 \endminipage%
117 }%
118 \LWR@startpars%
119 \LWR@traceinfo{KFLT@boxinner: done}%
120 }

121 \newcommand*\LWR@KFLT@setttextalign}[1]{%
122 \def\LWR@KFLT@textalign{justify}%
123 \ifcsstring{KFLT@#1textalign}{\centering}%
124 {\def\LWR@KFLT@textalign{center}}%
125 }{%
126 \ifcsstring{KFLT@#1textalign}{\raggedleft}%
127 {\def\LWR@KFLT@textalign{right}}%
128 }{%
129 \ifcsstring{KFLT@#1textalign}{\raggedright}%
130 {\def\LWR@KFLT@textalign{left}}%
131 }%
132 }
133
134 \renewcommand{\KFLT@addtext}[1]
135 {%

Is there text to add?

136 \ifcsempy{KFLT@#1t}%
137 }{% no text
138 }{% text to add
139 }{% local

```

Add some space, then create a <div> to contain the text:

```

140 \addvspace{\smallskipamount}%
141 \LWR@KFLT@settextalign{#1}%
142 \begin{BlockClass}[text-align:\LWR@KFLT@textalign]{floatnotes}%

```

Set the alignment and some text parameters:

```

143 % \csuse{KFLT@#1textalign}%
144 % \footnotesize%
145 \setlength{\parskip}{1.5ex}%
146 \setlength{\parindent}{0em}%

```

Typeset the actual text:

```

147 \csuse{KFLT@#1t}%

```

Close it all out with a little more space:

```

148 \end{BlockClass}%
149 % \par\addvspace{2ex}%
150 }% local
151 }% text to add
152 }
153
154 \ifpackageloaded{tocdata}
155 {}
156 {% tocdata not loaded
157
158 \newcommand*\LWR@KFLT@setnamealign[1]{%
159 \def\LWR@KFLT@textalign{justify}%
160 \ifstrequal{#1}{\centering}%
161 {\def\LWR@KFLT@textalign{center}}%
162 {}%
163 \ifstrequal{#1}{\raggedleft}%
164 {\def\LWR@KFLT@textalign{right}}%
165 {}%
166 \ifstrequal{#1}{\raggedright}%
167 {\def\LWR@KFLT@textalign{left}}%
168 {}%
169 }
170
171 \renewcommand*\KFLT@addartisttext[3]{%
172

```

Add space and create the name inside a <div>:

```

173 % \addvspace{\medskipamount}%
174 % \begin{minipage}{\linewidth}%
175 % \LWR@KFLT@setnamealign{#3}%
176 % \begin{BlockClass}[text-align:\LWR@KFLT@textalign]{floatnotes}%
177

```

Text alignment is #3, and depends on artist or author:

```

178 % #3%
179

```

#1 is empty or 'subgrp'  
 #2 is empty for artist, 'u' for author:

```

180 \footnotesize\textsc{%
181 \KFLT@optionalname{\csuse{KFLT@#1a#2p}}%
182 \KFLT@optionalname{\csuse{KFLT@#1a#2f}}%
183 \csuse{KFLT@#1a#2L}%
184 \csuse{KFLT@#1a#2s}%
185 }%
186 % \end{minipage}%
187 \end{BlockClass}
188 % \par\advspace{2ex}%
189 }
190
191}% tocd data not loaded

```

Env KFLT@marginfloat [*<offset>*] {*<type>*}

```

192 \DeclareDocumentEnvironment{KFLT@marginfloat}{0{-1.2ex} m}
193 {%
194 \uselengthunit{PT}%
195 \LWR@BlockClassWP%
196 {float:right; width:2in; margin:10pt}%
197 {}%
198 {marginblock}%
199 \renewcommand*{\@capttype}{#2}%
200 \minipage{\LWR@usersmarginparwidth}%
201 \setlength{\marginparwidth}{.95\LWR@usersmarginparwidth}%
202 }
203 {%
204 \endminipage%
205 \endLWR@BlockClassWP%
206 }

207 \DeclareDocumentEnvironment{marginfigure}{o}
208 {\begin{KFLT@marginfloat}{figure}}
209 {\end{KFLT@marginfloat}}
210
211 \DeclareDocumentEnvironment{margintable}{o}
212 {\begin{KFLT@marginfloat}{table}}
213 {\end{KFLT@marginfloat}}

```

Env keywrap {*<width>*} {*<keyfloat>*}

```

214 \DeclareDocumentEnvironment{keywrap}{m +m}
215 {%
216 \begin{LWR@setvirtualpage}*
217 \setlength{\LWR@templengthone}{#1}%
218 \begin{LWR@BlockClassWP}%
219 {%
220 float:right; width:\LWR@printlength{\LWR@templengthone}; % extra space
221 margin:10pt%
222 }%
223 }%

```

```

224 {marginblock}%
225 \setlength{\linewidth}{.95\LWR@templengthone}%
226 \booltrue{KFLT@keywrap}%
227 #2%
228 \end{LWR@BlockClassWP}%
229 \end{LWR@setvirtualpage}%
230 }
231 {}

232 }% AtBeginDocument

```

---

File 226 **lwarp-keystroke.sty**

§ 332 Package **keystroke**

*(Emulates or patches code by WERNER FINK.)*

Pkg keystroke **keystroke** is patched for use by **lwarp**.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{keystroke}[2010/04/23]

2 \newcommand*\LWR@HTML@keystroke[1]{
3 \InlineClass{keystroke}{#1}
4 }
5 \LWR@formatted{keystroke}
6
7
8 \newcommand*\LWR@HTML@Return{\keystroke{\HTMLUnicode{021A9}}}
9 \LWR@formatted{Return}
10
11 \newcommand*\LWR@HTML@BSpace{\keystroke{\HTMLUnicode{027FB}}}
12 \LWR@formatted{BSpace}
13
14 \newcommand*\LWR@HTML@Tab{\keystroke{| \HTMLUnicode{021C6}|}}
15 \LWR@formatted{Tab}
16
17 \newcommand*\LWR@HTML@UArrow{\keystroke{\HTMLUnicode{02191}}}
18 \LWR@formatted{UArrow}
19
20 \newcommand*\LWR@HTML@DArrow{\keystroke{\HTMLUnicode{02193}}}
21 \LWR@formatted{DArrow}
22
23 \newcommand*\LWR@HTML@LArrow{\keystroke{\HTMLUnicode{02190}}}
24 \LWR@formatted{LArrow}
25
26 \newcommand*\LWR@HTML@RArrow{\keystroke{\HTMLUnicode{02192}}}
27 \LWR@formatted{RArrow}
28
29 % Preserves the language options:
30 \LetLtxMacro\LWR@HTML@Shift\Shift
31 \xpatchcmd{\LWR@HTML@Shift}
32 {\Uparrow}

```

```

33 {\HTMLUnicode{21D1}}
34 {}
35 {}
36 \LWR@formatted{Shift}
37
38 \LetLtxMacro\LWR@HTML@PgUp\PgUp
39 \xpatchcmd{\LWR@HTML@PgUp}
40 {\\uparrow}
41 {\HTMLUnicode{2191}}
42 {}
43 {}
44 \LWR@formatted{PgUp}
45
46 \LetLtxMacro\LWR@HTML@PgDown\PgDown
47 \xpatchcmd{\LWR@HTML@PgDown}
48 {\\downarrow}
49 {\HTMLUnicode{2193}}
50 {}
51 {}
52 \LWR@formatted{PgDown}

```


---

File 227 **lwarp-kpfonts.sty**

§ 333 Package **kpfonts**

(Emulates or patches code by CHRISTOPHE CAIGNAERT.)

Pkg kpfonts kpfonts is used as-is for SVG math, and is emulated for MATHJAX.

 **limitations** The MATHJAX emulation honors the options uprightRoman for \D only, classicReIm, frenchstyle for Greek only, upright for Greek only, uprightgreeks, slantedGreeks, and mathcalasscript.

The dedicated macros for Greek work correctly.

SVG math should appear the same as the printed output.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass[kpfonts][2010/08/20]
2
3 \LWR@infoprocessingmathjax{kpfonts}
4
5 \LWR@origRequirePackage{lwarp-common-mathjax-newpctxmath}
6
7 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
8
9 \begin{warpMathJax}
10
11 \ifkp@ecalasscr
12 \CustomizeMathJax{\let\LWRorigmathscr\mathscr}
13 \CustomizeMathJax{\let\LWRorigmathcal\mathcal}
14 \CustomizeMathJax{\let\mathscr\LWRorigmathcal}
15 \CustomizeMathJax{\let\mathcal\LWRorigmathscr}
16 \fi

```

```

17
18 \ifkp@upgrk % lowercase
19 \LWR@mathjax@addgreek@l@up{}{}
20 \LWR@mathjax@addgreek@l@it{other}{}
21 \else
22 \LWR@mathjax@addgreek@l@up{other}{}
23 \fi
24
25 \ifkp@slGrk
26 \LWR@mathjax@addgreek@u@it*{}{}
27 \LWR@mathjax@addgreek@u@up*{other}{}
28 \LWR@mathjax@addgreek@u@up*{var}{}
29 \else
30 \LWR@mathjax@addgreek@u@it*{other}{}
31 \LWR@mathjax@addgreek@u@it*{var}{}
32 \fi
33
34 \LWR@mathjax@addgreek@u@up*{}{up}
35 \LWR@mathjax@addgreek@l@up{}{up}
36
37 \LWR@mathjax@addgreek@u@it*{}{sl}
38 \LWR@mathjax@addgreek@l@it{}{sl}
39
40 \CustomizeMathJax{\newcommand{\partialsl}{\mathord{\unicode{x1D715}}}}
41 \CustomizeMathJax{\let\partialup\uppartial}% not upright
42
43 \ifkp@oldReIm
44 \else
45 \CustomizeMathJax{\renewcommand{\Re}{\mathfrak{Re}}}
46 \CustomizeMathJax{\renewcommand{\Im}{\mathfrak{Im}}}
47 \fi
48
49 \ifkp@Dcommand
50 \ifkp@upRm%
51 \CustomizeMathJax{
52 \def\D#1{\mathclose{\,\mathrm{d}}#1}
53 }
54 \else
55 \CustomizeMathJax{
56 \def\D#1{\mathclose{\,\mathit{d}}#1}
57 }
58 \fi
59 \fi
60
61 \CustomizeMathJax{\let\pounds\mathsterling}
62 \CustomizeMathJax{\let\kppounds\mathsterling}
63
64 \CustomizeMathJax{\newcommand{\mathup}[1]{\mathrm{#1}}}% never sans
65 \CustomizeMathJax{\let\mathupright\mathup}
66
67 \end{warpMathJax}


```

File 228 **lwarp-kpfonts-otf.sty**

§ 334 Package **kpfonts-otf**


(Emulates or patches code by DANIEL FLIPO.)

Pkg kpfonts-otf kpfonts-otf is used as-is for SVG math, and is emulated for MATHJAX.

 **limitations** The MATHJAX emulation honors the options fancyReIm, mathcal, frenchstyle for Greek only, and mathcalasscript.

Also see the options for unicode-math, which is loaded by kpfonts-otf.

The unicode-math dedicated macros for Greek work correctly.

 **\mathversion** The MATHJAX emulation does not change with the use of \mathversion. Whatever emulation is established at the begin of the document will remain.

SVG math should appear the same as the printed output.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{kpfonts-otf}[2020/06/20]
2
3 \LWR@infoprocessingmathjax{kpfonts-otf}
4
5 \LWR@origRequirePackage{lwarp-common-mathjax-nonunicode}
6
7 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
8
9 \begin{warpMathJax}
10
11 \ifkp@calasscr
12 \CustomizeMathJax{\let\mathscr\mathcal}
13 \else
14 \CustomizeMathJax{\let\mathcal\mathscr}
15 \fi
16
17 \ifkp@frenchstyle
18 \LWR@mathjax@addgreek@l@up{}{}
19 \LWR@mathjax@addgreek@u@up*{}{}
20 \fi
21
22 \ifkp@oldReIm
23 \CustomizeMathJax{\renewcommand{\Re}{\mathfrak{Re}}}
24 \CustomizeMathJax{\renewcommand{\Im}{\mathfrak{Im}}}
25 \else
26 \fi
27
28 \ifkp@Dcommand
29 \CustomizeMathJax{
30 \def\D#1{\mathclose{\,\,\mathrm{d}}#1}
31 }
32 \fi

```

```

33
34 \CustomizeMathJax{\let\varint\int}
35 \CustomizeMathJax{\let\variint\iint}
36 \CustomizeMathJax{\let\variiint\iiint}
37 \CustomizeMathJax{\let\variiiint\iiiint}
38 \CustomizeMathJax{\let\varidotsint\idotsint}
39
40 \CustomizeMathJax{\newcommand{\varointctrlockwise}{\mathop{\unicode{x2939}\!\!\unicode{x0222E}}}}
41 \CustomizeMathJax{\newcommand{\oiintclockwise}{\mathop{\unicode{x2939}\!\!\unicode{x0222F}}}}
42 \CustomizeMathJax{\newcommand{\oiintctrlockwise}{\mathop{\unicode{x2939}\!\!\unicode{x0222F}}}}
43 \CustomizeMathJax{\newcommand{\varoiintclockwise}{\mathop{\unicode{x0222F}\!\!\unicode{x2938}}}}
44 \CustomizeMathJax{\newcommand{\varoiintctrlockwise}{\mathop{\unicode{x2939}\!\!\unicode{x0222F}}}}
45 \CustomizeMathJax{\newcommand{\oiintclockwise}{\mathop{\unicode{x02230}\!\!\unicode{x2938}}}}
46 \CustomizeMathJax{\newcommand{\oiintctrlockwise}{\mathop{\unicode{x2939}\!\!\unicode{x02230}}}}
47 \CustomizeMathJax{\newcommand{\varoiintclockwise}{\mathop{\unicode{x02230}\!\!\unicode{x2938}}}}
48 \CustomizeMathJax{\newcommand{\varoiintctrlockwise}{\mathop{\unicode{x2939}\!\!\unicode{x02230}}}}
49 \CustomizeMathJax{\newcommand{\sqiint}{\mathop{\unicode{x2A16}\!\!\unicode{x2A16}}}}
50 \CustomizeMathJax{\newcommand{\sqiint}{\mathop{\unicode{x2A16}\!\!\unicode{x2A16}\!\!\unicode{x2A16}}}}
51
52 \CustomizeMathJax{\let\widearc\overparen}
53 \CustomizeMathJax{\let\widearcarrow\overrightarrow}
54 \CustomizeMathJax{\let\overrightarc\overrightarrow}
55
56 \end{warpMathJax}

```

---

File 229 **lwarp-layaureo.sty**

§ 335 Package **layaureo**

Pkg layaureo layaureo is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{layaureo}[2004/09/16]

---

File 230 **lwarp-layout.sty**

§ 336 Package **layout**

Pkg layout layout is ignored.

**for HTML output:** Discard all options for lwarp-layout:

1 \LWR@ProvidesPackageDrop{layout}[2014/10/28]

2 \NewDocumentCommand{\layout}{s}{}



File 231 **lwarp-layouts.sty**

§ 337 Package **layouts**

Pkg layouts layouts is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{layouts}[2009/09/02]

```

2 \newif\ifoddpagelayout
3 \oddpagelayouttrue
4 \newif\iftwocolumnlayout
5 \twocolumnlayoutfalse
6 \newif\ifdrawmarginpars
7 \drawmarginparstrue
8 \newif\ifdrawparameters
9 \drawparameterstrue
10 \newif\iflistaspara
11 \listasparatrue
12 \newif\ifruninhead
13 \runinheadfalse
14 \newif\ifprintparameters
15 \printparameterstrue
16 \newif\ifdrawdimensions
17 \drawdimensionsfalse
18 \newif\ifprintheadings
19 \printheadingstrue
20 \newcommand{\testdrawdimensions}{}
21 \newcommand{\testprintparameters}{}
22 \newcommand{\setlabelfont}[1]{}
23 \newcommand{\setparameterfont}[1]{}
24 \newcommand{\setvaluetextsize}[1]{}
25 \newcommand{\setlayoutscale}[1]{}
26 \newcommand{\setuplayouts}{}
27 \newcommand{\printinunitsof}[1]{}
28 \newcommand{\prntlen}[1]{}
29 \newcommand{\trypaperwidth}[1]{}
30 \newcommand{\trypaperheight}[1]{}
31 \newcommand{\tryhoffset}[1]{}
32 \newcommand{\tryvoffset}[1]{}
33 \newcommand{\trytopmargin}[1]{}
34 \newcommand{\tryheadheight}[1]{}
35 \newcommand{\tryheadsep}[1]{}
36 \newcommand{\trytextheight}[1]{}
37 \newcommand{\tryfootskip}[1]{}
38 \newcommand{\tryoddsidemargin}[1]{}
39 \newcommand{\tryevensidemargin}[1]{}
40 \newcommand{\trytextwidth}[1]{}
41 \newcommand{\trymarginparsep}[1]{}
42 \newcommand{\trymarginparwidth}[1]{}
43 \newcommand{\trymarginparpush}[1]{}
44 \newcommand{\trycolumnsep}[1]{}

```

```
45 \newcommand{\trycolumnseprule}[1]{}
46 \newcommand{\setfootbox}[2]{}
47 \newcommand{\currentpage}{}
48 \newcommand{\drawpage}{(draw page)}
49 \newcommand{\pagediagram}{(page diagram)}
50 \newcommand{\pagedesign}{(page design)}
51 \newcommand{\pagevalues}{(page values)}
52 \newcommand{\trystockwidth}[1]{}
53 \newcommand{\trystockheight}[1]{}
54 \newcommand{\trytrimedge}[1]{}
55 \newcommand{\trytrimtop}[1]{}
56 \newcommand{\tryuppermargin}[1]{}
57 \newcommand{\tryspinemargin}[1]{}
58 \newcommand{\currentstock}{}
59 \newcommand{\drawstock}{(draw stock)}
60 \newcommand{\stockdiagram}{(stock diagram)}
61 \newcommand{\stockdesign}{(stock design)}
62 \newcommand{\stockvalues}{(stock values)}
63 \newcommand{\tryitemindent}[1]{}
64 \newcommand{\trylabelwidth}[1]{}
65 \newcommand{\trylabelsep}[1]{}
66 \newcommand{\tryleftmargin}[1]{}
67 \newcommand{\tryrightmargin}[1]{}
68 \newcommand{\trylistparindent}[1]{}
69 \newcommand{\trytopsep}[1]{}
70 \newcommand{\tryparskip}[1]{}
71 \newcommand{\trypartopsep}[1]{}
72 \newcommand{\tryparsep}[1]{}
73 \newcommand{\tryitemsep}[1]{}
74 \newcommand{\currentlist}{}
75 \newcommand{\drawlist}{(draw list)}
76 \newcommand{\listdiagram}{(list diagram)}
77 \newcommand{\listdesign}{(list design)}
78 \newcommand{\listvalues}{(list values)}
79 \newcommand{\tryfootins}[1]{}
80 \newcommand{\tryfootnotesep}[1]{}
81 \newcommand{\tryfootnotebaseline}[1]{}
82 \newcommand{\tryfootruleheight}[1]{}
83 \newcommand{\tryfootrulefrac}[1]{}
84 \newcommand{\currentfootnote}{}
85 \newcommand{\drawfootnote}{(draw footnote)}
86 \newcommand{\footnotediagram}{(footnote diagram)}
87 \newcommand{\footnotedesign}{(footnote design)}
88 \newcommand{\footnotevalues}{(footnote values)}
89 \newcommand{\tryparindent}[1]{}
90 \newcommand{\tryparlinewidth}[1]{}
91 \newcommand{\tryparbaselineskip}[1]{}
92 \newcommand{\currentparagraph}{}
93 \newcommand{\drawparagraph}{(draw paragraph)}
94 \newcommand{\paragraphdiagram}{(paragraph diagram)}
95 \newcommand{\paragraphdesign}{(paragraph design)}
96 \newcommand{\paragraphvalues}{(paragraph values)}
97 \newcommand{\trybeforeskip}[1]{}
98 \newcommand{\tryafterskip}[1]{}
99 \newcommand{\tryindent}[1]{}

```

```

100 \newcommand{\currentheading}{}
101 \newcommand{\drawheading}[1]{(draw heading)}
102 \newcommand{\headingdiagram}[1]{(heading diagram)}
103 \newcommand{\headingdesign}[1]{(heading design)}
104 \newcommand{\headingvalues}{(heading values)}
105 \newcommand{\trytextfloatsep}[1]{}
106 \newcommand{\tryfloatsep}[1]{}
107 \newcommand{\tryintextsep}[1]{}
108 \newcommand{\trytopfigrule}[1]{}
109 \newcommand{\trybotfigrule}[1]{}
110 \newcommand{\currentfloat}{}
111 \newcommand{\drawfloat}{(draw float)}
112 \newcommand{\floatdiagram}{(float diagram)}
113 \newcommand{\floatdesign}{(float design)}
114 \newcommand{\floatvalues}{(float values)}
115 \newcommand{\trytotalnumber}[1]{}
116 \newcommand{\trytopnumber}[1]{}
117 \newcommand{\trybottomnumber}[1]{}
118 \newcommand{\trytopfraction}[1]{}
119 \newcommand{\trytextfraction}[1]{}
120 \newcommand{\trybottomfraction}[1]{}
121 \newcommand{\currentfloatpage}{}
122 \newcommand{\drawfloatpage}{(draw floatpage)}
123 \newcommand{\floatpagediagram}{(floatpage diagram)}
124 \newcommand{\floatpagedesign}{(floatpage design)}
125 \newcommand{\floatpagevalues}{(floatpage values)}
126 \newcommand{\trytocindent}[1]{}
127 \newcommand{\trytocnumwidth}[1]{}
128 \newcommand{\trytoclinewidth}[1]{}
129 \newcommand{\trytocrmarg}[1]{}
130 \newcommand{\trytocpnumwidth}[1]{}
131 \newcommand{\trytocdotsep}[1]{}
132 \newcommand{\currenttoc}{}
133 \newcommand{\drawtoc}{(draw toc)}
134 \newcommand{\tocdiagram}{(toc diagram)}
135 \newcommand{\tocdesign}{(toc design)}
136 \newcommand{\tocvalues}{(toc values)}
137 \newcommand{\drawspread}[8][0]{(a spread)}
138 \newcommand{\drawfontframe}[1]{(font frame)}
139 \newcommand{\drawfontframeLabel}[1]{}

```

---

File 232 **lwarp-leading.sty**

§ 338 Package **leading**

Pkg leading leading is ignored.

**for HTML output:** 1 \LWREProvidesPackageDrop{leading}[2008/12/11]

2 \newcommand\leading[1]{}

---

File 233 **lwarp-leftidx.sty**

§ 339 Package **leftidx**

*(Emulates or patches code by HARALD HARDERS.)*

Pkg leftidx leftidx works as-is with SVG math, and is emulated for MATHJAX.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{leftidx}[2003/09/24]

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\leftidx}[3]{\vphantom{#2}}#1#2#3}}
4 \CustomizeMathJax{\newcommand{\ltrans}[1]{\leftidx{^\mathrm{t}}{\!#1}{}}}
5 \end{warpMathJax}

```

---

File 234 **lwarp-letterspace.sty**

§ 340 Package **letterspace**

*(Emulates or patches code by R SCHLICHT.)*

Pkg letterspace letterspace is a subset of microtype, which is pre-loaded by lwarp. All user options and macros are ignored and disabled.

**for HTML output:** Discard all options for lwarp-letterspace:

```

1 \LWR@ProvidesPackageDrop{letterspace}[2018/01/14]

2 \newcommand*\lsstyle{}
3 \newcommand\textls[2][{}]{
4 \def\textls#1#{}
5 \newcommand*\lslig[1]{#1}

```

---

File 235 **lwarp-lettrine.sty**

§ 341 Package **lettrine**

*(Emulates or patches code by DANIEL FLIPO.)*

Pkg lettrine lettrine is emulated.

**for HTML output:** Discard all options for lwarp-lettrine:

```

1 \LWR@ProvidesPackageDrop{lettrine}[2018-08-28]

```

The initial letter is in a `<span>` of class `lettrine`, and the following text is in a `<span>` of class `lettrinetext`. `\lettrine [<keys>] {<letter>} {<additional text>}`

```

2 \DeclareDocumentCommand{\lettrine}{o m m}{%
3 \InlineClass{lettrine}{#2}\InlineClass{lettrinetext}{#3} % extra space
4 }
5
6 \newcounter{DefaultLines}
7 \setcounter{DefaultLines}{2}
8 \newcounter{DefaultDepth}
9 \newcommand*{\DefaultOptionsFile}{\relax}
10 \newcommand*{\DefaultLoversize}{0}
11 \newcommand*{\DefaultLraise}{0}
12 \newcommand*{\DefaultLhang}{0}
13 \newdimen\DefaultFindent
14 \setlength{\DefaultFindent}{\z@}
15 \newdimen\DefaultNindent
16 \setlength{\DefaultNindent}{0.5em}
17 \newdimen\DefaultSlope
18 \setlength{\DefaultSlope}{\z@}
19 \newdimen\DiscardVskip
20 \setlength{\DiscardVskip}{0.2\p@}
21 \newif\ifLettrineImage
22 \newif\ifLettrineOnGrid
23 \newif\ifLettrineRealHeight
24
25 \newcommand*{\LettrineTextFont}{\scshape}
26 \newcommand*{\LettrineFontHook}{}
27 \newcommand*{\LettrineFont}[1]{\InlineClass{lettrine}{#1}}
28 \newcommand*{\LettrineFontEPS}[1]{\includegraphics[height=1.5ex]{#1}}

```

File 236 **lwarp-libertinust1math.sty**

§ 342 Package **libertinust1math**

(Emulates or patches code by MICHAEL SHARPE.)

Pkg `libertinust1math` **libertinust1math** is used as-is for SVG math, and is emulated for MATHJAX.

The MATHJAX emulation honors `frenchmath` for Greek but not Latin characters, and `slantedGreek`, `uprightGreek`, and `ISO` also adjust Greek characters. MATHJAX cannot yet honor options for adjusting Latin characters.

The dedicated macros for upright and italic Greek letters do work correctly. Some of the symbol font macros such as `\mathsfbf` work for Latin but not for Greek letters.

svg math should appear the same as the printed output.

for HTML output:

```

1 \LWR@ProvidesPackagePass{libertinust1math}[2020/06/10]
2
3 \LWR@infoprocessingmathjax{libertinust1math}

```

```

4 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
5
6 \begin{warpMathJax}
7
8 \iflibus@slantedG
9 \LWR@mathjax@addgreek@u@it*{}{}
10 \else
11 \LWR@mathjax@addgreek@u@up*{}{}
12 \fi
13
14 \LWR@mathjax@addgreek@u@it*{}{it}
15 \LWR@mathjax@addgreek@u@up*{}{up}
16 \LWR@mathjax@addgreek@u@up*{}{up}
17
18 \iflibus@frenchm
19 \LWR@mathjax@addgreek@l@up{}{}
20 \else
21 \LWR@mathjax@addgreek@l@it{}{}
22 \fi
23
24 \LWR@mathjax@addgreek@l@it{}{it}
25 \LWR@mathjax@addgreek@l@up{}{up}
26 \LWR@mathjax@addgreek@l@up{}{up}
27
28 \CustomizeMathJax{\let\upartial\partial}% not upright
29
30 \CustomizeMathJax{\newcommand{\mathsfbf}[1]{%
31 \mmlToken{mi}[mathvariant="bold-sans-serif"]{#1}% not greek
32 }}% not sans
33 \CustomizeMathJax{\newcommand{\mathsfbfit}[1]{%
34 \mmlToken{mi}[mathvariant="sans-serif-bold-italic"]{#1}% not greek
35 }}%
36 \CustomizeMathJax{\newcommand{\mathbfit}[1]{\boldsymbol{#1}}}
37 \CustomizeMathJax{\newcommand{\mathsfit}[1]{%
38 \mmlToken{mi}[mathvariant="sans-serif-italic"]{#1}% not greek
39 }}
40 \CustomizeMathJax{\let\vectorsym\mathbfit}
41 \CustomizeMathJax{\let\matrixsym\mathbfit}
42 \CustomizeMathJax{\let\tensorsym\mathsfbfit}
43 \CustomizeMathJax{\let\mathboldsans\mathsfbfit}
44 \CustomizeMathJax{\let\mathbold\mathbfit}

```

lwarp\_mathjax.txt adds \left/\right support for delimiters.

```

45 \CustomizeMathJax{\let\dlb\lBrack}
46 \CustomizeMathJax{\let\drb\rBrack}
47
48 \CustomizeMathJax{\let\sqrtsign\sqrt}
49
50 \CustomizeMathJax{\let\smallintsl\smallint}
51 \CustomizeMathJax{\newcommand{\smallliintsl}{\mathop{\unicode{x222C}}\limits}}
52 \CustomizeMathJax{\newcommand{\smallliiintsl}{\mathop{\unicode{x222D}}\limits}}
53 \CustomizeMathJax{\newcommand{\smallliiiintsl}{\mathop{\unicode{x2A0C}}\limits}}
54 \CustomizeMathJax{\newcommand{\smallointsl}{\mathop{\unicode{x222E}}\limits}}
55 \CustomizeMathJax{\newcommand{\smalloiintsl}{\mathop{\unicode{x222F}}\limits}}

```

```

56
57 \CustomizeMathJax{\let\smallintup\smallint}
58 \CustomizeMathJax{\newcommand{\smalliiintup}{\mathop{\unicode{x222C}}\limits}}
59 \CustomizeMathJax{\newcommand{\smallliintup}{\mathop{\unicode{x222D}}\limits}}
60 \CustomizeMathJax{\newcommand{\smallliiiintup}{\mathop{\unicode{x2A0C}}\limits}}
61 \CustomizeMathJax{\newcommand{\smallointup}{\mathop{\unicode{x222E}}\limits}}
62 \CustomizeMathJax{\newcommand{\smalloiintup}{\mathop{\unicode{x222F}}\limits}}
63
64 \CustomizeMathJax{\let\intslop\int}
65 \CustomizeMathJax{\newcommand{\iintslop}{\mathop{\unicode{x222C}}\limits}}
66 \CustomizeMathJax{\newcommand{\iiintslop}{\mathop{\unicode{x222D}}\limits}}
67 \CustomizeMathJax{\newcommand{\iiiintslop}{\mathop{\unicode{x2A0C}}\limits}}
68 \CustomizeMathJax{\let\ointslop\oint}
69 \CustomizeMathJax{\newcommand{\oiintslop}{\mathop{\unicode{x222F}}\limits}}
70 \CustomizeMathJax{\newcommand{\oiiintslop}{\mathop{\unicode{x2230}}\limits}}
71
72 \CustomizeMathJax{\let\intupop\int}
73 \CustomizeMathJax{\newcommand{\iintupop}{\mathop{\unicode{x222C}}\limits}}
74 \CustomizeMathJax{\newcommand{\iiintupop}{\mathop{\unicode{x222D}}\limits}}
75 \CustomizeMathJax{\newcommand{\iiiintupop}{\mathop{\unicode{x2A0C}}\limits}}
76 \CustomizeMathJax{\let\ointupop\oint}
77 \CustomizeMathJax{\newcommand{\oiintupop}{\mathop{\unicode{x222F}}\limits}}
78 \CustomizeMathJax{\newcommand{\oiiintupop}{\mathop{\unicode{x2230}}\limits}}
79
80 \CustomizeMathJax{\newcommand{\smallliint}{\mathop{\unicode{x222C}}\limits}}
81 \CustomizeMathJax{\newcommand{\smallliiint}{\mathop{\unicode{x222D}}\limits}}
82 \CustomizeMathJax{\newcommand{\smallliiiint}{\mathop{\unicode{x2A0C}}\limits}}
83 \CustomizeMathJax{\newcommand{\smalloint}{\mathop{\unicode{x222E}}\limits}}
84 \CustomizeMathJax{\newcommand{\smalloiint}{\mathop{\unicode{x222F}}\limits}}
85
86 \CustomizeMathJax{\let\intop\int}
87 \CustomizeMathJax{\newcommand{\iintop}{\mathop{\unicode{x222C}}\limits}}
88 \CustomizeMathJax{\newcommand{\iiintop}{\mathop{\unicode{x222D}}\limits}}
89 \CustomizeMathJax{\newcommand{\iiiintop}{\mathop{\unicode{x2A0C}}\limits}}
90 \CustomizeMathJax{\let\ointop\oint}
91 \CustomizeMathJax{\newcommand{\oiintop}{\mathop{\unicode{x222F}}\limits}}
92 \CustomizeMathJax{\newcommand{\oiiintop}{\mathop{\unicode{x2230}}\limits}}
93
94 \CustomizeMathJax{\newcommand{\oiint}{\mathop{\unicode{x222F}}\limits}}
95
96 \CustomizeMathJax{\newcommand{\bigcupdot}{\mathop{\unicode{x2A03}}}}
97 \CustomizeMathJax{\newcommand{\bigsqcap}{\mathop{\unicode{x2A05}}}}
98 \CustomizeMathJax{\newcommand{\xsol}{\mathop{\unicode{x29F8}}}}
99 \CustomizeMathJax{\newcommand{\xbsol}{\mathop{\unicode{x29F9}}}}
100 \CustomizeMathJax{\let\prodop\prod}
101 \CustomizeMathJax{\let\coprodop\coprod}
102 \CustomizeMathJax{\let\sumop\sum}
103 \CustomizeMathJax{\let\bigwedgeop\bigwedge}
104 \CustomizeMathJax{\let\bigveeop\bigvee}
105 \CustomizeMathJax{\let\bigcapop\bigcap}
106 \CustomizeMathJax{\let\bigcupop\bigcup}
107 \CustomizeMathJax{\let\xsolop\xsol}
108 \CustomizeMathJax{\let\xbsolop\xbsol}
109 \CustomizeMathJax{\let\bigodotop\bigodot}
110 \CustomizeMathJax{\let\bigoplusop\bigoplus}

```

```

111 \CustomizeMathJax{\let\bigotimesop\bigotimes}
112 \CustomizeMathJax{\let\bigcupdotop\bigcupdot}
113 \CustomizeMathJax{\let\biguplusop\biguplus}
114 \CustomizeMathJax{\let\bigsqcapop\bigsqcap}
115 \CustomizeMathJax{\let\bigsqcupop\bigsqcup}
116
117 \CustomizeMathJax{\newcommand{\ovhook}[1]{\mathord{#1\unicode{x00309}}}}
118 \CustomizeMathJax{\newcommand{\candra}[1]{\mathord{#1\unicode{x00310}}}}
119 \CustomizeMathJax{\newcommand{\oturnedcomma}[1]{\mathord{#1\unicode{x00312}}}}
120 \CustomizeMathJax{\newcommand{\ocommatopright}[1]{\mathord{#1\unicode{x00315}}}}
121 \CustomizeMathJax{\newcommand{\droang}[1]{\mathord{#1\unicode{x0031A}}}}
122 \CustomizeMathJax{\newcommand{\leftharpoonaccent}[1]{\mathord{#1\unicode{x020D0}}}}
123 \CustomizeMathJax{\newcommand{\rightharpoonaccent}[1]{\mathord{#1\unicode{x020D1}}}}
124 \CustomizeMathJax{\newcommand{\leftarrowaccent}[1]{\mathord{#1\unicode{x020D0}}}}
125 \CustomizeMathJax{\let\rightarrowaccent\vec}
126
127 \CustomizeMathJax{\newcommand{\leftrightharpoonaccent}[1]{\mathord{#1\unicode{x020E1}}}}
128 \CustomizeMathJax{\newcommand{\annuity}[1]{\mathord{#1\unicode{x020E7}}}}
129 \CustomizeMathJax{\newcommand{\widebridgeabove}[1]{\mathord{#1\unicode{x020E9}}}}
130 \CustomizeMathJax{\newcommand{\asteraccent}[1]{\mathord{#1\unicode{x020F0}}}}
131
132 % neutralized:
133 \CustomizeMathJax{\newcommand{\bracedl}{}}
134 \CustomizeMathJax{\newcommand{\bracerd}{}}
135 \CustomizeMathJax{\newcommand{\bracelu}{}}
136 \CustomizeMathJax{\newcommand{\braceru}{}}
137 \CustomizeMathJax{\newcommand{\braceex}{}}
138 \CustomizeMathJax{\newcommand{\bracemu}{}}
139 \CustomizeMathJax{\newcommand{\bracemd}{}}
140 \CustomizeMathJax{\newcommand{\parenld}{}}
141 \CustomizeMathJax{\newcommand{\parenrd}{}}
142 \CustomizeMathJax{\newcommand{\parenlu}{}}
143 \CustomizeMathJax{\newcommand{\parenru}{}}
144 \CustomizeMathJax{\newcommand{\bracketld}{}}
145 \CustomizeMathJax{\newcommand{\bracketrd}{}}
146 \CustomizeMathJax{\newcommand{\bracketlu}{}}
147 \CustomizeMathJax{\newcommand{\bracketru}{}}
148 \CustomizeMathJax{\newcommand{\bracketex}{}}
149 \CustomizeMathJax{\newcommand{\parenex}{}}
150
151 \CustomizeMathJax{\newcommand{\lhook}{~}}
152 \CustomizeMathJax{\newcommand{\rhook}{~}}
153 \CustomizeMathJax{\newcommand{\relbar}{-}}
154 \CustomizeMathJax{\newcommand{\Relbar}{=}}
155
156 \CustomizeMathJax{\newcommand{\mapstochar}{\mathrel{\unicode{x21A6}}}}
157
158 \CustomizeMathJax{\newcommand{\Zbar}{\mathord{\unicode{x0001B5}}}}
159 \CustomizeMathJax{\newcommand{\notchar}{\mathrel{\unicode{x000AC}}}}
160 \CustomizeMathJax{\newcommand{\upbackepsilon}{\mathord{\unicode{x03F6}}}}
161 \CustomizeMathJax{\newcommand{\smbllkcircle}{\mathbin{\unicode{x02022}}}}
162 \CustomizeMathJax{\newcommand{\enleadertwodots}{\mathord{\unicode{x02025}}}}
163 \CustomizeMathJax{\newcommand{\unicodeellipsis}{\mathord{\unicode{x02026}}}}
164 \CustomizeMathJax{\newcommand{\mathellipsis}{\mathinner{\unicode{x02026}}}}
165 \CustomizeMathJax{\newcommand{\dprime}{\mathord{\unicode{x02033}}}}

```



```

166 \CustomizeMathJax{\newcommand{\trprime}{\mathord{\unicode{x02034}}}}
167 \CustomizeMathJax{\newcommand{\backdprime}{\mathord{\unicode{x02036}}}}
168 \CustomizeMathJax{\newcommand{\backtrprime}{\mathord{\unicode{x02037}}}}
169 \CustomizeMathJax{\newcommand{\caretinsert}{\mathord{\unicode{x02038}}}}
170 \CustomizeMathJax{\newcommand{\Exclam}{\mathord{\unicode{x0203C}}}}
171
172 \CustomizeMathJax{\newcommand{\hyphenbullet}{\mathord{\unicode{x02043}}}}
173 \CustomizeMathJax{\newcommand{\fracslash}{\mathbin{\unicode{x02044}}}}
174 \CustomizeMathJax{\newcommand{\Question}{\mathord{\unicode{x02047}}}}
175 \CustomizeMathJax{\newcommand{\closure}{\mathrel{\unicode{x02050}}}}
176 \CustomizeMathJax{\newcommand{\qprime}{\mathord{\unicode{x02057}}}}
177 \CustomizeMathJax{\newcommand{\vertoverlay}{\mathrel{\unicode{x020D2}}}}
178 \CustomizeMathJax{\newcommand{\enclosecircle}{\mathord{\unicode{x020DD}}}}
179 \CustomizeMathJax{\newcommand{\enclosesquare}{\mathord{\unicode{x020DE}}}}
180 \CustomizeMathJax{\newcommand{\enclosetriangle}{\mathord{\unicode{x020E4}}}}
181 \CustomizeMathJax{\newcommand{\Eulerconst}{\mathord{\unicode{x02107}}}}
182 \CustomizeMathJax{\newcommand{\turnediota}{\mathord{\unicode{x02129}}}}
183 \CustomizeMathJax{\newcommand{\Angstrom}{\mathord{\unicode{x0212B}}}}
184
185 \CustomizeMathJax{\newcommand{\sansLturned}{\mathord{\unicode{x02142}}}}
186 \CustomizeMathJax{\newcommand{\sansLmirrored}{\mathord{\unicode{x02143}}}}
187 \CustomizeMathJax{\newcommand{\Yup}{\mathord{\unicode{x02144}}}}
188 \CustomizeMathJax{\newcommand{\upand}{\mathbin{\unicode{x0214B}}}}
189 \CustomizeMathJax{\newcommand{\increment}{\mathord{\unicode{x02206}}}}
190 \CustomizeMathJax{\newcommand{\smallin}{\mathrel{\unicode{x0220A}}}}
191 \CustomizeMathJax{\newcommand{\nni}{\mathrel{\unicode{x0220C}}}}
192
193 \CustomizeMathJax{\newcommand{\smallni}{\mathrel{\unicode{x0220D}}}}
194 \CustomizeMathJax{\newcommand{\QED}{\mathord{\unicode{x0220E}}}}
195 \CustomizeMathJax{\newcommand{\vysmwhtcircle}{\mathbin{\unicode{x02218}}}}
196 \CustomizeMathJax{\newcommand{\vysmbkcircle}{\mathbin{\unicode{x02219}}}}
197 \CustomizeMathJax{\newcommand{\rightangle}{\mathord{\unicode{x0221F}}}}
198
199 \CustomizeMathJax{\newcommand{\Colon}{\mathrel{\unicode{x02237}}}}
200 \CustomizeMathJax{\newcommand{\dotminus}{\mathbin{\unicode{x02238}}}}
201 \CustomizeMathJax{\newcommand{\dashcolon}{\mathrel{\unicode{x02239}}}}
202 \CustomizeMathJax{\newcommand{\dotsminusdots}{\mathrel{\unicode{x0223A}}}}
203 \CustomizeMathJax{\newcommand{\kernelcontraction}{\mathrel{\unicode{x0223B}}}}
204 \CustomizeMathJax{\newcommand{\invlazys}{\mathbin{\unicode{x0223E}}}}
205
206 \CustomizeMathJax{\newcommand{\sinewave}{\mathord{\unicode{x0223F}}}}
207 \CustomizeMathJax{\newcommand{\nsime}{\mathrel{\unicode{x02244}}}}
208 \CustomizeMathJax{\newcommand{\simneqq}{\mathrel{\unicode{x02246}}}}
209 \CustomizeMathJax{\newcommand{\napprox}{\mathrel{\unicode{x02249}}}}
210 \CustomizeMathJax{\newcommand{\approxident}{\mathrel{\unicode{x0224B}}}}
211 \CustomizeMathJax{\newcommand{\backcong}{\mathrel{\unicode{x0224C}}}}
212
213 \CustomizeMathJax{\newcommand{\nasymp}{\mathrel{\unicode{x0226D}}}}
214 \CustomizeMathJax{\newcommand{\nlessim}{\mathrel{\unicode{x02274}}}}
215 \CustomizeMathJax{\newcommand{\ngtrsim}{\mathrel{\unicode{x02275}}}}
216 \CustomizeMathJax{\newcommand{\nlessgtr}{\mathrel{\unicode{x02278}}}}
217 \CustomizeMathJax{\newcommand{\ngtrless}{\mathrel{\unicode{x02279}}}}
218
219 \CustomizeMathJax{\newcommand{\nsubset}{\mathrel{\unicode{x02284}}}}
220 \CustomizeMathJax{\newcommand{\nsupset}{\mathrel{\unicode{x02285}}}}

```

```

221
222 \CustomizeMathJax{\newcommand{\cupleftarrow}{\mathbin{\unicode{x0228C}}}}
223 \CustomizeMathJax{\newcommand{\cupdot}{\mathbin{\unicode{x0228D}}}}
224 \CustomizeMathJax{\newcommand{\circlequal}{\mathbin{\unicode{x0229C}}}}
225
226 \CustomizeMathJax{\newcommand{\assert}{\mathrel{\unicode{x022A6}}}}
227 \CustomizeMathJax{\newcommand{\VDash}{\mathrel{\unicode{x022AB}}}}
228 \CustomizeMathJax{\newcommand{\prurel}{\mathrel{\unicode{x022B0}}}}
229
230 \CustomizeMathJax{\newcommand{\origof}{\mathrel{\unicode{x022B6}}}}
231 \CustomizeMathJax{\newcommand{\smallprod}{\mathop{\unicode{x0220F}}}}% not small
232 \CustomizeMathJax{\newcommand{\smallcoprod}{\mathop{\unicode{x02210}}}}% not small
233 \CustomizeMathJax{\newcommand{\smallsum}{\mathop{\unicode{x02211}}}}% not small
234 \CustomizeMathJax{\newcommand{\Hfraktur}{\mathord{\unicode{x1D525}}}}
235 \CustomizeMathJax{\newcommand{\dsol}{\mathbin{\unicode{x029F6}}}}
236 \CustomizeMathJax{\newcommand{\rsolbar}{\mathbin{\unicode{x029F7}}}}
237
238 \CustomizeMathJax{\newcommand{\eqless}{\mathrel{\unicode{x022DC}}}}
239 \CustomizeMathJax{\newcommand{\eqgtr}{\mathrel{\unicode{x022DD}}}}
240 \CustomizeMathJax{\newcommand{\npreccurlyeq}{\mathrel{\unicode{x022E0}}}}
241 \CustomizeMathJax{\newcommand{\nsucccurlyeq}{\mathrel{\unicode{x022E1}}}}
242 \CustomizeMathJax{\newcommand{\nsqsubseteq}{\mathrel{\unicode{x022E2}}}}
243 \CustomizeMathJax{\newcommand{\nsqsupseteq}{\mathrel{\unicode{x022E3}}}}
244 \CustomizeMathJax{\newcommand{\sqsubsetneq}{\mathrel{\unicode{x022E4}}}}
245 \CustomizeMathJax{\newcommand{\sqsupsetneq}{\mathrel{\unicode{x022E5}}}}
246 \CustomizeMathJax{\newcommand{\nvartriangleleft}{\mathrel{\unicode{x022EA}}}}
247 \CustomizeMathJax{\newcommand{\nvartriangleright}{\mathrel{\unicode{x022EB}}}}
248
249 \CustomizeMathJax{\newcommand{\vdotsmath}{\mathrel{\unicode{x022EE}}}}
250 \CustomizeMathJax{\newcommand{\unicodecdots}{\mathord{\unicode{x022EF}}}}
251 \CustomizeMathJax{\newcommand{\adots}{\mathrel{\unicode{x022F0}}}}
252 \CustomizeMathJax{\newcommand{\succneq}{\mathrel{\unicode{x02AB2}}}}
253 \CustomizeMathJax{\newcommand{\preceq}{\mathrel{\unicode{x02AB3}}}}
254 \CustomizeMathJax{\newcommand{\succeq}{\mathrel{\unicode{x02AB4}}}}
255 \CustomizeMathJax{\newcommand{\precneq}{\mathrel{\unicode{x02AB1}}}}
256
257 \CustomizeMathJax{\newcommand{\mapsfrom}{\mathrel{\unicode{x021A4}}}}
258
259 \CustomizeMathJax{\newcommand{\longmapsfrom}{\mathrel{\unicode{x027FB}}}}
260
261 \CustomizeMathJax{\newcommand{\diameter}{\mathord{\unicode{x02300}}}}
262 \CustomizeMathJax{\newcommand{\coloneq}{\mathrel{\unicode{x02254}}}}
263 \CustomizeMathJax{\newcommand{\eqcolon}{\mathrel{\unicode{x02255}}}}
264 \CustomizeMathJax{\newcommand{\arceq}{\mathrel{\unicode{x02258}}}}
265 \CustomizeMathJax{\newcommand{\wedg}{\mathrel{\unicode{x02259}}}}
266 \CustomizeMathJax{\newcommand{\veeq}{\mathrel{\unicode{x0225A}}}}
267
268 \CustomizeMathJax{\newcommand{\stareq}{\mathrel{\unicode{x0225B}}}}
269 \CustomizeMathJax{\newcommand{\eqdef}{\mathrel{\unicode{x0225D}}}}
270 \CustomizeMathJax{\newcommand{\measeq}{\mathrel{\unicode{x0225E}}}}
271 \CustomizeMathJax{\newcommand{\questeq}{\mathrel{\unicode{x0225F}}}}
272 \CustomizeMathJax{\newcommand{\nequiv}{\mathrel{\unicode{x02262}}}}
273 \CustomizeMathJax{\newcommand{\Equip}{\mathrel{\unicode{x02263}}}}
274
275 \CustomizeMathJax{\newcommand{\house}{\mathord{\unicode{x02302}}}}

```

```

276
277 \CustomizeMathJax{\newcommand{\musicalnote}{\mathord{\unicode{x0266A}}}}
278 \CustomizeMathJax{\newcommand{\degree}{\mathord{\unicode{x000B0}}}}
279 \CustomizeMathJax{\newcommand{\mathsection}{\mathord{\unicode{x000A7}}}}
280 \CustomizeMathJax{\newcommand{\mathparagraph}{\mathord{\unicode{x000B6}}}}
281 \CustomizeMathJax{\newcommand{\checkmarkmath}{\mathord{\unicode{x02713}}}}
282 \CustomizeMathJax{\newcommand{\invnot}{\mathord{\unicode{x02310}}}}
283
284 \CustomizeMathJax{\newcommand{\mathvisiblespace}{\mathord{\unicode{x02423}}}}
285 \CustomizeMathJax{\newcommand{\mdlgblksquare}{\mathord{\unicode{x025A0}}}}
286 \CustomizeMathJax{\newcommand{\mdlgwht square}{\mathord{\unicode{x025A1}}}}
287
288 \CustomizeMathJax{\newcommand{\bigblacktriangleup}{\mathord{\unicode{x025B2}}}}
289 \CustomizeMathJax{\newcommand{\varbigtriangleup}{\mathord{\unicode{x025B3}}}}
290
291 \CustomizeMathJax{\newcommand{\bigblacktriangledown}{\mathord{\unicode{x025BC}}}}
292 \CustomizeMathJax{\newcommand{\varbigtriangledown}{\mathord{\unicode{x025BD}}}}
293 \CustomizeMathJax{\newcommand{\Longmapsfrom}{\mathrel{\unicode{x027FD}}}}
294
295 % bug in print font:
296 \CustomizeMathJax{\newcommand{\mdlgblkdiamond}{\mathord{\unicode{x025C6}}}}
297
298 \CustomizeMathJax{\newcommand{\mdlgwhtdiamond}{\mathord{\unicode{x025C7}}}}
299 \CustomizeMathJax{\newcommand{\Longmapsto}{\mathrel{\unicode{x027FE}}}}
300 \CustomizeMathJax{\newcommand{\fisheye}{\mathord{\unicode{x025C9}}}}
301 \CustomizeMathJax{\newcommand{\mdlgwhtlozenge}{\mathord{\unicode{x025CA}}}}
302 \CustomizeMathJax{\newcommand{\mdlgwht circle}{\mathbin{\unicode{x025CB}}}}
303 \CustomizeMathJax{\newcommand{\bullseye}{\mathord{\unicode{x025CE}}}}
304 \CustomizeMathJax{\newcommand{\mdlgblk circle}{\mathord{\unicode{x025CF}}}}
305
306 \CustomizeMathJax{\newcommand{\Nwarrow}{\mathrel{\unicode{x021D6}}}}
307 \CustomizeMathJax{\newcommand{\Narrow}{\mathrel{\unicode{x021D7}}}}
308 \CustomizeMathJax{\newcommand{\Searrow}{\mathrel{\unicode{x021D8}}}}
309 \CustomizeMathJax{\newcommand{\Swarrow}{\mathrel{\unicode{x021D9}}}}
310
311 \CustomizeMathJax{\newcommand{\Mapsfrom}{\mathord{\unicode{x02906}}}}
312 \CustomizeMathJax{\newcommand{\smwht circle}{\mathord{\unicode{x025E6}}}}
313 \CustomizeMathJax{\newcommand{\smwhtdiamond}{\mathbin{\unicode{x022C4}}}}
314 \CustomizeMathJax{\newcommand{\Mapsto}{\mathord{\unicode{x02907}}}}
315
316 \CustomizeMathJax{\let\ngets\leftarrow}
317 \CustomizeMathJax{\let\nsimeq\sim}
318 \CustomizeMathJax{\let\nle\leq}
319 \CustomizeMathJax{\let\nge\geq}
320
321 \end{warpMathJax}

```

---

File 237 **lwarp-lineno.sty**

§ 343 Package **lineno**

(Emulates or patches code by STEPHAN I. BÖTTCHER.)

Pkg lineno **lineno** is partly emulated, but mostly ignored.

```

for HTML output: 1 \LWR@ProvidesPackageDrop{lineno}[2005/11/02]

2 \newcommand*\resetlinenumber[1][\@ne]{}
3
4 \def\linenumbers{%
5 \@ifnextchar[{\resetlinenumber}%
6 {\@ifstar{\resetlinenumber}{}}%
7 }
8
9 \newcommand*\nolinenumbers{}
10
11 \@namedef{linenumbers*}{\par\linenumbers*}
12 \@namedef{runninglinenumbers*}{\par\runninglinenumbers*}
13
14 \def\endlinenumbers{\par}
15 \let\endrunninglinenumbers\endlinenumbers
16 \let\endpagewiselinenumbers\endlinenumbers
17 \expandafter\let\csname endlinenumbers*\endcsname\endlinenumbers
18 \expandafter\let\csname endrunninglinenumbers*\endcsname\endlinenumbers
19 \let\endnolinenumbers\endlinenumbers
20
21 \def\pagewiselinenumbers{\linenumbers\setpagewiselinenumbers}
22
23 \def\runninglinenumbers{\setrunninglinenumbers\linenumbers}
24
25 \def\setpagewiselinenumbers{}
26
27 \def\setrunninglinenumbers{}
28
29 \def\linenomath{}%
30 \@namedef{linenomath*}{}%
31 \def\endlinenomath{}
32 \expandafter\let\csname endlinenomath*\endcsname\endlinenomath
33
34 \let\lineLabel\label
35
36 \def\switchlinenumbers{\@ifstar{}{}}
37 \def\setmakelinenumbers#1{\@ifstar{}{}}
38
39 \def\leftlinenumbers{\@ifstar{}{}}
40 \def\rightlinenumbers{\@ifstar{}{}}
41
42 \newcounter{linenumber}
43 \newcount\c@pagewiselinenumber
44 \let\c@runninglinenumber\c@linenumber
45
46 \def\runningpagewiselinenumbers{}
47 \def\realpagewiselinenumbers{}
48
49
50 \NewDocumentCommand\modulolinenumbers{s o}{}
51
52 \chardef\c@linenumbermodulo=5

```

```
53 \modulolinenumbers[1]
54
55 \newcommand*{firstlinenumber}[1]{
56
57 \newcommand\internallinenumbers{
58 \let\endinternallinenumbers\endlinenumbers
59 \@namedef{internallinenumbers*}{\internallinenumbers}
60 \expandafter\let\csname endinternallinenumbers*\endcsname\endlinenumbers
61
62 \newcommand*{\linenoplaceholder}[1]{% redefine per language
63 (line number reference for \detokenize\expandafter{#1})
64 }
65
66 \newcommand*{\lineref}[2][\linenoplaceholder{#2}]
67 \newcommand*{\linerefp}[2][\linenoplaceholder{#2}]
68 \newcommand*{\linerefr}[2][\linenoplaceholder{#2}]
69
70 \newcommand\quotelinenumbers
71 {\@ifstar\linenumbers{\@ifnextchar[\linenumbers{\linenumbers*}}}
72
73 \newdimen\linenumbersep
74 \newdimen\linenumberwidth
75 \newdimen\quotelinenumbersep
76
77 \quotelinenumbersep=\linenumbersep
78 \let\quotelinenumberfont\linenumberfont
79
80 \def\linenumberfont{\normalfont\tiny\sffamily}
81
82
83 \linenumberwidth=10pt
84 \linenumbersep=10pt
85
86 \def\thelinenumber{}
87
88 \def\LineNumber{}
89 \def\makeLineNumber{}
90 \def\makeLineNumberLeft{}
91 \def\makeLineNumberRight{}
92 \def\makeLineNumberOdd{}
93 \def\makeLineNumberEven{}
94 \def\makeLineNumberRunning{}
95
96
97 \newenvironment{numquote} {\quote}{\endquote}
98 \newenvironment{numquotation} {\quotation}{\endquotation}
99 \newenvironment{numquote*} {\quote}{\endquote}
100 \newenvironment{numquotation*}{\quotation}{\endquotation}
101
102 \newdimen\bframerule
103 \bframerule=\fbxrule
104
105 \newdimen\bframesep
106 \bframesep=\fbxsep
107
```

```

108 \newenvironment{bframe}
109 {%
110 \LWR@forceminwidth{\bframerule}%
111 \BlockClass[
112 border:\LWR@printlength{\LWR@atleastonept} solid black ; %
113 padding:\LWR@printlength{\bframesep}%
114]{bframe}
115 }
116 {\endBlockClass}

```

---

File 238 **lwarp-lips.sty**

§ 344 Package **lips**

*(Emulates or patches code by MATT SWIFT.)*

Pkg lips lips is emulated.

```

1 % \LWR@ProvidesPackageDrop{lips}
2 \PackageInfo{lwarp}{Using the lwarp version of package 'lips'.}%
3 \ProvidesPackage{lwarp-lips}[2001/08/31]
4
5 \NewDocumentCommand{\Lips}{}{\textellipsis}
6
7 \NewDocumentCommand{\BracketedLips}{}{[\textellipsis]}
8
9 \let\lips\Lips
10 \let\olips\lips
11
12 \DeclareOption*{}
13 \DeclareOption{mla}{
14 \let\lips\BracketedLips
15 }
16 \ProcessOptions\relax
17
18 \newcommand \LPNobreakList {}

```

---

File 239 **lwarp-listings.sty**

§ 345 Package **listings**

*(Emulates or patches code by CARSTEN HEINZ, BROOKS MOSES, JOBST HOFFMANN.)*

Pkg listings listings is supported with some limitations. Text formatting is not yet supported.

```
1 \LWR@ProvidesPackagePass{listings}[2018/09/02]
```

Force flexible columns. Fixed columns inserts spaces in the PDF output.

```
2 \lst@column@flexible
```

Patches to embed listings inside pre tags:

```

3 \let\LWR@origlst@Init\lst@Init
4 \let\LWR@origlst@DeInit\lst@DeInit
5
6 \let\LWR@origlsthkEveryPar\lsthk@EveryPar
7
8 \renewcommand{\l@lstlisting}[2]{\hypertocfloat{1}{\lstlisting}{lol}{#1}{#2}}

```

`\lstset`     $\langle options \rangle$

Use the listings `literate` option to replace HTML entities:

```

9 \def\lstset@#1{\endgroup%
10 % \ifx\@empty#1%
11 % \@empty%
12 % \else%
13 \setkeys{lst}{%
14 #1%
15 ,literate=%
16 {<}{\HTMLentity{lt}}{4}%
17 {>}{\HTMLentity{gt}}{4}%
18 {'}{\HTMLentity{apos}}{6}%
19 {'}{\HTMLentity{grave}}{7}%

```

The ampersand is not treated here, as the result is inconsistent spacing. It is nevertheless converted to `&amp;`; elsewhere. Sanitizing the double quote interferes with listings' conversion of visible spaces inside strings.

```

20 }%
21 % \fi%
22 }

```

`\lst@Init`     $\langle backslash\text{-processing} \rangle$     Done at the start of a listing.

```
23 \renewcommand{\lst@Init}[1]{%
```

Perform the listings initialization:

```
24 \LWR@traceinfo{lst@Init}%
```

`\LWR@forcenewpage` is moved to the start to avoid a spurious bug with paragraph handling and conditionals.

```

25 \lst@ifdisplaystyle%
26 \LWR@forcenewpage%
27 \fi%
28 \renewcommand*\@capttype{\lstlisting}%
29 \let\lst@aboveskip\z@\let\lst@belowskip\z@%
30 \gdef\lst@boxpos{t}%
31 \let\lst@frame\@empty
32 \let\lst@frametshape\@empty
33 \let\lst@framershape\@empty
34 \let\lst@framebshape\@empty
35 \let\lst@framelshape\@empty
36 \lstframe@\lst@frameround ffff\relax%
37 \lst@multicols\@empty%

```

```
38 \LWR@origlst@Init{#1}\relax%
```

Avoids extra horizontal space:

```
39 \def\lst@frame{r{}}%
```

```
40 \LWR@traceinfo{finished origlst@Init}%
```

```
41 \lst@ifdisplaystyle%
```

Creating a display.

Disable line numbers, produce the <pre>, then reenable line numbers.

```
42 \LWR@traceinfo{About to create verbatim.}%
```

```
43 \let\lsthk@EveryPar\relax%
```

```
44 \LWR@atbeginverbatim{programlisting}%
```

```
45
```

```
46 \let\lsthk@EveryPar\LWR@origlsthkEveryPar%
```

```
47 \else%
```

Inline, so open a <span>:

```
48 \ifbool{LWR@verbtags}{\LWR@htmltag{span class="inlineprogramlisting"}}{}%
```

```
49 \fi%
```

```
50 \LWR@traceinfo{lst@Init done}%
```

```
51 }
```

```
52
```

`\lst@DeInit` Done at the end of a listing.

```
53 \renewcommand*{\lst@DeInit}{%
```

```
54 \lst@ifdisplaystyle%
```

Creating a display.

Disable line numbers, produce the </pre>, then reenable line numbers:

```
55 \let\lsthk@EveryPar\relax%
```

```
56 \LWR@afterendverbatim%
```

```
57 \let\lsthk@EveryPar\LWR@origlsthkEveryPar%
```

```
58 \else%
```

Inline, so create the closing </span>:

```
59 \ifbool{LWR@verbtags}{\noindent\LWR@htmltag{/span}}{}%
```

```
60 \fi%
```

Final listings deinit:

```
61 \LWR@origlst@DeInit%
```

```
62 }
```

`\lst@MakeCaption` {<*tb*>}

This is called BOTH at the top and at the bottom of each listing.

Patched for `lwarp`.

```
63
```

```
64 \def\lst@MakeCaption#1{%
```

```
65 \LWR@traceinfo{MAKING CAPTION at #1}%
```



```

66 \lst@ifdisplaystyle
67 \LWR@traceinfo{making a listings display caption}%
68 \ifx #1t%
69 \ifx\lst@caption\@empty\expandafter\lst@HRefStepCounter \else
70 \expandafter\refstepcounter
71 \fi {\lstlisting}%
72 \LWR@traceinfo{About to assign label: !\lst@label!}%
73 % \ifx\lst@label\@empty\else
74 % \label{\lst@label}\fi
75 \LWR@traceinfo{Finished assigning the label.}%
76 \let\lst@arg\lst@intname \lst@ReplaceIn\lst@arg\lst@filenamerrpl
77 \global\let\lst@name\lst@arg \global\let\lstname\lst@name
78 \lst@ifnolol\else
79 \ifx\lst@caption\@empty
80 \ifx\lst@caption\@empty
81 \ifx\lst@intname\@empty
82 \else
83 \def\lst@temp{ }%
84 \ifx\lst@intname\lst@temp \else

```

This code places a contents entry for a non-float. This would have to be modified for **lwarp**:

```

85 \LWR@traceinfo{addcontents lst@name: -\lst@name-}%
86 % \addcontentsline{lol}{\lstlisting}{\lst@name}
87 \fi
88 \fi
89 \fi
90 \else

```

This would have to be modified for **lwarp**:

```

91 \LWR@traceinfo{addcontents lst@caption: -\lst@caption-}%
92 \addcontentsline{lol}{\lstlisting}%
93 {\protect\numberline{\the\lstlisting}%
94 {\protect\ignorespaces \LWR@isolate{\lst@caption} \protect\relax}}%
95 \fi
96 \fi
97 \fi
98 \ifx\lst@caption\@empty\else
99 \LWR@traceinfo{\lst@caption not empty-}%
100 \lst@ifSubstring #1\lst@captionpos
101 {\begingroup
102 \LWR@traceinfo{at the selected position}%

```

These space and box commands are not needed for HTML output:

```

103 % \let\@vskip\vskip
104 % \def\vskip{\afterassignment\lst@vskip \@tempskipa}%
105 % \def\lst@vskip{\nobreak\@vskip\@tempskipa\nobreak}%
106 % \par\@parboxrestore\normalsize\normalfont % \noindent (AS)
107 % \ifx #1t\allowbreak \fi
108 \ifx\lst@title\@empty

```

New **lwarp** code to create a caption:

```

109 \LWR@stoppars%
110 \lst@makecaption\fnnum\lstlisting{\ignorespaces \lst@caption}
111 \else

```

New `lwarp` code to create a title:

```

112 % \lst@maketitle\lst@title % (AS)
113 \LWR@traceinfo{Making title: \lst@title}%
114 \begin{BlockClass}{lstlistingtitle}% lwarp
115 \lst@maketitle\lst@title% lwarp
116 \end{BlockClass}% lwarp
117 \fi
118 \LWR@traceinfo{About to assign label: !\lst@label!}%
119 \ifx\lst@label\@empty\else
120 \leavevmode% gets rid of bad space factor error
121 \GetTitleStringExpand{\lst@caption}%
122 \edef\LWR@lntemp{\GetTitleStringResult}%
123 \edef\@currentlabelname{\detokenize\expandafter{\LWR@lntemp}}%
124 \label{\lst@label}\fi
125 \LWR@traceinfo{Finished assigning the label.}%

```

Not needed for `lwarp`:

```

126 % \ifx #1b\allowbreak \fi
127 \endgroup}{}%
128 \fi
129 \LWR@traceinfo{end of making a listings display caption}%
130 \else
131 \LWR@traceinfo{INLINE}%
132 \fi
133 \LWR@traceinfo{DONE WITH CAPTION at #1}%
134 }
135
136 \renewcommand{\lst@maketitle}[1]{%
137 \LWR@isolate{#1}%
138 }%
139

```

[line numbers](#) Patched to keep left line numbers outside of the left margin, and place right line numbers in a field `\VerbatimHTMLWidth` wide.

```

140 \lst@Key{numbers}{none}{%
141 \let\lst@PlaceNumber\@empty
142 \lstKV@SwitchCases{#1}%
143 {none:\%
144 left:\def\lst@PlaceNumber{%

```

For now, `lwarp` places left line numbers inline. Ideally the entire line would be moved to the right, but conflicts with list indenting occurs.

```

145 % \LWR@origllap{
146 \LWR@orignormalfont%
147 \lst@numberstyle{\thelstnumber}\kern\lst@numbersep%
148 % }
149 }\%
150 right:\def\lst@PlaceNumber{\LWR@origllap{\LWR@orignormalfont
151 \kern 6in \kern\lst@numbersep
152 \lst@numberstyle{\thelstnumber}}}%
153 }\PackageError{lwarp-listings}{Numbers #1 unknown}\@ehc}}

```

File 240 **lwarp-listliketab.sty**

§ 346 Package **listliketab**

Pkg listliketab listliketab is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{listliketab}[2005/01/09]

2 \newcommand*{\storestyleof}[1]{}
3 \newcommand*{\storeliststyle}{}
4 \newenvironment{listliketab}{}{}

```

File 241 **lwarp-lltjext.sty**

§ 347 Package **lltjext**

*(Emulates or patches code by THE L<sup>A</sup>T<sub>E</sub>X-JA PROJECT TEAM.)*

Pkg lltjext lltjext is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{lltjext}[2018/10/07]

2 \protected\def\yoko{%
3 \directlua{luatexja.direction.set_list_direction(4, 'yoko')}%
4 }
5 \protected\def\tate{\yoko}
6 \protected\def\dtou{\yoko}
7 \protected\def\utod{\yoko}
8
9 \define@key[ltj]{japaram}{direction}{}
10
11 \yoko
12
13 \DeclareExpandableDocumentCommand{\rensujj}{s o m}{#3}
14
15 \DeclareDocumentCommand{\layoutfloat}{d() o m}{}
16
17 \DeclareDocumentCommand{\DeclareLayoutCaption}{m d<> d() o}{}
18
19 \LetLtxMacro\pccaption\caption
20
21 \DeclareDocumentCommand{\layoutcaption}{d<> d() o}{}
22
23 \let\captiondir\relax
24 \RenewDocumentEnvironment{LWR@HTML@minipage}{d<> O{t} O{} O{t} m}
25 {\LWR@HTML@sub@minipage{#2}{#3}{#4}{#5}}
26 {\endLWR@HTML@sub@minipage}
27

```

```

28 \RenewDocumentCommand{\LWR@HTML@parbox}{d<> O{t} O{ } O{t} m +m}
29 {
30 \LWR@traceinfo{parbox of width #4}%
31 \begin{minipage}[#2][#3][#4]{#5}%
32 #6
33 \end{minipage}%
34 }
35
36 \RenewDocumentCommand{\pbox}{d<> O{0pt} O{c} m}{%
37 \global\booltrue{LWR@minipagefullwidth}%
38 \parbox[#2]{#4}%
39 }

```

File 242 **lwarp-longtable.sty**

§ 348 Package **longtable**

(Emulates or patches code by DAVID CARLISLE.)

Pkg longtable longtable is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{longtable}[2014/10/28]

Use one of either `\endhead` or `\endfirsthead` for both print and HTML, and use a `\warpprintonly` macro to disable the other head phrase, and also the `\endfoot` and `\endfirstfoot` phrases. (See section 8.10.4 if using `threeparttablex`.)

```

\begin{longtable}{ [column specifiers] }
[. . .] \endfirsthead % or \endhead, for print and HTML
\warpprintonly{ % not used in HTML
[. . .] \endhead % or \endfirsthead
[. . .] \endfoot
[<lastfoot macros>] \endlastfoot
}
. . . table contents . . .
\warpHTMLonly{
[<lastfoot macros>] % HTML last footer, without \endfoot
% or \endlastfoot.
}
\end{longtable}

```

⚠ Misplaced `\noalign` Use the `\warpprintonly` macro instead of the `warpprint` environment. Doing so helps avoid “Misplaced `\noalign`.” when using `\begin{warpprint}`.

⚠ `\kill` `\kill` is ignored, place a `\kill` line inside

```
\begin{warpprint} . . . \end{warpprint}
```

or place it inside `\warpprintonly`.

⚠ `lateximage` longtable is not supported inside a `lateximage`.

See:

<http://tex.stackexchange.com/questions/43006/why-is-input-not-expandable>

Used to detect more than one of `\endhead` and `\endfirsthead` in use for HTML at the same time.

```
2 \newbool{LWR@longtable@havehead}
3 \boolfalse{LWR@longtable@havehead}
```

Env `longtable` \* [*horizontal*] [*colspec*] Emulates the `longtable` environment.

Per the `caption` package, the starred version steps the counter per caption. The unstarred version steps the counter once at the beginning, but not at each caption.

Options `[c]`, `[l]`, and `[r]` are ignored.

```
4 \newenvironment{longtable*}[2][]{%
5 \LWR@floatbegin{table}%
6 \ifdef{\setcaptiontype}{% caption package:
7 \setcaptiontype{\LTcaptiontype}%
8 \caption@setoptions{longtable}%
9 \caption@setoptions{@longtable}%
10 \caption@LT@setup%
11 }{% w/o caption package:
12 \renewcommand*{\@captiontype}{\LTcaptiontype}%
13 }%
14 \booltrue{LWR@starredlongtable}%
15 \boolfalse{LWR@longtable@havehead}%
16 \let\captionlistentry\LWR@LTcaptionlistentry%
17 \tabular{#2}%
18 }
19 {\endtabular\LWR@floatend}
20
21 \newenvironment{longtable}[2][]{%
22 \LWR@floatbegin{table}%
23 \ifdef{\setcaptiontype}{% caption package:
24 \setcaptiontype{\LTcaptiontype}%
25 \caption@setoptions{longtable}%
26 \caption@setoptions{@longtable}%
27 \caption@LT@setup%
28 }{% w/o caption package:
29 \renewcommand*{\@captiontype}{\LTcaptiontype}%
30 }%
31 \refstepcounter{\LTcaptiontype}%
32 \boolfalse{LWR@longtable@havehead}%
33 \let\captionlistentry\LWR@LTcaptionlistentry%
34 \tabular{#2}%
35 }
36 {\endtabular\LWR@floatend}
```

Provided for compatibility, but ignored:

```
37 \newcounter{LTchunksize}
```

Error for heads which should have been in `\warpprintonly`:

```

38 \newcommand*{\LWR@longtable@headerror}{%
39 \PackageError{lwarp-longtable}
40 {For longtable:\MessageBreak
41 1: Keep either one of an \protect\endhead\space or
42 \protect\endfirsthead\space\MessageBreak
43 \space phrase as-is, to be used by both print and HTML.\MessageBreak
44 2: Place any other \protect\end... phrases inside a\MessageBreak
45 \space\protect\warpprintonly\space macro,
46 to be ignored by HTML.\MessageBreak
47 3: Add a final footer for HTML at the end of the table\MessageBreak
48 \space inside a \protect\warpprintonly\space macro.
49 This can be\MessageBreak
50 \space a copy of an \protect\endfoot\space or
51 \protect\endfirstfoot\space phrase,\MessageBreak
52 \space but without the actual \protect\endfoot\space
53 or \protect\endfirstfoot\MessageBreak
54 \space macros. If using threeparttablex, add\MessageBreak
55 \space \protect\insertTableNotes\space here,
56 optionally with\MessageBreak
57 \space \protect\UseMinipageWidths\space in front.\MessageBreak
58 See the Lwarp documentation regarding longtables\MessageBreak
59 and threeparttablex}
60 {See the Lwarp documentation regarding longtables and threeparttablex.}
61 }

```

Error if more than one of `\endhead` or `\endfirsthead` is outside of `\warpprintonly`.

```

62 \newcommand*{\LWR@longtable@maybeheaderror}{%
63 \ifbool{LWR@longtable@havehead}%
64 {\LWR@longtable@headerror}%
65 {%
66 \booltrue{LWR@longtable@havehead}
67 \LWR@tabularendofline% throws away options //[dim] and //*
68 }%
69 }

```

Error if more than one of these is outside of `\warpprint`.

```

70 \def\endhead{\LWR@longtable@maybeheaderror}
71 \def\endfirsthead{\LWR@longtable@maybeheaderror}

```

Error if ANY of these is outside of `\warpprint`.

```

72 \def\endfoot{\LWR@longtable@headerror}
73 \def\endlastfoot{\LWR@longtable@headerror}

```

```

74 \providecommand*{\LWR@HTML@tabularnewline}{\LWR@tabularendofline}
75 \LWR@formatted{tabularnewline}

```

```

76 \newcommand{\setlongtables}{% Obsolete command, does nothing.
77 \newlength{\LTleft}
78 \newlength{\LTright}

```

```

79 \newlength{\LTpre}
80 \newlength{\LTpost}
81 \newlength{\LTcapwidth}

82 \LetLtxMacro\LWR@origkill\kill
83 \renewcommand*\kill{\LWR@tabularendofline}
84 \appto\LWR@restoreorigformatting{%
85 \LetLtxMacro\kill\LWR@origkill%
86 }

```

---

File 243 **lwarp-lscape.sty**

§ 349 Package **lscape**

*(Emulates or patches code by D. P. CARLISLE.)*

Pkg lscape **lscape** is ignored.

**for HTML output:** Discard all options for lwarp-lscape.

```

1 \LWR@ProvidesPackageDrop{lscape}[2000/10/22]

2 \newenvironment{landscape}{}{}

```

---

File 244 **lwarp-ltablex.sty**

§ 350 Package **ltablex**

*(Emulates or patches code by ANIL K. GOEL.)*

Pkg ltablex **ltablex** is emulated by lwarp.

**for HTML output:** Relies on tabularx.

```

1 \RequirePackage{longtable}
2 \RequirePackage{tabularx}
3
4 \LWR@ProvidesPackageDrop{ltablex}[2014/08/13]
5
6 \DeclareDocumentEnvironment{tabularx}{m o m}
7 {\longtable{#3}}
8 {\endlongtable}
9
10 \DeclareDocumentEnvironment{tabularx*}{m o m}
11 {\longtable{#3}}
12 {\endlongtable}
13
14 \newcommand*\keepXColumns{}
15 \newcommand*\convertXColumns{}

```

---

File 245 **lwarp-ltcaption.sty**

§ 351 Package **ltcaption**

*(Emulates or patches code by AXEL SOMMERFELDT.)*

Pkg ltcaption **ltcaption** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{ltcaption}[2018/08/26]

\LTcaptype is already defined by lwarp.

longtable\* is already defined by lwarp-longtable.

```
2 \newlength{\LTcapskip}
3 \newlength{\LTcapleft}
4 \newlength{\LTcapright}
5 \newcommand*\LTcapmarginfalse{}
```

---

File 246 **lwarp-ltxgrid.sty**

§ 352 Package **ltxgrid**

Pkg ltxgrid **ltxgrid** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{ltxgrid}[2010/07/25]

```
2 \newcommand*\onecolumngrid{}
3 \newcommand*\twocolumngrid{}
4 \newcommand*\removestuff{}
5 \newcommand*\addstuff[2]{}
6 \newcommand*\replacestuff[2]{}


```

---

File 247 **lwarp-ltxtable.sty**

§ 353 Package **ltxtable**

Pkg ltxtable **ltxtable** is emulated.

 **table numbering** The print version does not seem to honor longtable\* from the caption package, while lwarp does.

**for HTML output:** 1 \RequirePackage{tabularx, longtable}  
2 \LWR@ProvidesPackageDrop{ltxtable}[1995/12/11]



```

\LTxtable {\langle width\rangle} {\langle file\rangle}
 3 \newcommand*{\LTxtable}[2]{%
 4 \input{#2}%
 5 }

```

---

File 248 **lwarp-lua-check-hyphen.sty**

§ 354 Package **lua-check-hyphen**

Pkg lua-check-hyphen lua-check-hyphen is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{lua-check-hyphen}[2018/04/19]

2 \newcommand\*{\LuaCheckHyphen}[1]{}

---

File 249 **lwarp-lua-visual-debug.sty**

§ 355 Package **lua-visual-debug**

Pkg lua-visual-debug lua-visual-debug is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{lua-visual-debug}[2016/05/30]

---

File 250 **lwarp-luacolor.sty**

§ 356 Package **luacolor**

Pkg luacolor luacolor is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{luacolor}[2016/05/16]

2 \newcommand{\luacolorProcessBox}[1]{}

---

File 251 **lwarp-luamplib.sty**

§ 357 Package **luamplib**

*(Emulates or patches code by HANS HAGEN, TACO HOEKWATER, ELIE ROUX, PHILIPP GESANG, KIM DOHYUN.)*

Pkg luamplib luamplib is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{luamplib}[2020/02/24]

```

2 \BeforeBeginEnvironment{mplibcode}{%
3 \begin{lateximage}[-mplibcode~\PackageDiagramAltText]%
4 }
5 \AfterEndEnvironment{mplibcode}{\end{lateximage}}

```

File 252 **lwarp-luatexko.sty**

§ 358 Package **luatexko**

*(Emulates or patches code by DOHYUN KIM, SOOJIN NAM.)*

Pkg luatexko **luatexko** is patched for use by lwarp.

Modern HTML is used for `\dotemph`, `\ruby`, and offset and thickness control for `\uline`, etc.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{luatexko}[2020/03/20]

2 \newcommand{\LWR@HTML@dotemph}[1]{%
3 \uline{#1}%
4 \InlineClass[text-emphasis-style: dot]{dotemph}{#1}%
5 }
6 \LWR@formatted{dotemph}
7
8 \newcommand{\LWR@HTML@ruby}[2]{%
9 \LWR@htmltagc{ruby}%
10 \LWR@htmltagc{rb}#1\LWR@htmltagc{/rb}%
11 \LWR@htmltagc{rp}(\LWR@htmltagc{/rp}%
12 \LWR@htmltagc{rt}#2\LWR@htmltagc{/rt}%
13 \LWR@htmltagc{rp})\LWR@htmltagc{/rp}%
14 \LWR@htmltagc{/ruby}%
15 }
16 \LWR@formatted{ruby}

```

The following is modified from lwarp-ulem:

```

17 \NewDocumentCommand{\LWR@HTML@uline}{+m}{%
18 \InlineClass%
19 (text-decoration:underline; text-decoration-skip: auto)%
20 [%
21 text-decoration-offset: \ulinedown ;
22 text-decoration-thickness: \ulinewidth%
23]%
24 {uline}{\LWR@isolate{#1}}%
25 }
26 \LWR@formatted{uline}
27
28 \NewDocumentCommand{\LWR@HTML@uuuline}{+m}{%
29 \InlineClass%
30 (%
31 text-decoration:underline; text-decoration-skip: auto;%
32 text-decoration-style:double%

```

```
33)%
34 [%
35 text-underline-offset: \ulinedown ;
36 text-decoration-thickness: \ulinewidth%
37]%
38 {\uuline}{\LWR@isolate{#1}}%
39 }
40 \LWR@formatted{uuline}
41
42 \NewDocumentCommand{\LWR@HTML@uwave}{+m}{%
43 \InlineClass%
44 (%
45 text-decoration:underline; text-decoration-skip: auto;%
46 text-decoration-style:wavy%
47)%
48 [%
49 text-underline-offset: \ulinedown ;
50 text-decoration-thickness: \ulinewidth%
51]%
52 {\uwave}{\LWR@isolate{#1}}%
53 }
54 \LWR@formatted{uwave}
55
56 \NewDocumentCommand{\LWR@HTML@sout}{+m}{%
57 \InlineClass%
58 (text-decoration:line-through)%
59 [text-decoration-thickness: \ulinewidth]%
60 {\sout}{\LWR@isolate{#1}}%
61 }
62 \LWR@formatted{sout}
63
64 \NewDocumentCommand{\LWR@HTML@xout}{+m}{%
65 \InlineClass%
66 (text-decoration:line-through)%
67 [text-decoration-thickness: \ulinewidth]%
68 {\xout}{\LWR@isolate{#1}}%
69 }
70 \LWR@formatted{xout}
71
72 \NewDocumentCommand{\LWR@HTML@dashuline}{+m}{%
73 \InlineClass%
74 (%
75 text-decoration:underline;%
76 text-decoration-skip: auto;%
77 text-decoration-style:dashed%
78)%
79 [%
80 text-underline-offset: \ulinedown ;
81 text-decoration-thickness: \ulinewidth%
82]%
83 {\dashuline}{\LWR@isolate{#1}}%
84 }
85 \LWR@formatted{dashuline}
86
87 \NewDocumentCommand{\LWR@HTML@dotuline}{+m}{%
```

```

88 \InlineClass%
89 (%
90 text-decoration:underline;%
91 text-decoration-skip: auto;%
92 text-decoration-style: dotted%
93) %
94 [%
95 text-underline-offset: \ulinedown ;
96 text-decoration-thickness: \linewidth%
97] %
98 {dotuline}{\LWR@isolate{#1}}%
99 }
100 \LWR@formatted{dotuline}

```

---

File 253 **lwarp-luatodonotes.sty**

§ 359 Package **luatodonotes**

*(Emulates or patches code by FABIAN LIPP.)*

Pkg luatodonotes **luatodonotes** is emulated.

The documentation for `todonotes` and `luatodonotes` have an example with a `todo` inside a caption. If this example does not work it will be necessary to move the `todo` outside of the caption.

**for HTML output:** 1 \LWR@ProvidesPackagePass{luatodonotes}[2017/09/30]

Nullify options:

```

2 \@todonotes@additionalMarginEnabledfalse
3 \if@todonotes@disabled
4 \else
5
6 \newcommand{\ext@todo}{tdo}
7
8 \renewcommand{\l@todo}[2]{\hypertocfloat{1}{todo}{ldo}{#1}{#2}}

9 \let\LWRTODONOTES@orig@todotoc\todotoc
10
11 \renewcommand*{\todotoc}{%
12 \LWR@phantomsection%
13 \LWRTODONOTES@orig@todotoc%
14 }
15
16
17 \renewcommand{\@todonotes@drawMarginNoteWithLine}{%
18 \fcolorbox
19 {\@todonotes@currentbordercolor}
20 {\@todonotes@currentbackgroundcolor}
21 {\arabic{@todonotes@numberoftodonotes}}

```

```

22 \marginpar{\@todonotes@drawMarginNote}
23 }
24
25 \renewcommand{\@todonotes@drawInlineNote}{%
26 \fcolorboxBlock%
27 {\@todonotes@currentbordercolor}%
28 {\@todonotes@currentbackgroundcolor}%
29 {%
30 \if@todonotes@authorgiven%
31 {\@todonotes@author:\,}%
32 \fi%
33 \@todonotes@text%
34 }%
35 }
36
37 \newcommand{\@todonotes@drawMarginNote}{%
38 \if@todonotes@authorgiven%
39 \@todonotes@author\par%
40 \fi%
41 \arabic{\@todonotes@numberoftodonotes}: %
42 \fcolorbox%
43 {\@todonotes@currentbordercolor}%
44 {\@todonotes@currentbackgroundcolor}%
45 {%
46 \@todonotes@sizecommand%
47 \@todonotes@text %
48 }%
49 }%
50
51 \renewcommand{\missingfigure}[2][{}]{%
52 \setkeys{todonotes}{#1}%
53 \addcontentsline{tdo}{todo}{\@todonotes@MissingFigureText: #2}%
54 \fcolorboxBlock%
55 {\@todonotes@currentbordercolor}%
56 {\@todonotes@currentfigcolor}%
57 {%
58 \setlength{\fboxrule}{4pt}%
59 \fcolorbox{red}{white}{Missing figure} \quad #2%
60 }
61 }
62
63 \LetLtxMacro\LRWRTODONOTES@orig@todocommon\@todocommon
64
65 \RenewDocumentCommand{\@todocommon}{m m}{%
66 \begingroup%
67 \renewcommand*\phantomsection{}%
68 \LRWRTODONOTES@orig@todocommon{#1}{#2}%
69 \endgroup%
70 }
71
72 \renewcommand{\@todoarea}[3][{}]{%
73 \@todonotes@areaselectedtrue%
74 \@todocommon{#1}{#2}%
75 \@todonotes@textmark@highlight{#3}%
76 \zref@label{\@todonotes@arabic{\@todonotes@numberoftodonotes}@end}%

```

```

77 }%
78
79
80 \DeclareDocumentCommand{\todonotes@textmark@highlight}{m}{%
81 \InlineClass[background:\LWR@origpound{ }B3FFB3]{highlight}{#1}%
82 }
83
84 \fi% \if@todonotes@disabled

```

File 254 **lwarp-lyluatex.sty**


§ 360 Package **lyluatex**

(Emulates or patches code by FR. JACQUES PERON, URS LISKA, BR. SAMUEL SPRINGUEL.)


Pkg lyluatex lyluatex is patched for use by lwarp.


For the first compile, to set *lwarpmk*'s configuration, use:

```
lualatex --shell-escape <filename>
```

 **images** After compiling the document with **lwarpmk html**, use **lwarpmk limages** to convert the Lilypond images for HTML.

The option `insert=systems` results in an image per system. Each music image “system” is placed inside a `<span>` of class `lyluatex`, which defaults to `display: inline-block`.


 **insert=fullpage** The option `insert=fullpage` results in a single image per page of printed output. Each music “fullpage” image is placed inside a `<div>` of class `lyluatex`. To match the number of measures per line with the printed version, use the `geometry` package to select the page geometry, or use the `lyluatex` options for page and staff sizes.

 **options** To use `\linewidth` or `\textwidth` inside the package options for `lyluatex`, use the `kvoptions-patch` package first:

```

\usepackage{kvoptions-patch}
\usepackage[... ,line-width=0.8\linewidth,...]{lyluatex}

```

 **raw-pdf** If using `raw-pdf`, the resulting PDF images must be converted to SVG:

```
Enter ⇒ lwarpmk pdftosvg tmp-ly/*.pdf
```

**for HTML output:**

```

1 \LWR@origRequirePackage{luacode}
2
3 \LWR@ProvidesPackagePass{lyluatex}[2019/05/27]

```

User-redefinable ALT tag:

```
4 \newcommand*{\LyluatexImageAltText}{-lilypond-~\PackageDiagramAltText}
```

```

\ly@compilescore {\langle Lilypond object \rangle}
5 \LetLtxMacro\LWR@orig@ly@compilescore\ly@compilescore
6
7 \renewcommand*\ly@compilescore}[1]{%

```

A local group holds a number of changes:

```
8 \begingroup%
```

The user's original geometry and font size are restored to match the print version. This allows for correct spacing in the musical score.

```
9 \LWR@maybe@orignewpage%
10 \LWR@origloadgeometry{\LWR@usergeometry}%
11 \LWR@print@normalsize%
```

A local group holds a redefined `\includegraphics` which is used by *lyluatex.lua* to insert the *Lilypond* score if `insert=systems` is used. This is now placed inside a `lateximage`, which itself is placed inside a `<span>` of class `lyluatex`.

`\LWR@addbaselinemarker` preserves the left margins.

```
12 \renewcommand{\includegraphics}[2][]{%
13 \InlineClass{lyluatex}{%
14 \begin{lateximage}[\LyluatexImageAltText]%
15 \LWR@addbaselinemarker%
16 \LWR@originincludegraphics{##2}%
17 \end{lateximage}%
18 }%
19 }%
```

From the original:

```
20 \ly@setunits%
21 \directlua{
22 ly_opts:set_option('currfiledir', [[\currfiledir]])
23 ly_opts:set_option('twoside', '\ly@istwosided')
24 #1
25 }%
26 \ly@resetunits%
27 \ly@currentfonts%
```

The fullpage version is set inside an HTML `<div>`:

```
28 \directlua{
29 if (ly.score.insert == 'fullpage') then
30 tex.print{[[\string\begin{BlockClass}{lyluatex}]]}
31 end
32 }%
```

Generate the score:

```
33 \directlua{ly.score:process()}%
```

Close the `<div>`:

```
34 \directlua{
35 if (ly.score.insert == 'fullpage') then
36 tex.print{[[\string\end{BlockClass}]]}
37 end

```

```
38 }%
```

Move to a new page and renew the regular page geometry:

```
39 \LWR@maybe@orignewpage%
40 \LWR@origrestoregeometry%
```

End of the local group.

```
41 \endgroup%
42 }
```

In HTML the following generates an error, so is removed:

```
43 \xpatchcmd{\endly@bufferenv}
44 {\hspace{0pt}\}
45 {}
46 {}
47 {\LWR@patcherror{lyluatex}{endly@bufferenv}}
```

File 255 **lwarp-magaz.sty**

§ 361 Package **magaz**

Pkg magaz **magaz** is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{magaz}[2011/11/24]

```
2 \newcommand\FirstLine[1]{%
3 \begingroup%
4 \FirstLineFont{%
5 \LWR@textcurrentcolor{%
6 \LWR@textcurrentfont{%
7 #1%
8 }%
9 }%
10 }%
11 \endgroup%
12 }
13
14 \providecommand\FirstLineFont{\scshape}
```

File 256 **lwarp-makeidx.sty**

§ 362 Package **makeidx**

*(Emulates or patches code by L<sup>A</sup>T<sub>E</sub>X PROJECT TEAM.)*

Pkg makeidx **makeidx** is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{makeidx}[2014/09/29]



`\@wrindex` is redefined `\AtBeginDocument` by the `lwarp` core.

`\printindex`

```
2 \preto\printindex{%
3 \LWR@maybe@orignewpage%
4 \LWR@startpars%
5 }
```

---

File 257 **lwarp-manyfoot.sty**

§ 363 Package **manyfoot**

Pkg manyfoot manyfoot is emulated.

**bigfoot**, **manyfoot** Verbatim footnotes are not yet supported.

 **verbatim**

If using the `bigfoot` package, and possibly also `manyfoot`, problems may occur with counter allocation because `lwarp` uses many counters, and there is a difference in how counters numbered 256 and up are handled in `pdfLATEX`. With `bigfoot` this has been known to show up as an error related to one footnote insert being forbidden inside another. Another problem showed up as a input stack error, and which of these problems occurred depended on how many counters were allocated.

As a possible solution, try creating several new counters before defining `bigfoot` or `manyfoot` footnotes, hoping to shift the problematic counter above the 256 threshold. It may instead be necessary to use `XYLATEX` or `LuaLATEX` instead of `pdfLATEX`.

`lwarp`'s emulation of `bigfoot` uses `manyfoot`, so some of the `bigfoot` enhancements are included here.

The `bigfoot` “default” footnote is ignored, using the `lwarp` version instead.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{manyfoot}[2005/09/11]

2 \RequirePackage{nccfoots}
3
4 \newcommand{\extrafootnoterule}{}
5
6 \let\defaultfootnoterule\footnoterule
7
8 \newcommand*{\SelectFootnoteRule}[2][0]{}
9
10 \newcommand{\footnoterulepriority}{1}
11
12 \newcommand{\SetFootnoteHook}[1]{}
13 \@onlypreamble\SetFootnoteHook
14
15 \newcommand{\SplitNote}{}
16
17 \newcommand*\ExtraParaSkip[1]{}

```

```

18
19 \newcommand*{\newfootnote}[2][plain]{%
20 \ifstrequal{#2}{default}{}% not "default"
21 \expandafter\newbox\csname LWR@footnote#2box\endcsname%
22 \appto{\LWR@printpendingfootnotes}{%
23 \LWR@@printpendingfootnotes{footnote#2}%
24 }
25 \long\csdef{Footnotetext#2}##1##2{%
26 \NCC@makefnmark{##1}%
27 \LWR@@footnotetext{##2}{LWR@footnote#2box}%
28 }%
29 \long\csdef{Footnotetext#2+}##1##2{%
30 \NCC@makefnmark{##1}%
31 \LWR@@footnotetext{##2}{LWR@footnote#2box}%
32 }%
33 }% not "default"
34 }
35 \@onlypreamble\newfootnote
36
37 \newcommand*{\DeclareNewFootnote}[2][plain]{%
38 \ifnextchar[%
39 {\LWR@manyfoot@declare{#1}{#2}}%
40 {\LWR@manyfoot@declare{#1}{#2}[arabic]}%
41 }
42
43 \def\LWR@manyfoot@declare#1#2[#3]{%
44 \ifstrequal{#2}{default}{}% not "default"
45 \newfootnote[#1]{#2}%
46 \newcounter{footnote#2}%
47 \newcounter{footnote#2Reset}%
48 \setcounter{footnote#2Reset}{0}%
49 \csdef{thefootnote#2}{%
50 \expandafter\noexpand\csname @#3\endcsname%
51 \expandafter\noexpand\csname c@footnote#2\endcsname%
52 }%

```

For **bigfoot**, the footnote commands may be appended with one or two plusses or one or two minuses, which are ignored in HTML.

```

53 \expandafter\NewDocumentCommand\csname footnote#2\endcsname{t{+}t{+}t{-}t{-}}{%
54 \stepcounter{footnote#2}%
55 \protected@xdef\@thefnmark{\csname thefootnote#2\endcsname}%
56 \@footnotemark%
57 \csuse{Footnotetext#2}\@thefnmark}% absorbs the footnote contents
58 }%
59 \csdef{footnotemark#2}{%
60 \stepcounter{footnote#2}%
61 \protected@xdef\@thefnmark{\csname thefootnote#2\endcsname}%
62 \@footnotemark%
63 }%
64 \expandafter\NewDocumentCommand\csname footnotetext#2\endcsname{t{+}t{+}t{-}t{-}}{%
65 \protected@xdef\@thefnmark{\csname thefootnote#2\endcsname}%
66 \csuse{Footnotetext#2}\@thefnmark}% absorbs the footnote contents
67 }%
68 \csdef{Footnotemark#2}{%

```

```

69 \Footnotemark%
70 }%
71 \csdef{Footnote#2}##1{%
72 \Footnotemark{##1}%
73 \csuse{Footnotetext#2}{##1}%
74 }%
75 }% not "default"
76 }
77 \@onlypreamble\DeclareNewFootnote

```

---

File 258 **lwarp-marginal.sty**

§ 364 Package **marginal**

Pkg marginal marginal is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{marginal}

2 \newcommand*{\showlostmarginals}{}
3 \newcommand*{\enlargefreelist}{}
4 \newcommand*{\onesidemarginals}{}

```

---

File 259 **lwarp-marginfit.sty**

§ 365 Package **marginfit**

Pkg marginfit marginfit is ignored.

**for HTML output:** Discard all options for lwarp-marginfit:

```

1 \LWR@ProvidesPackageDrop{marginfit}[2018/06/08]

```

---

File 260 **lwarp-marginfix.sty**

§ 366 Package **marginfix**

*(Emulates or patches code by STEPHEN HICKS.)*

Pkg marginfix marginfix is ignored.

**for HTML output:** Discard all options for lwarp-marginfix:

```

1 \LWR@ProvidesPackageDrop{marginfix}[2013/09/08]

2 \newcommand*{\marginsskip}[1]{}
3 \newcommand*{\clearmargin}{}
4 \newcommand*{\softclearmargin}{}

```

```

5 \newcommand*\extendmargin}[1]{}
6 \newcommand*\mparshift}[1]{}
7 \newdimen\marginheightadjustment
8 \newdimen\marginposadjustment
9 \newcommand*\blockmargin}[1][{}]{
10 \newcommand*\unblockmargin}[1][{}]{
11 \newcommand*\marginphantom}[2][{}]{

```

---

File 261 **lwarp-marginnote.sty**

§ 367 Package **marginnote**

*(Emulates or patches code by MARKUS KOHM.)*

Pkg marginnote marginnote is emulated.

**for HTML output:** Discard all options for lwarp-marginnote:

```

1 \LWR@ProvidesPackageDrop{marginnote}[2018/08/09]

2 \NewDocumentCommand{\marginnote}{+o +m o}{\marginpar{#2}}

3 \newcommand*\marginnoteleftadjust{}
4 \newcommand*\marginnoterightadjust{}
5 \newcommand*\marginnotetextwidth{}
6 \let\marginnotetextwidth\textwidth
7 \newcommand*\marginnotevadjust{}
8 \newcommand*\marginfont{}
9 \newcommand*\raggedleftmarginnote{}
10 \newcommand*\raggedrightmarginnote{}

11 \appto\LWR@restoreorigformatting{%
12 \RenewDocumentCommand{\marginnote}{+o +m o}{
13 }

For MATHJAX:

14 \begin{warpMathJax}
15 \CustomizeMathJax{\newcommand{\LWRmarginnote}[1][{}]}
16 \CustomizeMathJax{\newcommand{\marginnote}[2][{}]{\quad\small\textrm{#2}}\LWRmarginnote}}
17 \end{warpMathJax}

```

---

File 262 **lwarp-marvosym.sty**

§ 368 Package **marvosym**

*(Emulates or patches code by THOMAS HENLICH, MOJCA MIKLAVEC.)*

Pkg marvosym marvosym is patched for use by lwarp.

Hashed inline images are used, as there may not be Unicode support for all icons.

**for HTML output:**

```


1 \LWR@ProvidesPackagePass{marvosym}[2011/07/20]
2 \renewcommand{\mvchr}[1]{%
3 \begin{lateximage}*[symbol #1][marvosym #1]%
4 \mvs\char#1%
5 \end{lateximage}%
6 }
7
8 \renewcommand{\textmvs}[1]{%
9 \begin{lateximage}%
10 \mvs #1%
11 \end{lateximage}%
12 }
```

File 263 **lwarp-mathalpha.sty**

§ 369 Package **mathalpha**

*(Emulates or patches code by MICHAEL SHARPE.)*

Pkg mathalpha **mathalpha** is used as-is for SVG math, and is emulated for MATHJAX.

 **limitations** The MATHJAX emulation ignores all package options, and some bold fonts may not be supported by MATHJAX.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{mathalpha}[2019/10/05]
2
3 \begin{warpMathJax}
4 \CustomizeMathJax{\newcommand{\mathbbb}[1]{\boldsymbol{\mathbb{#1}}}}% not bold
5 \CustomizeMathJax{\newcommand{\mathbcal}[1]{\boldsymbol{\mathcal{#1}}}}
6 \CustomizeMathJax{\newcommand{\mathbfrac}[1]{\boldsymbol{\mathfrak{#1}}}}
7 \CustomizeMathJax{\newcommand{\mathbscr}[1]{\boldsymbol{\mathscr{#1}}}}% not bold
8 \end{warpMathJax}
```

File 264 **lwarp-mathastext.sty**

§ 370 Package **mathastext**

*(Emulates or patches code by JEAN-FRANÇOIS BURNOL.)*

Pkg mathastext **mathastext** is used as-is for SVG math, and emulated for MATHJAX.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{mathastext}[2019/11/16]
2
3 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
4 \begin{warpMathJax}
```

```

5 \ifmst@itgreek
6 % \LWR@mathjax@addgreek@l@it{}{}
7 \else
8 \ifmst@upgreek
9 \LWR@mathjax@addgreek@l@up{}{}
10 \else
11 \ifmst@frenchmath
12 \LWR@mathjax@addgreek@l@up{}{}
13 \else
14 \ifmst@italic
15 % \LWR@mathjax@addgreek@l@it{}{}
16 \else
17 \LWR@mathjax@addgreek@l@up{}{}
18 \fi
19 \fi
20 \fi
21 \fi
22
23 \ifcase@mst@greek@select
24 \or{\LWR@mathjax@addgreek@u@it*{}{}}
25 % \or{\LWR@mathjax@addgreek@u@up*{}{}}
26 \fi
27
28 \CustomizeMathJax{\newcommand{\mathnormalbold}[1]{\boldsymbol{#1}}}
29 \CustomizeMathJax{\newcommand{\MathEulerBold}[1]{\boldsymbol{#1}}}
30 \CustomizeMathJax{\newcommand{\MathEuler}[1]{#1}}
31 \CustomizeMathJax{\newcommand{\MathPSymbol}[1]{#1}}
32 \CustomizeMathJax{\let\fouriervec\vec}
33 \CustomizeMathJax{\let\pmvec\vec}
34 \CustomizeMathJax{\let\inodot\imath}
35 \CustomizeMathJax{\let\jnodot\jmath}
36 \CustomizeMathJax{\let\shortiff\iff}
37 \CustomizeMathJax{\let\longto\longrightarrow}
38 \CustomizeMathJax{\newcommand{\infitypsy}{\mathord{\unicode{x221E}}}}
39 \CustomizeMathJax{\newcommand{\proptopsy}{\mathrel{\unicode{x221D}}}}
40 \CustomizeMathJax{\let\prodpsy\prod}
41 \CustomizeMathJax{\let\sumpsy\sum}
42 \CustomizeMathJax{\let\MToriginalprod\prod}
43 \CustomizeMathJax{\let\MToriginalsum\sum}
44 \CustomizeMathJax{\newcommand{\DotTriangle}{\mathord{\unicode{x2234}}}}
45 \end{warpMathJax}

```

---

File 265 **lwarp-mathcomp.sty**

§ 371 Package **mathcomp**

(Emulates or patches code by TILMANN BÖB.)

Pkg mathcomp mathcomp is supported as-is for SVG math, and is emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{mathcomp}[2001/01/07]

2 \begin{warpMathJax}

```

3 \CustomizeMathJax{\newcommand{\tcohm}{\mathrm{\Omega}}}
4 \CustomizeMathJax{\newcommand{\tccelsius}{\unicode{x2103}}}
5 \CustomizeMathJax{\newcommand{\tcmu}{\mathrm{\unicode{x00B5}}}}
6 \CustomizeMathJax{\newcommand{\tcpertousand}{\unicode{x2030}}}
7 \CustomizeMathJax{\newcommand{\tcpertenthousand}{\unicode{x2031}}}
8 \CustomizeMathJax{\newcommand{\tcddegree}{\mathrm{^\circ}}}
9 \CustomizeMathJax{\newcommand{\tcdigitoldstyle}[1]{\oldstyle{#1}}}
10 \end{warpMathJax}


```

File 266 **lwarp-mathdesign.sty**

§ 372 Package **mathdesign**

(Emulates or patches code by PAUL PICHAREAU.)

Pkg mathdesign mathdesign is used as-is for SVG math, and is emulated for MATHJAX.

 **limitations** The MATHJAX emulation ignores all package options except greekuppercase and greeklowercase. The dedicated macros for upright and italic greek letters work correctly, although the user may wish to swap the definitions for epsilon and phi.

SVG math should appear the same as the printed output.

**for HTML output:** 1 \LWR@ProvidesPackagePass{mathdesign}[2013/08/29]

For MATHJAX:

```

2 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
3
4 \LWR@origRequirePackage{lwarp-common-mathjax-overlaysymbols}
5
6 \begin{warpMathJax}
7 \LWR@infoprocessingmathjax{mathdesign}

```

Default greek upright or italicized:

```

8 \if@MD@grupright
9 \LWR@mathjax@addgreek@l@up{}{}
10 \fi
11
12 \if@MD@GRupright
13 \else
14 \LWR@mathjax@addgreek@u@it*{}{}
15 \fi

```

Upright:

```

16 \LWR@mathjax@addgreek@l@up{}{up}
17 \LWR@mathjax@addgreek@u@up*{}{up}

```

Italicized:

```
18 \LWR@mathjax@addgreek@l@it{}{it}
19 \LWR@mathjax@addgreek@u@it*{}{it}
```

Adapt to mathdesign inconsistency:

```
20 \CustomizeMathJax{\let\digammaup\Digammaup}
21 \CustomizeMathJax{\renewcommand{\digammait}{\mathit{\digammaup}}}
```

Extra symbols:

```
22 \CustomizeMathJax{\newcommand{\smallin}{\mathrel{\unicode{x220A}}}}
23 \CustomizeMathJax{\newcommand{\smallowns}{\mathrel{\unicode{x220D}}}}
24 \CustomizeMathJax{\newcommand{\notsmallin}{\mathrel{\LWRoverlaysymbols{/}{\unicode{x220A}}}}}
25 \CustomizeMathJax{\newcommand{\notsmallowns}{\mathrel{\LWRoverlaysymbols{/}{\unicode{x220D}}}}}
26 \CustomizeMathJax{\newcommand{\rightangle}{\mathord{\unicode{x221F}}}}
```

Integrals:

```
27 \CustomizeMathJax{\newcommand{\intclockwise}{\mathop{\unicode{x2231}}\limits}}
28 \CustomizeMathJax{\newcommand{\ointclockwise}{\mathop{\unicode{x2232}}\limits}}
29 \CustomizeMathJax{\newcommand{\ointctrlockwise}{\mathop{\unicode{x2233}}\limits}}
30 \CustomizeMathJax{\newcommand{\oiint}{\mathop{\unicode{x222F}}\limits}}
31 \CustomizeMathJax{\newcommand{\oiint}{\mathop{\unicode{x2230}}\limits}}
```

Math and text mode:

```
32 \CustomizeMathJax{\newcommand{\ddag}{\unicode{x2021}}}
33 \CustomizeMathJax{\newcommand{\P}{\unicode{x00B6}}}
34 \CustomizeMathJax{\newcommand{\copyright}{\unicode{x00A9}}}
35 \CustomizeMathJax{\newcommand{\dag}{\unicode{x2020}}}
36 \CustomizeMathJax{\newcommand{\pounds}{\unicode{x00A3}}}
```

Extra symbols:

```
37 \CustomizeMathJax{\newcommand{\iddots}{\mathinner{\unicode{x22F0}}}}
38 \CustomizeMathJax{\newcommand{\utimes}{\mathbin{\overline{\times}}}}
39 \CustomizeMathJax{\newcommand{\dtimes}{\mathbin{\underline{\times}}}}
40 \CustomizeMathJax{\newcommand{\udtimes}{\mathbin{\overline{\underline{\times}}}}}
41 \CustomizeMathJax{\newcommand{\leftwavy}{\left\{}}
42 \CustomizeMathJax{\newcommand{\rightwavy}{\right\}}
43
44 \end{warpMathJax}
```

---

File 267 **lwarp-mathdots.sty**

§ 373 Package **mathdots**

(Emulates or patches code by DAN LUECKING.)

Pkg mathdots mathdots is used as-is for SVG math, and emulated for MATHJAX.

for HTML output: 1 \LWR@ProvidesPackagePass{mathdots}[2014/06/11]



```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\iddots}{\mathinner{\unicode{x22F0}}}}
4 \CustomizeMathJax{\let\fixedddots\ddots}
5 \CustomizeMathJax{\let\fixedvdots\vdots}
6 \CustomizeMathJax{\let\fixediddots\iddots}
7 \CustomizeMathJax{\let\originalddots\ddots}
8 \CustomizeMathJax{\let\originalvdots\vdots}
9 \CustomizeMathJax{\let\originaliddots\iddots}
10 \CustomizeMathJax{\let\originaldddot\dddot}
11 \CustomizeMathJax{\let\originalddddot\ddddot}
12 \end{warpMathJax}

```

---

File 268 **lwarp-mathfixs.sty**

§ 374 Package **mathfixs**

*(Emulates or patches code by NIKLAS BEISERT.)*

Pkg mathfixs mathfixs is used as-is for SVG math, and is emulated for MATHJAX.

 Greek letters are unchanged.

**for HTML output:** 1 \LWR@ProvidesPackagePass{mathfixs}[2018/12/30]

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\rfrac}[2]{\tfrac{#1}{#2}}}
4 \CustomizeMathJax{\newcommand{\vfrac}[2]{\mathinner{{}^{\#1}\!/_{\#2}}}}
5 \CustomizeMathJax{\newcommand{\ProvideMathFix}[1]{} }
6 \CustomizeMathJax{\newcommand{\mathbold}[1]{\boldsymbol{#1}}}
7 \CustomizeMathJax{\newcommand{\.}{\,}}
8 \end{warpMathJax}

```


---

File 269 **lwarp-mathpazo.sty**

§ 375 Package **mathpazo**

*(Emulates or patches code by WALTER SCHMIDT.)*

Pkg mathpazo mathpazo is used as-is for SVG math, and is emulated for MATHJAX.

 **limitations** The MATHJAX emulation ignores all package options. The dedicated macros for upright greek letters do work correctly.

SVG math should appear the same as the printed output.

**for HTML output:** 1 \LWR@ProvidesPackagePass{mathpazo}[2020/03/25]

For MATHJAX:

```

2 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
3
4 \begin{warpMathJax}
5 \LWR@infoprocessingmathjax{mathpazo}
6
7 \ifpazo@slGreek
8 \LWR@mathjax@addgreek@u@it*{}{}
9 \fi
10
11 \LWR@mathjax@addgreek@u@up*{}{}
12
13 \CustomizeMathJax{\newcommand{\mathbold}[1]{\boldsymbol{#1}}}
14 \end{warpMathJax}

```


---

File 270 **lwarp-mathptmx.sty**

§ 376 Package **mathptmx**

(Emulates or patches code by WALTER SCHMIDT.)

Pkg mathptmx mathptmx is used as-is for SVG math, and is emulated for MATHJAX.

 **limitations** The MATHJAX emulation ignores all package options. The dedicated macros for upright greek letters do work correctly.

SVG math should appear the same as the printed output.

**for HTML output:** 1 \LWR@ProvidesPackagePass{mathptmx}[2020/03/25]

For MATHJAX:

```

2 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
3
4 \begin{warpMathJax}
5 \LWR@infoprocessingmathjax{mathptmx}
6
7 \@ifpackagewith{mathptmx}{slantedGreek}
8 {\LWR@mathjax@addgreek@u@it*{}{}}
9 {}
10
11 \LWR@mathjax@addgreek@u@up*{}{}
12 \end{warpMathJax}

```


---

File 271 **lwarp-mathspec.sty**

§ 377 Package **mathspec**

(Emulates or patches code by ANDREW GILBERT MOSCHOU.)

Pkg mathspec mathspec is used as-is with SVG math, and is emulated for MATHJAX.

 **quotes** Double quotes (`\` and the `"` character) are removed during MATHJAX emulation, but this also includes inside `\text`.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{mathspec}[2016/12/22]

2 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
3
4 \begin{warpMathJax}

```

Neutralize double quotes (`"` and `\`):

```

5 \booltrue{LWR@MathJax@silentquotes}

```

Sort options for out Greek emulation:

```

6 \AtBeginDocument{
7 \ifcase\eu@GreekUppercase@@value %% If Greek Uppercase Regular
8 \LWR@mathjax@addgreek@u@up*{}{}
9 \or %% If Greek Uppercase Italic
10 \LWR@mathjax@addgreek@u@it*{}{}
11 \or %% If Greek Uppercase Plain
12 \LWR@mathjax@addgreek@u@up*{}{}
13 \fi
14 \ifcase\eu@GreekLowercase@@value %% If Greek Lowercase Regular
15 \LWR@mathjax@addgreek@l@up{}{}
16 \or %% If Greek Lowercase Italic
17 \LWR@mathjax@addgreek@l@it{}{}
18 \or %% If Greek Lowercase Plain
19 \LWR@mathjax@addgreek@l@it{}{}
20 \fi
21 }

```

Swap definitions according the mathspec conditionals:

```

22 \newcommand*{\LWR@mathspec@varforms}{%
23 \eu@ifbooltrue{GreekLowercase}{
24 \eu@ifbooltrue{exchangebetaforms}{
25 \CustomizeMathJax{\let\LWRorigbeta\beta}
26 \CustomizeMathJax{\let\beta\varbeta}
27 \CustomizeMathJax{\let\varbeta\LWRorigbeta}
28 }
29 \eu@ifbooltrue{exchangeepsilonforms}{
30 \CustomizeMathJax{\let\LWRorigepsilon\epsilon}
31 \CustomizeMathJax{\let\epsilon\varepsilon}
32 \CustomizeMathJax{\let\varepsilon\LWRorigepsilon}
33 }
34 \eu@ifbooltrue{exchangethetaforms}{
35 \CustomizeMathJax{\let\LWRorigtheta\theta}
36 \CustomizeMathJax{\let\theta\vartheta}
37 \CustomizeMathJax{\let\vartheta\LWRorigtheta}
38 }
39 \eu@ifbooltrue{exchangekappaforms}{
40 \CustomizeMathJax{\let\LWRorigkappa\kappa}
41 \CustomizeMathJax{\let\kappa\varkappa}

```

```

42 \CustomizeMathJax{\let\varkappa\LWRorigkappa}
43 }
44 \eu@ifbooltrue{exchangepiforms}{
45 \CustomizeMathJax{\let\LWRorigpi\pi}
46 \CustomizeMathJax{\let\pi\varpi}
47 \CustomizeMathJax{\let\varpi\LWRorigpi}
48 }
49 \eu@ifbooltrue{exchangerhoforms}{
50 \CustomizeMathJax{\let\LWRorigrho\rho}
51 \CustomizeMathJax{\let\rho\varrho}
52 \CustomizeMathJax{\let\varrho\LWRorigrho}
53 }
54 \eu@ifbooltrue{exchangephiforms}{
55 \CustomizeMathJax{\let\LWRorigphi\phi}
56 \CustomizeMathJax{\let\phi\varphi}
57 \CustomizeMathJax{\let\varphi\LWRorigphi}
58 }
59 }
60 \eu@ifbooltrue{GreekUppercase}{
61 \eu@ifbooltrue{exchangeThetaforms}{
62 \CustomizeMathJax{\let\LWRorigTheta\Theta}
63 \CustomizeMathJax{\let\Theta\varTheta}
64 \CustomizeMathJax{\let\varTheta\LWRorigTheta}
65 }
66 }
67 }

```

Append new action to mathspec's `\AtBeginDocument` code:

```

68 \xapptocmd{\exchangeforms}
69 {\AtBeginDocument{\LWR@mathspec@varforms}}
70 {}
71 {\LWR@patcherror{mathspec}{exchangeforms}}
72
73 \end{warpMathJax}

```


---


File 272 **lwarp-mathtools.sty**


§ 378 Package **mathtools**

(Emulates or patches code by MORTEN HØGHOLM, LARS MADSEN.)

Pkg `mathtools` `mathtools` is patched for use by `lwarp`. Emulation macros are provided for `MATHJAX`.

 **equation numbering** `showonlyrefs` is disabled, as it conflicts with `cleveref`, which is used by `lwarp`. Equation numbers may not match the print version.

 **italic correction** `mathic` is not emulated for HTML.

 **MATHJAX** If using `MATHJAX`:

- `mathtools disallowspace` does not work for `MATHJAX`. Protect brackets which are not optional arguments, such as:

```
\begin{gathered}{}
[p]=1 . . .
\end{gathered}
```

- `showonlyrefs` does not work in MATHJAX, and will result in a difference in equation numbering compared to the print version.
- Due to MATHJAX limitations, the following do not render well: `\overbracket`, `\underbracket`, `\overbrace`, `\underbrace`, `rcases`, `drcases`, `\Aboxed`, and `\ArrowBetweenLines`.
- For the new cases-like environments, `\text` must be used to set the normal roman font if desired.
- `alignat` in MATHJAX requires math mode, but in L<sup>A</sup>T<sub>E</sub>X it doesn't. It may be required to use `warpHTML` and `warpprint` to isolate a version for each mode.
- `\DeclarePairedDelimiter` and related must be in the preamble before `\begin{document}`.

for HTML output:

```
1 \LWR@ProvidesPackagePass{mathtools}[2018/01/08]
```

```
2 \RequirePackage{graphicx}
```

```
3 \MHInternalSyntaxOn
```

Forces `showonlyrefs` off because `lwarp` uses `cleveref`, which is not compatible with `showonlyrefs`.

```
4 \renewcommand*{\MT_showonlyrefs_true}{%
5 \PackageWarningNoLine{lwarp}
6 {%
7 Mathtools \space showonlyrefs \space conflicts \space
8 with \space cleveref,\MessageBreak
9 which \space is \space used \space by \space lwarp, \space
10 so \space showonlyrefs \space is\MessageBreak
11 forced \space off. \space\space
12 Equation \space numbers \space may \space not \space match%
13 }
14 \MT_showonlyrefs_false:
15 }
16 \mathtoolsset{showonlyrefs=false}
```

Forces math italic correction off. Not patched for `lwarp`.

```
17 \renewcommand*{\MT_mathic_true:}{\MT_mathic_false:}
18 \mathtoolsset{mathic=false}
```

```
19 \MHInternalSyntaxOff
```

For MATHJAX:

```
20 \begin{warpMathJax}
```

```

21 \LWR@infoprocessingmathjax{mathtools}
22
23 \CustomizeMathJax{\newcommand{\mathlLap}[2][\{#1#2\}}
24 \CustomizeMathJax{\newcommand{\mathrLap}[2][\{#1#2\}}
25 \CustomizeMathJax{\newcommand{\mathcLap}[2][\{#1#2\}}
26 \CustomizeMathJax{\newcommand{\mathmbox}[1]{#1}}
27 \CustomizeMathJax{\newcommand{\cLap}[1]{#1}}
28 \CustomizeMathJax{\newcommand{\LWRmathmakebox}[2][\{#2\}}
29 \CustomizeMathJax{\newcommand{\mathmakebox}[1][\{LWRmathmakebox\}}
30 \CustomizeMathJax{\newcommand{\cramped}[2][\{#1#2\}}
31 \CustomizeMathJax{\newcommand{\crampedlLap}[2][\{#1#2\}}
32 \CustomizeMathJax{\newcommand{\crampedrLap}[2][\{#1#2\}}
33 \CustomizeMathJax{\newcommand{\crampedcLap}[2][\{#1#2\}}
34 \CustomizeMathJax{\newenvironment{crampedsubarray}[1]{\{}}
35 \CustomizeMathJax{\newcommand{\crampedsubstack}{}}

36 \CustomizeMathJax{\newcommand{\smashoperator}[2][\{#2\limits}}

37 \CustomizeMathJax{\newcommand{\adjustlimits}{}}

38 \CustomizeMathJax{\newcommand{\SwapAboveDisplaySkip}{}}
39
40 \CustomizeMathJax{\require{extpfeil}}
41 \CustomizeMathJax{\Newextarrow\xLefttrightharpoon{10,10}{0x2194}}
42 \CustomizeMathJax{\Newextarrow\xLeftarrow{10,10}{0x21d0}}
43 \CustomizeMathJax{\Newextarrow\xhookrightarrow{10,10}{0x21a9}}
44 \CustomizeMathJax{\Newextarrow\xmapsto{10,10}{0x21a6}}
45 \CustomizeMathJax{\Newextarrow\xrightarrow{10,10}{0x21d2}}
46 \CustomizeMathJax{\Newextarrow\xLefttrightharpoon{10,10}{0x21d4}}
47 \CustomizeMathJax{\Newextarrow\xhookrightarrow{10,10}{0x21aa}}
48 \CustomizeMathJax{\Newextarrow\xrightharpoon{10,10}{0x21c1}}
49 \CustomizeMathJax{\Newextarrow\xleftharpoon{10,10}{0x21bd}}
50 \CustomizeMathJax{\Newextarrow\xrightleftharpoons{10,10}{0x21cc}}
51 \CustomizeMathJax{\Newextarrow\xrightharpoon{10,10}{0x21c0}}
52 \CustomizeMathJax{\Newextarrow\xleftharpoon{10,10}{0x21bc}}
53 \CustomizeMathJax{\Newextarrow\xleftrightharpoons{10,10}{0x21cb}}
54
55 \CustomizeMathJax{\newcommand{\LWRdounderbracket}[3]{%
56 \mathinner{\underset{#3}{\underline{\llcorner{#1}\lrcorner}}}}%
57 }}
58 \CustomizeMathJax{\newcommand{\LWRunderbracket}[2][\{LWRdounderbracket{#2\}}
59 \CustomizeMathJax{\newcommand{\underbracket}[1][\{LWRunderbracket}}
60 \CustomizeMathJax{\newcommand{\LWRdooverbracket}[3]{%
61 \mathinner{\overset{#3}{\overline{\ulcorner{#1}\urcorner}}}}%
62 }}
63 \CustomizeMathJax{\newcommand{\LWRoverbracket}[2][\{LWRdooverbracket{#2\}}
64 \CustomizeMathJax{\newcommand{\overbracket}[1][\{LWRoverbracket}}
65
66 \CustomizeMathJax{\newcommand{\LaTeXunderbrace}[1]{\underbrace{#1}}}
67 \CustomizeMathJax{\newcommand{\LaTeXoverbrace}[1]{\overbrace{#1}}}
68
69 \CustomizeMathJax{\newenvironment{matrix*}[1][\{begin{matrix}\}\end{matrix}}}
70 \CustomizeMathJax{\newenvironment{pmatrix*}[1][\{begin{pmatrix}\}\end{pmatrix}}}
71 \CustomizeMathJax{\newenvironment{bmatrix*}[1][\{begin{bmatrix}\}\end{bmatrix}}}

```

```

72 \CustomizeMathJax{\newenvironment{Bmatrix*}[1][\begin{Bmatrix}\end{Bmatrix}}
73 \CustomizeMathJax{\newenvironment{vmatrix*}[1][\begin{vmatrix}\end{vmatrix}}
74 \CustomizeMathJax{\newenvironment{Vmatrix*}[1][\begin{Vmatrix}\end{Vmatrix}}
75 \CustomizeMathJax{\newenvironment{smallmatrix*}[1][\begin{matrix}\end{matrix}}
76 \CustomizeMathJax{\newenvironment{psmallmatrix*}[1][\begin{pmatrix}\end{pmatrix}}
77 \CustomizeMathJax{\newenvironment{bsmallmatrix*}[1][\begin{bmatrix}\end{bmatrix}}
78 \CustomizeMathJax{\newenvironment{Bsmallmatrix*}[1][\begin{Bmatrix}\end{Bmatrix}}
79 \CustomizeMathJax{\newenvironment{vsmallmatrix*}[1][\begin{vmatrix}\end{vmatrix}}
80 \CustomizeMathJax{\newenvironment{Vsmallmatrix*}[1][\begin{Vmatrix}\end{Vmatrix}}
81 \CustomizeMathJax{\newenvironment{psmallmatrix}[1][\begin{pmatrix}\end{pmatrix}}
82 \CustomizeMathJax{\newenvironment{bsmallmatrix}[1][\begin{bmatrix}\end{bmatrix}}
83 \CustomizeMathJax{\newenvironment{Bsmallmatrix}[1][\begin{Bmatrix}\end{Bmatrix}}
84 \CustomizeMathJax{\newenvironment{vsmallmatrix}[1][\begin{vmatrix}\end{vmatrix}}
85 \CustomizeMathJax{\newenvironment{Vsmallmatrix}[1][\begin{Vmatrix}\end{Vmatrix}}
86
87
88 \CustomizeMathJax{\newcommand{\LWRmultlined}[1][\begin{multline*}}
89 \CustomizeMathJax{\newenvironment{multlined}[1][\LWRmultlined]{\end{multline*}}}
90
91 \CustomizeMathJax{\let\LWRorigshoveleft\shoveleft}
92 \CustomizeMathJax{\renewcommand{\shoveleft}[1][\LWRorigshoveleft}}
93 \CustomizeMathJax{\let\LWRorigshoveright\shoveright}
94 \CustomizeMathJax{\renewcommand{\shoveright}[1][\LWRorigshoveright}}
95
96 \CustomizeMathJax{\newenvironment{dcases}{\begin{cases}\end{cases}}
97 \CustomizeMathJax{\newenvironment{dcases*}{\begin{cases}\end{cases}}
98 \CustomizeMathJax{\newenvironment{rcases}{\begin{cases}\end{cases}}
99 \CustomizeMathJax{\newenvironment{rcases*}{\begin{cases}\end{cases}}
100 \CustomizeMathJax{\newenvironment{drcases}{\begin{cases}\end{cases}}
101 \CustomizeMathJax{\newenvironment{drcases*}{\begin{cases}\end{cases}}
102 \CustomizeMathJax{\newenvironment{cases*}{\begin{cases}\end{cases}}
103
104 \CustomizeMathJax{\newcommand{\MoveEqLeft}[1][{}]}
105
106 \CustomizeMathJax{% special parsing to handle '&' in argument
107 \def\LWRAboxed#1!|!{\fbox{\(#1\)}&\fbox{\(#2\)}}
108 \newcommand{\Aboxed}[1]{\LWRAboxed#1&&!|!}
109 }

110 \CustomizeMathJax{
111 \newcommand{\LWRABLines}[1][\Updownarrow]{#1 \notag \\\}% star/nostar the same
112 \newcommand{\ArrowBetweenLines}{\ifstar\LWRABLines\LWRABLines}
113 }

114 \CustomizeMathJax{\newcommand{\shortintertext}[1]{\text{#1}\notag \\\}}
115
116 \CustomizeMathJax{\newcommand{\vdotswithin}[1]{\hspace{.5em}\vdots}}

117 \CustomizeMathJax{\newcommand{\LWRshortvdotswithinstar}[1]{\vdots \hspace{.5em} & \\\}}
118 \CustomizeMathJax{\newcommand{\LWRshortvdotswithinnostar}[1]{& \hspace{.5em}\vdots \\\}}
119 \CustomizeMathJax{%
120 \newcommand{\shortvdotswithin}%
121 {\ifstar\LWRshortvdotswithinstar\LWRshortvdotswithinnostar}%
122 }

```

```

123
124 \CustomizeMathJax{\newcommand{\MTFlushSpaceAbove}{}}
125 \CustomizeMathJax{\newcommand{\MTFlushSpaceBelow}{\}}
126
127 \LetLtxMacro\LWR@mathtools@orig@DeclarePairedDelimiter\DeclarePairedDelimiter
128 \renewcommand{\DeclarePairedDelimiter}[3]{
129 \LWR@mathtools@orig@DeclarePairedDelimiter{#1}{#2}{#3}
130 % starred:
131 \appto\LWR@customizedMathJax{\LWRbackslash{}}
132 \appto\LWR@customizedMathJax{%
133 \LWRbackslash{}}newcommand{\LWRbackslash\macroto{name{#1}LWRsubstar}%
134 }%
135 \appto\LWR@customizedMathJax{[2][[]]}%
136 \appto\LWR@customizedMathJax{\{\}}%
137 \LWR@subcustomizedmathjax{##1\left##2##3\right##3}%
138 \appto\LWR@customizedMathJax{\}\}%
139 \appto\LWR@customizedMathJax{\LWRbackslash}\par}%
140 % not starred:
141 \appto\LWR@customizedMathJax{\LWRbackslash{}}
142 \appto\LWR@customizedMathJax{%
143 \LWRbackslash{}}newcommand{\LWRbackslash\macroto{name{#1}LWRsubnostar}%
144 }%
145 \appto\LWR@customizedMathJax{[2][[]]}%
146 \appto\LWR@customizedMathJax{\{\}}%
147 \LWR@subcustomizedmathjax{##1##2##3}%
148 \appto\LWR@customizedMathJax{\}\}%
149 \appto\LWR@customizedMathJax{\LWRbackslash}\par}%
150 % user macro:
151 \appto\LWR@customizedMathJax{\LWRbackslash{}}
152 \appto\LWR@customizedMathJax{%
153 \LWRbackslash{}}newcommand{\LWRbackslash\macroto{name{#1}}%
154 \{\LWRbackslash}ifstar%
155 \LWRbackslash\macroto{name{#1}LWRsubstar}%
156 \LWRbackslash\macroto{name{#1}LWRsubnostar}%
157 \}%
158 }%
159 \appto\LWR@customizedMathJax{\LWRbackslash}\par}%
160 }
161 \@onlypreamble\DeclarePairedDelimiter
162
163 % (DeclarePairedDelimiterX is already defined to use \DeclarePairedDelimiterXPP.)
164
165 \LetLtxMacro\LWR@mathtools@orig@DeclarePairedDelimiterXPP\DeclarePairedDelimiterXPP
166 \DeclareDocumentCommand{\DeclarePairedDelimiterXPP}{m O{1} m m m m m}{
167 \LWR@mathtools@orig@DeclarePairedDelimiterXPP{#1}[#2]{#3}{#4}{#5}{#6}{#7}
168 % subsubstar, second opt arg
169 \appto\LWR@customizedMathJax{\LWRbackslash{}}%
170 \appto\LWR@customizedMathJax{%
171 \LWRbackslash{}}newcommand{\LWRbackslash\macroto{name{#1}LWRsubsubstar}%
172 }%
173 \appto\LWR@customizedMathJax{[#2]}%
174 \appto\LWR@customizedMathJax{\{\LWRbackslash}left}%
175 \LWR@subcustomizedmathjax{#3#4#7}%
176 \appto\LWR@customizedMathJax{\LWRbackslash}right}%
177 \LWR@subcustomizedmathjax{#5#6}%

```



```

178 \appto\LWR@customizedMathJax{\}\}%
179 \appto\LWR@customizedMathJax{\LWRbackslash}\par}%
180 % substar, first opt arg
181 \appto\LWR@customizedMathJax{\LWRbackslash}%
182 \appto\LWR@customizedMathJax{%
183 \LWRbackslash{}newcommand{\LWRbackslash\macroto{name}{#1}LWRsubstar\}[1][1]%
184 }%
185 \appto\LWR@customizedMathJax{%
186 \{
187 \LWRbackslash{}def\LWRbackslash{}delimsizel{\#1\}
188 \LWRbackslash\macroto{name}{#1}LWRsubsubstar
189 \}%
190 }%
191 \appto\LWR@customizedMathJax{\LWRbackslash}\par}%
192 % subsubnostar, second opt arg
193 \appto\LWR@customizedMathJax{\LWRbackslash}%
194 \appto\LWR@customizedMathJax{%
195 \LWRbackslash{}newcommand{\LWRbackslash\macroto{name}{#1}LWRsubsubnostar\}%
196 }%
197 \appto\LWR@customizedMathJax{[#2]}%
198 \appto\LWR@customizedMathJax{\{\LWRbackslash{}delimsizel}%
199 \LWR@subcustomizedmathjax{#3#4#7}%
200 \appto\LWR@customizedMathJax{\LWRbackslash{}delimsizel}%
201 \LWR@subcustomizedmathjax{#5#6}%
202 \appto\LWR@customizedMathJax{\}\}%
203 \appto\LWR@customizedMathJax{\LWRbackslash}\par}%
204 % substar, first opt arg
205 \appto\LWR@customizedMathJax{\LWRbackslash}%
206 \appto\LWR@customizedMathJax{%
207 \LWRbackslash{}newcommand{\LWRbackslash\macroto{name}{#1}LWRsubnostar\}[1][1]%
208 }%
209 \appto\LWR@customizedMathJax{%
210 \{
211 \LWRbackslash{}def\LWRbackslash{}delimsizel{\#1\}
212 \LWRbackslash\macroto{name}{#1}LWRsubsubnostar
213 \}%
214 }%
215 \appto\LWR@customizedMathJax{\LWRbackslash}\par}%
216 % user macro:
217 \appto\LWR@customizedMathJax{\LWRbackslash}%
218 \appto\LWR@customizedMathJax{%
219 \LWRbackslash{}newcommand{\%
220 \LWRbackslash{}\macroto{name}{#1}%
221 \}%
222 \{\LWRbackslash{}ifstar%
223 \LWRbackslash{}\macroto{name}{#1}LWRsubstar%
224 \LWRbackslash{}\macroto{name}{#1}LWRsubnostar%
225 \}%
226 }%
227 \appto\LWR@customizedMathJax{\LWRbackslash}\par}%
228 }
229 \@onlypreamble\DeclareParedDelimiterXPP
230 \@onlypreamble\DeclareParedDelimiterX
231
232 \CustomizeMathJax{\newcommand\lparen{}}

```

```

233 \CustomizeMathJax{\newcommand\rparen{}}
234 \CustomizeMathJax{\newcommand{\ordinarycolon}{:}}

235 \CustomizeMathJax{\newcommand{\vcentcolon}{\mathrel{\unicode{x2236}}}}
236
237 \CustomizeMathJax{\newcommand\dblcolon{\mathrel{\unicode{x2237}}}}
238 \CustomizeMathJax{\newcommand\coloneqq{\mathrel{\unicode{x2236}\!=}}}}
239 \CustomizeMathJax{\newcommand\Coloneqq{\mathrel{\unicode{x2237}\!=}}}}
240 \CustomizeMathJax{\newcommand\coloneq{\mathrel{\unicode{x2236}-}}}}
241 \CustomizeMathJax{\newcommand\Coloneq{\mathrel{\unicode{x2237}-}}}}
242
243 \CustomizeMathJax{\newcommand\eqqcolon{\mathrel{=\!\unicode{x2236}}}}
244 \CustomizeMathJax{\newcommand\Eqqcolon{\mathrel{=\!\unicode{x2237}}}}
245 \CustomizeMathJax{\newcommand\eqcolon{\mathrel{-\unicode{x2236}}}}
246 \CustomizeMathJax{\newcommand\Eqcolon{\mathrel{-\unicode{x2237}}}}
247
248 \CustomizeMathJax{\newcommand\colonapprox{\mathrel{\unicode{x2236}\!\approx}}}}
249 \CustomizeMathJax{\newcommand\Colonapprox{\mathrel{\unicode{x2237}\!\approx}}}}
250 \CustomizeMathJax{\newcommand\colonsim{\mathrel{\unicode{x2236}\!\sim}}}}
251 \CustomizeMathJax{\newcommand\Colonsim{\mathrel{\unicode{x2237}\!\sim}}}}
252

253 \CustomizeMathJax{\newcommand{\nuparrow}{\mathrel{\cancel{\uparrow}}}}
254 \CustomizeMathJax{\newcommand{\ndownarrow}{\mathrel{\cancel{\downarrow}}}}
255 \CustomizeMathJax{\newcommand{\bigtimes}{\mathop{\Large\times}\limits}}
256
257 \CustomizeMathJax{\newcommand{\prescript}[3]{{}^{\#1}_{\#2}\#3}}
258
259
260 \CustomizeMathJax{\newenvironment{lgathered}{\begin{gathered}}{\end{gathered}}}
261 \CustomizeMathJax{\newenvironment{rgathered}{\begin{gathered}}{\end{gathered}}}
262
263 \LetLtxMacro\LWR@mathtools@orig@newgathered\newgathered
264 \renewcommand{\newgathered}[4]{%
265 \LWR@mathtools@orig@newgathered{\#1}{\#2}{\#3}{\#4}%
266 \appto\LWR@customizedMathJax{\LWRbackslash}%
267 \LWR@subcustomizedmathjax{%
268 \newenvironment{\#1}{\begin{gathered}}{\end{gathered}}%
269 }%
270 \appto\LWR@customizedMathJax{\LWRbackslash}%
271 }
272 \@onlypreamble\newgathered
273
274 \CustomizeMathJax{\newcommand{\splitfrac}[2]{{}^{\#1}_{\#2}}}
275 \CustomizeMathJax{\let\splitfrac\splitfrac}
276 \end{warpMathJax}

```

---

File 273 **lwarp-mcaption.sty**

§ 379 Package **mcaption**

(Emulates or patches code by STEPHAN HENNIG.)

Pkg mcaption mcaption is ignored.

**for HTML output:** Discard all options for lwarp-mcaption:

```
1 \LWR@ProvidesPackageDrop{mcaption}[2009/03/13]
2 \newenvironment{margincap}{}{}
3 \newcommand*{\margincapalign}{}
4 \newlength{\margincapsep}
```

---

File 274 **lwarp-mdframed.sty**

§ 380 Package **mdframed**

*(Emulates or patches code by MARCO DANIEL, ELKE SCHUBERT.)*

Pkg mdframed mdframed is loaded with options forced to framemethod=none.

### § 380.1 Limitations

**support** Most basic functionality is supported, including frame background colors and single-border colors and thickness, title and subtitle background colors and borders and thickness, border radius, and shadow. CSS classes are created for mdframed environments and frame titles.

 **loading** When used, lwarp loads mdframed in HTML with framemethod=none.

**font** For title font, use

```
frametitlefont=\textbf,
```

instead of

```
frametitlefont=\bfseries,
```

where \textbf must appear just before the comma and will receive the following text as its argument (since the text happens to be between braces in the mdframed source). Since lwarp does not support \bfseries and friends, only one font selection may be made at a time.

**theoremtitlefont** theoremtitlefont is not supported, since the following text is not in braces in the mdframed source.

**ignored options** userdefinedwidth and align are currently ignored.

**css classes** Environments created or encapsulated by mdframed are enclosed in a <div> of class mdframed, and also class md<environmentname> for new environments.

Frame titles are placed in a <div> of class |mdframedtitle|. Subtitles are in a <div> of class |mdframedsubtitle|, and likewise for subsubtitles.

Pre-existing hooks are used to patch extra functions before and after the frames.

## § 380.2 Package loading

**for HTML output:**

```

1 \RequirePackage{xcolor}% for \convertcolorspec
2
3 \LWR@ProvidesPackageDrop{mdframed}[2013/07/01]
```

Do not require Tikz or pstricks:

```
4 \LWR@origRequirePackage[framemethod=none]{mdframed}
```

## § 380.3 Patches

Patch to remove PDF formatting and add HTML tags:

```

5 \AtBeginDocument{
6 \def\mdf@trivlist#1{%
7 \edef\mdf@temp{%
8 % \topsep=\the\topsep\relax%
9 % \partopsep=\the\partopsep\relax%
10 % \parsep=\the\parsep\relax%
11 }%
12 % \setlength{\topsep}{#1}%
13 % \topskip\z@%
14 % \partopsep\z@%
15 % \parsep\z@%
16 % \@mbrlistfalse%
17 % \@trivlist%
18 % \labelwidth\z@%
19 % \leftmargin\z@%
20 % \itemindent\z@%
21 \let\itemlabel\@empty%
22 \def\makelabel##1{##1}%
23 % \item\relax\mdf@temp\relax%
24 }
25
26 \renewcommand*{\endmdf@trivlist}{%
27 \LWR@traceinfo{endmdf@trivlist}%
28 % \endtrivlist%
29 \LWR@listend%
30 }
31 }% AtBeginDocument
```

## § 380.4 Initial setup

To handle css and paragraphs, patch code at start and end of environment and contents. `\LWR@print@raggedright` helps avoid hyphenation.

```

32 \mdfsetup{
33 startcode={\LWR@mdframedstart\LWR@print@raggedright},
34 endcode={\LWR@mdframedend},
35 startinnercode={\LWR@startpars\LWR@print@raggedright},
36 endinnercode={\LWR@stoppars},
37 }
```

### § 380.5 **Color and length HTML conversion**

`\LWR@mdfprintcolor`    `{\mdfcolorkey}`  
 Given the `mdframed` key, print the color.

```
38 \newcommand*\LWR@mdfprintcolor[1]{%
39 \convertcolorspec{named}{\@nameuse{mdf@#1}}{HTML}\LWR@tempcolor%
40 \LWR@origpound\LWR@tempcolor
41 }
```

`\LWR@mdfprintlength`    `{\mdflengthkey}`  
 Given the `mdframed` key, print the length.

```
42 \newcommand*\LWR@mdfprintlength[1]{%
43 \LWR@forceminwidth{\@nameuse{mdf@#1@length}}%
44 \LWR@printlength{\LWR@atleastonept}%
45 }
```

### § 380.6 **Environment encapsulation**

`\LWR@mdframedstart`    Actions before an `mdframe` starts.  
 Encapsulate a frame inside a `<div>` of the desired `class`.

```
46 \newcommand*\LWR@mdframedstart{%
47 \LWR@traceinfo{\LWR@mdframedstart start}%
```

Warn if starting a frame inside a `<span>`:

```
48 \LWR@spanwarninvalid{mdframe}%
```

Turn off paragraph handling during the generation of the encapsulating tags:

```
49 \LWR@stoppars%
```

Open a `<div>` and with custom `class` and custom `style`. A `BlockClass` environment is not used because this `<div>` is created by the `mdframed` startcode and encode settings, which do not properly nest the `<div>` inside the `mdframed` environment.

```
50 \LWR@htmltagc{div class="%
51 mdframed%
52 \ifdefstring{\LWR@mdthisenv}{mdframed}}{\LWR@mdthisenv}%
53 " \LWR@orignewline
54 style=" \LWR@orignewline
```

Convert and print the background color:

```
55 background: \LWR@mdfprintcolor{backgroundcolor} ; \LWR@orignewline
```

Convert and print the border color and width:

```
56 border: \LWR@mdfprintlength{linewidth} solid
57 \LWR@mdfprintcolor{linecolor} ; \LWR@orignewline
```

Convert and print the border radius:

```
58 border-radius: \LWR@mdfprintlength{roundcorner} ; \LWR@orignewline
```

Convert and print the shadow:

```
59 \ifbool{mdf@shadow}{%
60 box-shadow:
```

```

61 \LWR@mdfprintlength{shadowsize}
62 \LWR@mdfprintlength{shadowsize}
63 \LWR@mdfprintlength{shadowsize}
64 \LWR@mdfprintcolor{shadowcolor} ;
65 }
66 {box-shadow: none ;}
67 \LWR@orignewline

68 "}
69 % \LWR@htmldivclass{\LWR@mdthisenv}

```

mdframed environment may not work with the HTML versions of the following, so restore them to their originals while inside mdframed:

```

70 \LWR@select@print@hspace%
71 \renewcommand*{\rule}{\LWR@print@rule}
72 \LetLtxMacro\makebox\LWR@print@makebox%

73 \LWR@startpars%
74 \LWR@traceinfo{LWR@mdframedstart done}%
75 }

```

\LWR@mdframedend    Actions after an mdframe ends.

After closing the <div>, globally restore to the default environment type:

```

76 \newcommand*{\LWR@mdframedend}{
77 \LWR@traceinfo{LWR@mdframedend start}%

```

Close the custom <div>:

```

78 \LWR@htmldivclassend{\LWR@mdthisenv}

```

Reset future custom class to the default:

```

79 \gdef\LWR@mdthisenv{mdframed}

```

Resume paragraph handling:

```

80 \LWR@startpars%
81 \LWR@traceinfo{LWR@mdframedend done}%
82 }

```

## § 380.7 Mdfamed environment

```

83 \renewenvironment{mdframed}[1][]{%
84 \color@begingroup%
85 \mdfsetup{userdefinedwidth=\linewidth,#1}%
86 \mdf@startcode%
87 \mdf@preenvsetting%
88 \ifdefempty{\mdf@firstframetitle}{}%
89 {\let\mdf@frametitlesave\mdf@frametitle%
90 \let\mdf@frametitle\mdf@firstframetitle%
91 }%
92 \ifvmode\nointerlineskip\fi%
93 \ifdefempty{\mdf@frametitle}{}%
94 {\mdfframedtitleenv{\mdf@frametitle}%
95 \mdf@@frametitle@use%
96 }%
97 \mdf@trivlist{\mdf@skipabove@length}%

```

```

98 \mdf@settings%
99 % \mdf@lrbox{\mdf@splitbox@one}%
100 % \mdf@startinnercode%
101 }%
102 {%
103 % \mdf@@ignorelastdescenders%
104 \par%
105 % \unskip\ifvmode\nointerlineskip\hrule \@height\z@ \@width\hsize\fi%
106 \ifmdf@footnoteinside%
107 \def\mdf@reserveda{%
108 \mdf@footnoteoutput%
109 % \mdf@endinnercode%
110 % \endmdf@lrbox%
111 % \ifdefempty{\mdf@frametitle}}}%
112 % {\mdfframedtitleenv{\mdf@frametitle}\mdf@@frametitle@use}%
113 % \detected@mdf@put@frame
114 }%
115 \else%
116 \def\mdf@reserveda{%
117 % \mdf@endinnercode%
118 % \endmdf@lrbox%
119 % \ifdefempty{\mdf@frametitle}}}%
120 % {\mdfframedtitleenv{\mdf@frametitle}\mdf@@frametitle@use}%
121 % \detected@mdf@put@frame
122 \mdf@footnoteoutput%
123 }%
124 \fi%
125 \mdf@reserveda%
126 \aftergroup\endmdf@trivlist%
127 \color@endgroup%
128 \mdf@endcode%
129 }

```

\mdf@footnoteoutput

```

130 \renewrobustcmd*\mdf@footnoteoutput{%
131 \LWR@printpendingmpfootnotes%
132 }

```

## § 380.8 Titles and subtitles

\mdfframedtitleenv *{<title>}*

Place the title inside a <div> of class mdfframedtitle:

```

133 \newlength{\LWR@titleroundcorner}
134
135 \renewrobustcmd\mdfframedtitleenv[1]{%
136 \LWR@traceinfo{\LWR@mdfframedtitleenv start}%

```

Open a <div> with a custom class and custom style:

```

137 \begin{BlockClass}[%

```

Convert and print the title background color:

```

138 background:
139 \LWR@mdfprintcolor{frametitlebackgroundcolor}

```

```
140 ; \LWR@orignewline
```

Convert and print the title rule:

```
141 \ifbool{mdf@frametitlerule}{%
142 border-bottom:
143 \LWR@mdfprintlength{frametitlerulewidth}
144 solid
145 \LWR@mdfprintcolor{frametitlerulecolor}
146 ; \LWR@orignewline
147 }{ }%
```

Finish the custom style and the opening <div> tag:

```
148]{mdframedtitle}%
```

Print the title inside the <div>:

```
149 \mdf@frametitlefont{\LWR@textcurrentfont{#1}}%
```

Close the <div>:

```
150 \end{BlockClass}%
151 \LWR@traceinfo{\LWR@mdframedtitleenv end}%
152 }
```

```
\LWR@mdfsubtitlecommon {<sub — or — subsub>} [<options>] {<title>}
```

Common code for \LWR@mdfsubtitle and \LWR@mdfsubsubtitle.

Encapsulate the subtitle inside a <div> of class mdframedsubtitle:

```
153 \NewDocumentCommand{\LWR@mdfsubtitlecommon}{m o m}
154 {% the following empty line is required
155
156 \LWR@traceinfo{\LWR@mdframedsubtitlecommon start}%
```

Open a <div> with a custom class and custom style:

```
157 \begin{BlockClass}[%
```

Convert and print the background color:

```
158 background:
159 \LWR@mdfprintcolor{#1titlebackgroundcolor}
160 ; \LWR@orignewline
```

Convert and print the above line:

```
161 \ifbool{mdf@#1titleaboveline}{%
162 border-top:
163 \LWR@mdfprintlength{#1titleabovelinewidth}
164 solid
165 \LWR@mdfprintcolor{#1titleabovelinecolor}
166 ; \LWR@orignewline
167 }{ }%
```

Convert and print the below line:

```
168 \ifbool{mdf@#1titlebelowline}{%
169 border-bottom:
170 \LWR@mdfprintlength{#1titlebelowlinewidth}
171 solid
```



```

172 \LWR@mdfprintcolor{#1titlebelowlinecolor}
173 ; \LWR@orignewline
174 }{}%

```

Finish the custom style and the opening <div> tag:

```
175]{mdframed#1title}%
```

Perform the original subtitle action:

```

176 \IfNoValueTF{#2}
177 {\@nameuse{LWR@origmdf#1title}\csuse{mdf@#1titlefont}{\LWR@textcurrentfont{#3}}}%
178 {\@nameuse{LWR@origmdf#1title}[#2]\csuse{mdf@#1titlefont}{\LWR@textcurrentfont{#3}}}%

```

Close the <div>:

```

179 \end{BlockClass}%
180 \LWR@traceinfo{LWR@mdframedsubtitlecommon end}%
181 }

```

`\LWR@mdfsubtitle` [*<options>*] {*<title>*}

```

182 \newcommand*\LWR@mdfsubtitle{%
183 \LWR@mdfsubtitlecommon{sub}%
184 }
185 \let\mdfsubtitle\LWR@mdfsubtitle

```

`\LWR@mdfsubsubtitle` [*<options>*] {*<title>*}

```

186 \newcommand*\LWR@mdfsubsubtitle{%
187 \LWR@mdfsubtitlecommon{subsub}%
188 }
189 \let\mdfsubsubtitle\LWR@mdfsubsubtitle

```

## § 380.9 New environments

`\LWR@mdthisenv` Stores the environment of the frame about to be created:

```
190 \newcommand*\LWR@mdthisenv{mdframed}
```

`\newmdenv` [*<options>*] {*<env-name>*}

Modified from the original to remember the environment.

```

191 \renewrobustcmd*\newmdenv[2][]{%
192 \newenvironment{#2}%
193 {%
194 \mdfsetup{#1}%
195 \renewcommand*\LWR@mdthisenv}{md#2}%
196 \begin{mdframed}%
197 }
198 {\end{mdframed}}%
199 }

```

`\surroundwithmdframed` [*<options>*] {*<environment>*}

Modified from the original to remember the environment.

```
200 \renewrobustcmd*\surroundwithmdframed[2][]{%
```

```

201 \BeforeBeginEnvironment{#2}{%
202 \renewcommand*{\LWR@mdthisenv}{md#2}%
203 \begin{mdframed}[#1]}%
204 \AfterEndEnvironment{#2}{\end{mdframed}}%
205 }

```

\mdtheorem [*(mdframed-options)*] [*(envname)*] [*(numberedlike)*] [*(caption)*] [*(within)*]

Modified from the original to remember the environment.

```

206 \DeclareDocumentCommand{\mdtheorem}{ O{ } m o m o }%
207 { \ifcsdef{#2}%
208 {\mdf@PackageWarning{Environment #2 already exists\MessageBreak}}%
209 {%
210 \IfNoValueTF {#3}%
211 {%#3 not given -- number relationship
212 \IfNoValueTF {#5}%
213 {%#3+#5 not given
214 \@definecounter{#2}%
215 \expandafter\xdef\csname the#2\endcsname{\@thmcounter{#2}}%
216 \newenvironment{#2}[1][{%
217 \refstepcounter{#2}%
218 \ifstrempy{##1}%
219 {\let\@temptitle\relax}%
220 {%
221 \def\@temptitle{\mdf@theoremseparator%
222 \mdf@theoremspace%
223 \mdf@theoremtitlefont%
224 \LWR@textcurrentfont{##1}}% lwarp
225 \mdf@thm@caption{#2}{#4}{\csname the#2\endcsname}{##1}}%
226 }%
227 \begin{mdframed}[#1,frametitle={\strut#4\ \csname the#2\endcsname%
228 \@temptitle}]]%
229 {\end{mdframed}}%
230 \newenvironment{#2*}[1][{%
231 \ifstrempy{##1}{\let\@temptitle\relax}{\def\@temptitle{: \ ##1}}%
232 \begin{mdframed}[#1,frametitle={\strut#4\@temptitle}]]%
233 {\end{mdframed}}%
234 }%
235 {%#5 given -- reset counter
236 \@definecounter{#2}\@newctr{#2}[#5]%
237 \expandafter\xdef\csname the#2\endcsname{\@thmcounter{#2}}%
238 \expandafter\xdef\csname the#2\endcsname{%
239 \expandafter\noexpand\csname the#5\endcsname \@thmcountersep%
240 \@thmcounter{#2}}%
241 \newenvironment{#2}[1][{%
242 \refstepcounter{#2}%
243 \ifstrempy{##1}%
244 {\let\@temptitle\relax}%
245 {%
246 \def\@temptitle{\mdf@theoremseparator%
247 \mdf@theoremspace%
248 \mdf@theoremtitlefont%
249 \LWR@textcurrentfont{##1}}% lwarp
250 \mdf@thm@caption{#2}{#4}{\csname the#2\endcsname}{##1}}%
251 }

```

```

252 \begin{mdframed}[#1,frametitle={\strut#4\ \csname the#2\endcsname%
253 \@temptitle}]]%
254 {\end{mdframed}}%
255 \newenvironment{#2*}[1][]{%
256 \ifstrempy{##1}%
257 {\let\@temptitle\relax}%
258 {%
259 \def\@temptitle{\mdf@theoremseparator%
260 \mdf@theoremspace%
261 \mdf@theoremtitlefont%
262 \LWR@textcurrentfont{##1}}% lwarp
263 \mdf@thm@caption{#2}{#4}{\csname the#2\endcsname}{##1}}%
264 }%
265 \begin{mdframed}[#1,frametitle={\strut#4\@temptitle}]]%
266 {\end{mdframed}}%
267 }%
268 }%
269 {%#3 given -- number relationship
270 \global\@namedef{the#2}{\@nameuse{the#3}}%
271 \newenvironment{#2}[1][]{%
272 \refstepcounter{#3}%
273 \ifstrempy{##1}%
274 {\let\@temptitle\relax}%
275 {%
276 \def\@temptitle{\mdf@theoremseparator%
277 \mdf@theoremspace%
278 \mdf@theoremtitlefont%
279 \LWR@textcurrentfont{##1}}% lwarp
280 \mdf@thm@caption{#2}{#4}{\csname the#2\endcsname}{##1}}%
281 }
282 \begin{mdframed}[#1,frametitle={\strut#4\ \csname the#2\endcsname%
283 \@temptitle}]]%
284 {\end{mdframed}}%
285 \newenvironment{#2*}[1][]{%
286 \ifstrempy{##1}{\let\@temptitle\relax}{\def\@temptitle{: \ ##1}}%
287 \begin{mdframed}[#1,frametitle={\strut#4\@temptitle}]]%
288 {\end{mdframed}}%
289 }%
290 \BeforeBeginEnvironment{#2}{\renewcommand*\LWR@mdthisenv{md#2}}% lwarp
291 \BeforeBeginEnvironment{#2*}{\renewcommand*\LWR@mdthisenv{md#2}}% lwarp
292 }%
293 }

```

`\newmdtheoremenv` [*<1: mdframed-options>*] [*<2: envname>*] [*<3: numberedlike>*] [*<4: caption>*] [*<5: within>*]

Modified from the original to remember the environment.

```

294 \DeclareDocumentCommand\newmdtheoremenv{O{} m o m o }{%
295 \ifboolexpr{ test {\IfNoValueTF {#3}} and test {\IfNoValueTF {#5}} }%
296 {\newtheorem{#2}{#4}}%
297 {%
298 \IfValueT{#3}{\newtheorem{#2}[#3]{#4}}%
299 \IfValueT{#5}{\newtheorem{#2}{#4}[#5]}%
300 }%
301 \BeforeBeginEnvironment{#2}{%

```

```

302 \renewcommand*{\LWR@mdthisenv}{md#2}%
303 \begin{mdframed}[#1]}%
304 \AfterEndEnvironment{#2}{%
305 \end{mdframed}}%
306 }

```

File 275 **lwarp-media9.sty**

§ 381 Package **media9**

Pkg media9 **media9** is emulated.

The packages multimedia, movie15, and media9 are supported.

HTML5 <audio> and <video> objects are created for .mp3 and .mp4 files.

HTML5 <embed> objects are created for http and ftp links.

\href links are created for other media types. (Unfortunately, there is not much overlap between the file types supported for print output and the file types supported by HTML5.)

For media9, a multimedia object is inserted for each addressource=, as well as each flashvars source= and src=. This may result in duplicate objects.

Undesired objects may be nullified by placing them inside \warpprintonly or the warpprint environment.

Each HTML multimedia object includes the poster text, except for <embed> objects. For movie15, the text option is supported to specify the poster text.

The width, height, and totalheight options are supported. The HTML object is scaled according to the display width, correctly compensating for either tall or wide viewports.

Other options are ignored.

media9 \addmediapath is supported. It is assumed that the same path structure will exist for the HTML document.


HTML5 media controls are always specified for each <audio> and <video> object.

media9 slideshows are not supported.

\hyperlinkmovie, \movieref, and \mediabutton are not supported.

3D objects are not supported.

If using a YOUTUBE™ video, use an “embedded” URL with .../embed/... instead of .../v/...

 **& in a URL** Many special characters are converted to regular catcode 12 characters for use inside a URL. & is used in the flash variables fields, which are split with xparse \SplitList, which does not seem to work with a catcode 12 divider token, so & is not converted to

catcode 12, and will not work in a URL with media9. Using & in a URL in a flashvars field may also cause parsing problems with print output, as well.

for HTML output:

```
1 \LWR@ProvidesPackageDrop{media9}[2019/02/21]
2 \LWR@origRequirePackage{lwarp-common-multimedia}
3
4 \RequirePackage{xkeyval}
```

\addmediapath {<path>}

Supported.

```
5 \newcommand*\LWR@medianine@path{}
6
7 \newcommand*\addmediapath}[1]{\appto\LWR@medianine@path{#{1}}}
```

The options and poster text are reused in several places.

```
8 \newcommand*\LWR@medianine@postertext{}
9 \newcommand*\LWR@medianine@options{}
```

Each adresource can generate a multimedia object.

```
10 \define@key{LWR@medianine}{adresource}{%
11 \expandafter\LWR@multimedia\expandafter[\LWR@medianine@options]
12 {\LWR@medianine@postertext}
13 {#1}
14 }
```

Each flashvars source can generate a multimedia object.

```
15 \newcommand*\LWR@medianine@flashvarsb}[1]{%
16 \IfBeginWith{#1}{source=}{%
17 \StrGobbleLeft{#1}{7}[\LWR@tempone]%
18 \expandafter\LWR@multimedia\expandafter[\LWR@medianine@options]%
19 {\LWR@medianine@postertext}%
20 {\LWR@tempone}%
21 }{%
22 \IfBeginWith{#1}{src=}{%
23 \StrGobbleLeft{#1}{4}[\LWR@tempone]%
24 \expandafter\LWR@multimedia\expandafter[\LWR@medianine@options]%
25 {\LWR@medianine@postertext}%
26 {\LWR@tempone}%
27 }{%
28 }
29
30 \NewDocumentCommand{\LWR@medianine@flashvars}{ >{\SplitList{&}} m }{%
31 \ProcessList {#1}{\LWR@medianine@flashvarsb}%
32 }
33
34 \define@key{LWR@medianine}{flashvars}{%
35 \LWR@medianine@flashvars{#1}%
36 }
```

```

\includemedia [⟨options⟩] {⟨poster text⟩} {⟨file or URL⟩}
37 \newcommand*\LWR@includemediab[3][[]]{%
38 \let\input@path\LWR@medianine@path%
39 \renewcommand*\LWR@medianine@options{#1}%
40 \renewcommand*\LWR@medianine@postertext{#2}%
41 \setkeys*LWR@medianine{#1}%
42 \IfBeginWith{#3}{http}{\LWR@multimedia[#1]{#2}{#3}}{%
43 \IfBeginWith{#3}{HTTP}{\LWR@multimedia[#1]{#2}{#3}}{%
44 \IfBeginWith{#3}{ftp}{\LWR@multimedia[#1]{#2}{#3}}{%
45 \IfBeginWith{#3}{FTP}{\LWR@multimedia[#1]{#2}{#3}}{%
46 }}}}%
47 \endgroup%
48 }
49
50 \newrobustcmd*\includemedia{%
51 \begingroup%
52 \LWR@linkmediacatcodes%
53 \LWR@includemediab%
54 }

```

```

\mediabutton [⟨options⟩] {⟨text⟩}
Ignored.
55 \newcommand*\mediabutton[2][[]]{

```

---

File 276 **lwarp-memhfixc.sty**

§ 382 Package **memhfixc**

Pkg memhfixc memhfixc is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{memhfixc}[2013/05/30]

---

File 277 **lwarp-menukeys.sty**

§ 383 Package **menukeys**

*(Emulates or patches code by TOBIAS WEH.)*

Pkg menukeys menukeys is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{menukeys}[2020/12/19]

Patch to use a `lateximage` whose `alt` text is the contents of this use of the macro. A hash on these contents allows the reuse of the image for each instance of the same contents.

```

2 \xpatchcmd{\tw@define@menu@macro@}
3 {\@nameuse{tw@style@#4@pre}}
4 {%
5 \begin{lateximage}*\detokenize{##2}]%
6 \@nameuse{tw@style@#4@pre}%
7 }
8 {}
9 {\LWR@patcherror{menukeys}{tw@define@menu@macro@}}
10
11 \xpatchcmd{\tw@define@menu@macro@}
12 {\@nameuse{tw@style@#4@post}}
13 {%
14 \@nameuse{tw@style@#4@post}%
15 \end{lateximage}%
16 }
17 {}
18 {\LWR@patcherror{menukeys}{tw@define@menu@macro@ B}}

```

Patch the existing macros:

```

19 \renewmenumacro{\menu}[>]{menus}
20 \renewmenumacro{\directory}[/]{paths}
21 \renewmenumacro{\keys}[+]{roundedkeys}

```

---

File 278 **lwarp-metalogo.sty**

§ 384 Package **metalogo**

(Emulates or patches code by ANDREW GILBERT MOSCHOU.)

Pkg metalogo metalogo is used in print mode, and emulated in HTML.

**for HTML output:** 1 \LWR@ProvidesPackagePass{metalogo}[2010/05/29]

```

2 \newcommand*\LWR@HTML@setlogokern}[2]{}
3 \newcommand*\LWR@HTML@setlogodrop}[2][XeTeX]{}
4 \newcommand*\LWR@HTML@setLaTeXa}[1]{}
5 \newcommand*\LWR@HTML@setLaTeXee}[1]{}
6 \newcommand*\LWR@HTML@seteverylogo}[1]{}
7 \newcommand*\LWR@HTML@everyLogo}[1]{}
8
9 \LWR@formatted{setlogokern}
10 \LWR@formatted{setlogodrop}
11 \LWR@formatted{setLaTeXa}
12 \LWR@formatted{setLaTeXee}
13 \LWR@formatted{seteverylogo}
14 \LWR@formatted{everyLogo}

```

---

File 279 **lwarp-metalogox.sty**

§ 385 Package **metalogox**

(Emulates or patches code by BRIAN DUNN.)

Pkg metalogox metalogox is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{metalogox}[2019/01/20]

\AtBeginDocument, adjust the logo setting according to the font which is active at that moment.

```
2 \AtBeginDocument{
3 \let\LWR@metalogox@currentformatting\LWR@formatting
4 \renewcommand*{\LWR@formatting}{print}%
5 \autoadjustlogos*
6 \let\LWR@formatting\LWR@metalogox@currentformatting
7 }
```

---

File 280 **lwarp-mhchem.sty**

§ 386 Package **mhchem**

(Emulates or patches code by MARTIN HENSEL.)

Pkg mhchem mhchem is patched for use by lwarp.

**without MATHJAX** Without MATHJAX, mhchem expressions are converted to svg math. Inline expressions use hashed filenames to allow reuse, and assume that any mhchem options are global.

**MATHJAX with mhchem extension** For MATHJAX, the mhchem extension is used if the mhchem expression is used inside a math expression:

$$\text{\ce{C6H5-CHO}}$$

To force the use of svg math for an expression which does not work with MATHJAX, place the expression between `\displaymathother` and `\displaymathnormal`:

```
\displaymathother
[\ce{ . . . }] . . . $ \ce { . . . } $
\displaymathnormal
```

not inside math

If *not* used inside a math expression, lwarp converts standalone mhchem expressions into svg math images.



**nested math**

When producing HTML output without the MATHJAX mhchem extension, lwarp does not support the use of nested dollar signs in mhchem expressions.



For some examples from the mhchem manual, change as follows:

|                                             |       |
|---------------------------------------------|-------|
| $\text{\ce{NaOH(aq, \infty)}}$              | % old |
| $\text{\ce{NaOH(aq, \infty)}}$              | % new |
| $\text{\ce{Fe(CN)_{\frac{6}{2}}}}$          | % old |
| $\text{\ce{Fe(CN)_{\frac{6}{2}}}}$          | % new |
| $\text{\ce{NO_x}}$                          | % old |
| $\text{\ce{NO_x}}$                          | % new |
| $\text{\ce{NO_{x}}}$                        | % old |
| $\text{\ce{NO_{x}}}$                        | % new |
| $\text{\ce{\$cis\{-}[PtCl2(NH3)2]}}$        | % old |
| $\text{\ce{\mathit{cis}\{-}[PtCl2(NH3)2]}}$ | % new |

for HTML output: `1 \LWR@ProvidesPackagePass{mhchem}[2018/06/22]`

The original definition of `\ce`:

```
2 \LetLtxMacro\LWR@mhchem@origce\ce
```

The new definition, called from the new `\ce` after math shift is set. The starred `lateximage` uses a hashed filename for the `svg` image. The `alt` tag is set to the `mhchem` expression.

```
3 \newcommand{\LWR@mhchem@HTML@ce}[1]{%
4 \LWR@findcurrenttextcolor% sets \LWR@tempcolor
5 \ifbool{\LWR@xfakebold}%
6 {\def\LWR@tempone{Y}}%
7 {\def\LWR@tempone{N}}%
8 \begin{lateximage}*\[\textbackslash\}ce{\LWR@HTMLsanitize{#1}\}%
9 [%
10 FM\LWR@f@family%
11 SR\LWR@f@series%
12 SH\LWR@f@shape%
13 SHC\LWR@f@shapecaps%
14 CL\LWR@tempcolor%
15 FB\LWR@tempone% xfakebold
16]%
17 \LWR@setcurrentfont%
18 \LWR@mhchem@origce{#1}%
19 \end{lateximage}%
20 \endgroup%
21 \addtocounter{\LWR@mhchem@cedepth}{-1}%
22 }
```

Only set math shift if outer depth:

```
23 \newcounter{\LWR@mhchem@cedepth}
24 \setcounter{\LWR@mhchem@cedepth}{0}
```

The new `\ce`. Sets math shift then continues.

```

25 \renewcommand{\ce}{%
26 \begingroup%
27 \ifnumequal{\value{LWR@mhchem@cedepth}}{0}{%
28 \catcode'\$=3% math shift
29 }{}%
30 \addtocounter{LWR@mhchem@cedepth}{1}%
31 \LWR@mhchem@HTML@ce%
32 }

```

The original definition of `\cesplit`:

```

33 \LetLtxMacro\LWR@mhchem@origcesplit\cesplit

```

The new definition, called from the new `\cesplit` after math shift is set. The starred `lateximage` uses a hashed filename for the `svg` image. The `alt` tag is set to the `mhchem` expression.

```

34 \newcommand*{\LWR@mhchem@HTML@cesplit}[2]
35 {%
36 \LWR@findcurrenttextcolor% sets \LWR@tempcolor
37 \ifbool{LWR@xfakebold}%
38 {\def\LWR@tempone{Y}}%
39 {\def\LWR@tempone{N}}%
40 \begin{lateximage}*[\textbackslash{}cesplit\{\LWR@HTMLsanitize{#2}\}]*%
41 [%
42 FM\LWR@f@family%
43 SR\LWR@f@series%
44 SH\LWR@f@shape%
45 SHC\LWR@f@shapecaps%
46 CL\LWR@tempcolor%
47 FB\LWR@tempone% xfakebold
48]%
49 \LWR@setcurrentfont%
50 \LWR@mhchem@origcesplit{#1}{#2}%
51 \end{lateximage}%
52 \endgroup%
53 }

```

Only set math shift if outer depth:

```

54 \newcounter{LWR@mhchem@cesplitdepth}
55 \setcounter{LWR@mhchem@cesplitdepth}{0}

```

The new `\cesplit`. Sets math shift then continues.

```

56 \renewcommand{\cesplit}{%
57 \begingroup%
58 \ifnumequal{\value{LWR@mhchem@cesplitdepth}}{0}{%
59 \catcode'\$=3% math shift
60 }{}%
61 \addtocounter{LWR@mhchem@cesplitdepth}{1}%
62 \LWR@mhchem@HTML@cesplit%
63 }

```

Resore originals inside a lateximage:

```
64 \appto\LWR@restoreorigformatting{%
65 \LetLtxMacro\ce\LWR@mhchem@origce%
66 \LetLtxMacro\cesplit\LWR@mhchem@origcesplit%
67 }
68
69 \begin{warpMathJax}
70 \CustomizeMathJax{\require{mhchem}}
71 \end{warpMathJax}
```

---

File 281 **lwarp-microtype.sty**

§ 387 Package **microtype**

*(Emulates or patches code by R SCHLICHT.)*

Pkg microtype microtype is pre-loaded by lwarp. All user options and macros are ignored and disabled.

**for HTML output:** Discard all options for lwarp-microtype:

```
1 \LWR@ProvidesPackageDrop{microtype}[2018/01/14]

2 \DeclareDocumentCommand{\DeclareMicrotypeSet}{o m m}{}
3 \DeclareDocumentCommand{\UseMicrotypeSet}{o m}{}
4 \DeclareDocumentCommand{\DeclareMicrotypeSetDefault}{o m}{}
5 \DeclareDocumentCommand{\SetProtrusion}{o m m}{}
6 \DeclareDocumentCommand{\SetExpansion}{o m m}{}
7 \DeclareDocumentCommand{\SetTracking}{o m m}{}
8 \DeclareDocumentCommand{\SetExtraKerning}{o m m}{}
9 \DeclareDocumentCommand{\SetExtraSpacing}{o m m}{}
10 \DeclareDocumentCommand{\DisableLigatures}{o m}{}
11 \DeclareDocumentCommand{\DeclareCharacterInheritance}{o m m}{}
12 \DeclareDocumentCommand{\DeclareMicrotypeVariants}{m}{}
13 \DeclareDocumentCommand{\DeclareMicrotypeAlias}{m m}{}
14 \DeclareDocumentCommand{\LoadMicrotypeFile}{m}{}
15 \DeclareDocumentCommand{\DeclareMicrotypeBabelHook}{m m}{}
16 \DeclareDocumentCommand{\microtypesetup}{m}{}
17 \DeclareDocumentCommand{\microtypecontext}{m}{}
18 \DeclareDocumentCommand{\textmicrotypecontext}{m m}{#2}
19 \ifpackageloaded{letterspace}{\let\MT@textls\relax}{%
20 \DeclareDocumentCommand{\lsstyle}{}{}}
21 \DeclareDocumentCommand{\textls}{o +m}{}
22 \DeclareDocumentCommand{\lslig}{m}{#1}
23 }
24 \def\DeclareMicrotypeSet#1#{\@gobbletwo}
25 \def\DeclareMicrotypeVariants#1#{\@gobble}
26 \@onlypreamble\DeclareMicrotypeSet
27 \@onlypreamble\UseMicrotypeSet
28 \@onlypreamble\DeclareMicrotypeSetDefault
29 \@onlypreamble\DisableLigatures
30 \@onlypreamble\DeclareMicrotypeVariants
```

---

```
31 \@onlypreamble\DeclareMicrotypeBabelHook
```

---

File 282 **lwarp-midfloat.sty**

§ 388 Package **midfloat**

*(Emulates or patches code by SIGITAS TOLUŠIS.)*

Pkg midfloat midfloat is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{midfloat}[2012/05/29]

```
2 \newenvironment{strip}[1][{}]{}
```

```
3 \newskip\stripsep
```

---

File 283 **lwarp-midpage.sty**

§ 389 Package **midpage**

Pkg midpage midpage is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{midpage}[2009/09/03]

```
2 \newenvironment{midpage}
```

```
3 {\begin{BlockClass}[%
```

```
4 \LWR@print@mbbox{margin-top:6ex} ; \LWR@print@mbbox{margin-bottom:6ex}%
```

```
5]{midpage}}
```

```
6 {\end{BlockClass}}
```

---

File 284 **lwarp-minibox.sty**

§ 390 Package **minibox**

*(Emulates or patches code by WILL ROBERTSON.)*

Pkg minibox minibox is patched for use by lwarp.

Due to HTML limitations regarding paragraphs and <div>s, miniboxes inline with other text will appear on their own line.

**for HTML output:** 1 \LWR@ProvidesPackagePass{minibox}[2013/06/21]

```
2 \ExplSyntaxOn
```

```
3 \newcommand\LWR@HTML@minibox[2][{}]{%
```

```
4 \LWR@stoppars%
```

```
5 \group_begin:
```

```

6 \keys_set:nn {minibox} {#1}
7 \bool_if:NTF \l_minibox_frame_bool
8 {
9 \setlength\fbboxrule{\l_minibox_rule_dim}
10 \setlength\fbboxsep{\l_minibox_pad_dim}
11 \fbboxBlock{%
12 \begin{tabular}[\l_minibox_tabular_valign_tl]%
13 {\l_minibox_tabular_preamble_tl}
14 {#2}
15 \end{tabular}
16 }%
17 }
18 {
19 \begin{BlockClass}[display:inline-block]{minibox}
20 \begin{tabular}[\l_minibox_tabular_valign_tl]%
21 {\l_minibox_tabular_preamble_tl}
22 {#2}
23 \end{tabular}
24 \end{BlockClass}
25 }
26 \group_end:
27 \LWR@startpars%
28 }
29 \ExplSyntaxOff
30
31 \LWR@formatted{minibox}

```

---

File 285 **lwarp-minitoc.sty**

§ 391 Package **minitoc**

Pkg minitoc minitoc is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{minitoc}[2018/07/12]

mtcoff disables minitoc.

2 \usepackage{mtcoff}


---

File 286 **lwarp-minted.sty**

§ 392 Package **minted**

(Emulates or patches code by GEOFFREY M. POORE.)

Pkg minted minted is patched for use by lwarp.

 **limitations** mathescape and highlightlines don't work. Line numbers on the right will not be aligned. Due to *pdftotext*, extra spaces may appear in broken lines if other formatting is included.

```

for HTML output: 1 \LWR@ProvidesPackagePass{minted}[2017/07/19]

2 \xpatchcmd{\minted}
3 {\setkeys{minted@opt@cmd}{#1}}
4 {%
5 \setkeys{minted@opt@cmd}{%
6 #1,%
7 mathescape=false,breaklines,texcomments=false,highlightlines={}%
8 }%
9 }
10 {}
11 {\LWR@patcherror{minted}{minted}}
12
13 \xpatchcmd{\mintinline}
14 {\setkeys{minted@opt@cmd}{#1}}
15 {\setkeys{minted@opt@cmd}{%
16 #1,%
17 mathescape=false,breaklines,texcomments=false,highlightlines={}%
18 }%
19 }
20 {}
21 {\LWR@patcherror{minted}{mintinline}}
22
23 \xpatchcmd{\mint}
24 {\setkeys{minted@opt@cmd}{#1}}
25 {%
26 \setkeys{minted@opt@cmd}{%
27 #1,%
28 mathescape=false,breaklines,texcomments=false,highlightlines={}%
29 }%
30 }
31 {}
32 {\LWR@patcherror{minted}{mint}}
33
34 \xpatchcmd{\inputminted}
35 {\setkeys{minted@opt@cmd}{#1}}
36 {\setkeys{minted@opt@cmd}{%
37 #1,%
38 mathescape=false,breaklines,texcomments=false,highlightlines={}%
39 }%
40 }
41 {}
42 {\LWR@patcherror{minted}{inputminted}}

```


---

File 287 **lwarp-mismath.sty**

§ 393 Package **mismath**

(Emulates or patches code by ANTOINE MISSIER.)

Pkg mismath mismath is patched for SVG math, and emulated for MATHJAX.

 MATHJAX \enumber, \inumber, \jnumber, and \pinumber are ignored for MATHJAX, except that

`\itpi` is made available as a clone of `\pi`.

For MATHJAX, `\boldvect` and `\arrowvect` are honored if in the preamble.

If `\boldvectcommand` is set to `\mathbf` in the preamble, it will be used for MATHJAX, otherwise it will default to `\mathit`. `\boldvectcommand` may also be set with `\CustomizeMathJax` in the preamble. See section 8.7.5. Note that as of this writing there is not a bold italic font across all MATHJAX fonts.

If `\probastyle` is set to `\mathbb` in the preamble, it will be used for MATHJAX, otherwise it will default to `\mathrm`. `\probastyle` may be set with `\CustomizeMathJax` in the preamble.

If `\mathset` is set to `\mathbb` in the preamble, it will be used for MATHJAX, otherwise it will default to `\mathbf`. `\mathset` may be set with `\CustomizeMathJax` in the preamble.

**for HTML output:** `1 \LWR@ProvidesPackagePass{mismath}[2019/12/27]`

For MATHJAX, used in the HTML comment before the environment.

```
2 \ifbool{mathjax}{
3 \RenewEnviron{mathcols}{%
4 \preto\BODY{\begin{aligned}\displaystyle}
5 \appto\BODY{\end{aligned}}
6 \expandafter\(\BODY\)
7 }
8 }% mathjax
```

For svg math. The `lateximage` restores the original definition of the `math` environment.

```
9 {% svg
10 \renewenvironment{mathcols}{
11 \begin{lateximage}
12 \begin{math}
13 \begin{aligned}\displaystyle
14 }{
15 \end{aligned}%
16 \end{math}
17 \end{lateximage}
18 }
19 }% svg
20
21 \renewcommand{\changeacol}{
22 \end{aligned} \quad
23 \begin{aligned}\displaystyle
24 }
25
26 \begin{warpMathJax}
27 \CustomizeMathJax{\newcommand{\mathup}[1]{\mathrm{#1}}}
28 \CustomizeMathJax{\newcommand{\e}{\mathrm{e}}}
29 \CustomizeMathJax{\newcommand{\i}{\mathrm{i}}}
30 \CustomizeMathJax{\newcommand{\j}{\mathrm{j}}}
31
32 \CustomizeMathJax{\newcommand{\boldvect}{}}
33 \CustomizeMathJax{\newcommand{\arrowvect}{}}
```

```

34 \CustomizeMathJax{\newcommand{\pinumber}[1][{}]}
35 \CustomizeMathJax{\newcommand{\hvect}[1]{\vec{\vphantom{h}#1}}}
36 \CustomizeMathJax{\newcommand{\hvec}[1]{\vec{\vphantom{t}#1}}}
37 \CustomizeMathJax{%
38 \newcommand{\norm}[1]{\left\| \left\| \left\| \right\| \right\| \right\|}
39 }
40 \CustomizeMathJax{\newcommand{\di}{\mathop{\!|\!|}\mathrm{d}}}
41
42 \CustomizeMathJax{\newcommand{\P}{\operatorname{\probastyle{P}}}}
43 \CustomizeMathJax{\newcommand{\E}{\operatorname{\probastyle{E}}}}
44 \CustomizeMathJax{\newcommand{\V}{\operatorname{\probastyle{V}}}}
45 \CustomizeMathJax{\newcommand{\Par}{\unicode{x00B6}}}
46
47 \CustomizeMathJax{\DeclareMathOperator{\adj}{adj}}
48 \CustomizeMathJax{\DeclareMathOperator{\Aut}{Aut}}
49 \CustomizeMathJax{\DeclareMathOperator{\Conv}{Conv}}
50 \CustomizeMathJax{\DeclareMathOperator{\cov}{cov}}
51 \CustomizeMathJax{\DeclareMathOperator{\Cov}{Cov}}
52 \CustomizeMathJax{\newcommand{\curl}{\operatorname{\vect{\mathrm{curl}}}}}
53 \CustomizeMathJax{\DeclareMathOperator{\divg}{div}}
54 \CustomizeMathJax{\DeclareMathOperator{\End}{End}}
55
56 \CustomizeMathJax{\DeclareMathOperator{\erf}{erf}}
57 \CustomizeMathJax{\newcommand{\grad}{\operatorname{\vect{\mathrm{grad}}}}}
58 \CustomizeMathJax{\DeclareMathOperator{\id}{id}}
59 \CustomizeMathJax{\DeclareMathOperator{\Id}{Id}}
60 \CustomizeMathJax{\DeclareMathOperator{\im}{im}}
61 \CustomizeMathJax{\let\oldIm\Im}
62 \CustomizeMathJax{\renewcommand{\Im}{\operatorname{Im}}}
63 \CustomizeMathJax{\DeclareMathOperator{\lb}{lb}}
64 \CustomizeMathJax{\DeclareMathOperator{\lcm}{lcm}}
65
66 \CustomizeMathJax{\DeclareMathOperator{\rank}{rank}}
67 \CustomizeMathJax{\let\oldRe\Re}
68 \CustomizeMathJax{\renewcommand{\Re}{\operatorname{Re}}}
69 \CustomizeMathJax{\newcommand{\rot}{\operatorname{\vect{\mathrm{rot}}}}}
70 \CustomizeMathJax{\DeclareMathOperator{\sgn}{sgn}}
71 \CustomizeMathJax{\DeclareMathOperator{\spa}{span}}
72 \CustomizeMathJax{\DeclareMathOperator{\tr}{tr}}
73 \CustomizeMathJax{\DeclareMathOperator{\Var}{Var}}
74 \CustomizeMathJax{\DeclareMathOperator{\Zu}{Z}}
75
76 \CustomizeMathJax{\DeclareMathOperator{\arccot}{arccot}}
77 \CustomizeMathJax{\DeclareMathOperator{\sech}{sech}}
78 \CustomizeMathJax{\DeclareMathOperator{\csch}{csch}}
79 \CustomizeMathJax{\DeclareMathOperator{\arsinh}{arsinh}}
80 \CustomizeMathJax{\DeclareMathOperator{\arcosh}{arcosh}}
81 \CustomizeMathJax{\DeclareMathOperator{\artanh}{artanh}}
82 \CustomizeMathJax{\DeclareMathOperator{\arcoth}{arcoth}}
83 \CustomizeMathJax{\DeclareMathOperator{\arsech}{arsech}}
84 \CustomizeMathJax{\DeclareMathOperator{\arcsch}{arcsch}}
85
86 \CustomizeMathJax{\DeclareMathOperator{\bigO}{\mathcal{O}}}
87 \CustomizeMathJax{\DeclareMathOperator{\bigo}{O}}
88 \CustomizeMathJax{\DeclareMathOperator{\lito}{o}}

```



```

89
90 \CustomizeMathJax{\newcommand{\R}{\mathset{R}}}
91 \CustomizeMathJax{\newcommand{\C}{\mathset{C}}}
92 \CustomizeMathJax{\newcommand{\N}{\mathset{N}}}
93 \CustomizeMathJax{\newcommand{\Z}{\mathset{Z}}}
94 \CustomizeMathJax{\newcommand{\Q}{\mathset{Q}}}
95 \CustomizeMathJax{\newcommand{\F}{\mathset{F}}}
96 \CustomizeMathJax{\newcommand{\K}{\mathset{K}}}
97
98 \CustomizeMathJax{\newcommand{\ds}{\displaystyle}}
99 \CustomizeMathJax{\newcommand{\dlim}{\lim\limits}}
100 \CustomizeMathJax{\newcommand{\dsum}{\sum\limits}}
101 \CustomizeMathJax{\newcommand{\dprod}{\prod\limits}}
102 \CustomizeMathJax{\newcommand{\dcup}{\bigcup\limits}}
103 \CustomizeMathJax{\newcommand{\dcap}{\bigcap\limits}}
104 \CustomizeMathJax{\newcommand{\lbar}{\overline}}
105 \CustomizeMathJax{\newcommand{\hlbar}[1]{\overline{\vphantom{h}#1}}}
106 \CustomizeMathJax{\newcommand{\eqdef}{\stackrel{\mathrm{def}}{=}}}
107 \CustomizeMathJax{\newcommand{\unbr}{\underbrace}}
108 \CustomizeMathJax{\newcommand{\iif}{if and only if }}
109
110 \CustomizeMathJax{\newcommand{\mul}{\mathord{\times}}}
111 \CustomizeMathJax{\newcommand{\then}{\ \Longrightarrow \ \mbox{ } }}
112 \CustomizeMathJax{\newcommand{\txt}[1]{\quad\text{#1}\quad}}
113 \CustomizeMathJax{\newcommand{\paren}[1]{\mathopen{\left(#1 \right)}}}
114 \CustomizeMathJax{\newcommand{\pow}[2]{\left(#1 \right)^{\!#2}}}
115 \CustomizeMathJax{\newcommand{\abs}[1]{\left| \! \left| #1 \right| \! \right|}}
116 \CustomizeMathJax{\newcommand{\lfrac}[2]{\frac{\!#1\!}{\!#2\!}}}
117
118 \CustomizeMathJax{\newenvironment{system}[1][l]{%
119 {\left\{\begin{array}{@{.15em}#1@{}}
120 {\end{array}\right.}
121 }
122
123 \CustomizeMathJax{\newenvironment{spmatrix}
124 {\left(\begin{smallmatrix}
125 {\end{smallmatrix}\right)}
126 }
127
128 \CustomizeMathJax{%
129 \newenvironment{mathcols}
130 {\begin{aligned}\displaystyle}
131 {\end{aligned}}
132 }
133 \CustomizeMathJax{\newcommand{\changepcol}{\end{aligned}\quad\begin{aligned}}}

```

User-adjustable settings, detected if in the preamble.

```

134 \AtBeginDocument{
135 \ifdef{\itpi}{
136 \CustomizeMathJax{\let\itpi\pi}
137 }{}
138 \ifdefstring{\boldvectcommand}{\mathbf}{
139 \CustomizeMathJax{\newcommand{\boldvectcommand}[1]{\mathbf{#1}}}
140 }{}

```

```

141 \CustomizeMathJax{\newcommand{\boldvectcommand}[1]{\boldsymbol{#1}}}
142 }
143 \ifbool{arrowvect}{
144 \CustomizeMathJax{\newcommand{\vect}[1]{\overrightarrow{#1}}}
145 }{
146 \CustomizeMathJax{\newcommand{\vect}[1]{\boldvectcommand{#1}}}
147 }
148 \ifdefstring{\probastyle}{\mathbb}{
149 \CustomizeMathJax{\newcommand{\probastyle}[1]{\mathbb{#1}}}
150 }{
151 \CustomizeMathJax{\newcommand{\probastyle}[1]{\mathrm{#1}}}
152 }
153 \ifdefstring{\mathset}{\mathbb}{
154 \CustomizeMathJax{\newcommand{\mathset}[1]{\mathbb{#1}}}
155 }{
156 \CustomizeMathJax{\newcommand{\mathset}[1]{\mathbf{#1}}}
157 }
158 }
159 \end{warpMathJax}

```

---

File 288 **lwarp-mleftright.sty**

§ 394 Package **mleftright**

*(Emulates or patches code by HEIKO OBERDIEK.)*

Pkg mleftright mleftright is used as-is, and is emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{mleftright}[2019/12/03]

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\mleft}{\left}}
4 \CustomizeMathJax{\newcommand{\mright}{\right}}
5 \CustomizeMathJax{\newcommand{\mleftright}{}}
6 \CustomizeMathJax{\newcommand{\mleftrightrestore}{}}
7 \end{warpMathJax}

```

---

File 289 **lwarp-morefloats.sty**

§ 395 Package **morefloats**

Pkg morefloats morefloats is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{morefloats}[2015/07/22]

File 290 **lwarp-moreverb.sty**

§ 396 Package **moreverb**

*(Emulates or patches code by ROBIN FAIRBAIRNS.)*

Pkg moreverb **moreverb** is supported with some patches.

```

1 \LWR@ProvidesPackagePass{moreverb}[2008/06/03]

2 \BeforeBeginEnvironment{verbatim}{%
3 \LWR@forcenewpage
4 \LWR@atbeginverbatim{Verbatim}%
5 }
6 \AfterEndEnvironment{verbatim}{%
7 \LWR@afterendverbatim%
8 }
9
10
11 \LetLtxMacro\LWRMV@orig@verbatiminput\@verbatiminput
12
13 \renewcommand{\@verbatiminput}[2][]{%
14 \LWR@forcenewpage
15 \LWR@atbeginverbatim{Verbatim}%
16 \LWRMV@orig@verbatiminput[#1]{#2}%
17 \LWR@afterendverbatim%
18 }
19
20 \BeforeBeginEnvironment{listing}{%
21 \LWR@forcenewpage
22 \LWR@atbeginverbatim{programlisting}%
23 }
24
25 \AfterEndEnvironment{listing}{%
26 \LWR@afterendverbatim%
27 }
28
29 \BeforeBeginEnvironment{listingcont}{%
30 \LWR@forcenewpage
31 \LWR@atbeginverbatim{programlisting}%
32 }
33
34 \AfterEndEnvironment{listingcont}{%
35 \LWR@afterendverbatim%
36 }

37 \LetLtxMacro\LWRMV@@listinginput\@listinginput
38
39 \renewcommand{\@listinginput}[3][]{
40 \LWR@forcenewpage
41 \LWR@atbeginverbatim{programlisting}%

```

```

42 \LWRMV@listinginput[#1]{#2}{#3}%
43 \LWR@afterendverbatim%
44 }
45
46
47 \renewenvironment*{boxedverbatim}
48 {
49 \LWR@forcenewpage
50 \LWR@atbeginverbatim{boxedverbatim}%
51 \verbatim%
52 }
53 {
54 \endverbatim%
55 \LWR@afterendverbatim%
56 }

```

---

File 291 **lwarp-movie15.sty**

§ 397 Package **movie15**

Pkg movie15 movie15 is emulated.

The packages multimedia, movie15, and media9 are supported.

HTML5 <audio> and <video> objects are created for .mp3 and .mp4 files.

HTML5 <embed> objects are created for http and ftp links.

\href links are created for other media types. (Unfortunately, there is not much overlap between the file types supported for print output and the file types supported by HTML5.)

For media9, a multimedia object is inserted for each addressource=, as well as each flashvars source= and src=. This may result in duplicate objects.

Undesired objects may be nullified by placing them inside \warpprintonly or the warpprint environment.

Each HTML multimedia object includes the poster text, except for <embed> objects. For movie15, the text option is supported to specify the poster text.

The width, height, and totalheight options are supported. The HTML object is scaled according to the display width, correctly compensating for either tall or wide viewports.

Other options are ignored.

media9 \addmediapath is supported. It is assumed that the same path structure will exist for the HTML document.

HTML5 media controls are always specified for each <audio> and <video> object.

media9 slideshows are not supported.

`\hyperlinkmovie`, `\movieref`, and `\mediabutton` are not supported.

3D objects are not supported.

If using a YOUTUBE™ video, use an “embedded” URL with `.../embed/...` instead of `.../v/...`

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{movie15}[2012/05/16]

2 \LWR@origRequirePackage{lwarp-common-multimedia}
3
4 \RequirePackage{xkeyval}
5
6 \newcommand*\LWR@moviefifteen@text{}
7
8 \define@key{LWR@moviefifteen}{text}{\renewcommand{\LWR@moviefifteen@text}{#1}}
9
10 \newcommand*\LWR@includemovie}[4][[]]{%
11 \renewcommand{\LWR@moviefifteen@text}{(multimedia)}
12 \setkeys*LWR@moviefifteen}{#1}%
13 \LWR@multimedias[#1,width=#2,height=#3]{\LWR@moviefifteen@text}{#4}%
14 }
15
16 \newrobustcmd*\includemovie){%
17 \begingroup%
18 \LWR@linkmediacatcodes%
19 \LWR@includemovieb%
20 }
21
22
23 \newcommand*\movieref}[3][[]]{
24
25 \LetLtxMacro\movie\LWR@multimedia
26 % \LetLtxMacro\sound\LWR@multimedia% not in media15
27
28 \newcommand{\hyperlinkmovie}[3][[]]{

```

---

File 292 **lwarp-mparhack.sty**

§ 398 Package **mparhack**

Pkg mparhack mparhack is ignored.

**for HTML output:** Discard all options for lwarp-mparhack:

```

1 \LWR@ProvidesPackageDrop{mparhack}[2005/04/17]

```

File 293 **lwarp-multibib.sty**

§ 399 Package **multibib**

*(Emulates or patches code by THORSTEN HANSEN.)*

Pkg multibib multibib is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{multibib}[2008/12/10]

```
2 \xpatchcmd{\newcites}
3 {{{\@suffix}}}
4 {{{\@suffix_html}}}
5 {}
6 {\LWR@patcherror{multibib}{newcites}}
```

File 294 **lwarp-multicap.sty**

§ 400 Package **multicap**

Pkg multicap multicap is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{multicap}[2002/05/04]

```
2 \newcommand*{\mfcaption}{\captionof{figure}}
3 \newcommand*{\mtcaption}{\captionof{table}}
4 \newcounter{mcapsize}
5 \newcounter{mcapskip}
6 \newlength{\abvmcapskip}
7 \newlength{\blwmcapskip}
```

File 295 **lwarp-multicol.sty**

§ 401 Package **multicol**

*(Emulates or patches code by FRANK MITTELBACH.)*

Pkg multicol multicol is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{multicol}[2018/12/27]

Multicols are converted into a 1–3 column display, browser-supported.

The optional multicol heading is placed inside a <div> of class multicolshheading.

The content is placed inside a <div> of class multicol.

```
Env multicol * {<numcols>} [<heading>]
2 \NewDocumentEnvironment{multicol}{s m o}
```

HTML <div> class to contain everything:

```
3 {
4 \LWR@forcenewpage
5 \BlockClass{multicol}
```

Optional HTML <div> class for the heading:

```
6 \IfValueT{#3}{\begin{BlockClass}{multicolshheading}#3\end{BlockClass}}%
```

Change \linewidth to compensate for expected size:

```
7 \setlength{\linewidth}{\linewidth/#2}
```

Locally force any minipages to be fullwidth:

```
8 \booltrue{LWR@forceminipagefullwidth}
9 }
```

When done with the environment, close the <div>:

```
10 {\endBlockClass}
```

Emulated null functions which are not used in HTML:

```
11 \newcommand*{\columnbreak}{}
12 \newcommand*{\RLmulticolcolumns}{}
13 \newcommand*{\LRmulticolcolumns}{}
14
15 \newlength{\premulticol}
16 \newlength{\postmulticol}
17 \newlength{\multicolsep}
18 \newlength{\multicolbaselineskip}
19 \newlength{\multicoltolerance}
20 \newlength{\multicolpretolerance}
21 \newcommand*{\columnseprulecolor}{\normalcolor}
22 \newcounter{columnbadness}
23 \newcounter{finalcolumnbadness}
24 \newcounter{collectmore}
25 \newcounter{unbalance}
26 \newlength{\multicolovershoot}
27 \newlength{\multicolundershoot}

28 \NewDocumentCommand{\docolaction}{s o m m m}{%
29 \IfValueTF{#2}{#2}{#3}%
30 }
```

---

File 296 **lwarp-multicolrule.sty**

§ 402 Package **multicolrule**

Pkg multicolrule multicolrule is ignored.

**for HTML output:**

```

1 \RequirePackage{multicol}
2
3 \LWR@ProvidesPackageDrop{multicolrule}[2019/01/01]

4 \newcommand*{\SetMCRule}[1]{}
5 \NewDocumentCommand{\DeclareMCRulePattern}{m m}{}

```

---

File 297 **lwarp-multimedia.sty**

§ 403 Package **multimedia**

Pkg multimedia multimedia is emulated.

The packages multimedia, movie15, and media9 are supported.

HTML5 <audio> and <video> objects are created for .mp3 and .mp4 files.

HTML5 <embed> objects are created for http and ftp links.

\href links are created for other media types. (Unfortunately, there is not much overlap between the file types supported for print output and the file types supported by HTML5.)

For media9, a multimedia object is inserted for each addressource=, as well as each flashvars source= and src=. This may result in duplicate objects.

Undesired objects may be nullified by placing them inside \warpprintonly or the warpprint environment.

Each HTML multimedia object includes the poster text, except for <embed> objects. For movie15, the text option is supported to specify the poster text.

The width, height, and totalheight options are supported. The HTML object is scaled according to the display width, correctly compensating for either tall or wide viewports.

Other options are ignored.

media9 \addmediapath is supported. It is assumed that the same path structure will exist for the HTML document.

HTML5 media controls are always specified for each <audio> and <video> object.



media9 slideshows are not supported.

`\hyperlinkmovie`, `\movieref`, and `\mediabutton` are not supported.

3D objects are not supported.

If using a YOUTUBE™ video, use an “embedded” URL with `.../embed/...` instead of `.../v/...`

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{multimedia}[2012/05/02]
2 \LWR@origRequirePackage{lwarp-common-multimedia}
3
4 \LetLtxMacro\movie\LWR@multimedia
5 \LetLtxMacro\sound\LWR@multimedia
6
7 \newcommand{\hyperlinkmovie}[3][[]]{}
```

---

File 298 **lwarp-multiobjective.sty**

§ 404 Package **multiobjective**

*(Emulates or patches code by LUIS MARTÍ.)*

Pkg multiobjective **multiobjective** is used as-is for svg math, and is emulated for MATHJAX.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{multiobjective}[2008/08/19]
2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\dom}{\prec}}
4 \CustomizeMathJax{\newcommand{\negdom}{\not\prec}}
5 \CustomizeMathJax{\newcommand{\weakdom}{\preccurlyeq}}
6 \CustomizeMathJax{\newcommand{\negweakdom}{\not\preccurlyeq}}
7 \CustomizeMathJax{\newcommand{\strictdom}{\mathord{\prec}\!|\!|\!|\mathord{\prec}}}
8 \CustomizeMathJax{\newcommand{\negstrictdom}{\mathord{\not\prec}\!|\!|\!|\mathord{\prec}}}
9 \CustomizeMathJax{\newcommand{\multepsilondom}{\preccurlyeq_{\epsilon\cdot}}}
10 \CustomizeMathJax{\newcommand{\addiepsilondom}{\preccurlyeq_{\epsilon +}}}
11 \CustomizeMathJax{\newcommand{better}{\triangleleft}}
12 \CustomizeMathJax{\def\vec#1{%
13 \mathchoice%
14 {{\displaystyle\boldsymbol{#1}}}%
15 {{\textstyle\boldsymbol{#1}}}%
16 {{\scriptstyle\boldsymbol{#1}}}%
17 {{\scriptscriptstyle\boldsymbol{#1}}}%
18 }}
19
20 \CustomizeMathJax{\newcommand{\set}[1]{%
21 \mathchoice%
22 {{\displaystyle\mathcal{#1}}}%
23 {{\textstyle\mathcal{#1}}}%
24 {{\scriptstyle\mathcal{#1}}}%
25 {{\scriptscriptstyle\mathcal{#1}}}%
26 }}
```

```

25 {{\scriptscriptstyle\mathcal{#1}}}%
26 }}
27 \CustomizeMathJax{\def\argmax{\mathop{\{\mathrm{arg}}\}, \max}}
28 \CustomizeMathJax{\def\argmin{\mathop{\{\mathrm{arg}}\}, \min}
29 }}
30 \end{warpMathJax}

```

File 299 **lwarp-multirow.sty**

§ 405 Package **multirow**

(Emulates or patches code by PIET VAN OOSTRUM, ØYSTEIN BACHE, JERRY LEICHTER.)

Pkg multirow multirow is emulated during HTML output, and used as-is while inside a lateximage.

[vposn](#) • Note that recent versions of multirow include a new optional vposn argument.

[multirow cells](#) • For multirow, insert `\mrowcell` into any empty multi-row cells. This will be a null function for the print output, and is a placeholder for parsing the table for HTML output. An error is generated if this is missed.

```

... & \multirow{2}{.5in}{text} & ...
... & \mrowcell & ...

```

[colored cells](#) • The multirow documentation regarding colored cells recommends using a negative number of rows. This will not work with lwarp, so `\warpprintonly` and `\warpHTMLonly` must be used to make versions for print and HTML.

[with \multicolumn](#) • See section 405.2 for `\multicolumnrow`.

⚠ `\multicolumn & \multirow` lwarp does not support directly combining `\multicolumn` and `\multirow`. Use `\multicolumnrow` instead. To create a 2 column, 3 row cell:

```
\multicolumnrow{2}{c}[c]{3}[0]{1in}[0pt]{Text}
```

The two arguments for `\multicolumn` come first, followed by the five arguments for `\multirow`, many of which are optional, followed by the contents.

⚠ [skipped cells](#) As per `\multirow`, skipped cells to the right of the `\multicolumnrow` statement are not included in the source code on the same line. On the following lines, `\mcolrowcell` must be used for each cell of each column and each row to be

⚠ [empty cells](#) skipped. An error is generated if this is missed.

```

... & \multicolumnrow{2}{c}[c]{3}[0]{1in}[0pt]{Text} & ...
... & \mcolrowcell & \mcolrowcell & ...
... & \mcolrowcell & \mcolrowcell & ...

```

⚠ [MathJax](#) • MATHJAX does not support multirow, so it is emulated to only print its text on the first row. `\multirow` works as expected in text tabulars or svg math.

In a lateximage, `\LWR@restoreorigformatting` restores the original print-mode versions.

See section 73.25 for the print-mode versions.

for HTML output:

Remove the placeholder macro which was used if `multirow` was not loaded:

```
1 \LetLtxMacro\multirow\relax
2 \LWR@ProvidesPackagePass{multirow}[2018/08/03]
```

`\LWR@multirowborder` Set to left or right to create a thick border for the cell, for use by `bigdelim`:

```
3 \newcommand{\LWR@multirowborder}{}
```

### § 405.1 Multirow

`\multirow` [*⟨vpos⟩*] [*⟨numrows⟩*] [*⟨bigstruts⟩*] [*⟨width⟩*] [*⟨fixup⟩*] [*⟨text⟩*]

```
4 \NewDocumentCommand{\LWR@HTML@multirow}{O{c} m o m o +m}%
5 {%
6 \LWR@traceinfo{*** LWR@HTML@multirow #1 #2 #4}%

7 \booltrue{LWR@usedmultirow}%

8 \LWR@maybenewtablerow%
9 \LWR@tabularleftedge%
```

Print the start of a new table data cell:

```
10 \LWR@htmltag{td rowspan="#2" %
```

A class adds the column spec and the rule:

```
11 class="td%
```

Append this column's spec:

```
12 \LWR@getexparray{LWR@tablecolspec}{\arabic{LWR@tableLaTeXcolindex}}%
```

If this column has a `cmidrule`, add “rule” to the end of the HTML class tag. Also add the vertical bar class.

```
13 \LWR@addcmidruletrim%
14 \LWR@addleftmostbartag%
15 \LWR@printbartag{\arabic{LWR@tableLaTeXcolindex}}%
16 "%
```

```
17 \LWR@tdstartstyles%
```

The vertical alignment, if given:

```
18 \ifstrequal{#1}{c}{\LWR@tdaddstyle\LWR@print@box{vertical-align:middle}}{}%
19 \ifstrequal{#1}{b}{\LWR@tdaddstyle\LWR@print@box{vertical-align:bottom}}{}%
20 \ifstrequal{#1}{t}{\LWR@tdaddstyle\LWR@print@box{vertical-align:top}}{}%
```

The left/right border, if given:

```
21 \ifdefvoid{\LWR@multirowborder}{}{%
22 \LWR@daddstyle%
23 \LWR@print@ebox{border-\LWR@multirowborder:} 2px dotted black ; %
24 \LWR@print@ebox{padding-\LWR@multirowborder:} 2px%
25 }%
```

Additional style elements:

```
26 \LWR@addcmidrulewidth%
27 \LWR@addcdashline%
28 \LWR@addtabularrulecolors%
29 \LWR@tdendstyles%
30 }%
```

The column's < spec:

```
31 \LWR@getexparray{\LWR@colbeforeSpec}{\arabic{\LWR@tableLaTeXcolindex}}%
```

While printing the text, redefine \\\ to generate a new line

```
32 \begingroup\LetLtxMacro{\\}{\LWR@endofline}#6\endgroup%
33 \LWR@stoppars%
34 \boolfalse{\LWR@intabularmetadata}%
35 \renewcommand{\LWR@multirowborder}{}%
36 \LWR@traceinfo{*** LWR@HTML@multirow done}%
37 }%
38
39 \LWR@formatted{multirow}
```

## § 405.2 Combined multicolumn and multirow

```
\multicolumnrow {<1:cols>} {<2:halign>} [<3:vpos>] {<4:numrows>} [<5:bigstruts>] {<6:width>} [<7:fixup>]
{<8:text>}
```

\@ifpackageloaded{multirow} determines if v2.0 or later of multirow was used, which included the \ProvidesPackage macro.

The HTML version follows.

\AtBeginDocument because the print version had to see if multirow was loaded before determining how to define \LWR@print@multicolumnrow.

```
40 \AtBeginDocument{
41
42 \NewExpandableDocumentCommand{\LWR@HTML@multicolumnrow}{m m O{} m O{} m O{} +m}{%
43 \booltrue{\LWR@usedmultirow}}%
```

Figure out how many extra HTML columns to add for @ and ! columns:

```
44 \LWR@tabularhtmlcolumns{\arabic{\LWR@tableLaTeXcolindex}}{#1}
```

Create the multicolumn/multirow tag, temporarily redefining the end of line. (Using a group caused problems with a nested tabular.)

```
45 \LetLtxMacro{\}{\LWR@endofline}%
46 \LWR@domulticolumn[#3][#4]{#1}{\arabic{LWR@tabhtmlcoltotal}}{#2}{#8}%
47 \LetLtxMacro{\}{\LWR@tabularendofline}%
```

Move to the next L<sup>A</sup>T<sub>E</sub>X column:

```
48 \defaddtcounter{LWR@tableLaTeXcolindex}{#1}%
49 \defaddtcounter{LWR@tableLaTeXcolindex}{-1}%
```

Skip any trailing @ or ! columns for this cell:

```
50 \booltrue{LWR@skipatbang}%
51 }
52
53 \LWR@expandableformatted{multicolumnrow}
54
55 }% \AtBeginDocument
```

For MATHJAX. Only the text is used. All other parameters are ignored.

```
56 \begin{warpMathJax}
57 % \multirow[vpos]{num}[bigstruts]{width}[vmove]{text}
58 \CustomizeMathJax{\newcommand{\LWRsubmultirow}[2][]{#2}}
59 \CustomizeMathJax{\newcommand{\LWRmultirow}[2][]{\LWRsubmultirow}}
60 \CustomizeMathJax{\newcommand{\multirow}[2][]{\LWRmultirow}}
61 %
62 \CustomizeMathJax{\newcommand{\mrowcell}{}{}}
63 \CustomizeMathJax{\newcommand{\mcolrowcell}{}{}}
64 \CustomizeMathJax{\newcommand{\STneed}[1]{}{}}
65 \end{warpMathJax}
```

File 300 **lwarp-multitoc.sty**

§ 406 Package **multitoc**

Pkg multitoc multitoc is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{multitoc}[1999/06/08]

```
2 \newcommand{\multicolumntoc}{2}
3 \newcommand{\multicolumnlot}{2}
4 \newcommand{\multicolumnlof}{2}
5 \newcommand*{\immediateaddtocontents}[2]{}{}
```

File 301 **lwarp-musicography.sty**

§ 407 Package **musicography**

(Emulates or patches code by ANDREW A. CASHNER.)

Pkg musicography musicography is patched for use by lwarp.

Images are used for the meter symbols and fingered bass, since the HTML fonts tend not to be the correct size and HTML cannot stack items. The HTML alt tag copies C and 3/2, etc. Hashes are used for the meter images, which are then reused as necessary.



Note that browser support for musical symbols may be buggy. ALT text and copy/paste into a text editor work well.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{musicography}[2019/05/28]
2 \NewDocumentCommand{\LWR@HTML@musSymbol}{ O{\musFont} m m m m }{%
3 \begin{lateximage}%
4 {#1\kern#2\raisebox{#3}{#5}\kern#4}%
5 \end{lateximage}%
6 }
7
8 \LWR@formatted{musSymbol}
9
10 \NewDocumentCommand{\LWR@HTML@musStemmedNote}{ m }{%
11 \begin{lateximage}%
12 \musSymbol{0.05em}{0.5ex}{0.2em}{#1\musStem}%
13 \end{lateximage}%
14 }
15
16 \LWR@formatted{musStemmedNote}
17
18 \NewDocumentCommand{\LWR@HTML@musFlaggedNote}{ m m }{%
19 \begin{lateximage}%
20 \musSymbol{0.05em}{0.5ex}{0pt}{#1\musStem}%
21 \musSymbol{0pt}{0pt}{0.9em}{#2}%
22 \end{lateximage}%
23 }
24
25 \LWR@formatted{musFlaggedNote}
26
27 \NewDocumentCommand{\LWR@HTML@musDottedNote}{ m }{%
28 \begin{lateximage}%
29 #1\musDot%
30 \end{lateximage}%
31 }
32
33 \LWR@formatted{musDottedNote}
34
35 \NewDocumentCommand{\LWR@HTML@musMeter}{ m m }{%

```

```

36 \begin{lateximage}*[#1/#2][#1#2]*%
37 \musStack{#1 #2}\kern0.05em%
38 \end{lateximage}%
39 }
40
41 \LWR@formatted{musMeter}
42
43 \NewDocumentCommand{\LWR@HTML@meterCplus}{ m }{%
44 \begin{lateximage}*[C#1]*%
45 \meterC{\kern-0.7pt#1%
46 \end{lateximage}%
47 }
48
49 \LWR@formatted{meterCplus}
50
51 \NewDocumentCommand{\LWR@HTML@meterC}{}{%
52 \begin{lateximage}*[C]*%
53 \musSymbolMeter{\symbol{83}}%
54 \end{lateximage}%
55 }
56
57 \LWR@formatted{meterC}
58
59 \NewDocumentCommand{\LWR@HTML@meterCutC}{}{%
60 \begin{lateximage}*[C|]*%
61 \musSymbolMeter{\symbol{82}}%
62 \end{lateximage}%
63 }
64
65 \LWR@formatted{meterCutC}
66
67 \NewDocumentCommand{\LWR@HTML@meterCThreeTwo}{}{%
68 \begin{lateximage}*[C3/2]*%
69 \meterCplus{\musStack{3 2}}%
70 \end{lateximage}%
71 }
72
73 \LWR@formatted{meterCThreeTwo}
74
75 \NewDocumentCommand{\LWR@HTML@meterO}{}{\HTMLUnicode{25EF}}
76
77 \LWR@formatted{meterO}
78
79 \newcommand{\LWR@null@noFig}[1][{}]{%
80
81 \NewDocumentCommand{\LWR@HTML@musFig}{ m }{%
82 \begin{lateximage}*[%
83 \{ % ALT text for copy/paste
84 \LetLtxMacro\noFig\LWR@null@noFig%
85 \LetLtxMacro\musSharp\LWR@HTML@musSharp%
86 \LetLtxMacro\musDoubleSharp\LWR@HTML@musDoubleSharp%
87 \LetLtxMacro\musFlat\LWR@HTML@musFlat%
88 \LetLtxMacro\musDoubleFlat\LWR@HTML@musDoubleFlat%
89 \LetLtxMacro\musNatural\LWR@HTML@musNatural%
90 {#1}% braces here because \noFig uses []

```

```

91 }%
92]*%
93 \musStack[\musFigFont]{#1}%
94 \end{lateximage}%
95 }
96
97 \LWR@formatted{musFig}
98
99 \NewDocumentCommand{\LWR@HTML@musFlat} {}{\HTMLUnicode{266D}}
100 \NewDocumentCommand{\LWR@HTML@musDoubleFlat} {}{\HTMLUnicode{1D12B}}
101 \NewDocumentCommand{\LWR@HTML@musSharp} {}{\HTMLUnicode{266F}}
102 \NewDocumentCommand{\LWR@HTML@musDoubleSharp} {}{\HTMLUnicode{1D12A}}
103 \NewDocumentCommand{\LWR@HTML@musNatural} {}{\HTMLUnicode{266E}}
104
105 \LWR@formatted{musFlat}
106 \LWR@formatted{musDoubleFlat}
107 \LWR@formatted{musSharp}
108 \LWR@formatted{musDoubleSharp}
109 \LWR@formatted{musNatural}
110
111 \NewDocumentCommand{\LWR@HTML@musWhole} {}{\HTMLUnicode{1D15D}}
112 \NewDocumentCommand{\LWR@HTML@musHalf} {}{\HTMLUnicode{1D15E}}
113 \NewDocumentCommand{\LWR@HTML@musQuarter} {}{\HTMLUnicode{1D15F}}
114 \NewDocumentCommand{\LWR@HTML@musEighth} {}{\HTMLUnicode{1D160}}
115 \NewDocumentCommand{\LWR@HTML@musSixteenth} {}{\HTMLUnicode{1D161}}
116 \NewDocumentCommand{\LWR@HTML@musThirtySecond} {}{\HTMLUnicode{1D162}}
117 \NewDocumentCommand{\LWR@HTML@musSixtyFourth} {}{\HTMLUnicode{1D163}}
118
119 \LWR@formatted{musWhole}
120 \LWR@formatted{musHalf}
121 \LWR@formatted{musQuarter}
122 \LWR@formatted{musEighth}
123 \LWR@formatted{musSixteenth}
124 \LWR@formatted{musThirtySecond}
125 \LWR@formatted{musSixtyFourth}
126
127 \NewDocumentCommand{\LWR@HTML@musWholeDotted}{}
128 {\HTMLUnicode{1D15D}\HTMLUnicode{1D16D}}
129 \NewDocumentCommand{\LWR@HTML@musHalfDotted}{}
130 {\HTMLUnicode{1D15E}\HTMLUnicode{1D16D}}
131 \NewDocumentCommand{\LWR@HTML@musQuarterDotted}{}
132 {\HTMLUnicode{1D15F}\HTMLUnicode{1D16D}}
133 \NewDocumentCommand{\LWR@HTML@musEighthDotted}{}
134 {\HTMLUnicode{1D160}\HTMLUnicode{1D16D}}
135 \NewDocumentCommand{\LWR@HTML@musSixteenthDotted}{}
136 {\HTMLUnicode{1D161}\HTMLUnicode{1D16D}}
137 \NewDocumentCommand{\LWR@HTML@musThirtySecondDotted}{}
138 {\HTMLUnicode{1D162}\HTMLUnicode{1D16D}}
139 \NewDocumentCommand{\LWR@HTML@musSixtyFourthDotted}{}
140 {\HTMLUnicode{1D163}\HTMLUnicode{1D16D}}
141
142 \LWR@formatted{musWholeDotted}
143 \LWR@formatted{musHalfDotted}
144 \LWR@formatted{musQuarterDotted}
145 \LWR@formatted{musEighthDotted}

```



```

146 \LWR@formatted{musSixteenthDotted}
147 \LWR@formatted{musThirtySecondDotted}
148 \LWR@formatted{musSixtyFourthDotted}

```

---

File 302 **lwarp-nameauth.sty**

§ 408 Package **nameauth**

(Emulates or patches code by CHARLES P. SCHAUM.)

Pkg nameauth nameauth is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{nameauth}[2017/03/22]

lwarp formatting is inserted in the following.

```

2 \renewcommand*\@nameauth@Hook[1]
3 {%
4 \if@nameauth@Lock
5 \@nameauth@InHooktrue%
6 \protected@edef\test{#1}%
7 \expandafter\@nameauth@TestDot\expandafter{\test}%
8 \if@nameauth@InAKA
9 \if@nameauth@AlwaysFormat
10 \@nameauth@FirstFormattrue%
11 \else
12 \unless\if@nameauth@AKAFormat
13 \@nameauth@FirstFormatfalse\fi
14 \fi
15 \if@nameauth@MainFormat
16 \if@nameauth@FirstFormat
17 \bgroup\NamesFormat{%
18 \LWR@textcurrentcolor{\LWR@textcurrentfont{#1}}% lwarp
19 }\egroup%
20 \else
21 \bgroup\MainNameHook{%
22 \LWR@textcurrentcolor{\LWR@textcurrentfont{#1}}% lwarp
23 }\egroup%
24 \fi
25 \else
26 \if@nameauth@FirstFormat
27 \bgroup\FrontNamesFormat{%
28 \LWR@textcurrentcolor{\LWR@textcurrentfont{#1}}% lwarp
29 }\egroup%
30 \else
31 \bgroup\FrontNameHook{%
32 \LWR@textcurrentcolor{\LWR@textcurrentfont{#1}}% lwarp
33 }\egroup%
34 \fi
35 \fi
36 \else
37 \if@nameauth@AlwaysFormat

```

```

38 \@nameauth@FirstFormattrue%
39 \fi
40 \if@nameauth@MainFormat
41 \if@nameauth@FirstFormat
42 \bgroup\NamesFormat{%
43 \LWR@textcurrentcolor{\LWR@textcurrentfont{#1}}% lwarp
44 }\egroup%
45 \else
46 \bgroup\MainNameHook{%
47 \LWR@textcurrentcolor{\LWR@textcurrentfont{#1}}% lwarp
48 }\egroup%
49 \fi
50 \else
51 \if@nameauth@FirstFormat
52 \bgroup\FrontNamesFormat{%
53 \LWR@textcurrentcolor{\LWR@textcurrentfont{#1}}% lwarp
54 }\egroup%
55 \else
56 \bgroup\FrontNameHook{%
57 \LWR@textcurrentcolor{\LWR@textcurrentfont{#1}}% lwarp
58 }\egroup%
59 \fi
60 \fi
61 \fi
62 \@nameauth@FirstFormatfalse%
63 \@nameauth@InHookfalse%
64 \fi
65 }

```

---

File 303 **lwarp-nameref.sty**

§ 409 Package **nameref**

Pkg nameref nameref is emulated by lwarp.

**for HTML output:** Discard all options for lwarp-nameref:

```

1 \PackageInfo{lwarp}{%
2 Using the lwarp HTML version of package 'nameref',\MessageBreak
3 and discarding options.\MessageBreak
4 (Not using \protect\ProvidesPackage, so that other packages\MessageBreak
5 do not attempt to patch lwarp's version of 'nameref'.)\MessageBreak
6 }
7 \DeclareOption*{}
8 \ProcessOptions\relax

```

---

File 304 **lwarp-natbib.sty**

§ 410 Package **natbib**

*(Emulates or patches code by PATRICK W. DALY.)*

Pkg natbib natbib is patched for use by lwarp.

for HTML output: 1 \LWR@ProvidesPackagePass{natbib}[2010/09/13]

Replace math < and > with \textless and \textgreater:

A macro to compare:

```
2 \newcommand{\LWRNB@NAT@open}{<$}
```

To patch \NAT@open and \NAT@close

```
3 \newcommand{\LWRNB@patchnatbibopenclose}{
4 \ifdefstrequal{\NAT@open}{\LWRNB@NAT@open}
5 {
6 \renewcommand{\NAT@open}{\textless}
7 \renewcommand{\NAT@close}{\textgreater}
8 }{ }
9 }
```

Do it now in case angle was selected as an option:

```
10 \LWRNB@patchnatbibopenclose
```

Also patch \setcitestyle to patch after settings are made:

```
11 \let\LWRNB@origsetcitestyle\setcitestyle
12
13 \renewcommand{\setcitestyle}[1]{%
14 \LWRNB@origsetcitestyle{#1}%
15 \LWRNB@patchnatbibopenclose%
16 }
```

File 305 **lwarp-nccfancyhdr.sty**

§ 411 Package **nccfancyhdr**

(Emulates or patches code by ALEXANDER I. ROZHENKO.)

Pkg nccfancyhdr nccfancyhdr is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{nccfancyhdr}[2004/12/07]

```
2 \newcommand*{\headrulewidth}{}
3 \newcommand*{\footrulewidth}{}
4 \newcommand{\headstrutheight}{}
5 \newcommand{\footstrutheight}{}
6 \newcommand*{\headrule}{}
7 \newcommand*{\footrule}{}
8
9 \newdimen\headwidth
```

```

10 \newcommand*\extendedheaders{}
11 \newcommand*\normalheaders{}
12
13 \newcommand*\fancyhead[2]{}
14 \newcommand*\fancyfoot[2]{}
15 \newcommand*\fancyhf[2]{}
16 \newcommand*\fancypagestyle[2]{}
17 \newcommand*\lhead[2]{}
18 \newcommand*\chead[2]{}
19 \newcommand*\rhead[2]{}
20 \newcommand*\lfoot[2]{}
21 \newcommand*\cfoot[2]{}
22 \newcommand*\rfoot[2]{}
23
24 \newcommand{\nouppercase}[1]{#1}
25
26 \NewDocumentCommand{\fancycenter}{o o m m}{}
27
28 \NewDocumentCommand{\newpagestyle}{m o m}{}
29
30 \newcommand*\iffloatpage[2]{#2}
31 \newcommand*\ifftopfloat[2]{#2}
32 \newcommand*\iffbotfloat[2]{#2}

```

---

File 306 **lwarp-nccfoots.sty**

§ 412 Package **nccfoots**

(Emulates or patches code by ALEXANDER I. ROZHENKO.)

Pkg nccfoots nccfoots is used as-is, and emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{nccfoots}[2005/02/03]



For MATHJAX. There is no way to test for an empty argument, so the mark is not automatically duplicated.

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\Footnotemark}[1]{{}^{\mathrm{#1}}}}
4 \CustomizeMathJax{\newcommand{\Footnote}[2]{\Footnotemark{#1}}}
5 \end{warpMathJax}

```

---

File 307 **lwarp-nccmath.sty**

§ 413 Package **nccmath**

(Emulates or patches code by ALEXANDER I. ROZHENKO.)

Pkg nccmath nccmath is patched for use by lwarp, and emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{nccmath}[2006/01/20]

```

2 \let\LWR@origeqnarray\eqnarray
3 \let\LWR@origendeqnarray\endeqnarray
4
5 \csletcs{LWR@origeqnarraystar}{eqnarray*}
6 \csletcs{LWR@origendeqnarraystar}{endeqnarray*}
7
8 \RenewEnviron{eqnarray}
9 {%
10
11 \LWR@eqnarrayfactor
12
13 }
14
15 \RenewEnviron{eqnarray*}
16 {%
17
18 \begingroup
19 \csletcs{LWR@origeqnarray}{LWR@origeqnarraystar}
20 \csletcs{LWR@origendeqnarray}{LWR@origendeqnarraystar}
21 \boolfalse{LWR@numbereqnarray}
22 \LWR@eqnarrayfactor
23 \endgroup
24
25 }
26
27 \def\eqs{%
28 \ifstar\LWR@ncmath@eqsstar\LWR@ncmath@eqs%
29 }
30 \newcommand*{\LWR@ncmath@eqsstar}[2][[]]{\begin{eqnarray*}#2\end{eqnarray*}}
31 \newcommand*{\LWR@ncmath@eqs}[2][[]]{\begin{eqnarray}#2\end{eqnarray}}
32
33 \begin{warpMathJax}
34 \CustomizeMathJax{\renewcommand{\intertext}[2][[]]{\text{#2}\notag \\\}}
35 \CustomizeMathJax{\newenvironment{fleqn}[1][[]]{}{}}
36 \CustomizeMathJax{\newenvironment{ceqn}{}{}}
37 \CustomizeMathJax{\newenvironment{darray}[2][c]{\begin{array}[#1][#2]{\end{array}}}}
38 \CustomizeMathJax{\newcommand{\dmulticolumn}[3][#3]}

```

As of v0.86, MATHJAX v3 does not offer `\*`, so the unstarred version is used here.

```

39 \CustomizeMathJax{\newcommand{\LWRnrnostar}[1][0.5ex]{\[#1]}}
40 \CustomizeMathJax{\newcommand{\nr}{\ifstar\LWRnrnostar\LWRnrnostar}}
41
42 \CustomizeMathJax{\newcommand{\mrel}[1]{\begin{aligned}#1\end{aligned}}}
43 \CustomizeMathJax{\newcommand{\underrel}[2]{\underset{#2}{#1}}}
44 \CustomizeMathJax{\newcommand{\medmath}[1][#1]}
45 \CustomizeMathJax{\newcommand{\medop}[1][#1]}
46 \CustomizeMathJax{\newcommand{\medint}[1][#1]}
47 \CustomizeMathJax{\newcommand{\medintcorr}[1][#1]}
48 \CustomizeMathJax{\newcommand{\mfrac}[2]{\frac{#1}{#2}}}
49 \CustomizeMathJax{\newcommand{\mbinom}[2]{\binom{#1}{#2}}}
50 \CustomizeMathJax{\newenvironment{mmatrix}{\begin{matrix}}{\end{matrix}}}
51 \CustomizeMathJax{\newcommand{\displaybreak}[1][[]]}

```

$\backslash eq$ ,  $\backslash eqs$ ,  $\backslash eqalign$  are created by L<sup>A</sup>T<sub>E</sub>X, not MATHJAX.

```
52 \end{warpMathJax}
```

---

File 308 **lwarp-needspace.sty**

§ 414 Package **needspace**

(Emulates or patches code by PETER WILSON.)

Pkg needspace needspace is ignored.

**for HTML output:** Discard all options for lwarp-needspace:

```
1 \LWR@ProvidesPackageDrop{needspace}[2010/09/12]
2
3 \DeclareDocumentCommand{\needspace}{m}{}
4 \DeclareDocumentCommand{\Needspace}{s m}{}

```


---

File 309 **lwarp-newpxmath.sty**

§ 415 Package **newpxmath**

(Emulates or patches code by MICHAEL SHARPE.)

Pkg newpxmath newpxmath is used as-is for SVG math, and is emulated for MATHJAX.

 **limitations** The MATHJAX emulation ignores all package options, except slantedGreek is honored. The dedicated macros for upright and italic Greek do work correctly.

SVG math should appear the same as the printed output.

**for HTML output:** The MATHJAX code from newtxmath is used:

```
1 \LWR@ProvidesPackagePass{newpxmath}[2020/01/09]
2
3 \LWR@infoprocessingmathjax{newpxmath}
4
5 \LWR@origRequirePackage{lwarp-common-mathjax-newpctxmath}
6
7 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
8
9 \begin{warpMathJax}
10
11 % * \marg{2: prefix} \marg{3: postfix} \marg{4: i/u: italic/upright}
12 \LWR@mathjax@addgreek@u@up*{}{up}
13 \LWR@mathjax@addgreek@u@up*{}{up}{}
14 \LWR@mathjax@addgreek@l@up{}{up}{}
15 \LWR@mathjax@addgreek@l@up*{}{up}{}
16 \LWR@mathjax@addgreek@u@it*{}{it}
17 \LWR@mathjax@addgreek@l@it*{}{it}

```

Optional slanted Greek:


```
18 \ifpx@slantedG
19 \LWR@mathjax@addgreek@u@it*{}{}
20 \fi
21
22 \end{warpMathJax}
```

File 310 **lwarp-newtxmath.sty**

§ 416 Package **newtxmath**

(Emulates or patches code by MICHAEL SHARPE.)

Pkg newtxmath newtxmath is used as-is for SVG math, and is emulated for MATHJAX.

 **limitations** The MATHJAX emulation ignores all package options, except `slantedGreek` is honored, and except that bold italic Latin letters are not defined for MATHJAX if the option is not selected.

The dedicated macros for upright and italic Greek and bold italic Latin letters do work correctly.

SVG math should appear the same as the printed output.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{newtxmath}[2020/08/04]
2
3 \LWR@infoprocessingmathjax{newtxmath}
4
5 \LWR@origRequirePackage{lwarp-common-mathjax-newpxtxmath}
6
7 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
8
9 \begin{warpMathJax}
10
11 % * \marg{2: prefix} \marg{3: postfix} \marg{4: i/u: italic/upright}
12 \LWR@mathjax@addgreek@u@up*{}{up}
13 \LWR@mathjax@addgreek@u@up*{up}{}
14 \LWR@mathjax@addgreek@l@up{}{up}
15 \LWR@mathjax@addgreek@l@up{}{up}
16 \LWR@mathjax@addgreek@u@it*{}{it}
17 \LWR@mathjax@addgreek@l@it{}{it}
18
19 % only newtxmath, not newpxmath:
20 \LWR@mathjax@addgreek@u@it*{it}{}
21 \LWR@mathjax@addgreek@l@it{it}{}
22
23 % only newtxmath, not newpxmath:
24 \ifdef{\iftx@BI}{
25 \iftx@BI
26 \LWR@mathjax@addlatin@u@bfit{BI}
27 \LWR@mathjax@addlatin@l@bfit{BI}
28 \fi
```

```
29 }{}
```

Optional slanted Greek:

```
30 \iftx@slantedG
31 \LWR@mathjax@addgreek@u@it*{}{}
32 \fi
33
34 \end{warpMathJax}
```


---

File 311 **lwarp-newtxsf.sty**

§ 417 Package **newtxsf**

(Emulates or patches code by MICHAEL SHARPE.)

Pkg newtxsf newtxsf is used as-is for SVG math, and is emulated for MATHJAX.

 **limitations** The MATHJAX emulation ignores all package options, except `slantedGreek` is honored. The dedicated macros for upright and italic Greek and bold italic Latin letters do work correctly.

svg math should appear the same as the printed output.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{newtxsf}[2020/05/02]
2
3 \LWR@infoprocessingmathjax{newtxsf}
4
5 \LWR@origRequirePackage{lwarp-common-mathjax-newpxtmath}
6
7 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
8
9 \begin{warpMathJax}
10
11 % * \marg{2: prefix} \marg{3: postfix} \marg{4: i/u: italic/upright}
12 \LWR@mathjax@addgreek@u@up*{}{up}
13 \LWR@mathjax@addgreek@u@up*{}{}
14 \LWR@mathjax@addgreek@l@up{}{}
15 \LWR@mathjax@addgreek@l@up*{}{up}
16 \LWR@mathjax@addgreek@u@it*{}{it}
17 \LWR@mathjax@addgreek@l@it*{}{it}
18
19 % only newtxmath, not newpxmath:
20 \LWR@mathjax@addgreek@u@it*{}{it}
21 \LWR@mathjax@addgreek@l@it*{}{it}
22 %
23 % only newtxmath, not newpxmath:
24 \ifdef{\iftx@BI}{
25 \iftx@BI
26 \LWR@mathjax@addlatin@u@bfit{BI}
27 \LWR@mathjax@addlatin@l@bfit{BI}
28 \fi
29 }{}
```



Optional slanted Greek:

```
30 \iftx@slantedG
31 \LWR@mathjax@addgreek@u@it*{}{}
32 \fi
33
34 \end{warpMathJax}
```

---

File 312 **lwarp-nextpage.sty**

§ 418 Package **nextpage**

*(Emulates or patches code by PETER WILSON.)*

Pkg nextpage nextpage is ignored.

**for HTML output:** Discard all options for lwarp-nextpage.

```
1 \LWR@ProvidesPackageDrop{nextpage}[2009/09/03]

2 \DeclareDocumentCommand{\cleartoevenpage}{o}{}
3 \DeclareDocumentCommand{\movetoevenpage}{o}{}
4 \DeclareDocumentCommand{\cleartooddpage}{o}{}
5 \DeclareDocumentCommand{\movetooddpage}{o}{}

```

---

File 313 **lwarp-nfssext-cfr.sty**

§ 419 Package **nfssext-cfr**

*(Emulates or patches code by CLEA F. REES.)*

Pkg nfssext-cfr nfssext-cfr is emulated in HTML, and used as-is in print output.

Results depend on the browser's font.

**for HTML output:** 1 \LWR@ProvidesPackagePass{nfssext-cfr}[2017/03/28]

Macros which are present in the lwarp core are commented out here.

```
2 \newrobustcmd{\LWR@HTML@lnstyle}{}
3 \newrobustcmd{\LWR@HTML@ostyle}{\LWR@HTML@scshape}
4 \newrobustcmd{\LWR@HTML@instyle}{}
5 \newrobustcmd{\LWR@HTML@sustyle}{}
6 \newrobustcmd{\LWR@HTML@swstyle}{}
7 \newrobustcmd{\LWR@HTML@pstyle}{}
8 \newrobustcmd{\LWR@HTML@tistyle}{}
9 \newrobustcmd{\LWR@HTML@ostyle}{\LWR@HTML@scshape}
10 \newrobustcmd{\LWR@HTML@postyle}{\LWR@HTML@scshape}
11 \newrobustcmd{\LWR@HTML@ltstyle}{}
12 \newrobustcmd{\LWR@HTML@ofstyle}{}

```

```

13 \newrobustcmd{\LWR@HTML@altstyle}{}
14 \newrobustcmd{\LWR@HTML@regstyle}{}
15 \newrobustcmd{\LWR@HTML@embosstyle}{}
16 \newrobustcmd{\LWR@HTML@ornamentalstyle}{}
17 \newrobustcmd{\LWR@HTML@qtstyle}{}
18 \newrobustcmd{\LWR@HTML@shstyle}{}
19 \newrobustcmd{\LWR@HTML@swashstyle}{}
20 \newrobustcmd{\LWR@HTML@tmstyle}{\renewcommand*{\LWR@family}{tt}}
21 \newrobustcmd{\LWR@HTML@tvstyle}{\renewcommand*{\LWR@family}{tt}}
22 \newrobustcmd{\LWR@HTML@tstyle}{}
23 \newrobustcmd{\LWR@HTML@lstyle}{}
24 \newrobustcmd{\LWR@HTML@tlstyle}{}
25 \newrobustcmd{\LWR@HTML@plstyle}{}
26 \newrobustcmd{\LWR@HTML@tostyle}{\LWR@HTML@scshape}
27 % \newrobustcmd{\LWR@HTML@sisshape}{}
28 \newrobustcmd{\LWR@HTML@olshape}{}
29 \newrobustcmd{\LWR@HTML@scolshape}{}
30 \newrobustcmd{\LWR@HTML@ushape}{}
31 \newrobustcmd{\LWR@HTML@scushape}{}
32 \newrobustcmd{\LWR@HTML@uishape}{\LWR@HTML@itshape}
33 \newrobustcmd{\LWR@HTML@rিশape}{}
34 \newrobustcmd{\LWR@HTML@regwidth}{}
35 \newrobustcmd{\LWR@HTML@nwidth}{}
36 \newrobustcmd{\LWR@HTML@cdwidth}{}
37 \newrobustcmd{\LWR@HTML@ecwidth}{}
38 \newrobustcmd{\LWR@HTML@ucwidth}{}
39 \newrobustcmd{\LWR@HTML@etwidth}{}
40 \newrobustcmd{\LWR@HTML@epwidth}{}
41 \newrobustcmd{\LWR@HTML@exwidth}{}
42 \newrobustcmd{\LWR@HTML@uxwidth}{}
43 \newrobustcmd{\LWR@HTML@mbweight}{\renewcommand*{\LWR@family}{md}}
44 \newrobustcmd{\LWR@HTML@dbweight}{\renewcommand*{\LWR@family}{db}}
45 \newrobustcmd{\LWR@HTML@sbweight}{\renewcommand*{\LWR@family}{sb}}
46 % \newrobustcmd{\LWR@HTML@ebweight}{\renewcommand*{\LWR@family}{eb}}
47 \newrobustcmd{\LWR@HTML@ubweight}{\renewcommand*{\LWR@family}{ub}}
48 % \newrobustcmd{\LWR@HTML@lgweight}{\renewcommand*{\LWR@family}{lg}}
49 \newrobustcmd{\LWR@HTML@elweight}{\renewcommand*{\LWR@family}{el}}
50 \newrobustcmd{\LWR@HTML@ulweight}{\renewcommand*{\LWR@family}{ul}}
51 % \newrobustcmd{\LWR@HTML@itshape}{}
52 % \newrobustcmd{\LWR@HTML@scshape}{}
53 % \newrobustcmd{\LWR@HTML@upshape}{}
54 \newrobustcmd{\LWR@HTML@dfshape}{}
55
56 \ifdef{\LWR@HTML@swshape}{}{% duplicated by fontaxes
57 \newrobustcmd{\LWR@HTML@swshape}{}
58 }
59
60 \newrobustcmd{\LWR@HTML@ornament}[1]{}
61
62 \LWR@formatted{lnstyle}
63 \LWR@formatted{osstyle}
64 \LWR@formatted{instyle}
65 \LWR@formatted{sustyle}
66 \LWR@formatted{swstyle}
67 \LWR@formatted{pstyle}

```

```
68 \LWR@formatted{tistyle}
69 \LWR@formatted{ostyle}
70 \LWR@formatted{postyle}
71 \LWR@formatted{ltstyle}
72 \LWR@formatted{ofstyle}
73 \LWR@formatted{altstyle}
74 \LWR@formatted{regstyle}
75 \LWR@formatted{embossstyle}
76 \LWR@formatted{ornamentalstyle}
77 \LWR@formatted{qtstyle}
78 \LWR@formatted{shstyle}
79 \LWR@formatted{swashstyle}
80 \LWR@formatted{tmstyle}
81 \LWR@formatted{tvstyle}
82 \LWR@formatted{tstyle}
83 \LWR@formatted{lstyle}
84 \LWR@formatted{tlstyle}
85 \LWR@formatted{plstyle}
86 \LWR@formatted{tostyle}
87 % \LWR@formatted{sisshape}
88 \LWR@formatted{olshape}
89 \LWR@formatted{scolshape}
90 \LWR@formatted{ushape}
91 \LWR@formatted{scushape}
92 \LWR@formatted{uishape}
93 \LWR@formatted{rishape}
94 \LWR@formatted{regwidth}
95 \LWR@formatted{nwwidth}
96 \LWR@formatted{cdwidth}
97 \LWR@formatted{ecwidth}
98 \LWR@formatted{ucwidth}
99 \LWR@formatted{etwidth}
100 \LWR@formatted{epwidth}
101 \LWR@formatted{exwidth}
102 \LWR@formatted{uxwidth}
103 \LWR@formatted{mbweight}
104 \LWR@formatted{dbweight}
105 \LWR@formatted{sbweight}
106 % \LWR@formatted{ebweight}
107 \LWR@formatted{ubweight}
108 % \LWR@formatted{lgweight}
109 \LWR@formatted{elweight}
110 \LWR@formatted{ulweight}
111 \LWR@formatted{itshape}% adapt to the new print version
112 \LWR@formatted{scshape}% adapt to the new print version
113 \LWR@formatted{upshape}% adapt to the new print version
114 \LWR@formatted{dfshape}
115
116 \ifdef{\LWR@HTML@swshape}{}{% duplicated by fontaxes
117 \LWR@formatted{swshape}
118 }
119
120 \LWR@formatted{ornament}

121 \FilenameNullify{%
```

122 \LetLtxMacro\lnstyle\@empty%  
123 \LetLtxMacro\osstyle\@empty%  
124 \LetLtxMacro\instyle\@empty%  
125 \LetLtxMacro\sustyle\@empty%  
126 \LetLtxMacro\swstyle\@empty%  
127 \LetLtxMacro\pstyle\@empty%  
128 \LetLtxMacro\tistyle\@empty%  
129 \LetLtxMacro\ostyle\@empty%  
130 \LetLtxMacro\postyle\@empty%  
131 \LetLtxMacro\ltstyle\@empty%  
132 \LetLtxMacro\ofstyle\@empty%  
133 \LetLtxMacro\altstyle\@empty%  
134 \LetLtxMacro\regstyle\@empty%  
135 \LetLtxMacro\embosstyle\@empty%  
136 \LetLtxMacro\ornamentalstyle\@empty%  
137 \LetLtxMacro\qtstyle\@empty%  
138 \LetLtxMacro\shstyle\@empty%  
139 \LetLtxMacro\swashstyle\@empty%  
140 \LetLtxMacro\tmstyle\@empty%  
141 \LetLtxMacro\tvstyle\@empty%  
142 \LetLtxMacro\lstyle\@empty%  
143 \LetLtxMacro\lstyle\@empty%  
144 \LetLtxMacro\lstyle\@empty%  
145 \LetLtxMacro\plstyle\@empty%  
146 \LetLtxMacro\tostyle\@empty%  
147 % \LetLtxMacro\sishape\@empty%  
148 \LetLtxMacro\olshape\@empty%  
149 \LetLtxMacro\scolshape\@empty%  
150 \LetLtxMacro\ushape\@empty%  
151 \LetLtxMacro\scushape\@empty%  
152 \LetLtxMacro\uishape\@empty%  
153 \LetLtxMacro\rishape\@empty%  
154 \LetLtxMacro\regwidth\@empty%  
155 \LetLtxMacro\nwidth\@empty%  
156 \LetLtxMacro\cdwidth\@empty%  
157 \LetLtxMacro\ecwidth\@empty%  
158 \LetLtxMacro\ucwidth\@empty%  
159 \LetLtxMacro\etwidth\@empty%  
160 \LetLtxMacro\epwidth\@empty%  
161 \LetLtxMacro\exwidth\@empty%  
162 \LetLtxMacro\uxwidth\@empty%  
163 \LetLtxMacro\mbweight\@empty%  
164 \LetLtxMacro\dbweight\@empty%  
165 \LetLtxMacro\sbweight\@empty%  
166 % \LetLtxMacro\ebweight\@empty%  
167 \LetLtxMacro\ubweight\@empty%  
168 % \LetLtxMacro\lgweight\@empty%  
169 \LetLtxMacro\elweight\@empty%  
170 \LetLtxMacro\ulweight\@empty%  
171 % \LetLtxMacro\itshape\@empty%  
172 % \LetLtxMacro\scshape\@empty%  
173 % \LetLtxMacro\upshape\@empty%  
174 \LetLtxMacro\dfshape\@empty%  
175 \LetLtxMacro\swshape\@empty%  
176 \LetLtxMacro\ornament\@gobble%

```
177 }
178
179 \newrobustcmd{\LWR@HTML@textln}[1]{\InlineClass{textln}{#1}}
180 \newrobustcmd{\LWR@HTML@textos}[1]{\textsc{#1}}
181 \newrobustcmd{\LWR@HTML@textin}[1]{#1}
182 \newrobustcmd{\LWR@HTML@textsu}[1]{#1}
183 % \newrobustcmd{\LWR@HTML@textsi}[1]{#1}
184 \newrobustcmd{\LWR@HTML@textdf}[1]{#1}

185 \ifdef{\LWR@HTML@textsw}{% duplicated by fontaxes
186 \newrobustcmd{\LWR@HTML@textsw}[1]{#1}
187 \LWR@formatted{textsw}
188 }
189
190 \newrobustcmd{\LWR@HTML@textti}[1]{#1}
191 \newrobustcmd{\LWR@HTML@textlt}[1]{#1}
192 \newrobustcmd{\LWR@HTML@textof}[1]{#1}
193 \newrobustcmd{\LWR@HTML@textalt}[1]{#1}
194 \newrobustcmd{\LWR@HTML@textreg}[1]{#1}
195 \newrobustcmd{\LWR@HTML@emboss}[1]{#1}
196 \newrobustcmd{\LWR@HTML@textorn}[1]{#1}
197 \newrobustcmd{\LWR@HTML@textqt}[1]{#1}
198 \newrobustcmd{\LWR@HTML@textsh}[1]{#1}
199 \newrobustcmd{\LWR@HTML@texttm}[1]{\texttt{#1}}
200 \newrobustcmd{\LWR@HTML@texttv}[1]{\texttt{#1}}
201 \newrobustcmd{\LWR@HTML@textl}[1]{\InlineClass{textln}{#1}}
202 \newrobustcmd{\LWR@HTML@texto}[1]{\textsc{#1}}
203 \newrobustcmd{\LWR@HTML@textp}[1]{\InlineClass{textp}{#1}}
204 \newrobustcmd{\LWR@HTML@textt}[1]{\InlineClass{textt}{#1}}
205 \newrobustcmd{\LWR@HTML@textpl}[1]{#1}
206 \newrobustcmd{\LWR@HTML@textpo}[1]{\textsc{#1}}
207 \newrobustcmd{\LWR@HTML@texttl}[1]{\InlineClass{textln}{#1}}
208 \newrobustcmd{\LWR@HTML@textto}[1]{\textsc{#1}}
209 \newrobustcmd{\LWR@HTML@textol}[1]{#1}
210 \newrobustcmd{\LWR@HTML@textswash}[1]{#1}
211 \newrobustcmd{\LWR@HTML@textu}[1]{#1}
212 \newrobustcmd{\LWR@HTML@textscu}[1]{#1}
213 \newrobustcmd{\LWR@HTML@textui}[1]{\LWR@HTML@textit{#1}}
214 \newrobustcmd{\LWR@HTML@textri}[1]{#1}
215 \newrobustcmd{\LWR@HTML@textnw}[1]{#1}
216 \newrobustcmd{\LWR@HTML@textcd}[1]{#1}
217 \newrobustcmd{\LWR@HTML@textec}[1]{#1}
218 \newrobustcmd{\LWR@HTML@textuc}[1]{#1}
219 \newrobustcmd{\LWR@HTML@textet}[1]{#1}
220 \newrobustcmd{\LWR@HTML@textep}[1]{#1}
221 \newrobustcmd{\LWR@HTML@textex}[1]{#1}
222 \newrobustcmd{\LWR@HTML@textux}[1]{#1}
223 \newrobustcmd{\LWR@HTML@textrw}[1]{#1}
224 \newrobustcmd{\LWR@HTML@textmb}[1]{\LWR@HTML@mbweight\InlineClass{textmb}{#1}}
225 \newrobustcmd{\LWR@HTML@textdb}[1]{\LWR@HTML@dbweight\InlineClass{textdb}{#1}}
226 \newrobustcmd{\LWR@HTML@textsb}[1]{\LWR@HTML@sbweight\InlineClass{textsb}{#1}}
227 % \newrobustcmd{\LWR@HTML@texteb}[1]{#1}
228 \newrobustcmd{\LWR@HTML@textub}[1]{\LWR@HTML@ubweight\InlineClass{textub}{#1}}
229 % \newrobustcmd{\LWR@HTML@textlg}[1]{#1}
230 \newrobustcmd{\LWR@HTML@textel}[1]{\LWR@HTML@elweight\InlineClass{textel}{#1}}
```

```
231 \newrobustcmd{\LWR@HTML@textul}[1]{\LWR@HTML@ulweight\InlineClass{textul}{#1}}
232
233 \LWR@formatted{textln}
234 \LWR@formatted{textos}
235 \LWR@formatted{textin}
236 \LWR@formatted{textsu}
237 % \LWR@formatted{textsi}
238 \LWR@formatted{textdf}
239 \LWR@formatted{textti}
240 \LWR@formatted{textlt}
241 \LWR@formatted{textof}
242 \LWR@formatted{textalt}
243 \LWR@formatted{textreg}
244 \LWR@formatted{emboss}
245 \LWR@formatted{textorn}
246 \LWR@formatted{textqt}
247 \LWR@formatted{textsh}
248 \LWR@formatted{texttm}
249 \LWR@formatted{texttv}
250 \LWR@formatted{textl}
251 \LWR@formatted{texto}
252 \LWR@formatted{textp}
253 \LWR@formatted{textt}
254 \LWR@formatted{textpl}
255 \LWR@formatted{textpo}
256 \LWR@formatted{texttl}
257 \LWR@formatted{textto}
258 \LWR@formatted{textol}
259 \LWR@formatted{textswash}
260 \LWR@formatted{textu}
261 \LWR@formatted{textscu}
262 \LWR@formatted{textui}
263 \LWR@formatted{textri}
264 \LWR@formatted{textnw}
265 \LWR@formatted{textcd}
266 \LWR@formatted{textec}
267 \LWR@formatted{textuc}
268 \LWR@formatted{textet}
269 \LWR@formatted{textep}
270 \LWR@formatted{textex}
271 \LWR@formatted{textux}
272 \LWR@formatted{textrw}
273 \LWR@formatted{textmb}
274 \LWR@formatted{textdb}
275 \LWR@formatted{textsb}
276 % \LWR@formatted{texteb}
277 \LWR@formatted{textub}
278 % \LWR@formatted{textlg}
279 \LWR@formatted{textel}
280 \LWR@formatted{textul}
281
282 \FilenameNullify{%
283 \LetLtxMacro\textln\@firstofone%
284 \LetLtxMacro\textos\@firstofone%
```

```
285 \LetLtxMacro\textin\@firstofone%
286 \LetLtxMacro\textsu\@firstofone%
287 % \LetLtxMacro\textsi\@firstofone%
288 \LetLtxMacro\textdf\@firstofone%
289 \LetLtxMacro\textsw\@firstofone%
290 \LetLtxMacro\textti\@firstofone%
291 \LetLtxMacro\textlt\@firstofone%
292 \LetLtxMacro\textof\@firstofone%
293 \LetLtxMacro\textalt\@firstofone%
294 \LetLtxMacro\textreg\@firstofone%
295 \LetLtxMacro\emboss\@firstofone%
296 \LetLtxMacro\textorn\@firstofone%
297 \LetLtxMacro\textqt\@firstofone%
298 \LetLtxMacro\textsh\@firstofone%
299 \LetLtxMacro\texttm\@firstofone%
300 \LetLtxMacro\texttv\@firstofone%
301 \LetLtxMacro\textl\@firstofone%
302 \LetLtxMacro\texto\@firstofone%
303 \LetLtxMacro\textp\@firstofone%
304 \LetLtxMacro\textt\@firstofone%
305 \LetLtxMacro\textpl\@firstofone%
306 \LetLtxMacro\textpo\@firstofone%
307 \LetLtxMacro\texttl\@firstofone%
308 \LetLtxMacro\textto\@firstofone%
309 \LetLtxMacro\textol\@firstofone%
310 \LetLtxMacro\textswash\@firstofone%
311 \LetLtxMacro\textu\@firstofone%
312 \LetLtxMacro\textscu\@firstofone%
313 \LetLtxMacro\textui\@firstofone%
314 \LetLtxMacro\textri\@firstofone%
315 \LetLtxMacro\textnw\@firstofone%
316 \LetLtxMacro\textcd\@firstofone%
317 \LetLtxMacro\textec\@firstofone%
318 \LetLtxMacro\textuc\@firstofone%
319 \LetLtxMacro\textet\@firstofone%
320 \LetLtxMacro\textep\@firstofone%
321 \LetLtxMacro\textex\@firstofone%
322 \LetLtxMacro\textux\@firstofone%
323 \LetLtxMacro\textrw\@firstofone%
324 \LetLtxMacro\textmb\@firstofone%
325 \LetLtxMacro\textdb\@firstofone%
326 \LetLtxMacro\textsb\@firstofone%
327 % \LetLtxMacro\texteb\@firstofone%
328 \LetLtxMacro\textub\@firstofone%
329 % \LetLtxMacro\textlg\@firstofone%
330 \LetLtxMacro\textel\@firstofone%
331 \LetLtxMacro\textul\@firstofone%
332 }
333
334 \providecommand*\zeroslash{}
335 \newrobustcmd*\LWR@HTML@zeroslash{}
336 \LWR@formatted{zeroslash}
```

---

File 314 **lwarp-nicefrac.sty**

§ 420 Package **nicefrac**

(Emulates or patches code by AXEL REICHERT.)

Pkg nicefrac nicefrac is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{nicefrac}[1998/08/04]

2 \DeclareRobustCommand*\LWR@HTML@UnitsNiceFrac}[3][[%
3 {% localize font selection
4 #1{%
5 \LWR@textcurrentfont{%
6 \InlineClass{numerator}{#2}%
7 /%
8 \InlineClass{denominator}{#3}%
9 }%
10 }%
11 }%
12 }
13
14 \LWR@formatted{@UnitsNiceFrac}
15
16 \DeclareRobustCommand*\LWR@HTML@UnitsUglyFrac}[3][[%
17 {% localize font selection
18 #1{\LWR@textcurrentfont{#2/#3}}%
19 }%
20 }
21
22 \LWR@formatted{@UnitsUglyFrac}

```

For Mathjax:

```

23 \begin{warpMathJax}
24 \CustomizeMathJax{\newcommand{\nicefrac}[3][[\mathinner{{}^{\#2}\!/_{\#3}}]}
25 \end{warpMathJax}

```

---

File 315 **lwarp-niceframe.sty**

§ 421 Package **niceframe**

Pkg niceframe niceframe is emulated.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{niceframe}% the original date is in yyyy/dd/mm format

2 \newcommand{\LWR@niceframe}[3]{%

```



```

3 \begin{LWR@setvirtualpage}*%
4 \setlength{\LWR@templengthone}{#1}%
5 \begin{BlockClass}[max-width:\LWR@printlength{\LWR@templengthone}]{#3}%
6 #2
7 \end{BlockClass}%
8 \end{LWR@setvirtualpage}%
9 }
10
11 \newcommand{\niceframe}[2][\textwidth]{\LWR@niceframe{#1}{#2}{niceframe}}
12 \newcommand{\curlyframe}[2][\textwidth]{\LWR@niceframe{#1}{#2}{curlyframe}}
13 \newcommand{\artdecoframe}[2][\textwidth]{\LWR@niceframe{#1}{#2}{artdecoframe}}
14
15 \newcommand{\generalframe}[9]{\LWR@niceframe{\textwidth}{#9}{generalframe}}

```


---

File 316 **lwarp-nicematrix.sty**

§ 422 Package **nicematrix**

(Emulates or patches code by F. PANTIGNY.)

Pkg nicematrix nicematrix is used as-is for SVG math, and is emulated for MATHJAX.

 **MATHJAX** Keys/values are ignored in MATHJAX. `\Cdots`, etc. do not span multiple cells. `AutoNiceMatrix`, etc. are not supported for MATHJAX. SVG math output preserves all nicematrix features. To force SVG output for one or more consecutive math expressions, for inline math use `\inlinemathother` and `\inlinemathnormal`, or for display math use `\displaymathother` and `\displaymathnormal`.

**for HTML output:** 1 \LWR@ProvidesPackagePass[nicematrix][2020/11/23]

NiceTabular must be converted to svg to support the various nicematrix options:

```

2 \begin{warpHTML}
3 \BeforeBeginEnvironment{NiceTabular}{%
4 \begin{lateximage}[-nicematrix~\PackageDiagramAltText]%
5 }
6 \AfterEndEnvironment{NiceTabular}{\end{lateximage}}
7 \BeforeBeginEnvironment{NiceTabular*}{%
8 \begin{lateximage}[-nicematrix~\PackageDiagramAltText]%
9 }
10 \AfterEndEnvironment{NiceTabular*}{\end{lateximage}}
11 \end{warpHTML}

```

Special handling for the optional arguments, and the lack of a delimiter:

```

12 \begin{warpMathJax}
13 \CustomizeMathJax{\newcommand{\LWRnicearrayarray}[1]{\begin{array}{#1}}}
14 \CustomizeMathJax{\def\LWRnicearrayarrayopt#1[#2] {\begin{array}{#1}}}
15
16 \CustomizeMathJax{%
17 \newenvironment{NiceArray}[2][[%
18 {\ifnextchar[{\LWRnicearrayarrayopt{#2}}{\LWRnicearrayarray{#2}}}%

```

```

19 {\end{array}}%
20 }
21
22 \CustomizeMathJax{%
23 \newcommand{\LWRnicearraywithdelimtwo}[2][{}]{%
24 \ifnextchar[{\LWRnicearrayarrayopt{#2}}{\LWRnicearrayarray{#2}}%
25 }%
26 }

```

General case with left / right delimiters:

```

27 \CustomizeMathJax{%
28 \newenvironment{NiceArrayWithDelims}[2][{}]{%
29 {%
30 \def\LWRnicearrayrightdelim{\right#2}%
31 \left#1%
32 \LWRnicearraywithdelimtwo%
33 }%
34 {\end{array}\LWRnicearrayrightdelim}%
35 }

```

Instances of specific delimiters:

```

36 \CustomizeMathJax{%
37 \newenvironment{pNiceArray}
38 {\begin{NiceArrayWithDelims}{(}{)}%
39 {\end{NiceArrayWithDelims}}
40 }
41
42 \CustomizeMathJax{%
43 \newenvironment{bNiceArray}
44 {\begin{NiceArrayWithDelims}{[}{]}%
45 {\end{NiceArrayWithDelims}}
46 }
47
48 \CustomizeMathJax{%
49 \newenvironment{BNiceArray}
50 {\begin{NiceArrayWithDelims}{\{}{\}}%
51 {\end{NiceArrayWithDelims}}
52 }
53
54 \CustomizeMathJax{%
55 \newenvironment{vNiceArray}
56 {\begin{NiceArrayWithDelims}{\vert}{\vert}}%
57 {\end{NiceArrayWithDelims}}
58 }
59
60 \CustomizeMathJax{%
61 \newenvironment{VNiceArray}
62 {\begin{NiceArrayWithDelims}{\Vert}{\Vert}}%
63 {\end{NiceArrayWithDelims}}
64 }

```

Ignore optional arg and use standard environments:

```

65 \CustomizeMathJax{\newenvironment{NiceMatrix}[1][\begin{matrix}]{\end{matrix}}}
66 \CustomizeMathJax{\newenvironment{pNiceMatrix}[1][\begin{pmatrix}]{\end{pmatrix}}}
67 \CustomizeMathJax{\newenvironment{bNiceMatrix}[1][\begin{bmatrix}]{\end{bmatrix}}}
68 \CustomizeMathJax{\newenvironment{BNiceMatrix}[1][\begin{Bmatrix}]{\end{Bmatrix}}}
69 \CustomizeMathJax{\newenvironment{vNiceMatrix}[1][\begin{vmatrix}]{\end{vmatrix}}}
70 \CustomizeMathJax{\newenvironment{VNiceMatrix}[1][\begin{Vmatrix}]{\end{Vmatrix}}}

```

Ignore optional argument and size. Print contents.

```

71 \CustomizeMathJax{\newcommand{\LWRnicematrixBlock}[1]{#1}}
72 \CustomizeMathJax{\def\LWRnicematrixBlockopt<#1>#2{#2}}
73
74 \CustomizeMathJax{%
75 \newcommand{\Block}[2][\ifnextchar<\LWRnicematrixBlockopt\LWRnicematrixBlock}%
76 }

```

Form an approximation:

```

77 \CustomizeMathJax{%
78 \newcommand{\diagbox}[2]{%
79 \begin{array}{l}\hfill\quad#2\\\hline#1\quad\hfill\end{array}%
80 }%
81 }

```

More approximations:

```

82 \CustomizeMathJax{\let\hdottedline\hdashline}
83
84 \CustomizeMathJax{\newcommand{\ldots}[1][\dots]}
85 \CustomizeMathJax{\newcommand{\cdots}[1][\cdots]}
86 \CustomizeMathJax{\newcommand{\vdots}[1][\vdots]}
87 \CustomizeMathJax{\newcommand{\ddots}[1][\ddots]}
88 \CustomizeMathJax{\newcommand{\Iddots}[1][\mathinner{\unicode{x22F0}}]}
89
90 \CustomizeMathJax{\newcommand{\Hdotsfor}[1]{\ldots}}
91 \CustomizeMathJax{\newcommand{\Vdotsfor}[1]{\vdots}}

```

There is no way to emulate AutoNiceMatrix in MATHJAX.

```

92 \CustomizeMathJax{\newcommand{\AutoNiceMatrix}[2]{\text{(AutoNiceMatrix #1)}}}
93 \CustomizeMathJax{\let\pAutoNiceMatrix\AutoNiceMatrix}
94 \CustomizeMathJax{\let\bAutoNiceMatrix\AutoNiceMatrix}
95 \CustomizeMathJax{\let\BAutoNiceMatrix\AutoNiceMatrix}
96 \CustomizeMathJax{\let\vAutoNiceMatrix\AutoNiceMatrix}
97 \CustomizeMathJax{\let\VAutoNiceMatrix\AutoNiceMatrix}
98 \end{warpMathJax}

```

---

File 317 **lwarp-noitcrul.sty**

§ 423 Package **noitcrul**

(Emulates or patches code by PAUL EBERMANN.)

Pkg noitcru1 noitcru1 is used as-is for SVG and emulated for MATHJAX.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{noitcru1}[2006/04/11]
2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\noitUnderline}[1]{\underline{#1}\!}}
4 \end{warpMathJax}
```

File 318 **lwarp-nolbreaks.sty**

§ 424 Package **nolbreaks**

*(Emulates or patches code by DONALD ARSENEAU.)*

Pkg nolbreaks nolbreaks is emulated.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{nolbreaks}[2012/05/31]
2 \NewDocumentCommand{\nolbreaks}{s m}{\InlineClass{nolbreaks}{#2}}
```

File 319 **lwarp-nomenc1.sty**

§ 425 Package **nomenc1**

*(Emulates or patches code by BORIS VEYTSMAN, BERND SCHANDL, LEE NETHERTON, CV RADHAKRISHNAN.)*

Pkg nomenc1 nomenc1 is patched for use by lwarp.

To process the HTML nomenclature:

```
makeindex <project>_html.nlo -s nomenc1.list -o <project>_html.nls
```

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{nomenc1}[2005/09/22]
```

\BaseJobname is added to the label in case xr or xr-hyper are used.

```
2 \def\@@@nomenclature[#1]#2#3{%
3 \def\@tempa{#2}\def\@tempb{#3}%
4 \protected@write\@nomenclaturefile{%
5 {\string\nomenclatureentry{#1\nom@verb\@tempa @[\nom@verb\@tempa]}%
6 \begingroup\nom@verb\@tempb\protect\nomeqref{\theequation}%
7 |nompageref{\theLWR@previousautopagelabel}}% lwarp
8 \endgroup
9 \@esphack}
10
11 \renewcommand*{\pagedeclaration}[1]{, \nameref{\BaseJobname-autopage-#1}}%
```

---

File 320 **lwarp-nonfloat.sty**

§ 426 Package **nonfloat**

*(Emulates or patches code by KAI RASCHER.)*

Pkg nonfloat nonfloat is emulated.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{nonfloat}[1999/07/05]

2 \LetLtxMacro\topcaption\caption
3 \newcommand{\figcaption}{\def\@capttype{figure}\caption}
4 \newcommand{\tabcaption}{\def\@capttype{table}\topcaption}
5 \newenvironment{narrow}[2]{}{}
```

---

File 321 **lwarp-nonumonpart.sty**

§ 427 Package **nonumonpart**

Pkg nonumonpart nonumonpart is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{nonumonpart}[2011/04/15]
```

---

File 322 **lwarp-nopageno.sty**

§ 428 Package **nopageno**

Pkg nopageno nopageno is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{nopageno}[1989/01/01]
```

---

File 323 **lwarp-notes.sty**

§ 429 Package **notes**

Pkg notes notes is emulated.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{notes}[2002/10/29]

2 \newcommand*{\LWR@notes@onenote}[2]{%
3 \newenvironment{#1}
4 {
```

```

5 \BlockClass{notes#1}
6 \begin{BlockClass}{notesicon}\textcircled{~#2~}\end{BlockClass}
7 \BlockClass{notescontents}
8 }
9 {\endBlockClass\endBlockClass}
10 }
11
12 \LWR@notes@onenote{importantnote}{!}
13
14 \LWR@notes@onenote{warningnote}{--}
15
16 \LWR@notes@onenote{informationnote}{i}

```

---

File 324 **lwarp-notespages.sty**

§ 430 Package **notespages**

Pkg notespages notespages is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{notespages}[2016/08/21]

```

2 \newcommand*{\nnotesname}{}
3 \newcommand*{\nnotestext}{}
4 \newcommand*{\remainingtextheight}{}
5 \newdimen\remainingtextheight
6 \newcommand*{\notestitletext}{}
7 \newcommand*{\notesareatext}{}
8 \newcommand*{\nnpninfo}[1]{}
9 \newcommand*{\tracingnmarks}{}
10 \newcommand*{\notespage}[1][1]{}
11 \newcommand*{\notespages}[1][1]{}
12 \newcommand*{\notesfill}[1][1]{}
13 \newcommand*{\setnotespages}[1]{}
14 \newcommand*{\definotesoption}[2]{}
15 \newcommand{\definotesstyle}[2]{}
16 \newcommand{\definetitlestyle}[2]{}
17 \newcommand{\nppatchchapter}[1]{}
18 \newcommand{\npunpatchchapter}{}

```

---

File 325 **lwarp-nowidow.sty**

§ 431 Package **nowidow**

*(Emulates or patches code by RAPHAËL PINSON.)*

Pkg nowidow nowidow is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{nowidow}[2011/09/20]

```

\nowidow [⟨lines⟩]
\setnowidow [⟨lines⟩]

2 \newcommand*{\nowidow}[1][{}]{
3 \newcommand*{\setnowidow}[1][{}]{

\noclub [⟨lines⟩]
\setnoclub [⟨lines⟩]

4 \newcommand*{\noclub}[1][{}]{
5 \newcommand*{\setnoclub}[1][{}]{

```

---

File 326 **lwarp-ntheorem.sty**

§ 432 Package **ntheorem**

(Emulates or patches code by WOLFGANG MAY, ANDREAS SCHEDLER.)

Pkg ntheorem ntheorem is patched for use by lwarp.

---

Table 18: Ntheorem package — css styling of theorems and proofs


**Theorem:** <div> of class theorembody<theoremstyle>


**Theorem Header:** <span> of class theoremheader<style>

where <theoremstyle> is plain, break, etc.

---

### § 432.1 Limitations

 **Font control** This conversion is not total. Font control is via css, and the custom L<sup>A</sup>T<sub>E</sub>X font settings are ignored.

 **cref reference format undefined** If the print version does not use cleveref, place all \theoremstyle and \newtheorem declarations in the preamble inside \AtBeginDocument.<sup>19</sup> For some theorems, it may also be required to add inside \AtBeginDocument something such as:

```

\AtBeginDocument{ % if not using cleveref package
 \theoremstyle{definition}
 \newtheorem{dtheorem}{Definition}
 . . .
 \usepackage{etoolbox} % for \ifdef
 \ifdef{\cref}{
 \crefname{Proof}{Proof}{Proofs}
 }{}
}

```

---

<sup>19</sup>lwarp uses cleveref for the HTML conversion, and loads cleveref \AtEndPreamble, just before \AtBeginDocument.

⚠ **Equation numbering** `ntheorem` has a bug with equation numbering in  $\mathcal{AMS}$  environments when the option `thref` is used. `lwarp` does not share this bug, so equations with `\split`, etc, are numbered correctly with `lwarp`'s HTML output, but not with the print output. It is recommended to use `cleveref` instead of `ntheorem`'s `thref` option.

## § 432.2 Options

Options `amsthm` or `standard` choose which set of theorems and proofs to initialize.

⚠ **Disabled options** The options `thmmarks` and `amsmath` are disabled, since they heavily modify the underlying math code. Theorem marks are emulated. The AMS-math modifications are not done.

Option `thref` is disabled because `cleveref` functions are used instead. `\thref` is emulated.

Option `hyperref` is disabled because `lwarp` emulated `hyperref`.

**for HTML output:** Some disabled options:

```

1 \DeclareOption{thref}{
2 \AtEndDocument{
3 \PackageWarningNoLine{lwarp}{%
4 Lwarp uses cleveref, which takes over ntheorem's\MessageBreak
5 referencing, including
6 \protect\label \space and \protect\thref.\MessageBreak
7 Cleveref does not accept ntheorem's optional\MessageBreak
8 argument for \protect\label, so it will appear\MessageBreak
9 in the text. It is recommended to remove the\MessageBreak
10 thref option, \protect\usepackage{cleveref} instead,\MessageBreak
11 and remove any trailing optional arguments for \protect\label%
12 }%
13 }
14 }
15
16
17 \newbool{LWR@theoremmarks}
18 \boolfalse{LWR@theoremmarks}
19
20 \DeclareOption{thmmarks}{
21 \booltrue{LWR@theoremmarks}
22 \newif\ifsetendmark\setendmarktrue
23 }
24
25
26 \newbool{LWR@theoremamsthm}
27 \boolfalse{LWR@theoremamsthm}
28
29 \DeclareOption{amsthm}{\booltrue{LWR@theoremamsthm}}
30
31
32 \DeclareOption{amsmath}{}
33 \DeclareOption{hyperref}{}
34
35 \LWR@ProvidesPackagePass{ntheorem}[2011/08/15]
```



### § 432.3 Remembering the theorem style

Storage for the style being used for new theorems.

```

36 \newcommand{\LWR@newtheoremstyle}{plain}

37 \AtBeginDocument{
38 \ifpackageloaded{cleveref}{
39 \gdef\@thm#1#2#3{%
40 \if@thmmarks
41 \stepcounter{end\InTheoType ctr}%
42 \fi
43 \renewcommand{\InTheoType}{#1}%
44 \if@thmmarks
45 \stepcounter{curr#1ctr}%
46 \setcounter{end#1ctr}{0}%
47 \fi
48 \refstepcounter[#1]{#2}% <<< cleveref modification
49 \theorem@prework
50 \LWR@forcenewpage% lwarp
51 \BlockClass{theorembody#1}\LWR@thisthmstyle% lwarp
52 \trivlist % latex's \trivlist, calling latex's \@trivlist unchanged
53 \ifuse@newframeskips % cf. latex.ltx for topsepadd: \@trivlist
54 \ifthm@inframe
55 \thm@topsep\theorem@inframepreskipamount
56 \thm@topsepadd\theorem@inframepostskipamount
57 \else
58 \thm@topsep\theorem@preskipamount
59 \thm@topsepadd\theorem@postskipamount
60 \fi
61 \else% oldframeskips
62 \thm@topsep\theorem@preskipamount
63 \thm@topsepadd \theorem@postskipamount
64 \ifvmode\advance\thm@topsepadd\partopsep\fi
65 \fi
66 \@topsep\thm@topsep
67 \@topsepadd\thm@topsepadd
68 \advance\linewidth -\theorem@indent
69 \advance\linewidth -\theorem@rightindent
70 \advance\@totalleftmargin \theorem@indent
71 \parshape \@ne \@totalleftmargin \linewidth
72 \@ifnextchar[\@ythm{#1}{#2}{#3}]{\@xthm{#1}{#2}{#3}}
73 }
74 }{% not @ifpackageloaded{cleveref}
75 \gdef\@thm#1#2#3{%
76 \if@thmmarks
77 \stepcounter{end\InTheoType ctr}%
78 \fi
79 \renewcommand{\InTheoType}{#1}%
80 \if@thmmarks
81 \stepcounter{curr#1ctr}%
82 \setcounter{end#1ctr}{0}%
83 \fi
84 \refstepcounter{#2}%
85 \theorem@prework

```

```

86 \LWR@forcenewpage% lwarp
87 \BlockClass{theorembody#1}%\LWR@thisthmstyle% lwarp
88 \trivlist % latex's \trivlist, calling latex's \@trivlist unchanged
89 \ifuse@newframeskips % cf. latex.ltx for topsepadd: \@trivlist
90 \ifthm@inframe
91 \thm@topsep\theoremframepreskipamount
92 \thm@topsepadd\theoremframepostskipamount
93 \else
94 \thm@topsep\theoremframepreskipamount
95 \thm@topsepadd\theoremframepostskipamount
96 \fi
97 \else% oldframeskips
98 \thm@topsep\theoremframepreskipamount
99 \thm@topsepadd \theoremframepostskipamount
100 \ifvmode\advance\thm@topsepadd\partopsep\fi
101 \fi
102 \@topsep\thm@topsep
103 \@topsepadd\thm@topsepadd
104 \advance\linewidth -\theorem@indent
105 \advance\linewidth -\theorem@rightindent
106 \advance\@totalleftmargin \theorem@indent
107 \parshape \@ne \@totalleftmargin \linewidth
108 \@ifnextchar[{\@ythm{#1}{#2}{#3}}{\@xthm{#1}{#2}{#3}}
109 }
110 }
111]% AtBeginDocument

```

Patched to remember the style being used for new theorems:

```

112 \gdef\theoremstyle#1{%
113 \@ifundefined{th@#1}{\@warning
114 {Unknown theoremstyle '#1'. Using 'plain'}}%
115 \theorem@style{plain}
116 \renewcommand{\LWR@newtheoremstyle}{plain}% lwarp
117 }%
118 {
119 \theorem@style{#1}
120 \renewcommand{\LWR@newtheoremstyle}{#1}% lwarp
121 }
122 }

```

Patched to remember the style for this theorem type, and set it later when the environment is started.

```

123
124 \gdef\xnthm#1#2[#3]{%
125 \ifthm@tempif
126 \csedef{LWR@thmstyle#1}{\LWR@newtheoremstyle}% lwarp
127 \expandafter\@ifundefined{c@#1}%
128 {\@definecounter{#1}}{}%
129 \@newctr{#1}[#3]%
130 \expandafter\xdef\csname the#1\endcsname{%
131 \expandafter\noexpand\csname the#3\endcsname \@thmcountersep
132 {\noexpand\csname\the\theoremnumbering\endcsname{#1}}}%
133 \expandafter\gdef\csname mkheader@#1\endcsname

```

```

134 {\csname setparms@#1\endcsname
135 \@thm{#1}{#1}{#2}
136 }%
137 \global\@namedef{end#1}{\@endtheorem}
138 \AtBeginEnvironment{#1}{\edef\LWR@thismstyle{\@nameuse{LWR@thmstyle#1}}}% lwarp
139 \fi
140 }
141
142 \gdef\@ynthm#1#2{%
143 \ifthm@tempif
144 \csedef{LWR@thmstyle#1}{\LWR@newtheoremstyle}% lwarp
145 \expandafter\@ifundefined{c@#1}%
146 {\@definecounter{#1}}{}%
147 \expandafter\xdef\csname the#1\endcsname
148 {\noexpand\csname\the\theoremnumbering\endcsname{#1}}%
149 \expandafter\gdef\csname mkheader@#1\endcsname
150 {\csname setparms@#1\endcsname
151 \@thm{#1}{#1}{#2}
152 }%
153 \global\@namedef{end#1}{\@endtheorem}
154 \AtBeginEnvironment{#1}{\edef\LWR@thismstyle{\@nameuse{LWR@thmstyle#1}}}% lwarp
155 \fi
156 }
157
158 \gdef\@othm#1[#2]#3{%
159 \@ifundefined{c@#2}{\@nocounterr{#2}}%
160 {\ifthm@tempif
161 \csedef{LWR@thmstyle#1}{\LWR@newtheoremstyle}% lwarp
162 \global\@namedef{the#1}{\@nameuse{the#2}}%
163 \expandafter\protected@xdef\csname num@addtheoremline#1\endcsname{%
164 \noexpand\@num@addtheoremline{#1}{#3}}%
165 \expandafter\protected@xdef\csname nonum@addtheoremline#1\endcsname{%
166 \noexpand\@nonum@addtheoremline{#1}{#3}}%
167 \theoremkeyword{#3}%
168 \expandafter\protected@xdef\csname #1Keyword\endcsname
169 {\the\theoremkeyword}%
170 \expandafter\gdef\csname mkheader@#1\endcsname
171 {\csname setparms@#1\endcsname
172 \@thm{#1}{#2}{#3}
173 }%
174 \global\@namedef{end#1}{\@endtheorem}
175 \AtBeginEnvironment{#1}{\edef\LWR@thismstyle{\@nameuse{LWR@thmstyle#1}}}% lwarp
176 \fi}
177 }

```

#### § 432.4 HTML cross-referencing

Mimics a float by incrementing the float counter and generating an HTML anchor. These are used for list-of-theorem cross-references.

```

178 \newcommand{\LWR@inctheorem}{%
179 \addtocounter{LWR@thisautoid}{1}%
180 \LWR@stoppars%
181 \LWR@htmltag{a id="\LWR@print@mbox{autoid-\arabic{LWR@thisautoid}}"}\LWR@htmltag{/a}%
182 \LWR@startpars%

```

183 }

### § 432.5 `\newtheoremstyle`

The following are patched for css.

These were in individual files thp.sty for plain, thmb.sty for margin break, etc. They are gathered together here.

Each theorem is encased in a BlockClass environment of class theorembody<style>.

Each header is encased in an `\InlineClass` of class theoremheader<style>.

```

184 \gdef\newtheoremstyle#1#2#3{%
185 \expandafter\@ifundefined{th@#1}%
186 {\expandafter\gdef\csname th@#1\endcsname{%
187 \def\@begintheorem####1####2{%
188 \LWR@intheorem% lwarp
189 #2}%
190 \def\@opargbegintheorem####1####2####3{%
191 \LWR@intheorem% lwarp
192 #3}%
193 }%
194 }%
195 {\PackageError{\basename}{Theorem style #1 already defined}\@eha}
196 }
```

### § 432.6 **Standard styles**

```

197 \renewtheoremstyle{plain}%
198 {\item[
199 \InlineClass{theoremheaderplain}{##1\ ##2\theorem@separator}]}%
200 {\item[
201 \InlineClass{theoremheaderplain}{##1\ ##2\ (##3)\theorem@separator}]}
202
203 \renewtheoremstyle{break}%
204 {\item[
205 \InlineClass{theoremheaderbreak}{##1\ ##2\theorem@separator}\newline
206]}%
207 {\item[
208 \InlineClass{theoremheaderbreak}%
209 {##1\ ##2\ (##3)\theorem@separator}\newline
210]}
211
212 \renewtheoremstyle{change}%
213 {\item[
214 \InlineClass{theoremheaderchange}{##2\ ##1\theorem@separator}]}%
215 {\item[
216 \InlineClass{theoremheaderchange}{##2\ ##1\ (##3)\theorem@separator}]}
217
218 \renewtheoremstyle{changebreak}%
219 {\item[
220 \InlineClass{theoremheaderchangebreak}%
221 {##2\ ##1\theorem@separator}\newline
222]}%

```

```

223 {\item[
224 \InlineClass{theoremheaderchangebreak}%
225 {##2\ ##1\ (##3)\theoremseparator}\newline
226]}
227
228 \renewtheoremstyle{margin}%
229 {\item[
230 \InlineClass{theoremheadermargin}{##2 \quad ##1\theoremseparator}
231]}%
232 {\item[
233 \InlineClass{theoremheadermargin}{##2 \quad ##1\ (##3)\theoremseparator}
234]}
235
236 \renewtheoremstyle{marginbreak}%
237 {\item[
238 \InlineClass{theoremheadermarginbreak}%
239 {##2 \quad ##1\theoremseparator}\newline
240]}%
241 {\item[
242 \InlineClass{theoremheadermarginbreak}%
243 {##2 \quad ##1\ (##3)\theoremseparator}\newline
244]}
245
246 \renewtheoremstyle{nonumberplain}%
247 {\item[
248 \InlineClass{theoremheaderplain}{##1\theoremseparator}]]%
249 {\item[
250 \InlineClass{theoremheaderplain}{##1\ (##3)\theoremseparator}]]}
251
252 \renewtheoremstyle{nonumberbreak}%
253 {\item[
254 \InlineClass{theoremheaderbreak}{##1\theoremseparator}\newline
255]}%
256 {\item[
257 \InlineClass{theoremheaderbreak}{##1\ (##3)\theoremseparator}\newline
258]}
259
260 \renewtheoremstyle{empty}%
261 {\item[]}%
262 {\item[
263 \InlineClass{theoremheaderplain}{##3}]]}
264
265 \renewtheoremstyle{emptybreak}%
266 {\item[]}%
267 {\item[
268 \InlineClass{theoremheaderplain}{##3}] \ \newline}

```

### § 432.7 Additional objects

The following manually adjust the css for the standard configuration objects which are not a purely plain style:

```

269 \ifbool{LWR@theoremamsthm}{\%

```

Upright text via CSS:

```

270 \newtheoremstyle{plainupright}%
271 {\item[
272 \InlineClass{theoremheaderplain}{##1\ ##2\theorem@separator}]}%
273 {\item[
274 \InlineClass{theoremheaderplain}{##1\ ##2\ (##3)\theorem@separator}]}

```

Upright text and small caps header via CSS:

```

275 \newtheoremstyle{nonumberplainuprightsc}%
276 {\item[
277 \InlineClass{theoremheadersc}{##1\theorem@separator}]}%
278 {\item[
279 \InlineClass{theoremheadersc}{##1\ (##3)\theorem@separator}]}
280}% not amsthm

```

### § 432.8 Renewed standard configuration

The following standard configuration is renewed using the new css:

```

281 \ifbool{LWR@theoremamsthm}{}{%
282 \ifx\thm@usestd\@undefined
283 \else
284 \theoremnumbering{arabic}
285 \theoremstyle{plain}
286 \RequirePackage{latexsym}
287 \theoremsymbol{\Box}
288 \theorembodyfont{\itshape}
289 \theoremheaderfont{\normalfont\bfseries}
290 \theoremseparator{}
291 \renewtheorem{Theorem}{Theorem}
292 \renewtheorem{theorem}{Theorem}
293 \renewtheorem{Satz}{Satz}
294 \renewtheorem{satz}{Satz}
295 \renewtheorem{Proposition}{Proposition}
296 \renewtheorem{proposition}{Proposition}
297 \renewtheorem{Lemma}{Lemma}
298 \renewtheorem{lemma}{Lemma}
299 \renewtheorem{Korollar}{Korollar}
300 \renewtheorem{korollar}{Korollar}
301 \renewtheorem{Corollary}{Corollary}
302 \renewtheorem{corollary}{Corollary}
303
304 \theoremstyle{plainupright}
305 \theorembodyfont{\upshape}
306 \theoremsymbol{\HTMLUnicode{25A1}}% UTF-8 white box
307 \renewtheorem{Example}{Example}
308 \renewtheorem{example}{Example}
309 \renewtheorem{Beispiel}{Beispiel}
310 \renewtheorem{beispiel}{Beispiel}
311 \renewtheorem{Bemerkung}{Bemerkung}
312 \renewtheorem{bemerkung}{Bemerkung}

```

```

313 \renewtheorem{Anmerkung}{Anmerkung}
314 \renewtheorem{anmerkung}{Anmerkung}
315 \renewtheorem{Remark}{Remark}
316 \renewtheorem{remark}{Remark}
317 \renewtheorem{Definition}{Definition}
318 \renewtheorem{definition}{Definition}
319
320 \theoremstyle{nonumberplainuprightsc}
321 \theoremsymbol{\HTMLUnicode{220E}}% UTF-8 end-of-proof
322 \renewtheorem{Proof}{Proof}
323 \renewtheorem{proof}{Proof}
324 \renewtheorem{Beweis}{Beweis}
325 \renewtheorem{beweis}{Beweis}
326 \qedsymbol{\HTMLUnicode{220E}}% UTF-8 end-of-proof
327
328 \theoremsymbol{}
329 \fi
330 }% not amsthm

```

### § 432.9 amsthm option

Only if the amsthm option was given:

```

331 \ifbool{LWR@theoremamsthm}{
332
333 \gdef\th@plain{%
334 \def\theorem@headerfont{\normalfont\bfseries}\itshape%
335 \def\@begintheorem##1##2{%
336 \LWR@intheorem% lwarp
337 \item[
338 \InlineClass{theoremheaderplain}{##1\ ##2.}
339]}%
340 \def\@opargbegintheorem##1##2##3{%
341 \LWR@intheorem% lwarp
342 \item[
343 \InlineClass{theoremheaderplain}{##1\ ##2\ (##3).}
344]}}
345
346 \gdef\th@nonumberplain{%
347 \def\theorem@headerfont{\normalfont\bfseries}\itshape%
348 \def\@begintheorem##1##2{%
349 \LWR@intheorem% lwarp
350 \item[
351 \InlineClass{theoremheaderplain}{##1.}
352]}%
353 \def\@opargbegintheorem##1##2##3{%
354 \LWR@intheorem% lwarp
355 \item[
356 \InlineClass{theoremheaderplain}{##1\ (##3).}
357]}}
358
359 \gdef\th@definition{%
360 \def\theorem@headerfont{\normalfont\bfseries}\normalfont%
361 \def\@begintheorem##1##2{%
362 \LWR@intheorem% lwarp

```

```
363 \item[
364 \InlineClass{theoremheaderdefinition}{##1\ ##2.}
365]}%
366 \def\@opargbegintheorem##1##2##3{%
367 \LWR@intheorem% lwarp
368 \item[
369 \InlineClass{theoremheaderdefinition}{##1\ ##2\ (##3).}
370]}}
371
372 \gdef\th@nonumberdefinition{%
373 \def\theorem@headerfont{\normalfont\bfseries}\normalfont%
374 \def\@begintheorem##1##2{%
375 \LWR@intheorem% lwarp
376 \item[
377 \InlineClass{theoremheaderdefinition}{##1.}
378]}%
379 \def\@opargbegintheorem##1##2##3{%
380 \LWR@intheorem% lwarp
381 \item[
382 \InlineClass{theoremheaderdefinition}{##1\ (##3).}
383]}}
384
385 \gdef\th@remark{%
386 \def\theorem@headerfont{\itshape}\normalfont%
387 \def\@begintheorem##1##2{%
388 \LWR@intheorem% lwarp
389 \item[
390 \InlineClass{theoremheaderremark}{##1\ ##2.}
391]}%
392 \def\@opargbegintheorem##1##2##3{%
393 \LWR@intheorem% lwarp
394 \item[
395 \InlineClass{theoremheaderremark}{##1\ ##2\ (##3).}
396]}}
397
398 \gdef\th@nonumberremark{%
399 \def\theorem@headerfont{\itshape}\normalfont%
400 \def\@begintheorem##1##2{%
401 \LWR@intheorem% lwarp
402 \item[
403 \InlineClass{theoremheaderremark}{##1.}
404]}%
405 \def\@opargbegintheorem##1##2##3{%
406 \LWR@intheorem% lwarp
407 \item[
408 \InlineClass{theoremheaderremark}{##1\ (##3).}
409]}}
410
411 \gdef\th@proof{%
412 \def\theorem@headerfont{\normalfont\bfseries}\itshape%
413 \def\@begintheorem##1##2{%
414 \LWR@intheorem% lwarp
415 \item[
416 \InlineClass{theoremheaderproof}{##1.}
417]}%

```



```

418 \def\@opargbegintheorem##1##2##3{%
419 \LWR@intheorem% lwarp
420 \item[
421 \InlineClass{theoremheaderproof}{##1\ (##3).}
422]}}
423
424
425
426 \newcounter{proof}%
427 \if@thmmarks
428 \newcounter{currproofctr}%
429 \newcounter{endproofctr}%
430 \fi
431
432 \gdef\proofSymbol{\openbox}
433
434 \newcommand{\proofname}{Proof}
435
436 \newenvironment{proof}[1][\proofname]{
437 \th@proof
438 \def\theorem@headerfont{\itshape}%
439 \normalfont
440 \theoremsymbol{\HTMLUnicode{220E}}% UTF-8 end-of-proof
441 \@thm{proof}{proof}{#1}
442 }%
443 {\@endtheorem}
444
445 }{}% amsthm option

```

### § 432.10 Ending a theorem

Patched for css:

```

446 \let\LWR@origendtheorem\@endtheorem
447 \renewcommand{\@endtheorem}{%
448 \ifbool{LWR@theoremmarks}{%
449 \ifsetendmark%
450 \InlineClass{theoremendmark}{\csname\InTheoType Symbol\endcsname}%
451 \setendmarkfalse%
452 \fi%
453 }{}%
454 \LWR@origendtheorem% also does \@endtrivlist
455 \ifbool{LWR@theoremmarks}{\global\setendmarktrue}{}%
456 \endBlockClass%
457 }

```

§ 432.11 **\NoEndMark**

```
458 \gdef\NoEndMark{\global\setendmarkfalse}
```

§ 432.12 **List-of**

Redefined to reuse the float mechanism to add list-of-theorem links:

```
\thm@thmline {<1: printed type>} {<2: #>} {<3: optional>} {<4: page>}
```

```
459 \renewcommand{\thm@thmline@noname}[4]{%
460 \hypertocfloat{1}{theorem}{thm}{#2 #3}{}%
461 }
462
463 \renewcommand{\thm@thmline@name}[4]{%
464 \hypertocfloat{1}{theorem}{thm}{#1 #2 #3}{}%
465 }
```

This was redefined by `ntheorem` when loaded, so it is now redefined for `lwarp`:

```
466 \def\thm@thmline{\thm@thmline@name}
```

Patch for css:

```
467 \def\listtheorems#1{
468 \LWR@html@elementclass{nav}{lohtm}%
469 \begingroup
470 \c@tocdepth=-2%
471 \def\thm@list{#1}\thm@processlist
472 \endgroup
473 \LWR@html@elementclassend{nav}{lohtm}%
474 }
```

§ 432.13 **Symbols**

Proof QED symbol:

```
475 \newcommand{\qed}{\quad\the\qedsymbol}
476
477 \AtBeginDocument{
478 \ifundefined{LWR@orig@openbox}{
479 \LetLtxMacro\LWR@orig@openbox\openbox
480 \LetLtxMacro\LWR@orig@blacksquare\blacksquare
481 \LetLtxMacro\LWR@orig@Box\Box
482
483 \def\openbox{\text{\HTMLUnicode{25A1}}}% UTF-8 white box
484 \def\blacksquare{\text{\HTMLUnicode{220E}}}% UTF-8 end-of-proof
485 \def\Box{\text{\HTMLUnicode{25A1}}}% UTF-8 white box
486
487 \appto\LWR@restoreorigformatting{%
488 \LetLtxMacro\openbox\LWR@orig@openbox%
489 \LetLtxMacro\blacksquare\LWR@orig@blacksquare%
490 \LetLtxMacro\Box\LWR@orig@Box%
491 }% appto
```

```
492 }{}% @ifundefined
493 }% AtBeginDocument
```

### § 432.14 **Cross-referencing**

```
\thref {<label>}
```

```
494 \newcommand*{\thref}[1]{\cref{#1}}%
```

---

### File 327 **lwarp-octave.sty**

### § 433 Package **octave**

*(Emulates or patches code by ANDREW A. CASHNER.)*

Pkg octave **octave** is patched for use by **lwarp**.

**for HTML output:** 1 \LWR@ProvidesPackagePass{octave}[2017/10/31]

Remove the leading 1pt kern:

```
2 \RenewDocumentCommand{\@PrintTicks}{ m }{%
3 \kern-1pt% lwarp
4 \@TickNum = #1%
5 \loop
6 \@Tick{}%
7 \advance\@TickNum by -1
8 \ifnum\@TickNum > 0
9 \repeat
10 }
```

Use unicode for the prime character:

```
11 \RenewDocumentCommand{\@Tick}{\}{\HTMLUnicode{2032}}
```

Catch the inline font:

```
12 \RenewDocumentCommand{\pitch}{ m o m }{%
13 \if@OctaveNumber%
14 {%
15 \pitchfont{%
16 \LWR@textcurrentfont% lwarp
17 \MakeUppercase{#1}%
18 \IfValueTF{#2}{#2}{\textsubscript{#3}}%
19 }%
20 }%
21 }%
22 \else%
23 {%
24 \pitchfont{%
25 \LWR@textcurrentfont% lwarp
26 \@GetOctaveTick{#1}[#2]{#3}}%
```

```

27 }%
28 }%
29 }%
30 \fi%
31 }

```

The original was hard to adapt to `lwarp`'s handling of `&`.

```

32 \StartDefiningTabulars
33 \renewcommand{\octavetable}{%
34 \begin{tabular}{ll}
35 \octaveprimes \pitch{C}{0} & \octavenumbers \pitch{C}{0} \\
36 \octaveprimes \pitch{C}{1} & \octavenumbers \pitch{C}{1} \\
37 \octaveprimes \pitch{C}{2} & \octavenumbers \pitch{C}{2} \\
38 \octaveprimes \pitch{C}{3} & \octavenumbers \pitch{C}{3} \\
39 \octaveprimes \pitch{C}{4} & \octavenumbers \pitch{C}{4} \\
40 \octaveprimes \pitch{C}{5} & \octavenumbers \pitch{C}{5} \\
41 \octaveprimes \pitch{C}{6} & \octavenumbers \pitch{C}{6} \\
42 \octaveprimes \pitch{C}{7} & \octavenumbers \pitch{C}{7} \\
43 \end{tabular}
44 }
45 \StopDefiningTabulars

```


---

File 328 **lwarp-overpic.sty**

§ 434 Package **overpic**

*(Emulates or patches code by ROLF NIEPRASCHK.)*

Pkg overpic overpic is patched for use by `lwarp`.

 **scaling** The macros `\overpicfontsize` and `\overpicfontskip` are used during HTML generation. These are sent to `\fontsize` to adjust the font size for scaling differences between the print and HTML versions of the document. Renew these macros before using the `overpic` and `Overpic` environments.

See section [86.2](#) for the print-mode version of `\overpicfontsize` and `\overpicfontskip`.

**for HTML output:** 1 \LWR@ProvidesPackagePass{overpic}[2017/10/06]

```

2 \newcommand*\overpicfontsize{12}
3 \newcommand*\overpicfontskip{14}
4
5 \BeforeBeginEnvironment{overpic}{%
6 \begin{lateximage}%
7 \fontsize{\overpicfontsize}{\overpicfontskip}%
8 \selectfont%
9 }
10
11 \AfterEndEnvironment{overpic}{\end{lateximage}}
12
13 \BeforeBeginEnvironment{Overpic}{%

```

---

```

14 \begin{lateximage}%
15 \fontsize{\overpicfontsize}{\overpicfontskip}%
16 \selectfont%
17 }
18
19 \AfterEndEnvironment{Overpic}{\end{lateximage}}

```

---

File 329 **lwarp-pagegrid.sty**

§ 435 Package **pagegrid**

Pkg pagegrid pagegrid is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{pagegrid}[2016/05/16]
2 \newcommand*{\pagegridsetup}[1]{}


```

---

File 330 **lwarp-pagenote.sty**

§ 436 Package **pagenote**

Pkg pagenote pagenote works as-is, but the page option is disabled.

 **labels** Note that labels in page notes do not appear as expected, even in the print version.

**for HTML output:**

```

1 \DeclareOption{page}{}
2 \LWR@ProvidesPackagePass{pagenote}[2009/09/03]

```

For MATHJAX:

```

3 \begin{warpMathJax}
4 \appto\LWR@syncnotenumbers{\LWR@synconenotenummer{\LWRpagenote}{\thepagenote}}
5 \CustomizeMathJax{\def\LWRpagenote{1}}
6 \CustomizeMathJax{\newcommand{\pagenote}[2][\LWRpagenote]{\mathrm{#1}}}
7 \end{warpMathJax}

```

There is no `\pagenotemark`, so the following are not required:

```

\providecommand{\pagenotename}{pagenote}
\appto\LWR@syncnotenames{\LWR@synconenotename{\LWRpagenote}{\pagenotename}}

```

---

File 331 **lwarp-pagesel.sty**

§ 437 Package **pagesel**

Pkg pagesel pagesel is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{pagesel}[2016/05/16]

```

---

File 332 **lwarp-paralist.sty**

§ 438 Package **paralist**

*(Emulates or patches code by BERND SCHANDL.)*

Pkg paralist paralist is supported with minor changes.

**for HTML output:** 1 \LWR@ProvidesPackagePass{paralist}[2017/01/22]

The compact environments are identical to the regular ones:

```
2 \LetLtxMacro\compactitem\itemize
3 \LetLtxMacro\compactenum\enumerate
4 \LetLtxMacro\compactdesc\description
5 \LetLtxMacro\endcompactitem\enditemize
6 \LetLtxMacro\endcompactenum\endenumerate
7 \LetLtxMacro\endcompactdesc\enddescription
```

For the inline environments, revert `\item` to its original print-mode version:

```
8 \AtBeginEnvironment{inparaitem}{\LetLtxMacro\item\LWR@origitem}
9 \AtBeginEnvironment{inparaenum}{\LetLtxMacro\item\LWR@origitem}
10 \AtBeginEnvironment{inparadesc}{\LetLtxMacro\item\LWR@origitem}
```

Manual formatting of the description labels:

```
11 \def\paradescriptionlabel#1{{\normalfont\textbf{#1}}}
```

---

File 333 **lwarp-parallel.sty**

§ 439 Package **parallel**

*(Emulates or patches code by MATTHIAS ECKERMANN.)*

Pkg parallel parallel is emulated.

Package options are ignored. Footnotes are treated as normal `lwarp` footnotes.

Environment option `c` gives side-by-side `<div>`s of class `minipage`, each of whose width is a percent depending on the given left and right widths, proportional to `\linewidth`.

Inside each environment, `\linewidth` and `\textwidth` are set for the print-output sizes.

**for HTML output:** Discard all options for `lwarp-parallel`:

```
1 \LWR@ProvidesPackageDrop{parallel}[2003/04/13]
```

```

2 \newcounter{LWR@parallel@Lwidth}
3 \newcounter{LWR@parallel@Rwidth}
4 \newcommand*{\LWR@parallel@border}
5
6 \newenvironment*{Parallel}[3][[%
7 {%
8 \LWR@printpendingfootnotes%
9 \setlength{\linewidth}{\LWR@userstextwidth}%
10 \setlength{\textwidth}{\LWR@userstextwidth}%
11 \renewcommand*{\LWR@parallel@border}{}%
12 \ifstrequal{#1}{v}%
13 {%
14 \renewcommand*{\LWR@parallel@border}{ ; border-left: 2px solid black}%
15 }%
16 }%
17 \ifblank{#2}{%
18 \ifblank{#3}{% {}{}
19 \setcounter{LWR@parallel@Lwidth}{45}%
20 \setcounter{LWR@parallel@Rwidth}{45}%
21 }% {}{}
22 {% {}{x}
23 \setlength{\LWR@templengthone}{\linewidth-#3}%
24 \setcounter{LWR@parallel@Lwidth}{%
25 90*\ratio{\LWR@templengthone}{\linewidth}%
26 }%
27 \setcounter{LWR@parallel@Rwidth}{%
28 90*\ratio{#3}{\linewidth}%
29 }%
30 }% {}{x}
31 }% #2 blank
32 {% #2 non-blank
33 \ifblank{#3}{% {x}{}
34 \setcounter{LWR@parallel@Lwidth}{%
35 90*\ratio{#2}{\linewidth}%
36 }%
37 \setlength{\LWR@templengthone}{\linewidth-#2}%
38 \setcounter{LWR@parallel@Rwidth}{%
39 90*\ratio{\LWR@templengthone}{\linewidth}%
40 }%
41 }% {x}{}
42 {% {x}{x}
43 \setcounter{LWR@parallel@Lwidth}{%
44 90*\ratio{#2}{\linewidth}%
45 }%
46 \setcounter{LWR@parallel@Rwidth}{%
47 90*\ratio{#3}{\linewidth}%
48 }%
49 }% {x}{x}
50 }% #2 non-blank
51 }
52 {%
53 \ParallelAtEnd%
54 \renewcommand*{\ParallelAtEnd}{}%
55 \LWR@printpendingfootnotes%
56 }

```

```

57
58 \newcommand*{\ParallelLText}[1]{%
59 \begin{BlockClass}%
60 width:\arabic{LWR@parallel@Lwidth}\% ; % space
61 padding: .5ex 1\% ; % space
62 }{minipage}%
63 #1%
64 \end{BlockClass}%
65 }
66
67 \newcommand*{\ParallelRText}[1]{%
68 \begin{BlockClass}%
69 width:\arabic{LWR@parallel@Rwidth}\% ; % space
70 padding: .5ex 1\% ; % space
71 \LWR@parallel@border%
72 }{minipage}%
73 #1%
74 \end{BlockClass}%
75 }
76
77 \newcommand*{\ParallelPar}{\LWR@printpendingfootnotes}
78
79 \newcommand*{\ParallelAtEnd}{}

```

---

File 334 **lwarp-parcolumns.sty**

§ 440 Package **parcolumns**

(Emulates or patches code by JONATHAN SAUER.)

Pkg parcolumns parcolumns is emulated.

rulebetween is honored. The other keys are ignored, including colwidths.

Each column is placed inside a <div> of class minipage, each of whose width is fixed at 85% divided by the number of columns. In most cases, this results in side-by-side minipages adapting to the browser width. Inside each minipage, \linewidth, \textwidth, and \textheight are set for a virtual 6 × 9 inch page, with \linewidth divided by the number of columns.

**for HTML output:** Discard all options for lwarp-parcolumns:

```

1 \RequirePackage{keyval}%
2
3 \LWR@ProvidesPackageDrop{parcolumns}[2004/11/25]
4
5 \newcounter{LWR@parcolumns@numcols}
6 \newcounter{LWR@parcolumns@thiscol}
7 \newcounter{LWR@parcolumns@width}
8 \newbool{LWR@parcolumns@started}
9 \newbool{LWR@parcolumns@rule}
10 \define@key{LWRparcols}{colwidths}{}

```



```

11 \define@key{LWRparcols}{distance}{}
12 \define@key{LWRparcols}{rulebetween}[true]{%
13 \setbool{LWR@parcolumns@rule}{#1}%
14 }
15 \define@key{LWRparcols}{nofirstindent}{}
16 \define@key{LWRparcols}{sloppy}{}
17 \define@key{LWRparcols}{sloppyspaces}{}
18
19 \newenvironment*{parcolumns}[2][[]
20 {%
21 \begin{LWR@setvirtualpage}*[#2]%
22 \setcounter{LWR@parcolumns@numcols}{#2}%
23 \setcounter{LWR@parcolumns@thiscol}{1}%
24 \boolfalse{LWR@parcolumns@started}%
25 \boolfalse{LWR@parcolumns@rule}%
26 \setcounter{LWR@parcolumns@width}{%
27 85/#2
28 }%
29 \setkeys{LWRparcols}{#1}%
30 }
31 {%
32 \colplacechunks%
33 \end{LWR@setvirtualpage}%
34 }
35
36 \newcommand{\LWR@parcolumns@onecol}[1]{%
37 \ifbool{LWR@parcolumns@started}%
38 {}%
39 {%
40 \LWR@htmldivclass{parcolumns}%
41 \booltrue{LWR@parcolumns@started}%
42 }%
43 \ifboolexpr{%
44 bool {LWR@parcolumns@rule} and
45 test {%
46 \ifnumgreater
47 {\value{LWR@parcolumns@thiscol}}
48 {1}
49 }%
50 }%
51 {\renewcommand{\LWR@tempone}{ ; border-left: 2px solid black}}%
52 {\renewcommand{\LWR@tempone}{}}%
53 \begin{BlockClass}[%
54 width:\arabic{LWR@parcolumns@width}\% ; % space
55 padding: .5ex 1\% ; % space
56 \LWR@tempone%
57]{minipage}%
58 #1%
59 \end{BlockClass}%
60 \addtocounter{LWR@parcolumns@thiscol}{1}%
61 }
62
63 \newcommand{\colchunk}[2][\value{LWR@parcolumns@thiscol}]{%
64 \whileboolexpr{%

```

```

65 test {%
66 \ifnumcomp%
67 {\value{LWR@parcolumns@thiscol}}
68 {<}
69 {#1}%
70 }%
71 }{%
72 \LWR@parcolumns@onecol{}}%
73 }%
74 \LWR@parcolumns@onecol{#2}%
75 }
76
77 \newcommand*{\colplacechunks}{%
78 \ifbool{LWR@parcolumns@started}%
79 {%
80 \LWR@htmldivclassend{div}%
81 \boolfalse{LWR@parcolumns@started}%
82 }%
83 {}%
84 \setcounter{LWR@parcolumns@thiscol}{1}%
85 }

```

---

File 335 **lwarp-parnotes.sty**

§ 441 Package **parnotes**

(Emulates or patches code by CHELSEA HUGHES.)

Pkg parnotes **parnotes** is supported with some patches.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{parnotes}[2016/08/15]
2 \long\def\PN@parnote@real#1#2{%
3 \parnotemark{#1}%
4 % Unless this is the first parnote in \PN@text, add a separator first
5 \unless\ifx\PN@text\empty\g@addto@macro\PN@text{\parnoteintercmd}\fi
6 % Redefine \@currentlabel to the parnote label, so \label works
7 \g@addto@macro\PN@text{%
8 \phantomsection%
9 \def\@currentlabel{#1}%
10 \def\cref@currentlabel{% lwarp
11 [parnotemark][\arabic{parnotemark}][\theparnotemark%
12]}%
13 }%
14 \g@addto@macro\PN@text{%
15 \LWR@textcurrentfont{% lwarp
16 \parnotemark{#1}\nolinebreak\thinspace#2%
17 }%
18 }%
19 }
20
21 \def\PN@parnotes@real{%
22 % We call \par later, so this avoids recursion with \PN@parnotes@auto

```

```

23 \PN@inparnotesttrue
24 \unless\ifvmode\par\fi
25 % Avoid page breaks between a paragraph and its parnotes
26 \nopagebreak\addvspace{\parnotevskip}%
27 \LWR@forcenewpage% lwarp
28 \begin{BlockClass}{footnotes}% lwarp
29 {\parnotefmt{\PN@text}\par}%
30 \end{BlockClass}% lwarp
31 \global\def\PN@text{%
32 \addvspace{\parnotevskip}%
33 %
34 % These can be enabled or disabled by package options
35 %
36 \PN@disable@indent
37 \PN@reset@optional
38 \PN@inparnotesfalse
39 }
40
41 \AtBeginDocument{
42 \crefname{parnotemark}{paragraph note}{paragraph notes}
43 \Crefname{parnotemark}{Paragraph note}{Paragraph notes}
44 }

```

For MATHJAX:

```

45 \begin{warpMathJax}
46 \providecommand{\parnotename}{parnote}
47 \appto\LWR@syncnotenumbers{%
48 \addtocounter{parnotemark}{-1}% specific to parnotes
49 \LWR@synconenotenummer{\LWRparnote}{\theparnotemark}%
50 \addtocounter{parnotemark}{1}% specific to parnotes
51 }
52 \appto\LWR@syncnotenames{\LWR@synconenotename{\LWRparnote}{\parnotename}}
53 \CustomizeMathJax{\def\LWRparnote{1}}
54 \CustomizeMathJax{\newcommand{\parnote}[2][\LWRparnote]{{}^{\mathrm{#1}}}}
55 \CustomizeMathJax{\newcommand{\parnotemark}[1][\LWRparnote]{{}^{\mathrm{#1}}}}
56 \end{warpMathJax}

```

---

File 336 **lwarp-parskip.sty**

§ 442 Package **parskip**

Pkg parskip **parskip** is ignored.

**for HTML output:** Discard all options for **lwarp-parskip**.

```
1 \LWR@ProvidesPackageDrop[parskip][2001/04/09]
```

---

File 337 **lwarp-pbox.sty**

§ 443 Package **pbox**

*(Emulates or patches code by SIMON LAW.)*

Pkg pbox **pbox** is emulated.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{pbox}[2011/12/07]
2 \NewDocumentCommand{\pbox}{0{t} 0{} 0{t} m +m}{%
3 \global\booltrue{LWR@minipagefullwidth}%
4 \parbox[#1][#2][#3]{#4}{#5}%
5 }
6
7 \newcommand{\settominwidth}[3][\columnwidth]{%
8 \settowidth{#2}{#3}%
9 }
10
11 \newcommand{\widthofpbox}[1]{%
12 \widthof{#1}%
13 }
```

---

File 338 **lwarp-pdfcol.sty**

§ 444 Package **pdfcol**

Pkg pdfcol **pdfcol** is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{pdfcol}[2018/11/01]
2
3 \ltx@newif\ifpdfcolAvailable
4 \pdfcolAvailablefalse
5
6 \def\pdfcolErrorNoStacks{
7 \PackageInfo{lwarp-pdfcol}{Ignoring pdfcol for HTML output.}
8 }
9
10 \def\pdfcolInitStack#1{%
11
12 \long\def\pdfcolIfStackExists#1#2#3{#3}%
13
14 \def\pdfcolSwitchStack#1{%
15
16 \def\pdfcolSetCurrentColor{%
17
18 \def\pdfcolSetCurrent#1{%
```

File 339 **lwarp-pdfcolfoot.sty**

§ 445 Package **pdfcolfoot**

Pkg pdfcolfoot pdfcolfoot is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{pdfcolfoot}[2016/05/16]
2
3 \newcommand*{\pdfcolfoot@switch}{}
4
5 \newcommand*{\pdfcolfoot@current}{}

```

File 340 **lwarp-pdfcolmk.sty**

§ 446 Package **pdfcolmk**

Pkg pdfcolmk pdfcolmk is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{pdfcolmk}[2016/05/16]

```

File 341 **lwarp-pdfcolparallel.sty**

§ 447 Package **pdfcolparallel**

Pkg pdfcolparallel pdfcolparallel is ignored.

**for HTML output:**

```

1 \RequirePackage{keyval}%
2
3 \LWR@ProvidesPackageDropA{pdfcolparallel}{2016/05/16}

```

Pass options to parallel:

```

4 \DeclareOption*{%
5 \PassoptionsToPackage{\CurrentOption}{parallel}%
6 }

```

Process the options:

```

7 \LWR@ProvidesPackageDropB

```

Require parallel with the given options:

```

8 \RequirePackage{parallel}[2003/04/13]

```

Ignore the new key:

```
9 \define@key{parallel}{rulebetweencolor}{}
```

---

File 342 **lwarp-pdfcolparcolumns.sty**

§ 448 Package **pdfcolparcolumns**

Pkg pdfcolparcolumns pdfcolparcolumns is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDropA{pdfcolparcolumns}{2016/05/16}

Pass options to parcolumns:

```
2 \DeclareOption*{%
3 \PassoptionsToPackage{\CurrentOption}{parcolumns}%
4 }
```

Process the options:

```
5 \LWR@ProvidesPackageDropB
```

Require parcolumns with the given options:

```
6 \RequirePackage{parcolumns}[2004/11/25]
```

Ignore the new key:

```
7 \define@key{LWRparcols}{rulebetweencolor}{}
```

---

File 343 **lwarp-pdfcomment.sty**

§ 449 Package **pdfcomment**

Pkg pdfcomment pdfcomment is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{pdfcomment}[2016/06/13]

```
2 \newenvironment{pdfsidelinecomment}[2][{}]{ }
3 \newcommand{\pdfcomment}[2][{}]{ }
4 \newcommand{\pdfmargincomment}[2][{}]{ }
5 \newcommand{\pdfmarkupcomment}[3][{}]{#2}
6 \newcommand{\pdfreetextcomment}[2][{}]{ }
7 \newcommand{\pdfsquarecomment}[2][{}]{ }
8 \newcommand{\pdfcirclecomment}[2][{}]{ }
9 \newcommand{\pdflinecomment}[2][{}]{ }
10 \newcommand{\pdftooltip}[3][{}]{#2}
11 \newcommand{\pdfcommentsetup}[2][{}]{ }
```

```

12 \newcommand{\listofpdfcomments}[1][{}]{
13 \newcommand{\setliststyle}[1]{
14 \newcommand{\defineliststyle}[2]{
15 \newcommand{\defineavatar}[2]{
16 \newcommand{\definestyle}[2]{

```

For MATHJAX:

```

17 \begin{warpMathJax}
18 \CustomizeMathJax{\newcommand{\pdfmarkupcomment}[3][{}]{#2}}
19 \CustomizeMathJax{\newcommand{\pdftooltip}[3][{}]{#2}}
20 \end{warpMathJax}

```

---

File 344 **lwarp-pdfcrypt.sty**

§ 450 Package **pdfcrypt**

Pkg pdfcrypt pdfcrypt is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{pdfcrypt}[2016/05/16]

```
2 \newcommand*{\pdfcryptsetup}[1]{
```

---

File 345 **lwarp-pdflscope.sty**

§ 451 Package **pdflscope**

Pkg pdflscope pdflscope is ignored.

**for HTML output:** Discard all options for lwarp-pdflscope:

```
1 \LWR@ProvidesPackageDrop{pdflscope}[2016/05/14]
```

---

File 346 **lwarp-pdfmarginpar.sty**

§ 452 Package **pdfmarginpar**

Pkg pdfmarginpar pdfmarginpar is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{pdfmarginpar}[2011/08/05]

```
2 \newcommand{\pdfmarginpar}[2][{}]{
3 \newcommand{\pdfmarginparset}[1]{
```

---

File 347 **lwarp-pdpages.sty**

§ 453 Package **pdpages**

*(Emulates or patches code by ANDREAS MATTHIAS.)*

Pkg pdpages **pdpages** is patched for use by **lwarp**.

Option `link` and `linkname` work:

---

```
\hyperlink{<filename>.pdf.<pagenumber>}{some text}
\hyperlink{<linkname>.<pagenumber>}{some text}
```

---

Options which make no sense in HTML are disabled.

**for HTML output:** 1 \LWR@ProvidesPackagePass{pdpages}[2017-10-31]

Disable option which have no meaning for HTML output:

```
2 \define@key{pdpages}{fitpaper}[false]{}
3 \define@key{pdpages}{landscape}[false]{}
4 \define@key{pdpages}{openright}[false]{}
5 \define@key{pdpages}{signature}{}
6 \define@key{pdpages}{signature*}{}
7 \define@key{pdpages}{booklet}[false]{}
8 \define@key{pdpages}{rotateoversize}[false]{}
9 \define@key{pdpages}{doublepages}[false]{}
10 \define@key{pdpages}{doublepageswist}[false]{}
11 \define@key{pdpages}{doublepageswistodd}[false]{}
12 \define@key{pdpages}{doublepageswist*}[false]{}
13 \define@key{pdpages}{doublepageswistodd*}[false]{}
14 \define@key{pdpages}{duplicatepages}[2]{}
15 \define@key{pdpages}{thread}[false]{}
16 \define@key{pdpages}{threadname}{}
17 \define@key{pdpages}{linkfit}{}
18 \define@key{pdpages}{linktodoc}[false]{}
19 \define@key{pdpages}{linktodocfit}{}
20 \define@key{pdpages}{linkfilename}{}
21 \define@key{pdpages}{survey}[false]{}
22 \define@key{pdpages}{survey-nolink}[false]{}
23 \define@key{pdpages}{newwindow}[false]{}

```

Use print mode while measuring the page numbers:

```
24 \xpretocmd{\AM@getpagecount}{\LWR@restoreorigformatting}{}{}

```

Emulate a bit of `eso-pic`:



```

25 \newif\ifESO@texcoord
26
27 \newcommand{\ESO@HookIIBG}{}
28
29 \renewcommand{\AM@AddToShipoutPicture}{\g@addto@macro\ESO@HookIIBG}
30
31 \renewcommand{\ClearShipoutPicture}{}

```

\LWR@esopic@newpage    At each \newpage.

```

32 \newcommand*{\LWR@esopic@newpage}{%

```

Is there something to draw?

```

33 \ifdefvoid{\ESO@HookIIBG}%
34 {}%
35 {%

```

If the link option was specified, add a hyper target:

```

36 \ifAM@link%
37 \hypertarget{\AM@linkname.\AM@page}{}%
38 \fi%

```

Draw inside a picture environment of the size of a virtual page:

```

39 \begingroup%
40 \setlength{\unitlength}{1in}%
41 \begin{picture}(8,10.5)%
42 \ESO@HookIIBG%
43 \end{picture}%
44 \endgroup%
45 \global\let\ESO@HookIIBG\@empty%
46 }
47 }

```

\AM@output    Patched to use \LWR@esopic@newpage.

```

48 \xpatchcmd{\AM@output}
49 {\newpage}
50 {\LWR@esopic@newpage}
51 {}
52 {\LWR@patcherror{pdfpages}{AM@output-1}}
53
54 \xpatchcmd{\AM@output}
55 {\newpage}
56 {\LWR@esopic@newpage}
57 {}
58 {\LWR@patcherror{pdfpages}{AM@output-2}}
59
60 \xpatchcmd{\AM@output}
61 {\newpage}
62 {\LWR@esopic@newpage}
63 {}
64 {\LWR@patcherror{pdfpages}{AM@output-3}}

```

`\includepdf` Patched to set the user's paper size.

```
65 \xpretocmd{\includepdf}{%
66 \begingroup%
67 \setlength{\paperwidth}{\LWR@userspaperwidth}%
68 \setlength{\paperheight}{\LWR@userspaperheight}%
69 }{}{}
70
71 \xapptocmd{\includepdf}{%
72 \endgroup%
73 }{}{}

```

`\includepdfmerge` Patched to set the user's paper size.

```
74 \xpretocmd{\includepdfmerge}{%
75 \begingroup%
76 \setlength{\paperwidth}{\LWR@userspaperwidth}%
77 \setlength{\paperheight}{\LWR@userspaperheight}%
78 }{}{}
79
80 \xapptocmd{\includepdfmerge}{%
81 \endgroup%
82 }{}{}

```

`\AM@hyper@begin@i` Hyper links are created by `\LWR@esopic@newpage`, so don't create them here:

```
83 \renewcommand{\AM@hyper@begin@i}{}

```

File 348 **lwarp-pdfprivacy.sty**

§ 454 Package **pdfprivacy**

Pkg pdfprivacy pdfprivacy is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{pdfprivacy}[2017/12/03]

File 349 **lwarp-pdfrenderer.sty**

§ 455 Package **pdfrenderer**

Pkg pdfrenderer pdfrenderer is allowed during HTML, but it has no effect on HTML text output. pdfrenderer is enabled for use with `xfakebold`, and it is enabled during HTML so that it may be in use when an SVG math image is started. I.e. `xfakebold's \setBold` may be used outside of a math expression and still be detected when the math begins.

The `lwarp-pdfrenderer` package is present because it used to disable `pdfrenderer`, so this newer version is to overwrite older versions.

**for HTML output:** 1 \LWR@ProvidesPackagePass{pdfrenderer}[2019/12/29]

---

File 350 **lwarp-pdfsync.sty**

§ 456 Package **pdfsync**

*(Emulates or patches code by J. LAURENS.)*

Pkg pdfsync pdfsync is ignored.

**for HTML output:** Discard all options for lwarp-pdfsync:

```
1 \LWR@ProvidesPackageDrop{pdfsync}[2008/01/26]
2 \newcommand*\pdfsync{}
3 \newcommand*\pdfsyncstart{}
4 \newcommand*\pdfsyncstop{}
```


---

File 351 **lwarp-pdftricks.sty**

§ 457 Package **pdftricks**

*(Emulates or patches code by C. V. RADHAKRISHNAN, C. V. RAJAGOPAL, ANTOINE CHAMBERT-LOIR.)*

Pkg pdftricks pdftricks is patched for use by lwarp.

 **convert image files** The pdftricks image files <jobname>-fig\*.pdf must be converted to .svg, or else a missing file error will occur. The image files must also be converted again whenever they change. To convert the images:

Enter ⇒ **lwarpmk pdftosvg <jobname>-fig\*.pdf**

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{pdftricks}[2003/08/10]
```

Reuse the print-mode images:

```
2 \def\PDFTfigname{\BaseJobname-fig\thepsfig}
```

If the .pdf images have not yet been converted to .svg then an error about a missing file will occur. Warn the user to convert the images.

```
3 \PackageWarning{lwarp-pdftricks}{
4 When the pdftricks images change,
5 remember to convert PDF images to SVG using 'lwarpmk pdftosvg *-fig.pdf',
6 }
7
8 \AfterEndDocument{\typeout{***}}
9 \AfterEndDocument{\typeout{*** Note: If pdftricks images are not found, new, or updated,}}
10 \AfterEndDocument{\typeout{*** \space use 'lwarpmk pdftosvg \BaseJobname-fig*.pdf'}}
11 \AfterEndDocument{\typeout{***}}
```

---

File 352 **lwarp-pdfx.sty**

§ 458 Package **pdfx**

Pkg pdfx pdfx is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{pdfx}[2017/05/18]

---

File 353 **lwarp-perpage.sty**

§ 459 Package **perpage**

*(Emulates or patches code by DAVID KASTRUP.)*

Pkg perpage perpage is mostly ignored, but support is added for footnote counters.

There is no page number in HTML, so most counters are not reset. If the document redefines \the<countname> to include \theperpage, it is necessary to place that redefinition inside a warpprint environment to avoid modifying the HTML definitions.

\AddAbsoluteCounter must not be inside warpprint, as the counter must be added for HTML also, although it is not incremented.

[footnote numbering](#) To have footnote numbers reset each time footnotes are printed:

```
\setcounter{footnoteReset}{1}
```

For bigfoot, manyfoot, or perpage:

```
\MakePerPage{footnoteX}
— or —
\MakeSortedPerPage{footnoteX}
```

The footnotes are reset when they are printed, according to section level as set by FootnoteDepth, which is not necessarily by HTML page. This is recommended for \alph, \Alph, or \fnsymbol footnotes, due to the limited number of symbols which are available.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{perpage}[2014/10/25]

```
2 \newcommand\AddAbsoluteCounter[1]
3 {
4 \ifundefined{c@abs#1}{%
5 \expandafter\newcount\csname c@abs#1\endcsname
6 \global\value{abs#1}\@ne
7 \global\expandafter\let\csname cl@abs#1\endcsname\@empty
8 \expandafter\xdef\csname theabs#1\endcsname{%
9 \noexpand\number \csname c@abs#1\endcsname
```

```

10 }%
11 % \global\@namedef{c@pabs@#1}{\pp@cl@begin
12 % \stepcounter{abs#1}%
13 % \pp@cl@end}%
14 % \@addtoreset{pabs@#1}{#1}
15 }
16 {}
17 }
18
19 \AddAbsoluteCounter{page}
20 \def\theabspage{1}
21
22 \newcommand*{\MakePerPage[2][1]{%
23 \ifltxcounter{#2Reset}{%
24 \setcounter{#2Reset}{#1}%
25 }{
26
27 }%
28 }
29
30 \newcommand*{\MakeSorted[1]}{
31
32 \newcommand*{\MakeSortedPerPage[2][1]{%
33 \ifltxcounter{#2Reset}{%
34 \setcounter{#2Reset}{#1}%
35 }{
36 }%
37 }
38
39 \newcommand*{\theperpage}{1}


```

---

File 354 **lwarp-pfnote.sty**

§ 460 Package **pfnote**

Pkg pfnote pfnote is ignored.

 **pfnote numbers** While emulating pfnote, lwarp is not able to reset HTML footnote numbers per page number to match the printed version, as HTML has no concept of page numbers. lwarp therefore uses continuous footnote numbering even for pfnote.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{pfnote}[1999/07/14]

---

File 355 **lwarp-phfqit.sty**

§ 461 Package **phfqit**

*(Emulates or patches code by PHILIPPE FAIST.)*

Pkg phfqit phfqit is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{phfqit}[2017/08/16]
2 \LetLtxMacro\LWR@origbitstring\bitstring
3
4 \renewcommand\bitstring[1]{%
5 \InlineClass[%
6 text-decoration: overline underline ;
7]{\bitstring}{#1}%
8 % \phfqit@bitstring{#1}%
9 }
10
11 \appto\LWR@restoreorigformatting{%
12 \LetLtxMacro\bitstring\LWR@origbitstring%
13 }
```

File 356 **lwarp-physics.sty**

§ 462 Package **physics**

*(Emulates or patches code by SERGIO C. DE LA BARRERA.)*

Pkg physics physics works as-is for HTML with SVG math.

For MATHJAX, the MATHJAX v3 physics extension is used.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{physics}% No date is provided by the package.
2 \begin{warpMathJax}
3 \PackageWarningNoLine{lwarp, physics}{The MathJax v3 extension will be used}
4 \CustomizeMathJax{\require{physics}}
5 \end{warpMathJax}
```

File 357 **lwarp-physunits.sty**

§ 463 Package **physunits**

*(Emulates or patches code by BRIAN W. MULLIGAN.)*

Pkg physunits physunits is supported as-is for SVG math, and is emulated for MATHJAX.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{physunits}[2020/03/26]
2 \begin{warpMathJax}
3 \LWR@infoprocessingmathjax{physunits}
4
5 \CustomizeMathJax{\newcommand{\micro}{\mu}}
6 \CustomizeMathJax{\newcommand{\V}[1][]{\, \mathrm{#1V}}}
7 \CustomizeMathJax{\newcommand{\Volt}[1][]{\, \mathrm{#1V}}}
8 \CustomizeMathJax{\newcommand{\Coulomb}[1][]{\, \mathrm{#1C}}}
```

```

9 \CustomizeMathJax{\newcommand{\esu}{\, \mathrm{esu}}}
10 \CustomizeMathJax{\newcommand{\Ohm}[1][]{\, \mathrm{#1\Omega}}}
11 \CustomizeMathJax{\newcommand{\Amp}[1][]{\, \mathrm{#1A}}}
12 \CustomizeMathJax{\newcommand{\Farad}[1][]{\, \mathrm{#1F}}}
13 \CustomizeMathJax{\newcommand{\Tesla}[1][]{\, \mathrm{#1T}}}
14 \CustomizeMathJax{\newcommand{\Gauss}[1][]{\, \mathrm{#1G}}}
15 \CustomizeMathJax{\newcommand{\Henry}[1][]{\, \mathrm{#1H}}}
16 \CustomizeMathJax{\newcommand{\eV}[1][]{\, \mathrm{#1eV}}}
17 \CustomizeMathJax{\newcommand{\keV}{\, \mathrm{keV}}}
18 \CustomizeMathJax{\newcommand{\MeV}{\, \mathrm{MeV}}}
19 \CustomizeMathJax{\newcommand{\J}[1][]{\, \mathrm{#1J}}}
20 \CustomizeMathJax{\newcommand{\Joule}[1][]{\, \mathrm{#1J}}}
21 \CustomizeMathJax{\newcommand{\erg}{\, \mathrm{erg}}}
22 \CustomizeMathJax{\newcommand{\kcal}{\, \mathrm{kcal}}}
23 \CustomizeMathJax{\newcommand{\Cal}{\, \mathrm{Cal}}}
24 \CustomizeMathJax{\newcommand{\calorie}[1][]{\, \mathrm{#1cal}}}
25 \CustomizeMathJax{\newcommand{\BTU}{\, \mathrm{BTU}}}
26 \CustomizeMathJax{\newcommand{\tnt}{\, \mathrm{ton\, of\, TNT}}}
27 \CustomizeMathJax{\newcommand{\Watt}[1][]{\, \mathrm{#1W}}}
28 \CustomizeMathJax{\newcommand{\hpi}{\, \mathrm{hp(I)}}}
29 \CustomizeMathJax{\newcommand{\hpm}{\, \mathrm{hp(M)}}}
30 \CustomizeMathJax{\newcommand{\hp}{\, \mathrm{hp}}}
31 \CustomizeMathJax{\newcommand{\meter}[1][]{\, \mathrm{#1m}}}
32 \CustomizeMathJax{\newcommand{\m}[1][]{\, \mathrm{#1m}}}
33 \CustomizeMathJax{\newcommand{\km}{\, \mathrm{km}}}
34 \CustomizeMathJax{\newcommand{\au}{\, \mathrm{au}}}
35 \CustomizeMathJax{\newcommand{\pc}[1][]{\, \mathrm{#1pc}}}
36 \CustomizeMathJax{\newcommand{\ly}[1][]{\, \mathrm{#1ly}}}
37 \CustomizeMathJax{\newcommand{\cm}{\, \mathrm{cm}}}
38 \CustomizeMathJax{\newcommand{\nm}{\, \mathrm{nm}}}
39 \CustomizeMathJax{\newcommand{\ft}{\, \mathrm{ft}}}
40 \CustomizeMathJax{\newcommand{\inch}{\, \mathrm{in}}}
41 \CustomizeMathJax{\newcommand{\mi}{\, \mathrm{mi}}}
42 \CustomizeMathJax{\newcommand{\s}[1][]{\, \mathrm{#1s}}}
43 \CustomizeMathJax{\newcommand{\Sec}[1][]{\, \mathrm{#1s}}}
44 \CustomizeMathJax{\newcommand{\Min}{\, \mathrm{min}}}
45 \CustomizeMathJax{\newcommand{\h}{\, \mathrm{h}}}
46 \CustomizeMathJax{\newcommand{\y}[1][]{\, \mathrm{#1y}}}
47 \CustomizeMathJax{\newcommand{\Day}{\, \mathrm{d}}}
48
49 \CustomizeMathJax{\newcommand{\gm}[1][]{\, \mathrm{#1g}}}
50 \CustomizeMathJax{\newcommand{\kg}{\, \mathrm{kg}}}
51 \CustomizeMathJax{\newcommand{\lb}{\, \mathrm{lb}}}
52 \CustomizeMathJax{\newcommand{\amu}{\, \mathrm{amu}}}
53 \CustomizeMathJax{\newcommand{\N}[1][]{\, \mathrm{#1N}}}
54 \CustomizeMathJax{\newcommand{\Newton}[1][]{\, \mathrm{#1N}}}
55 \CustomizeMathJax{\newcommand{\dyne}[1][]{\, \mathrm{#1dyn}}}
56 \CustomizeMathJax{\newcommand{\lbf}{\, \mathrm{lbf}}}
57 \CustomizeMathJax{\newcommand{\kmph}{\, \mathrm{km}\, \mathrm{s}^{-1}}}
58 \CustomizeMathJax{\newcommand{\kmph}{\, \mathrm{km}\, \mathrm{h}^{-1}}}
59 \CustomizeMathJax{\newcommand{\mps}[1][]{\, \mathrm{#1m}\, \mathrm{s}^{-1}}}
60 \CustomizeMathJax{\newcommand{\miph}{\, \mathrm{mi}\, \mathrm{h}^{-1}}}
61 \CustomizeMathJax{\newcommand{\kts}{\, \mathrm{kts}}}
62
63 \CustomizeMathJax{\newcommand{\mpss}[1][]{\, \mathrm{#1m}\, \mathrm{s}^{-2}}}

```

```

64 \CustomizeMathJax{\newcommand{\gacc}{\, \mathrm{g}}}
65 \CustomizeMathJax{\newcommand{\ftpss}{\, \mathrm{ft}\, \mathrm{s}^{-2}}}
66 \CustomizeMathJax{\newcommand{\K}[1][]{\, \mathrm{#1K}}}
67 \CustomizeMathJax{\newcommand{\Kelvin}[1][]{\, \mathrm{#1K}}}
68 \CustomizeMathJax{\newcommand{\Celcius}{\, ^\circ\mathrm{C}}}
69 \CustomizeMathJax{\newcommand{\Rankine}{\, ^\circ\mathrm{R}}}
70 \CustomizeMathJax{\newcommand{\Fahrenheit}{\, ^\circ\mathrm{F}}}
71
72 \CustomizeMathJax{\newcommand{\rpm}{\, \mathrm{rev}\, \mathrm{Min}^{-1}}}
73
74 \CustomizeMathJax{\newcommand{\Hz}[1][]{\, \mathrm{#1Hz}}}
75 \CustomizeMathJax{\newcommand{\barP}[1][]{\, \mathrm{#1bar}}}
76 \CustomizeMathJax{\newcommand{\atm}{\, \mathrm{atm}}}
77 \CustomizeMathJax{\newcommand{\Pa}[1][]{\, \mathrm{#1Pa}}}
78 \CustomizeMathJax{\newcommand{\mmHg}{\, \mathrm{mmHg}}}
79 \CustomizeMathJax{\newcommand{\inHg}{\, \mathrm{inHg}}}
80 \CustomizeMathJax{\newcommand{\lbsi}{\, \mathrm{psi}}}
81 \CustomizeMathJax{\newcommand{\lbsf}{\, \mathrm{psf}}}
82 \CustomizeMathJax{\newcommand{\Ba}[1][]{\, \mathrm{#1Ba}}}
83 \CustomizeMathJax{\newcommand{\Torr}[1][]{\, \mathrm{#1Torr}}}
84 \CustomizeMathJax{\newcommand{\mol}{\, \mathrm{mol}}}
85 \end{warpMathJax}

```

---

File 358 **lwarp-picinpar.sty**

§ 464 Package **picinpar**

*(Emulates or patches code by FRIEDHELM SOWA.)*

Pkg picinpar **picinpar** is patched for use by **lwarp**.

**for HTML output:** 1 \LWR@ProvidesPackagePass{picinpar}% No date is assigned.

The window is floated by a BlockClass style.

```

2 \long\def\LWR@HTML@window[#1,#2,#3,#4] {%
3 \if #2r%
4 \begin{BlockClass}[float:right]{marginblock}%
5 \else%
6 \begin{BlockClass}[float:left]{marginblock}%
7 \fi%
8 #3\par%
9 #4%
10 \end{BlockClass}%
11 }
12
13 \def\endLWR@HTML@window{}
14
15 \LWR@formattedenv{window}

```

The framepic and wframepic are placed inside a BlockClass of class framebox.



```

16 \def\LWR@HTML@framepic#1{%
17 \begin{BlockClass}{framebox}
18 \expandafter\box\csname #1box\endcsname%
19 \end{BlockClass}
20 }
21 \LWR@formatted{framepic}

22 \def\LWR@HTML@wframepic#1{%
23 \begin{BlockClass}{framebox}
24 \expandafter\box\csname #1box\endcsname%
25 \end{BlockClass}
26 }
27 \LWR@formatted{wframepic}

```

The caption is placed inside a BlockClass of class figurecaption.

```

28 \long\def\LWR@HTML@makewincaption#1#2{%
29 \begin{BlockClass}{figurecaption}
30 #1: #2
31 \end{BlockClass}
32 }
33 \LWR@formatted{@makewincaption}

```

With HTML output, figwindow and tabwindow must not pre-decrement their counters.

```

34 \long\def\LWR@HTML@figwindow[#1,#2,#3,#4] {%
35 % \advance\c@figure -1
36 \window[#1,#2,{#3},{\def\@capttype{figure}%
37 \wincaption#4\par}] }
38
39 \def\endLWR@HTML@figwindow{\endwindow}
40
41 \LWR@formattedenv{figwindow}

```

For tabwindow, to change the catcode of &, \StartDefiningTabulars is used before absorbing the arguments, and \EndDefiningTabulars is used at the end of the environment.

```

42 \long\def\LWR@HTML@subtabwindow[#1,#2,#3,#4] {%
43 % \advance\c@table -1
44 \window[#1,#2,{#3},{\def\@capttype{table}%
45 \wincaption#4\par}] }
46
47 \newcommand*\LWR@HTML@tabwindow{%
48 \StartDefiningTabulars%
49 \LWR@HTML@subtabwindow%
50 }
51
52 \def\endLWR@HTML@tabwindow{%
53 \endwindow%
54 \StopDefiningTabulars%
55 }
56
57 \LWR@formattedenv{tabwindow}

```

---

File 359 **lwarp-pifont.sty**

§ 465 Package **pifont**

*(Emulates or patches code by WALTER SCHMIDT.)*

Pkg pifont **pifont** is patched for use by **lwarp**.

Hashed inline images are used, as there may not be Unicode support for all icons.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{pifont}[2005/04/12]

2 \renewcommand{\Pisymbol}[2]{%
3 \begin{lateximage}*\Pisymbol[pisymbol#1#2]%
4 {\Pifont{#1}\char#2}%
5 \end{lateximage}%
6 }
7
8 \newcommand{\LWR@HTML@Pifill}[2]{
9 \Pisymbol{#1}{#2} \Pisymbol{#1}{#2} \Pisymbol{#1}{#2}
10 }
11 \LWR@formatted{Pifill}
12
13 \newcommand{\LWR@HTML@Piline}[2]{%
14 \par\noindent\hspace*{0.5in}
15 \Pifill{#1}{#2} \Pifill{#1}{#2} \Pifill{#1}{#2}
16 }
17 \LWR@formatted{Piline}

```

---

File 360 **lwarp-placeins.sty**

§ 466 Package **placeins**

*(Emulates or patches code by DONALD ARSENEAU.)*

Pkg placeins **placeins** is ignored.

Discard all options for **lwarp-placeins**:

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{placeins}[2005/04/18]

2 \newcommand*\FloatBarrier{}

```

---

File 361 **lwarp-plarydshln.sty**

§ 467 Package **plarydshln**

Pkg plarydshln plarydshln is emulated by lwarp-arydshln.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{plarydshln}[2018/10/20]
2 \LWR@origRequirePackage{lwarp-arydshln}
```

---

File 362 **lwarp-plext.sty**

§ 468 Package **plext**

Pkg plext plext is preloaded by jarticle and related classes.

**for HTML output:**

```
1 \LWR@loadbefore{plext}
2
3 \LWR@ProvidesPackagePass{plext}[2017/07/21]

4 \let\tate\relax
5
6 \DeclareExpandableDocumentCommand{\rensuji}{s o m}{#3}
7
8 % \layoutfloat(width,height)[pos]#4
9 \DeclareDocumentCommand{\layoutfloat}{d(o m){}
10
11 % \DeclareLayoutCaption{type} <dir>(width)[pos1pos2]
12 \DeclareDocumentCommand{\DeclareLayoutCaption}{m d<> d(o){}
13
14 \LetLtxMacro\pcaption\caption
15
16 % \layoutcaption<dir>(width)[pos]
17 \DeclareDocumentCommand{\layoutcaption}{d<> d(o){}
18
19 \let\captiondir\relax
```

Add the optional <t/y> direction:

```
20 \RenewDocumentEnvironment{LWR@HTML@minipage}{d<> O{t} O{ } O{t} m}
21 {\LWR@HTML@sub@minipage{#2}{#3}{#4}{#5}}
22 {\endLWR@HTML@sub@minipage}
23
24 \RenewDocumentCommand{\LWR@HTML@parbox}{d<> O{t} O{ } O{t} m +m}
25 {
26 \LWR@traceinfo{parbox of width #4}%
27 \begin{minipage}[#2][#3][#4]{#5}%
```

```

28 #6
29 \end{minipage}%
30 }
31
32 % \pbox <t/y> [width] [l/r] {contents}
33 \RenewDocumentCommand{\pbox}{d<> 0{0pt} 0{c} m}{%
34 \global\booltrue{LWR@minipagefullwidth}%
35 \parbox{#2}{#4}%
36 }

```

picture, as modified by `pext`, is encapsulated by the `lwarp` core.

---

File 363 **lwarp-plextarydshln.sty**

§ 469 Package **plextarydshln**

Pkg `plextarydshln` `plextarydshln` is emulated by `lwarp-arydshln`.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{plextarydshln}[2018/10/20]
2 \LWR@origRequirePackage{lwarp-arydshln}

```

---

File 364 **lwarp-plextcolortbl.sty**

§ 470 Package **plextcolortbl**

Pkg `plextcolortbl` `plextcolortbl` is emulated by `lwarp-colortbl`.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{plextcolortbl}[2018/09/19]
2 \LWR@origRequirePackage{lwarp-colortbl}

```

---

File 365 **lwarp-plimsoll.sty**

§ 471 Package **plimsoll**

*(Emulates or patches code by PALLE JØRGENSEN.)*

Pkg `plimsoll` `plimsoll` is used as-is for SVG math, and emulated for `MATHJAX`.

The `circ` option is honored. For `MATHJAX`, `\plimsollsans` is the same as `\plimsollroman`.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{plimsoll}[2020/10/09]
2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\plimsollroman}{\unicode{x029B5}}}

```

---

```

4
5 \CustomizeMathJax{\let\plimsoll\plimsollroman}
6 \CustomizeMathJax{\let\plimsollsans\plimsoll}
7
8 \ifdefstring{\stst}{^{\circ}}
9 {\CustomizeMathJax{\newcommand{\stst}{^{\circ}}}}
10 {\CustomizeMathJax{\newcommand{\stst}{^{\plimsoll}}}}
11 \end{warpMathJax}

```

---

File 366 **lwarp-prelim2e.sty**

§ 472 Package **prelim2e**

*(Emulates or patches code by MARTIN SCHRÖDER.)*

Pkg `prelim2e` `prelim2e` is ignored.

**for HTML output:** Discard all options for `lwarp-prelim2e`:

```

1 \LWR@ProvidesPackageDrop{prelim2e}[2009/05/29]

2 \newcommand{\PrelimText}{}
3 \newcommand{\PrelimTextStyle}{}
4 \newcommand{\PrelimWords}{}

```

---

File 367 **lwarp-prettyref.sty**

§ 473 Package **prettyref**

*(Emulates or patches code by KEVIN S. RULAND.)*

Pkg `prettyref` `prettyref` is patched for use by `lwarp`.

**for HTML output:** `1 \LWR@ProvidesPackagePass{prettyref}[1998/07/09]`

```

2 \newrefformat{fig}{Figure \ref{#1}}
3 \newrefformat{tab}{Table \ref{#1}}

```

---

File 368 **lwarp-preview.sty**

§ 474 Package **preview**

Pkg `preview` `preview` is ignored.

**for HTML output:** `1 \LWR@ProvidesPackageDrop{preview}[2017/04/24]`

```

2 \newenvironment{preview}{}{}
3 \newenvironment{nopreview}{}{}
4 \NewDocumentCommand{\PreviewMacro}{s o o +m}{}
5 \NewDocumentCommand{\PreviewEnvironment}{s o o +m}{}
6 \newcommand{\PreviewSnarfEnvironment}[2][{}]{
7 \NewDocumentCommand{\PreviewOpen}{s o}{}
8 \NewDocumentCommand{\PreviewClose}{s o}{}
9 \let\ifPreview\iffalse% \fi for syntax highlighting

```


---

File 369 **lwarp-psfrag.sty**

§ 475 Package **psfrag**

(Emulates or patches code by MICHAEL C. GRANT, DAVID CARLISLE.)

Pkg psfrag psfrag is patched for use by lwarp.

 **use psfrags** The psfrags environment is modified to use lateximage to encapsulate the image. Always use a psfrags environment to contain any local \psfrag macros and the associated \includegraphics or \epsfig calls. Outside of a psfrags environment, psfrags adjustments will not be seen by lwarp.

 **Tip:** Use a mono-spaced font for the tags in the EPS file.

**for HTML output:** 1 \LWR@ProvidesPackagePass{psfrag}[1998/04/11]

A lateximage captures the modified image from the document.

```

2 \BeforeBeginEnvironment{psfrags}{%
3 \begin{lateximage}[-psfrags--\PackageDiagramAltText]%
4 }
5
6 \AfterEndEnvironment{psfrags}{\end{lateximage}}

```

---

File 370 **lwarp-psfragx.sty**

§ 476 Package **psfragx**

(Emulates or patches code by PASCAL KOCKAERT.)

Pkg psfragx psfragx is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{psfragx}[2012/05/02]

A lateximage captures the modified image from the document.

```

2 \def\pfx@includegraphicx#1#2{%
3 \begin{lateximage}[-psfragx--\PackageDiagramAltText]%
4 \mbox{\pfx@overpix{#1}{#2}\endpfx@overpix}%

```

```

5 \end{lateximage}%
6 }
7
8 \def\@@@overpix[#1]<#2>[#3]#4{%
9 \begin{lateximage}[-psfrag--\PackageDiagramAltText]%
10 \pfx@overpix{#1,ovpfgd={#2},ovbgd={#3}}{#4}%
11 }
12
13 \def\endoverpix{%
14 \endpfx@overpix%
15 \end{lateximage}%
16 }

```

---

File 371 **lwarp-pst-eps.sty**

§ 477 Package **pst-eps**

*(Emulates or patches code by HERBERT VOSS.)*

Pkg pst-eps pst-eps is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{pst-eps}[2005/05/20]

```

2 \renewenvironment{TeXtoEPS}{}{}
3 \renewcommand{\PSTtoEPS}[3][[]]{}

```

---

File 372 **lwarp-pstool.sty**

§ 478 Package **pstool**

*(Emulates or patches code by ZEBB PRIME, WILL ROBERTSON.)*

Pkg pstool pstool is patched for use by lwarp.

\graphicspath is ignored, and the file directory must be stated.

 **path and filename** The filename must not have a file extension.

Use

Enter ⇒ **lwarpmk html**

followed by

Enter ⇒ **lwarpmk limages**

.

**for HTML output:** 1 \LWR@ProvidesPackagePass{pstool}[2018/01/20]

Each image is placed inside a `lateximage` to capture the results of `psfrag`.

```

2 \renewcommand\pstool@alwaysprocess[3][\]{%
3 \begin{lateximage}[-pstool-~\PackageDiagramAltText]%
4 \includegraphics{#2.pdf}%
5 \end{lateximage}%
6 }
7 \LetLtxMacro\pstool@neverprocess\pstool@alwaysprocess
8 \LetLtxMacro\pstool@maybeprocess\pstool@alwaysprocess
9
10 \renewcommand\pstool@psfragfig[4]{%
11 \begin{lateximage}[-pstool-~\PackageDiagramAltText]%
12 \includegraphics{#2.pdf}%
13 \end{lateximage}%
14 }
```

---

File 373 **lwarp-pstricks.sty**

§ 479 Package **pstricks**

*(Emulates or patches code by TIMOTHY VAN ZANDT.)*

Pkg pstricks pstricks is patched for use by lwarp.

 **use pspicture** All pstricks content should be contained inside a pspicture environment.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{pstricks}[2018/01/06]

2 \BeforeBeginEnvironment{pspicture}{%
3 \begin{lateximage}[pspicture]%
4 }
5 \AfterEndEnvironment{pspicture}{\end{lateximage}}
6
7 \BeforeBeginEnvironment{pspicture*}{%
8 \begin{lateximage}[pspicture]%
9 }
10 \AfterEndEnvironment{pspicture*}{\end{lateximage}}
```

---

File 374 **lwarp-pxatbegshi.sty**

§ 480 Package **pxatbegshi**

Pkg pxatbegshi pxatbegshi is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{pxatbegshi}[2017/11/04]

2 \LWR@origRequirePackage{lwarp-atbegshi}
```



File 375 **lwarp-pxeveryshi.sty**

§ 481 Package **pxeveryshi**

Pkg pxeveryshi pxeveryshi is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{pxeveryshi}[2012/05/19]

2 \LWR@origRequirePackage{lwarp-everyshi}

File 376 **lwarp-pxfonts.sty**

§ 482 Package **pxfonts**

*(Emulates or patches code by YOUNG RYU.)*

Pkg pxfonts pxfonts is used as-is for SVG math, and is emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{pxfonts}[2008/01/22]

For MATHJAX:

2 \LWR@origRequirePackage{lwarp-common-mathjax-letters}

3

4 \begin{warpMathJax}

5 \LWR@infoprocessingmathjax{pxfonts}

6

7 \LWR@mathjax@addgreek@l@up{}{up}

8 \end{warpMathJax}

File 377 **lwarp-pxftnright.sty**

§ 483 Package **pxftnright**

Pkg pxftnright pxftnright is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{pxftnright}[2017/02/28]

2 \LWR@origRequirePackage{lwarp-ftnright}

---

File 378 **lwarp-pxjahyper.sty**

§ 484 Package **pxjahyper**

Pkg pxjahyper pxjahyper is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{pxjahyper}[2018/07/15]

---

File 379 **lwarp-quotchap.sty**

§ 485 Package **quotchap**

*(Emulates or patches code by KARSTEN TINNEFELD, JAN KLEVER.)*

Pkg quotchap quotchap is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{quotchap}[2019/07/09]

```
2 \newcommand{\@quotchap}{}
3 \newlength{\LWR@quotchapwidth}
4
5 \let\@printcites\relax
6
7 \newcommand*{\@iprintcites}{%
```

Place the quotes inside a <div> of class quotchap, of the maximum selected width:

```
8 \begin{BlockClass}[max-width: \LWR@printlength{\LWR@quotchapwidth}]{quotchap}
9 %\begin{minipage}{\LWR@quotchapwidth}
10 \@quotchap
11 %\end{minipage}
12 \end{BlockClass}
```

Deactivate the quote printing:

```
13 \global\let\@printcites\relax
14 }
15
16 \NewEnviron{savequote}[1][\linewidth]{%
```

Remember the width, adjusted for HTML, and make the length assignment global, per:

<https://tex.stackexchange.com/questions/300823/>

[why-is-setlength-ineffective-inside-a-tabular-environment](#)

```
17 \setlength{\LWR@quotchapwidth}{#1*2}%
18 \global\LWR@quotchapwidth=\LWR@quotchapwidth%
```

Remember the body, and activate the quote printing:

```
19 \global\let\@quotchap\BODY
20 \global\let\@printcites\@iprintcites%
21 }
```

The quotation author is placed inside a <div> of class qauthor:

```
22 \newcommand{\qauthor}[1]{%
23 \LWR@stoppars%
24 \begin{BlockClass}{qauthor}%
25 {#1}%
26 \end{BlockClass}%
27 \LWR@startpars%
28 }
```

Fonts are ignored. Use css.

```
29 \newcommand{\qsetcnfont}[1]{%
30 \providecommand*\quotefont{}}
31 \providecommand*\qauthorfont{}}
```

File 380 **lwarp-quoting.sty**

§ 486 Package **quoting**

*(Emulates or patches code by THOMAS TITZ.)*

Pkg quoting quoting is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{quoting}[2014/01/28]

```
2 \xpatchcmd{\quoting}{\quo@begintext}
3 {\begin{LWR@blocktextcurrentfont}\quo@begintext}
4 {}
5 {\LWR@patcherror{quoting}{quoting}}
6
7 \xpatchcmd{\endquoting}{\quo@endtext}
8 {\quo@endtext\end{LWR@blocktextcurrentfont}\LWR@stoppars}
9 {}
10 {\LWR@patcherror{quoting}{endquoting}}
```

File 381 **lwarp-ragged2e.sty**

§ 487 Package **ragged2e**

*(Emulates or patches code by MARTIN SCHRÖDER.)*

Pkg ragged2e ragged2e is emulated.

Discard all options for `lwarp-ragged2e`:

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{ragged2e}[2009/05/21]

2 \LetLtxMacro\Centering\centering
3 \LetLtxMacro\RaggedLeft\raggedleft
4 \LetLtxMacro\RaggedRight\raggedright
5 \newcommand*\justifying{}
6 \newlength{\CenteringLeftskip}
7 \newlength{\RaggedLeftLeftskip}
8 \newlength{\RaggedRightLeftskip}
9 \newlength{\CenteringRightskip}
10 \newlength{\RaggedLeftRightskip}
11 \newlength{\RaggedRightRightskip}
12 \newlength{\CenteringParfillskip}
13 \newlength{\RaggedLeftParfillskip}
14 \newlength{\RaggedRightParfillskip}
15 \newlength{\JustifyingParfillskip}
16 \newlength{\CenteringParindent}
17 \newlength{\RaggedLeftParindent}
18 \newlength{\RaggedRightParindent}
19 \newlength{\JustifyingParindent}
20 \newenvironment*{Center}\center{\endcenter}
21 \newenvironment*{FlushLeft}\flushleft{\endflushleft}
22 \newenvironment*{FlushRight}\flushright{\endflushright}
23 \newenvironment*{justify}\justifying{\endjustifying}

```

---

File 382 **lwarp-realscripts.sty**

§ 488 Package **realscripts**

*(Emulates or patches code by WILL ROBERTSON.)*

Pkg realscripts **realscripts** is emulated. See `lwarp.css` for the `<span>` of class `supsubscript`.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{realscripts}[2016/02/13]

```

The following are copied verbatim from the original, but given new names, since `xparse` definitions should not be `\let`.

```

2 \ExplSyntaxOn
3
4 \DeclareDocumentCommand \LWR@print@realsubscript {m} {
5 \fontspec_if_fontspec_font:TF {
6 \fontspec_if_opentype:TF
7 { \fontspec_if_feature:nTF {+subs}
8 { {\addfontfeature{VerticalPosition=Inferior}#1} }
9 { \fontspec_if_feature:nTF {+sinf}
10 { {\addfontfeature{VerticalPosition=ScientificInferior}#1} }
11 { \fakesubscript{#1} }
12 }
13 }

```

```

14 { \fontspec_if_aat_feature:nnTF {10} {2}
15 { {\addfontfeature{VerticalPosition=Inferior}#1} }
16 { \fakesubscript{#1} }
17 }
18 }
19 { \fakesubscript{#1} }
20 }
21
22 \DeclareDocumentCommand \LWR@HTML@realsubscript {m} {
23 \LWR@HTML@textsubscript{#1}
24 }
25
26 \LWR@formatted{realsubscript}
27
28
29 \DeclareDocumentCommand \LWR@print@realsuperscript {m} {
30 \fontspec_if_fontspec_font:TF
31 {
32 \fontspec_if_opentype:TF
33 { \fontspec_if_feature:nTF {+sups}
34 { {\addfontfeature{VerticalPosition=Superior}#1} }
35 { \fakesuperscript{#1} }
36 }
37 { \fontspec_if_aat_feature:nnTF {10} {1}
38 { {\addfontfeature{VerticalPosition=Superior}#1} }
39 { \fakesuperscript{#1} }
40 }
41 }
42 { \fakesuperscript{#1} }
43 }
44
45 \DeclareDocumentCommand \LWR@HTML@realsuperscript {m} {
46 \LWR@HTML@textsuperscript{#1}
47 }
48
49 \LWR@formatted{realsuperscript}
50
51
52 \DeclareDocumentCommand \LWR@print@textsubsuperscript {s O{l} mm} {
53 \leavevmode
54 \group_begin:
55 \IfBooleanTF #1
56 {
57 \hbox_set:Nn \l_tmpa_box {\textsubscript*{#3}}
58 \hbox_set:Nn \l_tmpb_box {\textsuperscript*{#4}}
59 }
60 {
61 \hbox_set:Nn \l_tmpa_box {\textsubscript{#3}}
62 \hbox_set:Nn \l_tmpb_box {#4}
63 }
64 \hbox_set:Nn \l_tmpa_box
65 { \box_move_down:nn \subsupersep {\box_use:N \l_tmpa_box} }
66 \hbox_set:Nn \l_tmpb_box
67 { \box_move_up:nn \subsupersep {\box_use:N \l_tmpb_box} }
68 \str_case:nnF {#2}

```

```

69 {
70 {l}{\use_i:nnn}
71 {c}{\use_ii:nnn}
72 {r}{\use_iii:nnn}
73 }
74 {
75 \PackageWarning{realscripts}{
76 Unknown~alignment~option~'#2'. \MessageBreak
77 One~ of~ 'l',~ 'c',~ 'r',~ only
78 }
79 \use_i:nnn
80 }
81 {
82 \hbox_overlap_right:n { \box_use:N \l_tmpa_box }
83 \hbox_overlap_right:n { \box_use:N \l_tmpb_box }
84 \skip_horizontal:n {
85 \dim_max:nn {\box_wd:N \l_tmpa_box} {\box_wd:N \l_tmpb_box}
86 }
87 }
88 {
89 \dim_compare:nTF { \box_wd:N \l_tmpa_box > \box_wd:N \l_tmpb_box }
90 {
91 \skip_horizontal:n {
92 0.5\box_wd:N \l_tmpa_box-0.5\box_wd:N \l_tmpb_box
93 }
94 \box_use:N \l_tmpb_box
95 \skip_horizontal:n {
96 -0.5\box_wd:N \l_tmpa_box-0.5\box_wd:N \l_tmpb_box
97 }
98 \box_use:N \l_tmpa_box
99 }
100 {
101 \skip_horizontal:n {
102 0.5\box_wd:N \l_tmpb_box-0.5\box_wd:N \l_tmpa_box
103 }
104 \box_use:N \l_tmpa_box
105 \skip_horizontal:n {
106 -0.5\box_wd:N \l_tmpb_box-0.5\box_wd:N \l_tmpa_box
107 }
108 \box_use:N \l_tmpb_box
109 }
110 }
111 {
112 \skip_horizontal:n {
113 \dim_max:nn {\box_wd:N \l_tmpa_box} {\box_wd:N \l_tmpb_box}
114 }
115 \hbox_overlap_left:n { \box_use:N \l_tmpa_box }
116 \hbox_overlap_left:n { \box_use:N \l_tmpb_box }
117 }
118 \group_end:
119 }
120
121 \ExplSyntaxOff
122
123

```

```

124 \newcommand*\LWR@realscriptsalign{}
125
126 \newcommand*\LWR@setrealscriptsalign[1]{%
127 \renewcommand*\LWR@realscriptsalign{}%
128 \ifthenelse{equal{#1}{c}}{%
129 \renewcommand*\LWR@realscriptsalign{%
130 \LWR@print@mbox{text-align:center} ; %
131 }%
132 }{}%
133 \ifthenelse{equal{#1}{r}}{%
134 \renewcommand*\LWR@realscriptsalign{%
135 \LWR@print@mbox{text-align:right} ; %
136 }%
137 }{}%
138 }
139
140 \DeclareDocumentCommand \LWR@HTML@textsubsuperscript {s O{l} mm} {%
141 \LWR@setrealscriptsalign{#2}%
142 \InlineClass[\LWR@realscriptsalign]{supsubscript}{%
143 #4\textsubscript{#3}%
144 }%
145 }
146 \LWR@formatted{textsubsuperscript}
147
148 \FilenameNullify{%
149 \RenewDocumentCommand{\textsuperscript}{s m}{}%
150 \RenewDocumentCommand{\textsubscript}{s m}{}%
151 \renewcommand{\fakesubscript}[1]{}%
152 \renewcommand{\fakesuperscript}[1]{}%
153 \renewcommand{\realsubscript}[1]{}%
154 \renewcommand{\realsuperscript}[1]{}%
155 \renewcommand{\textsubsuperscript}[2]{}%
156 \renewcommand{\textsupersubscript}[2]{}%
157 }

```

---

File 383 **lwarp-refcheck.sty**

§ 489 Package **refcheck**

Pkg refcheck **refcheck** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{refcheck}[2013/02/14]

```

2 \def\showrefnames{}
3 \def\norefnames{}
4 \def\showcitenames{}
5 \def\nocitenames{}
6 \def\setonmsgs{}
7 \def\setoffmsgs{}
8 \def\checkunlbd{}
9 \def\ignoreunlbd{}
10 \newcommand*\refcheckxrdoc[2][{}]{

```

File 384 **lwarp-register.sty**

§ 490 Package **register**

(Emulates or patches code by MATTHEW LOVELL.)

Pkg register **register** is patched for use by **lwarp**.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{register}[2019/01/01]
2 \xpatchcmd{\register}
3 {\centering}
4 {%
5 \begin{center}%
6 \begin{lateximage}[-register~\PackageDiagramAltText]%
7 }
8 {}
9 {\LWR@patcherror{register}{register}}
10
11 \xpatchcmd{\endregister}
12 {\leftskip}
13 {%
14 \end{lateximage}\end{center}%
15 \leftskip%
16 }%
17 {}
18 {\LWR@patcherror{register}{endregister}}
19
20 \expandafter\xapptocmd\csname register*\endcsname
21 {%
22 \begin{center}%
23 \begin{lateximage}[-register~\PackageDiagramAltText]%
24 }
25 {}
26 {\LWR@patcherror{register}{register*}}
27
28 \expandafter\xpatchcmd\csname endregister*\endcsname
29 {\leftskip}
30 {%
31 \end{lateximage}\end{center}%
32 \leftskip%
33 }%
34 {}
35 {\LWR@patcherror{register}{endregister*}}
36
37 \setlength{\regWidth}{5in}

```



File 385 **lwarp-reysize.sty**

§ 491 Package **reysize**


(Emulates or patches code by DONALD ARSENEAU, BERNIE COSELL, MATT SWIFT.)

Pkg reysize reysize is patched for use by lwarp, and emulated for MATHJAX.

For HTML, only the inline macros are supported: `\textlarger`, `\textsmaller`, and `\textscale`. Each becomes an inline span of a modified font-size.

`\reysize`, `\larger`, `\smaller`, and `\relscale` are ignored.

While creating SVG math for HTML, the original definitions are temporarily restored, and so should work as expected.

 **not small** The HTML browser's setting for minimum font size may limit how small the output will be displayed.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{reysize}[2013/03/29]
2 \let\LWR@origreysize\reysize
3 \LetLtxMacro\LWR@origlarger\larger
4 \LetLtxMacro\LWR@origsmaller\smaller
5 \let\LWR@relscale\relscale
6 \LetLtxMacro\LWR@origtextlarger\textlarger
7 \LetLtxMacro\LWR@origtextsmaller\textsmaller
8 \let\LWR@textscale\textscale
9
10 \appto\LWR@restoreorigformatting{%
11 \let\reysize\LWR@origreysize%
12 \LetLtxMacro\larger\LWR@origlarger%
13 \LetLtxMacro\smaller\LWR@origsmaller%
14 \let\relscale\LWR@relscale%
15 \LetLtxMacro\textlarger\LWR@origtextlarger%
16 \LetLtxMacro\textsmaller\LWR@origtextsmaller%
17 \let\textscale\LWR@textscale%
18 }
19
20 \newcounter{LWR@reysize-temp}
21
22 \renewcommand*\reysize[1]{%
23 \renewcommand*\larger[1][1]{%
24 \renewcommand*\smaller[1][1]{%
25 \renewcommand*\relscale[1]{%
26
27 \renewcommand*\textlarger[2][1]{%
28 \setcounter{LWR@reysize-temp}{100+(#1*20)}%
29 \InlineClass[font-size:\arabic{LWR@reysize-temp}\%]{textlarger}{#2}%
30 }
31
```

```

32 \renewcommand*\textsmaller}[2][1]{%
33 \setcounter{LWR@relsize}{100-(#1*20)}%
34 \InlineClass[font-size:\arabic{LWR@relsize}\%]{textsmaller}{#2}%
35 }
36
37 \renewcommand*\textscale}[2]{%
38 \setcounter{LWR@relsize}{100*\real{#1}}%
39 \InlineClass[font-size:\arabic{LWR@relsize}\%]{textscale}{#2}%
40 }

```

For MATHJAX:

```

41 \begin{warpMathJax}
42 \CustomizeMathJax{\newcommand{\mathlarger}[1]{#1}}
43 \CustomizeMathJax{\newcommand{\mathsmaller}[1]{#1}}
44 \end{warpMathJax}


```

---

File 386 **lwarp-repeatindex.sty**

§ 492 Package **repeatindex**

Pkg repeatindex repeatindex is emulated for lwarp.

 **style file** lwarp must be used with a special style file:

```
\usepackage[makeindex,makeindexStyle={lwarp_repeatindex}]{lwarp}
```

where lwarp\_repeatindex.ist may be copied from the following modified version of lwarp.ist:

```

preamble
"\begin{theindex}
 \providecommand*\lettergroupDefault[1]{}
 \providecommand*\lettergroup[1]{%
 \par\textbf{#1}\par
 \nopagebreak
 }
"
headings_flag 1
heading_prefix "
 \lettergroup{"
heading_suffix "}
delim_0 "], \hyperindexref{"
delim_1 " , \hyperindexref{"
delim_2 " , \hyperindexref{"
delim_n "}, \hyperindexref{"
delim_r "} -- \hyperindexref{"
delim_t ""
item_0 "\n \item ["

```

(The modifications are the `delim_0` and `item_0` entries.)

**for HTML output:** 1 \LWR@ProvidesPackageDrop{repeatindex}[2001/10/13]

In the `lwarp` core, `\LWR@indexitem` is modified to accept the optional `\item` argument.

```
2 \RequirePackage{makeidx}
3 \def\entryprefix{\itshape}
4 \def\entrypostfix{\dots}
```

### File 387 **lwarp-repltext.sty**

§ 493 Package **repltext**

Pkg repltext repltext is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{repltext}[2020/09/25]

```
2 \newcommand{\repltext}[2]{#2}
3 \newcommand*{\prevrepl}{}

```

For MATHJAX:

```
4 \begin{warpMathJax}
5 \CustomizeMathJax{\newcommand{\repltext}[2]{#2}}
6 \end{warpMathJax}

```

### File 388 **lwarp-resizegather.sty**

§ 494 Package **resizegather**

Pkg resizegather resizegather is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{resizegather}[2016/05/16]

```
2 \newcommand*{\resizegathersetup}[1]{}

```

### File 389 **lwarp-returntogrid.sty**

§ 495 Package **returntogrid**

Pkg returntogrid returntogrid is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{returntogrid}[2018/08/21]

---

```

2 \NewDocumentCommand\returntograd{ 0 {} }{}
3 \NewDocumentCommand\returntogradsetup { m } {}
4 \NewDocumentCommand\showdebugpagegrid {} {}

```

---

File 390 **lwarp-rmathbr.sty**

§ 496 Package **rmathbr**

*(Emulates or patches code by DENIS RYABOV.)*

Pkg rmathbr rmathbr is used as-is for SVG math, and emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{rmathbr}[2020/12/11]

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\def*{~}}
4 \CustomizeMathJax{\newcommand{\cdot}{\cdot}}
5 \CustomizeMathJax{\newcommand{\nobr}{}}
6 \end{warpMathJax}

```

---

File 391 **lwarp-rmpage.sty**

§ 497 Package **rmpage**

Pkg rmpage rmpage is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{rmpage}[1997/09/29]

---

File 392 **lwarp-romanbar.sty**

§ 498 Package **romanbar**

*(Emulates or patches code by H.-MARTIN MÜNCH.)*

Pkg romanbar romanbar is patched for use by lwarp.

An inline class with an overline and underline is used.

**for HTML output:** 1 \LWR@ProvidesPackagePass{romanbar}[2012/01/01]

```

2 \DeclareRobustCommand{\Roman@bar}[1]{% #1 is in Roman, i.e. MMXII
3 \InlineClass[%
4 text-decoration: overline underline ;
5]{romanbar}{#1}%
6 }

```

---

File 393 **lwarp-romanbarpagenumber.sty**

§ 499 Package **romanbarpagenumber**

Pkg romanbarpagenumber romanbarpagenumber is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{romanbarpagenumber}[2015/02/06]

---

File 394 **lwarp-rotating.sty**

§ 500 Package **rotating**

*(Emulates or patches code by ROBIN FAIRBAIRNS, SEBASTIAN RAHTZ, LEONOR BARROCA.)*

Pkg rotating rotating is emulated.

All rotations are ignored in HTML output.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{rotating}[2016/08/11]  
 2 \RequirePackage{graphicx}

3 \LetLtxMacro\sidewaystable\table  
 4 \let\endsidewaystable\endtable  
 5  
 6 \LetLtxMacro\sidewaysfigure\figure  
 7 \let\endsidewaysfigure\endfigure  
 8  
 9 \newenvironment\*{sideways}{}{}  
 10 \newenvironment\*{turn}[1]{}{}  
 11 \newenvironment\*{rotate}[1]{}{}  
 12 \NewDocumentCommand{\turnbox}{m +m}{#2}  
 13 \let\rotcaption\caption  
 14 \let\@makerotcaption\@makecaption

---

File 395 **lwarp-rotfloat.sty**

§ 501 Package **rotfloat**

*(Emulates or patches code by AXEL SOMMERFELDT.)*

Pkg rotfloat rotfloat is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{rotfloat}[2004/01/04]  
 2  
 3 \RequirePackage{float}  
 4 \RequirePackage{rotating}

`\newfloat` {<1: type>} {<2: placement>} {<3: ext>} [ <4: within > ]

Emulates the `\newfloat` command from the `float` package. Sideways floats are `\let` to the same as regular floats.

“placement” is ignored.

```

5 \RenewDocumentCommand{\newfloat}{m m m o}{%
6 \IfValueTF{#4}%
7 {%
8 \DeclareFloatingEnvironment[fileext=#3,within=#4]{#1}%
9 }%
10 {%
11 \DeclareFloatingEnvironment[fileext=#3]{#1}%
12 }%
13 \csletcs{sideways#1}{#1}%
14 \csletcs{endsideways#1}{end#1}%

```

Remember the float style:

```

15 \csedef{LWR@floatstyle@#1}{\LWR@floatstyle}%
16 \csedef{LWR@floatstyle@sideways#1}{\LWR@floatstyle}%

```

`newfloat` package automatically creates the `\listof` command for new floats, but `float` does not, so remove `\listof` here in case it is manually created later:

```

17 \cslet{listof#1s}\relax%
18 \cslet{listof#1es}\relax%
19 \cslet{listofsideways#1s}\relax%
20 \cslet{listofsideways#1es}\relax%
21 }

```

File 396 **lwarp-rviewport.sty**

§ 502 Package **rviewport**

Pkg `rviewport` `rviewport` is honored inside a `lateximage`, and otherwise ignored for HTML output.

If `rviewport` is important for an image, enclose the image inside a `lateximage` environment.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{rviewport}[2011/08/27]
2 \define@key{igraph}{rviewport}{}

```

File 397 **lwarp-savetrees.sty**

§ 503 Package **savetrees**

Pkg `savetrees` `savetrees` is ignored.

**for HTML output:** Discard all options for lwarp-savetrees:

```
1 \LWR@ProvidesPackageDrop{savetrees}[2016/04/13]
```

---

File 398 **lwarp-scalefnt.sty**

§ 504 Package **scalefnt**

*(Emulates or patches code by D. CARLISLE.)*

Pkg scalefnt **scalefnt** is ignored.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{scalefnt}
2 \DeclareRobustCommand\scalefont[1]{}
```

---

File 399 **lwarp-scalerel.sty**

§ 505 Package **scalerel**

*(Emulates or patches code by STEVEN B. SEGLETES.)*

Pkg scalerel **scalerel** is used as-is for SVG math, and is emulated and ignored for MATHJAX.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{scalerel}[2016/12/29]
```

For MATHJAX:

```
2 \begin{warpMathJax}
3 \LWR@infoprocessingmathjax{scalerel}
4
5 \CustomizeMathJax{\newcommand{\scalerel}{\ifstar{\scalerelplain}{\scalerelplus}}}
6 \CustomizeMathJax{\newcommand{\scalerelplain}[3][\#2]}
7 \CustomizeMathJax{\newcommand{\scalerelplus}[3][\#2\#3]}
8 \CustomizeMathJax{\newcommand{\stretchrel}{\ifstar{\stretchrelplain}{\stretchrelplus}}}
9 \CustomizeMathJax{\newcommand{\stretchrelplain}[3][\#2]}
10 \CustomizeMathJax{\newcommand{\stretchrelplus}[3][\#2\#3]}
11 \CustomizeMathJax{\newcommand{\scaleto}[3][\#2]}
12 \CustomizeMathJax{\newcommand{\stretchto}[3][\#2]}
13 \CustomizeMathJax{\newcommand{\scaleleftright}[4][\#2\#3\#4]}
14 \CustomizeMathJax{\newcommand{\stretchleftright}[4][\#2\#3\#4]}
15 \CustomizeMathJax{\newcommand{\hstretch}[2]{\#2}}
16 \CustomizeMathJax{\newcommand{\vstretch}[2]{\#2}}
17 \CustomizeMathJax{\newcommand{\scaleobj}[2]{\#2}}
18 \CustomizeMathJax{\newcommand{\ThisStyle}[1]{\#1}}
19 \CustomizeMathJax{\newcommand{\SavedStyle}{}}
20 \CustomizeMathJax{\def\scriptstyleScaleFactor{.7}}
21 \CustomizeMathJax{\def\scriptscriptstyleScaleFactor{.5}}
22 \CustomizeMathJax{\newcommand{\discernmathstyle}{}}
23 \CustomizeMathJax{\newcommand{\ignoremathstyle}[1][T]{}}
```

```

24 \CustomizeMathJax{\newcommand{\Isnextbyte}[3][v]{} }
25 \end{warpMathJax}

```

---

File 400 **lwarp-schemata.sty**

§ 506 Package **schemata**

*(Emulates or patches code by CHARLES P. SCHAUM.)*

Pkg schemata schemata is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{schemata}[2020/11/23]

2 \LetLtxMacro\LWR@schemata@origschema\schema
3 \LetLtxMacro\LWR@schemata@origSchema\Schema
4
5 \renewcommand{\schema}[3][open]{%
6 \begin{lateximage}[-schemata~\PackageDiagramAltText]%
7 \LWR@print@normalsize%
8 \LWR@schemata@origschema[#1]{#2}{#3}%
9 \end{lateximage}%
10 }
11
12 \renewcommand{\Schema}[5][open]{%
13 \begin{lateximage}[-schemata~\PackageDiagramAltText]%
14 \LWR@print@normalsize%
15 \LWR@schemata@origSchema[#1]{#2}{#3}{#4}{#5}%
16 \end{lateximage}%
17 }

```

---

File 401 **lwarp-scrextend.sty**

§ 507 Package **scrextend**

Pkg scrextend scrextend is emulated.

This package may be loaded standalone, but is also loaded automatically if koma-script classes are in use. `\DeclareDocumentCommand` is used to overwrite the koma-script definitions.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{scrextend}[2020/01/24]

2 \DeclareDocumentCommand{\setkomafont}{m m}{}
3 \DeclareDocumentCommand{\addkomafont}{m m}{}
4 \DeclareDocumentCommand{\usekomafont}{m}{}
5
6 \DeclareDocumentCommand{\usefontofkomafont}{m}{}
7 \DeclareDocumentCommand{\useencodingofkomafont}{m}{}
8 \DeclareDocumentCommand{\usesizeofkomafont}{m}{}

```



```

9 \DeclareDocumentCommand{\usefamilyofkomafont}{m}{}
10 \DeclareDocumentCommand{\useseriesofkomafont}{m}{}
11 \DeclareDocumentCommand{\useshapeofkomafont}{m}{}
12
13 \providecommand*\coverpagetopmargin{}
14 \providecommand*\coverpagebottommargin{}
15 \providecommand*\coverpageleftmargin{}
16 \providecommand*\coverpagerightmargin{}
17

```

### Title page:

```

18 \AtBeginDocument{
19 \let\LWR@koma@orig@maketitle\maketitle
20 \DeclareDocumentCommand{\maketitle}{o}{\LWR@koma@orig@maketitle}
21 }
22
23 \DeclareDocumentCommand{\@maketitle}{}{%
24 \ifdefvoid{\@titlehead}{}{%
25 \begin{BlockClass}{titlehead}%
26 \@titlehead%
27 \end{BlockClass}%
28 }%
29 \ifdefvoid{\@subject}{}{%
30 \begin{BlockClass}{subject}%
31 \@subject%
32 \end{BlockClass}%
33 }%
34 \LWR@stoppars%
35 \LWR@htmltag{\LWR@tagtitle}%
36 \@title%
37 \LWR@htmltag{\LWR@tagtitleend}%
38 \ifdefvoid{\@subtitle}{}{%
39 \begin{BlockClass}{subtitle}%
40 \@subtitle%
41 \end{BlockClass}%
42 }%
43 \LWR@startpars%
44 \begin{BlockClass}{author}%
45
46 \renewcommand*\cr{}%
47 \renewcommand*\crrc{}%
48 \renewcommand*\noalign{}%
49
50 \renewcommand{\and}{%
51 \end{BlockClass}%
52 \begin{BlockClass}{oneauthor}%
53 }%
54 \begin{BlockClass}{oneauthor}%
55 \@author%
56 \end{BlockClass}%
57 \end{BlockClass}%
58 \begin{BlockClass}{titledate}%
59 \@date%
60 \end{BlockClass}%

```

```

59 \ifdefvoid{\@published}{}{%
60 \begin{BlockClass}{published}%
61 \@published%
62 \end{BlockClass}%
63 }%
64 }
65
66 \AddSubtitlePublished
67
68 \DeclareDocumentCommand{\extratitle}{m}{}
69 \DeclareDocumentCommand{\frontispiece}{m}{}
70
71 \def\@titlehead{}%
72 \DeclareDocumentCommand{\titlehead}{m}{\gdef\@titlehead{#1}}%
73
74 \def\@subject{}%
75 \DeclareDocumentCommand{\subject}{m}{\gdef\@subject{#1}}%
76
77 % \subtitle and \published are defined by \AddSubtitlePublished
78
79 \DeclareDocumentCommand{\publishers}{m}{\published{#1}}
80
81 \DeclareDocumentCommand{\uppertitleback}{m}{}
82 \DeclareDocumentCommand{\lowertitleback}{m}{}
83 \DeclareDocumentCommand{\dedication}{m}{}
84
85 \DeclareDocumentCommand{\ifthispageodd}{m m}{#1}
86
87 \DeclareDocumentCommand{\cleardoublepageusingstyle}{m}{}
88 \DeclareDocumentCommand{\cleardoubleemptypage}{}{}
89 \DeclareDocumentCommand{\cleardoubleplainpage}{}{}
90 \DeclareDocumentCommand{\cleardoublestandardpage}{}{}
91 \DeclareDocumentCommand{\cleardoubleoddpge}{}{}
92 \DeclareDocumentCommand{\cleardoubleoddpgeusingstyle}{m}{}
93 \DeclareDocumentCommand{\cleardoubleoddpgeemptypage}{}{}
94 \DeclareDocumentCommand{\cleardoubleoddpgeplainpage}{}{}
95 \DeclareDocumentCommand{\cleardoubleoddpgestandardpage}{}{}
96 \DeclareDocumentCommand{\cleardoubleevenpage}{}{}
97 \DeclareDocumentCommand{\cleardoubleevenpageusingstyle}{m}{}
98 \DeclareDocumentCommand{\cleardoubleevenemptypage}{}{}
99 \DeclareDocumentCommand{\cleardoubleevenplainpage}{}{}
100 \DeclareDocumentCommand{\cleardoubleevenstandardpage}{}{}
101
102 \DeclareDocumentCommand{\multiplefootnoteseparator}{}{}%
103 \begingroup\let\thefootnotemark\multfootsep\@makefnmark\endgroup
104 }
105
106 \DeclareDocumentCommand{\multfootsep}{}{,}
107
108 \DeclareDocumentCommand{\footref}{m}{%
109 \begingroup
110 \unrestored@protected@xdef\@thefnmark{\ref{#1}}%
111 \endgroup
112 \@footnotemark
113 }

```

```

114
115 \DeclareDocumentCommand{\deffootnote}{o m m m}{}
116 \DeclareDocumentCommand{\deffootnotemark}{m}{}
117 \DeclareDocumentCommand{\setfootnoterule}{o m}{}
118 \DeclareDocumentCommand{\raggedfootnote}{}{}

119 \DeclareDocumentCommand{\dictum}{o m}{
120 \begin{LWR@BlockClassWP}{\LWR@print@mbbox{text-align:right}}{\dictum}
121 #2
122 \IfValueT{#1}
123 {
124 \LWR@stoppars%
125 \ifbool{FormatWP}
126 {\begin{BlockClass}[\LWR@print@mbbox{border-top:} 1px solid gray]{dictumauthor}}
127 {\begin{BlockClass}{dictumauthor}}
128 \dictumauthorformat{#1}
129 \end{BlockClass}
130 }
131 \end{LWR@BlockClassWP}
132 }
133
134 \DeclareDocumentCommand{\dictumwidth}{}{}
135 \DeclareDocumentCommand{\dictumauthorformat}{m}{(#1)}
136 \DeclareDocumentCommand{\dictumrule}{}{}
137 \DeclareDocumentCommand{\raggeddictum}{}{}
138 \DeclareDocumentCommand{\raggeddictumtext}{}{}
139 \DeclareDocumentCommand{\raggeddictumauthor}{}{}
140
141 \DeclareDocumentEnvironment{labeling}{o m}
142 {%
143 \def\sc@septext{#1}%
144 \list{}{}%
145 \let\makeLabel\labelinglabel%
146 }
147 {
148 \endlist
149 }
150
151 \DeclareDocumentCommand{\labelinglabel}{m}{%
152 #1 \quad \sc@septext%
153 }
154
155 \let\addmargin\relax
156 \let\endaddmargin\relax
157 \cslet{addmargin*}{\relax}
158 \cslet{endaddmargin*}{\relax}

159 \NewDocumentEnvironment{addmargin}{s O{} m}
160 {
161 \LWR@stoppars%
162 \setlength{\LWR@templengthtwo}{#3}
163 \ifblank{#2}
164 {
165 \begin{BlockClass}[

```

```

166 \LWR@print@mbbox{margin-left:\LWR@printlength{\LWR@templengthtwo}} ;
167 \LWR@print@mbbox{margin-right:\LWR@printlength{\LWR@templengthtwo}}
168]{addmargin}
169 }
170 {
171 \setlength{\LWR@templengthone}{#2}
172 \begin{BlockClass}[
173 \LWR@print@mbbox{margin-left:\LWR@printlength{\LWR@templengthone}} ;
174 \LWR@print@mbbox{margin-right:\LWR@printlength{\LWR@templengthtwo}}
175]{addmargin}
176 }
177 }
178 {\end{BlockClass}\LWR@startpars}

```

Ref to create a starred environment:

<https://tex.stackexchange.com/questions/45401/use-the-s-star-argument-with-newdocumentenvironment>

```

179
180 \ExplSyntaxOn
181 \cs_new:cpn {addmargin*} {\addmargin*}
182 \cs_new_eq:cN {endaddmargin*} \endaddmargin
183 \ExplSyntaxOff
184
185 \DeclareDocumentCommand{\marginline}{m}{\marginpar{#1}}

```

---

File 402 **lwarp-scrhack.sty**

§ 508 Package **scrhack**

Pkg scrhack scrhack is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{scrhack}[2018/03/30]

---

File 403 **lwarp-scrlayer.sty**

§ 509 Package **scrlayer**

*(Emulates or patches code by MARKUS KOHM.)*

Pkg scrlayer scrlayer is emulated.

 **Not fully tested!** Please send bug reports!

**for HTML output:** 1 \LWR@ProvidesPackageDrop{scrlayer}[2018/03/30]

```

2 \newcommand*{\DeclareSectionNumberDepth}[2]{}
3 \newcommand*{\DeclareLayer}[2][{}]{
4 \newcommand*{\DeclareNewLayer}[2][{}]{

```

```

5 \newcommand*\ProvideLayer}[2][{}
6 \newcommand*\RedeclareLayer}[2][{}
7 \newcommand*\ModifyLayer}[2][{}
8 \newcommand*\layerhalign{}
9 \newcommand*\layer valign{}
10 \newcommand*\layerxoffset{}
11 \newcommand*\layeryoffset{}
12 \newcommand*\layerwidth{}
13 \newcommand*\layerheight{}
14 \providecommand*\LenToUnit}[1]{\strip@pt\dimexpr#1*\p@\unitlength}
15 \newcommand*\putUL}[1]{}
16 \newcommand*\putUR}[1]{}
17 \newcommand*\putLL}[1]{}
18 \newcommand*\putLR}[1]{}
19 \newcommand*\putC}[1]{}
20 \newcommand*\GetLayerContents}[1]{}
21 \newcommand*\IfLayerExists}[3]{#3}
22 \newcommand*\DestroyLayer}[1]{}
23 \newcommand*\layercontentsmeasure{}
24 \newcommand*\currentpagestyle{}
25 \newcommand*\BeforeSelectAnyPageStyle}[1]{}
26 \newcommand*\AfterSelectAnyPageStyle}[1]{}
27 \newcommand*\DeclarePageStyleAlias}[2]{}
28 \newcommand*\DeclareNewPageStyleAlias}[2]{}
29 \newcommand*\ProvidePageStyleAlias}[2]{}
30 \newcommand*\RedeclarePageStyleAlias}[2]{}
31 \newcommand*\DestroyPageStyleAlias}[1]{}
32 \newcommand*\GetRealPageStyle}[1]{}
33 \newcommand*\DeclarePageStyleByLayers}[3][{}
34 \newcommand*\DeclareNewPageStyleByLayers}[3][{}
35 \newcommand*\ProvidePageStyleByLayers}[3][{}
36 \newcommand*\RedeclarePageStyleByLayers}[3][{}
37 \NewDocumentCommand*\ForEachLayerOfPageStyle}{s m m}{}
38 \newcommand*\AddLayersToPageStyle}[2]{}
39 \newcommand*\AddLayersAtBeginOfPageStyle}[2]{}
40 \newcommand*\AddLayersAtEndOfPageStyle}[2]{}
41 \newcommand*\RemoveLayersFromPageStyle}[2]{}
42 \newcommand*\AddLayersToPageStyleBeforeLayer}[3]{}
43 \newcommand*\AddLayersToPageStyleAfterLayer}[3]{}
44 \newcommand*\UnifyLayersAtPageStyle}[1]{}
45 \newcommand*\ModifyLayerPageStyleOptions}[2]{}
46 \newcommand*\AddToLayerPageStyleOptions}[2]{}
47 \newcommand*\IfLayerPageStyleExists}[3]{#3}
48 \newcommand*\IfRealLayerPageStyleExists}[3]{#3}
49 \newcommand*\IfLayerAtPageStyle}[4]{#4}
50 \newcommand*\IfSomeLayerAtPageStyle}[4]{#4}
51 \newcommand*\IfLayersAtPageStyle}[4]{#4}
52 \newcommand*\DestroyRealLayerPageStyle}[1]{}
53 \ifundefined{footheight}{\newlength\footheight}{}
54 \DeclareDocumentCommand*\automark}{s o m}{}
55 \DeclareDocumentCommand*\manualmark}{}{}
56 \DeclareDocumentCommand*\MakeMarkcase}{m}{#1}

57 \newcommand*\partmarkformat{}
58 \if@chapter

```

```

59 \newcommand{\chaptermarkformat}{}
60 \fi
61 \newcommand{\sectionmarkformat}{}
62 \DeclareDocumentCommand{\GenericMarkFormat}{m}{}

63 \newcommand*{\@mkleft}[1]{}
64 \newcommand*{\@mkright}[1]{}
65 \newcommand*{\@mkdouble}[1]{}
66 \newcommand*{\@mkboth}[2]{}
67 \newcommand*{\sclayerInitInterface}[1][{}]{
68 \newcommand{\sclayerAddToInterface}[3][{}]{
69 \newcommand{\sclayerAddCsToInterface}[3][{}]{
70 \newcommand{\sclayerOnAutoRemoveInterface}[2][{}]{

```

---

File 404 **lwarp-sclayer-notecolumn.sty**

§ 510 Package **sclayer-notecolumn**

*(Emulates or patches code by MARKUS KOHM.)*

Pkg sclayer-notecolumn sclayer-notecolumn is emulated.

 **Not fully tested!** [Please send bug reports!](#)

**for HTML output:** 1 \LWR@ProvidesPackageDrop{sclayer-notecolumn}[2018/02/02]

```

2 \newcommand*{\DeclareNoteColumn}[2][{}]{
3 \newcommand*{\DeclareNewNoteColumn}[2][{}]{
4 \newcommand*{\ProvideNoteColumn}[2][{}]{
5 \newcommand*{\RedeclareNoteColumn}[2][{}]{
6 \NewDocumentCommand{\makenote}{s o m}{\marginpar{#3}}
7 \newcommand*{\syncwithnotecolumn}[1][{}]{
8 \newcommand*{\syncwithnotecolumns}[1][{}]{
9 \newcommand*{\clearnotecolumn}[1][{}]{
10 \newcommand*{\clearnotecolumns}[1][{}]{

```

---

File 405 **lwarp-sclayer-scrpage.sty**

§ 511 Package **sclayer-scrpage**

*(Emulates or patches code by MARKUS KOHM.)*

Pkg sclayer-scrpage sclayer-scrpage is ignored.

 **Not fully tested!** [Please send bug reports!](#)

**for HTML output:** 1 \LWR@ProvidesPackageDrop{sclayer-scrpage}[2018/03/30]

```

2 \@ifundefined{footheight}{\newlength\footheight}{}

```

```

3 \NewDocumentCommand{\lehead}{s o m}{}
4 \NewDocumentCommand{\cehead}{s o m}{}
5 \NewDocumentCommand{\rehead}{s o m}{}
6 \NewDocumentCommand{\lohead}{s o m}{}
7 \NewDocumentCommand{\cohead}{s o m}{}
8 \NewDocumentCommand{\rohead}{s o m}{}
9 \NewDocumentCommand{\lefoot}{s o m}{}
10 \NewDocumentCommand{\cefoot}{s o m}{}
11 \NewDocumentCommand{\refoot}{s o m}{}
12 \NewDocumentCommand{\lofoot}{s o m}{}
13 \NewDocumentCommand{\cofoot}{s o m}{}
14 \NewDocumentCommand{\rofoot}{s o m}{}
15 \NewDocumentCommand{\ohead}{s o m}{}
16 \NewDocumentCommand{\chead}{s o m}{}
17 \NewDocumentCommand{\ihead}{s o m}{}
18 \NewDocumentCommand{\ofoot}{s o m}{}
19 \NewDocumentCommand{\cfoot}{s o m}{}
20 \NewDocumentCommand{\ifoot}{s o m}{}
21 \DeclareDocumentCommand{\MakeMarkcase}{m}{#1}
22 \newcommand*{\defpairofpagestyles}[3]{}
23 \newcommand*{\newpairofpagestyles}[3]{}
24 \newcommand*{\renewpairofpagestyles}[3]{}
25 \newcommand*{\providepairofpagestyles}[3]{}

26 \newcommand*{\clearmainofpairofpagestyles}{}
27 \newcommand*{\clearplainofpairofpagestyles}{}
28 \newcommand*{\clearpairofpagestyles}{}
29 \newcommand*{\clearscrheadings}{}
30 \newcommand*{\clearscrheadfoot}{}
31 \newcommand*{\clearscrplain}{}

32 \NewDocumentCommand{\deftriplepagestyle}{m o m m m m m m}{}
33 \NewDocumentCommand{\newtriplepagestyle}{m o m m m m m m}{}
34 \NewDocumentCommand{\renewtriplepagestyle}{m o o m m m m m m}{}
35 \NewDocumentCommand{\providetruplepagestyle}{m o o m m m m m m}{}
36 \newcommand*{\defpagestyle}[3]{}
37 \newcommand*{\newpagestyle}[3]{}
38 \newcommand*{\providepagestyle}[3]{}
39 \newcommand*{\renewpagestyle}[3]{}

```

---

File 406 **lwarp-scrpage2.sty**

§ 512 Package **scrpage2**

(Emulates or patches code by MARKUS KOHM.)

Pkg scrpage2 scrpage2 is ignored.

 **Not fully tested!** [Please send bug reports!](#)

**for HTML output:** 1 \LWR@ProvidesPackageDrop{scrpage2}[2018/03/30]

```

2 \@ifundefined{footheight}{\newlength\footheight}{}
3 \NewDocumentCommand{\lehead}{o m}{}
4 \NewDocumentCommand{\cehead}{o m}{}
5 \NewDocumentCommand{\rehead}{o m}{}
6 \NewDocumentCommand{\lohead}{o m}{}
7 \NewDocumentCommand{\cohead}{o m}{}
8 \NewDocumentCommand{\rohead}{o m}{}
9 \NewDocumentCommand{\lefoot}{o m}{}
10 \NewDocumentCommand{\cefoot}{o m}{}
11 \NewDocumentCommand{\refoot}{o m}{}
12 \NewDocumentCommand{\lofoot}{o m}{}
13 \NewDocumentCommand{\cofoot}{o m}{}
14 \NewDocumentCommand{\rofoot}{o m}{}
15 \NewDocumentCommand{\ohead}{o m}{}
16 \NewDocumentCommand{\chead}{o m}{}
17 \NewDocumentCommand{\ihead}{o m}{}
18 \NewDocumentCommand{\ofoot}{o m}{}
19 \NewDocumentCommand{\cfoot}{o m}{}
20 \NewDocumentCommand{\ifoot}{o m}{}
21 \DeclareDocumentCommand{\automark}{o m}{}
22 \DeclareDocumentCommand{\manualmark}{}{}
23 \DeclareDocumentCommand{\MakeMarkcase}{m}{#1}
24 \NewDocumentCommand{\deftripstyle}{m o o m m m m m}{}
25 \NewDocumentCommand{\defpagestyle}{s m m m}{}
26 \NewDocumentCommand{\newpagestyle}{s m m m}{}
27 \NewDocumentCommand{\renewpagestyle}{s m m m}{}
28 \NewDocumentCommand{\providepagestyle}{s m m m}{}
29 \newcommand{\partmarkformat}{}
30 \if@chapter
31 \newcommand{\chaptermarkformat}{}
32 \fi
33 \newcommand{\sectionmarkformat}{}
34 \newcommand{\subsectionmarkformat}{}
35 \newcommand{\subsubsectionmarkformat}{}
36 \newcommand{\paragraphmarkformat}{}
37 \newcommand{\subparagraphmarkformat}{}
38
39 \newcommand*{\clearscrheadings}{}
40 \newcommand*{\clearscrheadfoot}{}
41 \newcommand*{\clearscrplain}{}

```

---

File 407 **lwarp-section.sty**

§ 513 Package **section**

Pkg section section is ignored.

*(Emulates or patches code by OLIVER PRETZEL.)*

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{section}

2 \ifx\chapter\undefined
3 \def\chsize{\Large}\def\hdsz{\huge}\else

```



---

```

4 \def\chsize{\huge}\def\hsize{\Huge}
5 \fi
6 \let\ttsize\LARGE
7 \let\ausize\large
8 \let\dasize\large
9 \let\secsize\Large
10 \let\subsize\large
11 \let\hdpos\raggedright
12 \newcounter{hddepth}
13 \let\fpind\relax
14 \def\ttfnt{}
15 \def\hdfnt{}
16 \def\fefnt{}
17 \def\thfnt{}
18 \def\pgfnt{}
19 \def\hmkfnt{}
20 \let\mkcse\uppercase
21 \def\hddot{}
22 \def\cpdot{:}
23 \def\nmdot{}
24 \ifx\secindent\undefined
25 \newdimen\secindent
26 \newskip\secpreskp
27 \newskip\secpstskp
28 \newdimen\subindent
29 \newskip\subpreskp
30 \newskip\subpstskp
31 \newskip\parpstskp
32 \newcount\c@hddepth
33 \fi

```

---

File 408 **lwarp-sectionbreak.sty**

§ 514 Package **sectionbreak**

(Emulates or patches code by MICHAL HOFTICH.)

Pkg sectionbreak sectionbreak is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{sectionbreak}[2018-01-03]

```

2 \renewcommand\asterism{\HTMLunicode{2042}}
3
4 \renewcommand\pre@sectionbreak{}
5 \renewcommand\post@sectionbreak{}
6
7 \renewcommand\print@sectionbreak[1]{%
8 \begin{center}
9 #1
10 \end{center}
11 }
12

```

File 409 **lwarp-sectsty.sty**

§ 515 Package **sectsty**

(Emulates or patches code by ROWLAND McDONNELL.)

Pkg sectsty sectsty is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{sectsty}[2002/02/25]

```

2 \newcommand*{\partfont} [1] {}
3 \newcommand*{\partnumberfont} [1] {}
4 \newcommand*{\parttitlefont} [1] {}
5 \newcommand*{\chapterfont} [1] {}
6 \newcommand*{\chapternumberfont} [1] {}
7 \newcommand*{\chaptertitlefont} [1] {}
8 \newcommand*{\sectionfont} [1] {}
9 \newcommand*{\subsectionfont} [1] {}
10 \newcommand*{\subsubsectionfont} [1] {}
11 \newcommand*{\paragraphfont} [1] {}
12 \newcommand*{\subparagraphfont} [1] {}
13 \newcommand*{\minisecfont} [1] {}
14 \newcommand*{\allsectionsfont}[1] {}
15 \newcommand{\nohang}{}

```

\sectionrule is only to be used in \*font commands, thus it is ignored.

```

16 \newcommand*{\sectionrule}[5]{}
17
18 \def\ulemheading#1#2{}

```

File 410 **lwarp-selectp.sty**

§ 516 Package **selectp**

Pkg selectp selectp is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{selectp}% no date given

```

2 \newcommand*{\outputonly}[1]{}

```

File 411 **lwarp-semantic-markup.sty**

§ 517 Package **semantic-markup**

(Emulates or patches code by ANDREW A. CASHNER.)

Pkg semantic-markup **semantic-markup** is patched for use by **lwarp**.



If using the `endnotes` option, add `\theendnotes` where desired.

**for HTML output:** `1 \LWR@ProvidesPackagePass{semantic-markup}[2018/05/21]`

The endnotes must be printed by the user before the end of the document, since the end is after the HTML footer, etc.

```
2 \ifendnotes
3 \RenewDocumentCommand{\SetupEndnotes}{}{%
4 \let\footnote=\endnote
5 % \AtEndDocument{\DoBeforeEndnotes{\EndnoteFont\theendnotes}}%
6 }
7 \fi
```

HTML unicode characters from musicography are used.

```
8 \RequirePackage{musicography}
9
10 \let\fl\musFlat
11 \let\sh\musSharp
12 \let\na\musNatural
```

The `\musfig` is placed inside a hashed image, with a simple `alt` tag.

```
13 \RequirePackage{amsmath}
14
15 \RenewDocumentCommand{\musfig}{ m m }{%
16 \LWR@subsingledollar*%
17 {#1/#2}% alt tag
18 {musfig}% addl' hashing
19 {% contents
20 \LWR@origensuredmath{%
21 \genfrac{}{}{0pt}{1}{\text{#1}}{\text{#2}}%
22 }%
23 }%
24 }
```

The `\meter` is taken from `musicography`, and becomes a hashed image with a simple `alt` tag.

```
25 \RenewDocumentCommand{\meter}{ m m }{%
26 \musMeter{#1}{#2}%
27 }
```

---


File 412 **lwarp-seqspl.it.sty**

§ 518 Package **seqsplit**

(Emulates or patches code by BORIS VEYTSMAN.)

Pkg seqsplit seqsplit is patched for use by lwarp.

For HTML output, the results are similar to print mode, and respond to window size.

 **svg math results** For SVG math, the output differs from print mode in that the contents are formatted in a minipage, which is then inline with the surrounding math.

For MATHJAX, the contents are used as-is.

**for HTML output:** 1 \LWR@ProvidesPackagePass{seqsplit}[2006/08/07]

Special handling because lwarp uses a box for svg math, which does not normally allow line breaks, so a print-mode minipage must be used to allow line breaks. The minipage will not be wrapped inline with any surrounding math.

```

2 \begin{warpHTML}
3 \LetLtxMacro\LWR@orig@seqsplit\seqsplit
4
5 \renewcommand*\seqsplit[1]{%
6 \ifmode%
7 \begin{LWR@print@minipage}{6in}%
8 \LWR@orig@seqsplit{#1}%
9 \end{LWR@print@minipage}%
10 \else%
11 \InlineClass[word-wrap:break-word]{seqsplit}{\LWR@orig@seqsplit{#1}}%
12 \fi
13 }
```

Between characters, an empty HTML comment is placed to allow a line wrap in the HTML source, without adding spaces in the output.

```

14 \AtBeginDocument{
15 \newcommand*\LWR@HTML@seqinsert{%
16 \LWR@htmlcomment{ }%
17 }
18 \LWR@formatted{seqinsert}
19 }
20 \end{warpHTML}
21
22 \begin{warpMathJax}
23 \CustomizeMathJax{\newcommand{\seqsplit}[1]{#1}}
24 \end{warpMathJax}
```

---

File 413 **lwarp-setspace.sty**

§ 519 Package **setspace**

*(Emulates or patches code by ROBIN FAIRBAIRNS.)*

Pkg setspace setspace is emulated.

Discard all options for lwarp-setspace:

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{setspace}[2011/12/19]
2
3 \newcommand*\setstretch[1]{}
4 \newcommand*\SetSingleSpace[1]{}
5 \newcommand*\singleSpacing{}
6 \newcommand*\onehalfSpacing{}
7 \newcommand*\doubleSpacing{}
8
9 \newenvironment{singleSpace}
10 {
11 \LWR@forcenewpage
12 \BlockClass{singleSpace}
13 }
14 {\endBlockClass}
15
16 \newenvironment{singleSpace*}
17 {
18 \LWR@forcenewpage
19 \BlockClass{singleSpace}
20 }
21 {\endBlockClass}
22
23 \newenvironment{spacing}[1]{
24
25 }{
26
27 }
28
29 \newenvironment{onehalfSpace}
30 {
31 \LWR@forcenewpage
32 \BlockClass{onehalfSpace}
33 }
34 {\endBlockClass}
35
36 \newenvironment{doubleSpace}
37 {
38 \LWR@forcenewpage
39 \BlockClass{doubleSpace}
40 }
41 {\endBlockClass}

```

---

File 414 **lwarp-shadethm.sty**

§ 520 Package **shadethm**

*(Emulates or patches code by JIM HEFFERON.)*

Pkg shadethm shadethm is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{shadethm}[1999/11/23]
2 \newenvironment{LWR@HTML@shadebox}

```

---

```

3 {%
4 \convertcolorspec{named}{shadethmcolor}{HTML}\LWR@tempcolor%
5 \convertcolorspec{named}{shaderulecolor}{HTML}\LWR@tempcolortwo%
6 \begin{BlockClass}[%
7 background: \LWR@origpound\LWR@tempcolor ;
8 border: 1px solid \LWR@origpound\LWR@tempcolortwo ;
9]{shadebox}
10}%
11 {\end{BlockClass}}
12 \LWR@formattedenv{shadebox}

```

---

File 415 **lwarp-shadow.sty**

§ 521 Package **shadow**

*(Emulates or patches code by MAURO ORLANDINI.)*

Pkg shadow shadow is emulated.

**for HTML output:** Discard all options for lwarp-shadow:

```

1 \LWR@ProvidesPackageDrop{shadow}[2003/02/19]

2 \newdimen\sboxsep
3 \newdimen\sboxrule
4 \newdimen\sdim
5
6 \newcommand{\shabox}[1]{%
7 \InlineClass{shabox}{#1}%
8 }

```

---

File 416 **lwarp-shapepar.sty**

§ 522 Package **shapepar**

*(Emulates or patches code by DONALD ARSENEAU.)*

Pkg shapepar shapepar is patched for use by lwarp. Shapes appear in print mode, as well as inside a lateximage, but are ignored for HTML.

**for HTML output:** 1 \LWR@ProvidesPackagePass{shapepar}[2013/03/26]

```

2 \newcommand*{\LWR@HTML@shapepar}[2][{}]{
3 \LWR@formatted{shapepar}
4
5 \NewDocumentCommand{\LWR@HTML@cutout}{m d()}{}
6 \LWR@formatted{cutout}

```

---

File 417 **lwarp-showidx.sty**

§ 523 Package **showidx**

Pkg showidx showidx is ignored.

**for HTML output:** Discard all options for lwarp-showidx:

```
1 \LWR@ProvidesPackageDrop{showidx}[2014/09/29]
```

\@wrindex is redefined \@AtBeginDocument by the lwarp core.

---

File 418 **lwarp-showkeys.sty**

§ 524 Package **showkeys**

*(Emulates or patches code by DAVID CARLISLE, MORTEN HØGHOLM.)*

Pkg showkeys showkeys is ignored.

**for HTML output:** Discard all options for lwarp-showkeys:

```
1 \LWR@ProvidesPackageDrop{showkeys}[2014/10/28]
```

```
2 \NewDocumentCommand{\showkeys}{s}{}

```

---

File 419 **lwarp-showtags.sty**

§ 525 Package **showtags**

Pkg showtags showtags is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{showtags}% no version is given

```
2 \newcommand{\thecitetag}[1]{}

```

---

File 420 **lwarp-shuffle.sty**

§ 526 Package **shuffle**

*(Emulates or patches code by JULIAN GILBEY AND ANTOINE LEJAY.)*

Pkg shuffle shuffle is emulated for SVG math, and also emulated for MATHJAX.

The font used for `shuffle` may not render correctly when converted to SVG math, so a picture environment drawing is used instead.

For MATHJAX, the Unicode character is used, and for `\cshuffle` a `\bar` is added.

```

for HTML output: 1 \LWR@ProvidesPackageDrop{shuffle}[2008/10/27]
2 \LWR@origRequirePackage{lwarp-common-mathjax-overlaysymbols}

3 \newcommand*\LWR@shuffle@start{%
4 \hspace*{.2em}
5 \begin{picture}(.75,0.65)
6 \setlength{\unitlength}{1em}
7 \put(0,0){\line(1,0){.75}}
8 \put(0,0){\line(0,1){.5}}
9 \put(.375,0){\line(0,1){.5}}
10 \put(.75,0){\line(0,1){.5}}
11 }
12
13 \newcommand*\LWR@shuffle@finish{%
14 \end{picture}
15 \hspace*{.75em}
16 \hspace*{.2em}
17 }
18
19 \newcommand*\shuffle{%
20 \LWR@shuffle@start%
21 \LWR@shuffle@finish%
22 }
23
24 \newcommand*\cshuffle{%
25 \LWR@shuffle@start%
26 \put(.05,.65){\line(1,0){.65}}%
27 \LWR@shuffle@finish%
28 }

29 \begin{warpMathJax}
30 \CustomizeMathJax{\newcommand*\shuffle{\mathbin{\unicode{0x29E2}}}}
31 \CustomizeMathJax{\newcommand*\cshuffle{%
32 \mathbin{\LWRoverlaysymbols{\raise{.6ex}{-}}{\unicode{0x29E2}}}}%
33 }}
34 \end{warpMathJax}

```

---

File 421 **lwarp-sidecap.sty**

§ 527 Package **sidecap**

(Emulates or patches code by ROLF NIEPRASCHK, HUBERT GÄSSLEIN.)

Pkg sidecap sidecap is emulated.

**for HTML output:** Discard all options for lwarp-sidecap.

```
1 \LWR@ProvidesPackageDrop{sidecap}[2003/06/06]
```



See:

<http://tex.stackexchange.com/questions/45401/use-the-s-star-argument-with-newdocumentenvironment> regarding the creation of starred environments with xparse.

```

2 \NewDocumentEnvironment{SCTable}{soo}
3 {\IfValueTF{#3}{\table[#3]}\table}}
4 {\endtable}
5
6 \ExplSyntaxOn
7 \cs_new:cpn {SCTable*} {\SCTable*}
8 \cs_new_eq:cN {endSCTable*} \endSCTable
9 \ExplSyntaxOff
10
11
12 \NewDocumentEnvironment{SCfigure}{soo}
13 {\IfValueTF{#3}{\figure[#3]}\figure}}
14 {\endfigure}
15
16 \ExplSyntaxOn
17 \cs_new:cpn {SCfigure*} {\SCfigure*}
18 \cs_new_eq:cN {endSCfigure*} \endSCfigure
19 \ExplSyntaxOff
20
21
22 \newenvironment*{wide}{}{}

```

---

File 422 **lwarp-sidenotes.sty**

§ 528 Package **sidenotes**

*(Emulates or patches code by ANDY THOMAS, OLIVER SCHEBAUM.)*

Pkg sidenotes Patched for lwarp.

**for HTML output:** Load the original package:

```
1 \LWR@ProvidesPackagePass{sidenotes}
```

The following patch sidenotes for use with lwarp:

```

\sidecaption * [⟨entry⟩] [⟨offset⟩] {⟨text⟩}

2 \RenewDocumentCommand \sidecaption {s o o m}
3 {
4 \LWR@stoppars
5 \begingroup
6 \captionsetup{style=sidecaption}%
7 \IfBooleanTF{#1}
8 { % starred
9 \begin{BlockClass}[border:none ; box-shadow:none]{marginblock}
10 \caption*{#4}%

```

```

11 \end{BlockClass}
12 }
13 { % unstarred
14 \IfNoValueOrEmptyTF{#2}
15 {\def\@sidenotes@sidecaption@tof{#4}}
16 {\def\@sidenotes@sidecaption@tof{#2}}
17 \begin{BlockClass}[border:none ; box-shadow:none]{marginblock}
18 \caption[\@sidenotes@sidecaption@tof]{#4}
19 \end{BlockClass}
20 }
21 \endgroup
22 \LWR@startpars
23 }

```

Borrowed from the lwarp version of keyfloat:

```

24 \NewDocumentEnvironment{KFLT@sidenotes@marginfloat}{0{-1.2ex} m}
25 {% start
26 \LWR@BlockClassWP{float:right; width:2in; margin:10pt}{marginblock}%
27 \renewcommand*\@capttype{#2}%
28 }
29 {%
30 \endLWR@BlockClassWP%
31 }
32
33 \RenewDocumentEnvironment{marginfigure}{o}
34 {\begin{KFLT@sidenotes@marginfloat}{figure}}
35 {\end{KFLT@sidenotes@marginfloat}}
36
37 \RenewDocumentEnvironment{margintable}{o}
38 {\begin{KFLT@sidenotes@marginfloat}{table}}
39 {\end{KFLT@sidenotes@marginfloat}}

```

The following were changed by sidenotes, and now are reset back to their lwarp-supported originals:

Restoring the definition from the L<sup>A</sup>T<sub>E</sub>X<sub>2<sub>ε</sub></sub> article.cls source:

```

40 \renewenvironment{figure*}
41 {\@dblfloat{figure}}
42 {\enddblfloat}
43
44 \renewenvironment{table*}
45 {\@dblfloat{table}}
46 {\enddblfloat}

```

For MATHJAX:



Note that sidenotes does not support \sidenote inside math in print mode. Use \sidenotemark and \sidenotetext instead.

```

47 \begin{warpMathJax}
48 \providecommand{\sidenotename}{sidenote}
49 \appto\LWR@syncnotenumbers{\LWR@synconenotenummer{LWR@sidenote}{\thesidenote}}
50 \appto\LWR@syncnotenames{\LWR@synconenotename{LWR@sidenote}{\sidenotename}}

```

```

51 \CustomizeMathJax{\def\LWRsidenote{1}}
52 \CustomizeMathJax{\newcommand{\sidenotemark}[1][\LWRsidenote]{{}^{\mathrm{#1}}}}
53 \end{warpMathJax}

```

The following is not defined since is not allowed inside math in print mode, and also would have to be modified to parse the optional offset argument:

```
\CustomizeMathJax{\newcommand{\sidenote}[2][\LWRsidenote]{{}^{\mathrm{#1}}}}
```

File 423 **lwarp-simplebnf.sty**

§ 529 Package **simplebnf**

(Emulates or patches code by JAY LEE.)

Pkg simplebnf simplebnf is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{simplebnf}[2020/09/01]

The entire object is placed inside a lateximage whose alt text is the L<sup>A</sup>T<sub>E</sub>X source BNF expression.

```

2 \ExplSyntaxOn
3
4 \RenewDocumentEnvironment { bnfgrammar } { +b }
5 {
6 %% \l__input_seq is a list of term definitions.
7 \regex_split:nnN { ; ; } { #1 } \l__input_seq
8 \begin{center}
9 \begin{lateximage}[#1]% lwarp
10 \tl_set:Nn \l__table_tl
11 {
12 \begin{tabular}{lcll}
13 }
14 \bool_set_true:N \l_tmp_first_term % Is this the first term in this grammar?
15 \seq_map_inline:Nn \l__input_seq
16 {
17 %% \l__term_seq - (term, rhses)...
18 %% \l__term_tl - term
19 %% \l__keypairs_tl - rhses
20 \regex_split:nnN { ::= } { ##1 } \l__term_seq
21 \seq_pop_left:NN \l__term_seq \l__term_tl
22 \seq_pop_left:NN \l__term_seq \l__keypairs_tl
23
24 \regex_replace_once:nnN { ^\s+ } {} \l__term_tl
25
26 \bool_if:NTF \l_tmp_first_term
27 {
28 \bool_set_false:N \l_tmp_first_term
29 }
30 {
31 \tl_put_right:Nn \l__table_tl { \\ }

```

```

32 }
33 \tl_put_right:Nx \l__table_tl
34 {
35 \bnfexpr { \l__term_tl } & \g__simplebnf_defeq_tl &
36 }
37 %% \l__keypairs_seq - (rhs:annot | rhs)...
38 \seq_set_split:NnV \l__keypairs_seq { | } \l__keypairs_tl
39
40 \bool_set_true:N \l__first_rhs
41 \seq_map_function:NN \l__keypairs_seq \simplebnf_typeset_rhs:n
42 }
43
44 \tl_put_right:Nn \l__table_tl { \end{tabular} }
45 \tl_use:N \l__table_tl
46 \end{lateximage}% lwarp
47 \end{center}
48 }
49 { }
50
51 \ExplSyntaxOff

```

---

File 424 **lwarp-SIunits.sty**

§ 530 Package **Slunits**

*(Emulates or patches code by MARCEL HELDOORN.)*

Pkg SIunits **Slunits** is patched for use by **lwarp**.

For SVG math, it is recommended to use `\unit` where possible, which combines the entire expression into a single `lateximage`, and adds the `alt` tag containing the  $\LaTeX$  code, allowing for copy/paste. When units are used outside of the `\unit` macro, each unit macro will have its own `lateximage`, and each will have the `alt` tag set according to `\MathImageAltText`, which defaults to `(math image)`.

For **MATHJAX**, individual units used in text will appear as SVG images, since `\ensuremath` is used in the original definitions, and `\ensuremath` often has expressions which do not work well in **MATHJAX**, so it is always forced to an SVG image. If, however, `\unit` is used, the result is expressed with **MATHJAX** instead of an SVG image.

**for HTML output:** 1 \LWR@ProvidesPackagePass{SIunits}[2007/12/02]

Patched for copy/paste with the HTML `alt` tag:

```

2 \ifbool{mathjax}{
3 \DeclareRobustCommand{\LWR@HTML@unit}[2]{%
4 \LWR@subsingledollar*% lwarp
5 {% alt tag
6 \textbackslash{}unit\{\LWR@HTMLsanitize{#1}\}%
7 \{\LWR@HTMLsanitize{#2}\}% extra space
8 }%
9 {SIunits}% add'l hashing

```

```

10 {%
11 #1\,{#2}%
12 }% contents
13 }
14 }{% not MathJax
15 \DeclareRobustCommand{\LWR@HTML@unit}[2]{%
16 \@inunitcommandtrue% original
17 \LWR@subsingledollar*% lwarp
18 {% alt tag
19 \textbackslash{}unit\{\LWR@HTMLsanitize{#1}\}%
20 \{\LWR@HTMLsanitize{#2}\}% extra space
21 }%
22 {SIunits}% add'l hashing
23 {%
24 \LWR@origensuredmath{% lwarp modification
25 \SI@fstyle{%
26 {#1}\@qsk\period@active{#2}%
27 }% original
28 }%
29 }% contents
30 \@inunitcommandfalse% original
31 }
32 }% not MathJax
33 \LWR@formatted{unit}

```

#### For MATHJAX:

```

34 \begin{warpMathJax}
35 \LWR@infoprocessingmathjax{SIunits}
36
37 \CustomizeMathJax{\newcommand{\one}{}}
38 \CustomizeMathJax{\newcommand{\meter}{\metre}}
39 \CustomizeMathJax{\newcommand{\deka}{\deca}}
40 \CustomizeMathJax{\newcommand{\dekad}{\decad}}
41 \CustomizeMathJax{\newcommand{\per}{/}}
42 \CustomizeMathJax{\newcommand{\usk}{\;}}
43 \CustomizeMathJax{\newcommand{\unit}[2]{#1\,{#2}}}
44 \CustomizeMathJax{\newcommand{\power}[2]{#1^{#2}}}
45
46 \AtBeginDocument{%
47 \if@redefsquare
48 \CustomizeMathJax{\renewcommand{\square}[1]{\power{#1}{2}}}
49 \else
50 \if@defsquaren
51 \CustomizeMathJax{\newcommand{\square}[1]{\power{#1}{2}}}
52 \else
53 \CustomizeMathJax{\renewcommand{\square}[1]{\power{#1}{2}}}
54 \fi %\if@defsquaren
55 \fi %\if@redefsquare
56 } %\AtBeginDocument
57
58 \CustomizeMathJax{\newcommand{\squared}{^{\{2}}}}
59 \CustomizeMathJax{\newcommand{\cubic}[1]{\power{#1}{3}}}
60 \CustomizeMathJax{\newcommand{\cubed}{^{\{3}}}}
61 \CustomizeMathJax{\newcommand{\fourth}[1]{\power{#1}{4}}}

```

```

62 \CustomizeMathJax{\newcommand{\reciprocal}[1]{\power{#1}{-1}}}
63 \CustomizeMathJax{\newcommand{\rp}{\reciprocal}}
64 \CustomizeMathJax{\newcommand{\rpsquare}[1]{\power{#1}{-2}}}
65 \CustomizeMathJax{\newcommand{\rpsquared}{^{\{-2\}}}
66 \CustomizeMathJax{\newcommand{\rpcubic}[1]{\power{#1}{-3}}}
67 \CustomizeMathJax{\newcommand{\rpcubed}{^{\{-3\}}}
68 \CustomizeMathJax{\newcommand{\rpfourth}[1]{\power{#1}{-4}}}
69 \CustomizeMathJax{\newcommand{\yocto}{\mathrm{y}}}
70 \CustomizeMathJax{\newcommand{\zepto}{\mathrm{z}}}
71 \CustomizeMathJax{\newcommand{\atto}{\mathrm{a}}}
72 \CustomizeMathJax{\newcommand{\femto}{\mathrm{f}}}
73 \CustomizeMathJax{\newcommand{\pico}{\mathrm{p}}}
74 \CustomizeMathJax{\newcommand{\nano}{\mathrm{n}}}
75 \CustomizeMathJax{\newcommand{\micro}{\mathrm{\unicode{x00B5}}}}
76 \CustomizeMathJax{\newcommand{\milli}{\mathrm{m}}}
77 \CustomizeMathJax{\newcommand{\centi}{\mathrm{c}}}
78 \CustomizeMathJax{\newcommand{\deci}{\mathrm{d}}}
79 \CustomizeMathJax{\newcommand{\deca}{\mathrm{da}}}
80 \CustomizeMathJax{\newcommand{\hecto}{\mathrm{h}}}
81 \CustomizeMathJax{\newcommand{\kilo}{\mathrm{k}}}
82 \CustomizeMathJax{\newcommand{\mega}{\mathrm{M}}}
83 \CustomizeMathJax{\newcommand{\giga}{\mathrm{G}}}
84 \CustomizeMathJax{\newcommand{\tera}{\mathrm{T}}}
85 \CustomizeMathJax{\newcommand{\peta}{\mathrm{P}}}
86 \CustomizeMathJax{\newcommand{\exa}{\mathrm{E}}}
87 \CustomizeMathJax{\newcommand{\zetta}{\mathrm{Z}}}
88 \CustomizeMathJax{\newcommand{\yotta}{\mathrm{Y}}}
89 \CustomizeMathJax{\newcommand{\yoctod}{\power{10}{-24}}}
90 \CustomizeMathJax{\newcommand{\zeptod}{\power{10}{-21}}}
91 \CustomizeMathJax{\newcommand{\attod}{\power{10}{-18}}}
92 \CustomizeMathJax{\newcommand{\femtod}{\power{10}{-15}}}
93 \CustomizeMathJax{\newcommand{\picod}{\power{10}{-12}}}
94 \CustomizeMathJax{\newcommand{\nanod}{\power{10}{-9}}}
95 \CustomizeMathJax{\newcommand{\microd}{\power{10}{-6}}}
96 \CustomizeMathJax{\newcommand{\millid}{\power{10}{-3}}}
97 \CustomizeMathJax{\newcommand{\centid}{\power{10}{-2}}}
98 \CustomizeMathJax{\newcommand{\decid}{\power{10}{-1}}}
99 \CustomizeMathJax{\newcommand{\decad}{\power{10}{1}}}
100 \CustomizeMathJax{\newcommand{\hectod}{\power{10}{2}}}
101 \CustomizeMathJax{\newcommand{\kilod}{\power{10}{3}}}
102 \CustomizeMathJax{\newcommand{\megad}{\power{10}{6}}}
103 \CustomizeMathJax{\newcommand{\gigad}{\power{10}{9}}}
104 \CustomizeMathJax{\newcommand{\terad}{\power{10}{12}}}
105 \CustomizeMathJax{\newcommand{\petad}{\power{10}{15}}}
106 \CustomizeMathJax{\newcommand{\exad}{\power{10}{18}}}
107 \CustomizeMathJax{\newcommand{\zettad}{\power{10}{21}}}
108 \CustomizeMathJax{\newcommand{\yottad}{\power{10}{24}}}
109 \CustomizeMathJax{\newcommand{\gram}{\mathrm{g}}}
110 \CustomizeMathJax{\newcommand{\metre}{\mathrm{m}}}
111 \CustomizeMathJax{\newcommand{\kilogram}{\kilo\gram}}
112 \CustomizeMathJax{\newcommand{\second}{\mathrm{s}}}
113 \CustomizeMathJax{\newcommand{\ampere}{\mathrm{A}}}
114 \CustomizeMathJax{\newcommand{\kelvin}{\mathrm{K}}}
115 \CustomizeMathJax{\newcommand{\mole}{\mathrm{mol}}}
116 \CustomizeMathJax{\newcommand{\candela}{\mathrm{cd}}}

```

```

117 \CustomizeMathJax{\newcommand{\radian}{\mathrm{rad}}}
118 \CustomizeMathJax{\newcommand{\steradian}{\mathrm{sr}}}
119 \CustomizeMathJax{\newcommand{\hertz}{\mathrm{Hz}}}
120 \CustomizeMathJax{\newcommand{\newton}{\mathrm{N}}}
121 \CustomizeMathJax{\newcommand{\pascal}{\mathrm{Pa}}}
122 \CustomizeMathJax{\newcommand{\joule}{\mathrm{J}}}
123 \CustomizeMathJax{\newcommand{\watt}{\mathrm{W}}}
124 \CustomizeMathJax{\newcommand{\coulomb}{\mathrm{C}}}
125 \CustomizeMathJax{\newcommand{\volt}{\mathrm{V}}}
126 \CustomizeMathJax{\newcommand{\farad}{\mathrm{F}}}
127 \CustomizeMathJax{\newcommand{\ohm}{\mathrm{\Omega}}}
128 \CustomizeMathJax{\newcommand{\siemens}{\mathrm{S}}}
129 \CustomizeMathJax{\newcommand{\weber}{\mathrm{Wb}}}
130 \CustomizeMathJax{\newcommand{\tesla}{\mathrm{T}}}
131 \CustomizeMathJax{\newcommand{\henry}{\mathrm{H}}}
132 \CustomizeMathJax{\newcommand{\degreecelsius}{\mathrm{\unicode{x2103}}}}
133 \CustomizeMathJax{\newcommand{\celsius}{\degreecelsius}}
134 \CustomizeMathJax{\newcommand{\lumen}{\mathrm{lm}}}
135 \CustomizeMathJax{\newcommand{\lux}{\mathrm{lx}}}
136 \CustomizeMathJax{\newcommand{\becquerel}{\mathrm{Bq}}}
137 \CustomizeMathJax{\newcommand{\sievert}{\mathrm{Sv}}}
138 \CustomizeMathJax{\newcommand{\katal}{\mathrm{kat}}}
139
140 \ifdef{\radianbase}{
141 \CustomizeMathJax{\newcommand{\radianbase}%
142 {\metre\usk\reciprocal\metre}}
143 \CustomizeMathJax{\newcommand{\steradianbase}%
144 {\squaremetre\usk\rpsquare\metre}}
145 \CustomizeMathJax{\newcommand{\hertzbase}%
146 {\reciprocal\second}}
147 \CustomizeMathJax{\newcommand{\newtonbase}%
148 {\metre\usk\kilogram\usk\second\rpsquared}}
149 \CustomizeMathJax{\newcommand{\pascalbase}%
150 {\reciprocal\metre\usk\kilogram\usk\second\rpsquared}}
151 \CustomizeMathJax{\newcommand{\joulebase}%
152 {\squaremetre\usk\kilogram\usk\second\rpsquared}}
153 \CustomizeMathJax{\newcommand{\wattbase}%
154 {\squaremetre\usk\kilogram\usk\rpcubic\second}}
155 \CustomizeMathJax{\newcommand{\coulombbase}%
156 {\ampere\usk\second}}
157 \CustomizeMathJax{\newcommand{\voltbase}%
158 {\squaremetre\usk\kilogram\usk\rpcubic\second\usk\reciprocal\ampere}}
159 \CustomizeMathJax{\newcommand{\faradbase}%
160 {\rpsquare\metre\usk\reciprocal\kilogram\usk\fourth\second\usk\ampere\squared}}
161 \CustomizeMathJax{\newcommand{\ohmbase}%
162 {\squaremetre\usk\kilogram\usk\rpcubic\second\usk\rpsquare\ampere}}
163 \CustomizeMathJax{\newcommand{\siemensbase}%
164 {\rpsquare\metre\usk\reciprocal\kilogram\usk\cubic\second\usk\ampere\squared}}
165 \CustomizeMathJax{\newcommand{\weberbase}%
166 {\squaremetre\usk\kilogram\usk\second\rpsquared\usk\reciprocal\ampere}}
167 \CustomizeMathJax{\newcommand{\teslabase}%
168 {\kilogram\usk\second\rpsquared\usk\reciprocal\ampere}}
169 \CustomizeMathJax{\newcommand{\henrybase}%
170 {\squaremetre\usk\kilogram\usk\second\rpsquared\usk\rpsquare\ampere}}
171 \CustomizeMathJax{\newcommand{\celsiusbase}%

```

```

172 {\kelvin}}
173 \CustomizeMathJax{\newcommand{\lumenbase}%
174 {\candela\usk\squaremetre\usk\rpsquare\metre}}
175 \CustomizeMathJax{\newcommand{\luxbase}%
176 {\candela\usk\squaremetre\usk\rfourth\metre}}
177 \CustomizeMathJax{\newcommand{\becquerelbase}%
178 {\hertzbase}}
179 \CustomizeMathJax{\newcommand{\graybase}%
180 {\squaremetre\usk\second\rpsquared}}
181 \CustomizeMathJax{\newcommand{\sievertbase}%
182 {\graybase}}
183 \CustomizeMathJax{\newcommand{\katalbase}%
184 {\rp\second\usk\mole }}
185 }{}
186
187 \ifdef{\derradian}{
188 \CustomizeMathJax{\newcommand{\derradian}%
189 {\metre\usk\reciprocal\metre}}
190 \CustomizeMathJax{\newcommand{\dersteradian}%
191 {\squaremetre\usk\rpsquare\metre}}
192 \CustomizeMathJax{\newcommand{\derhertz}%
193 {\reciprocal\second}}
194 \CustomizeMathJax{\newcommand{\dernewton}%
195 {\metre\usk\kilogram\usk\second\rpsquared}}
196 \CustomizeMathJax{\newcommand{\derpascal}%
197 {\newton\usk\rpsquare\metre}}
198 \CustomizeMathJax{\newcommand{\derjoule}%
199 {\newton\usk\metre}}
200 \CustomizeMathJax{\newcommand{\derwatt}%
201 {\joule\usk\reciprocal\second}}
202 \CustomizeMathJax{\newcommand{\dercoulomb}%
203 {\ampere\usk\second}}
204 \CustomizeMathJax{\newcommand{\dervolt}%
205 {\watt\usk\reciprocal\ampere}}
206 \CustomizeMathJax{\newcommand{\derfarad}%
207 {\coulomb\usk\reciprocal\volt}}
208 \CustomizeMathJax{\newcommand{\derohm}%
209 {\volt\usk\reciprocal\ampere}}
210 \CustomizeMathJax{\newcommand{\dersiemens}%
211 {\ampere\usk\reciprocal\volt}}
212 \CustomizeMathJax{\newcommand{\derweber}%
213 {\squaremetre\usk\kilogram\usk\second\rpsquared\usk\reciprocal\ampere}}
214 \CustomizeMathJax{\newcommand{\dertesla}%
215 {\weber\usk\rpsquare\metre}}
216 \CustomizeMathJax{\newcommand{\derhenry}%
217 {\weber\usk\reciprocal\ampere}}
218 \CustomizeMathJax{\newcommand{\dercelsius}%
219 {\kelvin}}
220 \CustomizeMathJax{\newcommand{\derlumen}%
221 {\candela\usk\steradian}}
222 \CustomizeMathJax{\newcommand{\derlux}%
223 {\lumen\usk\rpsquare\metre}}
224 \CustomizeMathJax{\newcommand{\derbecquerel}%
225 {\derhertz}}
226 \CustomizeMathJax{\newcommand{\dergray}%

```



```

227 {\joule\usk\reciprocal\kilogram}}
228 \CustomizeMathJax{\newcommand{\dersievert}%
229 {\dergray}}
230 \CustomizeMathJax{\newcommand{\derkatal}%
231 {\katalbase}}
232 }{}
233
234 \CustomizeMathJax{\newcommand{\minute}{\mathrm{min}}}
235 \CustomizeMathJax{\newcommand{\hour}{\mathrm{h}}}
236 \CustomizeMathJax{\newcommand{\dday}{\mathrm{d}}}
237 \CustomizeMathJax{\newcommand{\degree}{\mathrm{^\circ}}}
238 \CustomizeMathJax{\newcommand{\pminute}{^\prime}}
239 \CustomizeMathJax{\newcommand{\arcminute}{^\prime}}
240 \CustomizeMathJax{\newcommand{\pasecond}{^\prime\prime}}
241 \CustomizeMathJax{\newcommand{\arcsecond}{^\prime\prime}}
242 \CustomizeMathJax{\newcommand{\ton}{\mathrm{t}}}
243 \CustomizeMathJax{\newcommand{\tonne}{\mathrm{t}}}
244 \CustomizeMathJax{\newcommand{\lliter}{\mathrm{L}}}
245 \CustomizeMathJax{\newcommand{\llitre}{\mathrm{l}}}
246 \CustomizeMathJax{\newcommand{\neper}{\mathrm{Np}}}
247 \CustomizeMathJax{\newcommand{\bel}{\mathrm{B}}}
248 \CustomizeMathJax{\newcommand{\curie}{\mathrm{Ci}}}
249 \CustomizeMathJax{\newcommand{\rad}{\mathrm{rad}}}
250 \CustomizeMathJax{\newcommand{\arad}{\mathrm{rd}}}
251 \CustomizeMathJax{\newcommand{\rem}{\mathrm{rem}}}
252 \CustomizeMathJax{\newcommand{\roentgen}{\mathrm{R}}}
253 \CustomizeMathJax{\newcommand{\electronvolt}{\mathrm{\mathrm{eV}}}}
254 \CustomizeMathJax{\newcommand{\atomicmass}{\mathrm{u}}}
255 \CustomizeMathJax{\newcommand{\atomicmassunit}{\mathrm{u}}}
256 \CustomizeMathJax{\newcommand{\dalton}{\mathrm{Da}}}
257 \CustomizeMathJax{\newcommand{\are}{\mathrm{a}}}
258 \CustomizeMathJax{\newcommand{\hectare}{\mathrm{\hecto\are}}}
259 \CustomizeMathJax{\newcommand{\barn}{\mathrm{b}}}
260 \CustomizeMathJax{\newcommand{\bbar}{\mathrm{\bar}}}
261 \CustomizeMathJax{\newcommand{\gal}{\mathrm{Gal}}}
262 \CustomizeMathJax{\newcommand{\angstrom}{\mathrm{\unicode{x212B}}}}
263 \CustomizeMathJax{\newcommand{\rperminute}{\mathrm{r}\per\minute}}
264 \CustomizeMathJax{\newcommand{\rpersecond}{\mathrm{r}\per\second}}
265 \CustomizeMathJax{\newcommand{\squaremetre}{\power{\metre}{2}}}
266 \CustomizeMathJax{\newcommand{\cubicmetre}{\cubic\metre}}
267 \CustomizeMathJax{\newcommand{\graypersecond}{\gray\per\second}}
268 \CustomizeMathJax{\newcommand{\graypersecondnp}{\gray\usk\reciprocal\second}}
269 \CustomizeMathJax{\newcommand{\metrepersquaresecond}{\metre\per\second\squared}}
270 \CustomizeMathJax{\newcommand{\metrepersquaresecondnp}{\metre\usk\second\rpsquared}}
271 \CustomizeMathJax{\newcommand{\joulepermole}{\joule\per\mole}}
272 \CustomizeMathJax{\newcommand{\joulepermolenp}{\joule\usk\reciprocal\mole}}
273 \CustomizeMathJax{\newcommand{\molepercubicmetre}{\mole\per\cubic\metre}}
274 \CustomizeMathJax{\newcommand{\molepercubicmetrenp}{\mole\usk\rpcubic\metre}}
275 \CustomizeMathJax{\newcommand{\radianpersquaresecond}{\radian\per\second\squared}}
276 \CustomizeMathJax{\newcommand{\radianpersquaresecondnp}{\radian\usk\second\rpsquared}}
277 \CustomizeMathJax{\newcommand{\kilogramsquaremetrepersecond}{\kilogram\usk\squaremetre\per\second}}
278 \CustomizeMathJax{\newcommand{\kilogramsquaremetrepersecondnp}{\kilogram\usk\squaremetre\usk\reciproca}}
279 \CustomizeMathJax{\newcommand{\radianpersecond}{\radian\per\second}}
280 \CustomizeMathJax{\newcommand{\radianpersecondnp}{\radian\usk\reciprocal\second}}
281 \CustomizeMathJax{\newcommand{\squaremetrepercubicmetre}{\squaremetre\per\cubic\metre}}

```

```

282 \CustomizeMathJax{\newcommand{\squaremetrepercubicmetrenp}{\squaremetre\usk\rpcubic\metre}}
283 \CustomizeMathJax{\newcommand{\katalpercubicmetre}{\katal\per\cubic\metre}}
284 \CustomizeMathJax{\newcommand{\katalpercubicmetrenp}{\katal\usk\rpcubic\metre}}
285 \CustomizeMathJax{\newcommand{\coulombpermol}{\coulomb\per\mole}}
286 \CustomizeMathJax{\newcommand{\coulombpermolnp}{\coulomb\usk\reciprocal\mole}}
287 \CustomizeMathJax{\newcommand{\amperepersquaremetre}{\ampere\per\squaremetre}}
288 \CustomizeMathJax{\newcommand{\amperepersquaremetrenp}{\ampere\usk\rpsquare\metre}}
289 \CustomizeMathJax{\newcommand{\kilogrampercubicmetre}{\kilogram\per\cubic\metre}}
290 \CustomizeMathJax{\newcommand{\kilogrampercubicmetrenp}{\kilogram\usk\rpcubic\metre}}
291 \CustomizeMathJax{\newcommand{\squaremetrepernewtonsecond}{\squaremetre\per\newton\usk\second}}
292 \CustomizeMathJax{\newcommand{\squaremetrepernewtonsecondnp}{\squaremetre\usk\reciprocal\newton\usk\re
293 \CustomizeMathJax{\newcommand{\pascalsecond}{\pascal\usk\second}}
294 \CustomizeMathJax{\newcommand{\coulombpercubicmetre}{\coulomb\per\cubic\metre}}
295 \CustomizeMathJax{\newcommand{\coulombpercubicmetrenp}{\coulomb\usk\rpcubic\metre}}
296 \CustomizeMathJax{\newcommand{\ampere metre second}{\ampere\usk\metre\usk\second}}
297 \CustomizeMathJax{\newcommand{\voltpermetre}{\volt\per\metre}}
298 \CustomizeMathJax{\newcommand{\voltpermetrenp}{\volt\usk\reciprocal\metre}}
299 \CustomizeMathJax{\newcommand{\coulombpersquaremetre}{\coulomb\per\squaremetre}}
300 \CustomizeMathJax{\newcommand{\coulombpersquaremetrenp}{\coulomb\usk\rpsquare\metre}}
301 \CustomizeMathJax{\newcommand{\faradpermetre}{\farad\per\metre}}
302 \CustomizeMathJax{\newcommand{\faradpermetrenp}{\farad\usk\reciprocal\metre}}
303 \CustomizeMathJax{\newcommand{\ohmmetre}{\ohm\usk\metre}}
304 \CustomizeMathJax{\newcommand{\kilowatthour}{\kilo\watt\hour}}
305 \CustomizeMathJax{\newcommand{\wattpersquaremetre}{\watt\per\squaremetre}}
306 \CustomizeMathJax{\newcommand{\wattpersquaremetrenp}{\watt\usk\rpsquare\metre}}
307 \CustomizeMathJax{\newcommand{\joulepersquaremetre}{\joule\per\squaremetre}}
308 \CustomizeMathJax{\newcommand{\joulepersquaremetrenp}{\joule\usk\rpsquare\metre}}
309 \CustomizeMathJax{\newcommand{\newtonpercubicmetre}{\newton\per\cubic\metre}}
310 \CustomizeMathJax{\newcommand{\newtonpercubicmetrenp}{\newton\usk\rpcubic\metre}}
311 \CustomizeMathJax{\newcommand{\newtonperkilogram}{\newton\per\kilogram}}
312 \CustomizeMathJax{\newcommand{\newtonperkilogramnp}{\newton\usk\reciprocal\kilogram}}
313 \CustomizeMathJax{\newcommand{\jouleperkelvin}{\joule\per\kelvin}}
314 \CustomizeMathJax{\newcommand{\jouleperkelvinnp}{\joule\usk\reciprocal\kelvin}}
315 \CustomizeMathJax{\newcommand{\jouleperkilogram}{\joule\per\kilogram}}
316 \CustomizeMathJax{\newcommand{\jouleperkilogramnp}{\joule\usk\reciprocal\kilogram}}
317 \CustomizeMathJax{\newcommand{\coulombperkilogram}{\coulomb\per\kilogram}}
318 \CustomizeMathJax{\newcommand{\coulombperkilogramnp}{\coulomb\usk\reciprocal\kilogram}}
319 \CustomizeMathJax{\newcommand{\squaremetrepersecond}{\squaremetre\per\second}}
320 \CustomizeMathJax{\newcommand{\squaremetrepersecondnp}{\squaremetre\usk\reciprocal\second}}
321 \CustomizeMathJax{\newcommand{\squaremetrepersquaresecond}{\squaremetre\per\second\squared}}
322 \CustomizeMathJax{\newcommand{\squaremetrepersquaresecondnp}{\squaremetre\usk\second\rpsquared}}
323 \CustomizeMathJax{\newcommand{\kilogrammetrepersecond}{\kilogram\usk\metre\per\second}}
324 \CustomizeMathJax{\newcommand{\kilogrammetrepersecondnp}{\kilogram\usk\metre\usk\reciprocal\second}}
325 \CustomizeMathJax{\newcommand{\candelapersquaremetre}{\candela\per\squaremetre}}
326 \CustomizeMathJax{\newcommand{\candelapersquaremetrenp}{\candela\usk\rpsquare\metre}}
327 \CustomizeMathJax{\newcommand{\amperepermetre}{\ampere\per\metre}}
328 \CustomizeMathJax{\newcommand{\amperepermetrenp}{\ampere\usk\reciprocal\metre}}
329 \CustomizeMathJax{\newcommand{\joulepertesla}{\joule\per\tesla}}
330 \CustomizeMathJax{\newcommand{\jouleperteslanp}{\joule\usk\reciprocal\tesla}}
331 \CustomizeMathJax{\newcommand{\henrypermetre}{\henry\per\metre}}
332 \CustomizeMathJax{\newcommand{\henrypermetrenp}{\henry\usk\reciprocal\metre}}
333 \CustomizeMathJax{\newcommand{\kilogrampersecond}{\kilogram\per\second}}
334 \CustomizeMathJax{\newcommand{\kilogrampersecondnp}{\kilogram\usk\reciprocal\second}}
335 \CustomizeMathJax{\newcommand{\kilogrampersquaremetre second}{\kilogram\per\squaremetre\usk\second}}
336 \CustomizeMathJax{\newcommand{\kilogrampersquaremetre secondnp}{\kilogram\usk\rpsquare\metre\usk\recip

```

```

337 \CustomizeMathJax{\newcommand{\kilogrampersquaremetre}{\kilogram\per\squaremetre}}
338 \CustomizeMathJax{\newcommand{\kilogrampersquaremetrenp}{\kilogram\usk\rpsquare\metre}}
339 \CustomizeMathJax{\newcommand{\kilogrampermetre}{\kilogram\per\metre}}
340 \CustomizeMathJax{\newcommand{\kilogrampermetrenp}{\kilogram\usk\reciprocal\metre}}
341 \CustomizeMathJax{\newcommand{\joulepermolekelvin}{\joule\per\mole\usk\kelvin}}
342 \CustomizeMathJax{\newcommand{\joulepermolekelvinnp}{\joule\usk\reciprocal\mole\usk\reciprocal\kelvin}}
343 \CustomizeMathJax{\newcommand{\kilogramperkilomole}{\kilogram\per\kilo\mole}}
344 \CustomizeMathJax{\newcommand{\kilogramperkilomolenp}{\kilogram\usk\kilo\reciprocal\mole}}
345 \CustomizeMathJax{\newcommand{\kilogramsquaremetre}{\kilogram\usk\squaremetre}}
346 \CustomizeMathJax{\newcommand{\kilogramsquaremetrenp}{\kilogramsquaremetre}}
347 \CustomizeMathJax{\newcommand{\kilogrammetrepersquaresecond}{\kilogram\usk\metre\per\second\squared}}
348 \CustomizeMathJax{\newcommand{\kilogrammetrepersquaresecondnp}{\kilogram\usk\metre\usk\second\rpsquare}}
349 \CustomizeMathJax{\newcommand{\newtonpersquaremetre}{\newton\per\squaremetre}}
350 \CustomizeMathJax{\newcommand{\newtonpersquaremetrenp}{\newton\usk\rpsquare\metre}}
351 \CustomizeMathJax{\newcommand{\persquaremetresecond}{1\per\squaremetre\usk\second}}
352 \CustomizeMathJax{\newcommand{\persquaremetresecondnp}{\rpsquare\metre\usk\reciprocal\second}}
353 \CustomizeMathJax{\newcommand{\wattperkilogram}{\watt\per\kilogram}}
354 \CustomizeMathJax{\newcommand{\wattperkilogramnp}{\watt\usk\reciprocal\kilogram}}
355 \CustomizeMathJax{\newcommand{\wattpercubicmetre}{\watt\per\cubic\metre}}
356 \CustomizeMathJax{\newcommand{\wattpercubicmetrenp}{\watt\usk\rcubic\metre}}
357 \CustomizeMathJax{\newcommand{\wattpersquaremetresteradian}{\watt\per\squaremetre\usk\steradian}}
358 \CustomizeMathJax{\newcommand{\wattpersquaremetresteradiannp}{\watt\usk\rpsquare\metre\usk\rp\steradia}}
359 \CustomizeMathJax{\newcommand{\jouleperkilogramkelvin}{\joule\per\kilogram\usk\kelvin}}
360 \CustomizeMathJax{\newcommand{\jouleperkilogramkelvinnp}{\joule\usk\reciprocal\kilogram\usk\reciprocal}}
361 \CustomizeMathJax{\newcommand{\squaremetreperkilogram}{\squaremetre\per\kilogram}}
362 \CustomizeMathJax{\newcommand{\rsquaremetreperkilogram}{\squaremetre\usk\reciprocal\kilogram}}
363 \CustomizeMathJax{\newcommand{\cubicmetreperkilogram}{\cubic\metre\per\kilogram}}
364 \CustomizeMathJax{\newcommand{\rpcubicmetreperkilogram}{\cubic\metre\usk\reciprocal\kilogram}}
365 \CustomizeMathJax{\newcommand{\newtonpermetre}{\newton\per\metre}}
366 \CustomizeMathJax{\newcommand{\newtonpermetrenp}{\newton\usk\reciprocal\metre}}
367 \CustomizeMathJax{\newcommand{\Celsius}{\unicode{x2103}}}
368 \CustomizeMathJax{\newcommand{\wattpermetrekelvin}{\watt\per\metre\usk\kelvin}}
369 \CustomizeMathJax{\newcommand{\wattpermetrekelvinnp}{\watt\usk\reciprocal\metre\usk\reciprocal\kelvin}}
370 \CustomizeMathJax{\newcommand{\newtonmetre}{\newton\usk\metre} \CustomizeMathJax{\newcommand{\newtonme}}
371 \CustomizeMathJax{\newcommand{\squaremetrepercubicsecond}{\squaremetre\per\cubic\second}}
372 \CustomizeMathJax{\newcommand{\squaremetrepercubicsecondnp}{\squaremetre\usk\rcubic\second}}
373 \CustomizeMathJax{\newcommand{\metrepersecond}{\metre\per\second}}
374 \CustomizeMathJax{\newcommand{\metrepersecondnp}{\metre\usk\reciprocal\second}}
375 \CustomizeMathJax{\newcommand{\joulepercubicmetre}{\joule\per\cubic\metre}}
376 \CustomizeMathJax{\newcommand{\joulepercubicmetrenp}{\joule\usk\rcubic\metre}}
377 \CustomizeMathJax{\newcommand{\kilogrampercubicmetrecoulomb}{\kilogram\per\cubic\metre\usk\coulomb}}
378 \CustomizeMathJax{\newcommand{\kilogrampercubicmetrecoulombnp}{\kilogram\usk\rcubic\metre\usk\recipro}}
379 \CustomizeMathJax{\newcommand{\cubicmetrepersecond}{\cubic\metre\per\second}}
380 \CustomizeMathJax{\newcommand{\rpcubicmetrepersecond}{\cubic\metre\usk\reciprocal\second}}
381 \CustomizeMathJax{\newcommand{\kilogrampersecondcubicmetre}{\kilogram\per\second\usk\cubic\metre}}
382 \CustomizeMathJax{\newcommand{\kilogrampersecondcubicmetrenp}{\kilogram\usk\reciprocal\second\usk\rcu}}
383 \end{warpMathJax}

```

---


File 425 **lwarp-siunitx.sty**


§ 531 Package **siunitx**


(Emulates or patches code by JOSEPH WRIGHT.)

Pkg `siunitx` `siunitx` is patched for use by `lwarp`.

**fractions** Due to *pdftotext* limitations, fraction output is replaced by symbol output for `per-mode` and `quotient-mode`.

 **math mode required** Some units will require that the expression be placed inside math mode.


 **tabular** Tabular `S` columns are rendered as simple `c` columns, and tabular `s` columns are not supported. These may be replaced by `c` columns with each cell contained in `\num` or `\si`.


 **MathJax** For math mode with `svg` display, the original `siunitx` code is used while generating the `svg` image. For text mode, `lwarp` uses an emulation which provides a very effective `HTML` interpretation of `siunitx`. For math expressions while using `MATHJAX`, a limited emulation is used. Most functions work reasonably well, but many options cannot be emulated. `siunitx` macros with more than one optional value cannot absorb the second optional value, and complicated parsing such as for `\ang` is not supported. The result usually looks fine, and otherwise is enough to get the meaning across.

`lwarp`'s `MATHJAX` emulation for `siunitx` is meant to be a stop-gap measure until an extension is included in `MATHJAX`. As of this writing, the third-party `siunitx` extension for `MATHJAX` is not currently hosted at any public CDN, thus `siunitx` is not usable with this extension unless a local copy of this extension is created first. See `\MathJaxFilename` to select a custom `MathJax` script, but `lwarp`'s emulation would have to be disabled as well.

Document modifications required for `MATHJAX`:

**custom units** • Custom units may be added with `\CustomizeMathJax`. See the `lwarp-siunitx` code for examples.

 **unit spacing** • Units work better using `~` between units instead of using periods.

 **\square, \cubic** • To square or cube compound units, enclose the following compound units in braces:

```
\cubic{\centi\meter}
```

Single units do not require braces.

Also see **`MATHJAX` option**, section 8.7.4.

**for HTML output:**

```
1 \RequirePackage{xcolor}% for \convertcolorspec
2
3 \LWR@ProvidesPackagePass{siunitx}[2018/05/17]

4 \AtBeginDocument{% in case textcomp was not loaded
5 \DeclareSIUnit\bohr{\textit{a}\textsubscript{0}}
6 \DeclareSIUnit\clight{\textit{c}\textsubscript{0}}
7 \DeclareSIUnit\elementarycharge{\textit{e}}
8 \DeclareSIUnit\electronmass{\textit{m}\textsubscript{e}}
9 \DeclareSIUnit\hartree{\textit{E}\textsubscript{h}}
10 \DeclareSIUnit\planckbar{\LWR@siunitx@textplanckbar}
11 }% AtBeginDocument
```

`\@ensuredmath` is not supported inside an `\hbox`, so it must temporarily be restored to its original. Similar for `\mbox`. SVG math is created explicitly when necessary, using `\LWR@subsingledollar`.

```
12
13 \ExplSyntaxOn
14 %
```

Modified to set set HTML `\textcolor` if not black:

```
15 \cs_undefine:N __siunitx_print_aux:
16 \cs_new_protected:Npn __siunitx_print_aux:
17 {
18 \text
19 {
20 __siunitx_ensure_ltr:n
21 {
22 \color@begingroup
23 __siunitx_print_color:
24 __siunitx_font_shape:
25 __siunitx_font_weight:
26 \use:c
27 {
28 @@_ \l__siunitx_print_type_tl _
29 text \l__siunitx_font_family_tl :
30 }
31 \bool_if:NTF \l__siunitx_font_math_mode_bool
32 { __siunitx_print_math: }
33 {
34 \LWR@findcurrenttextcolor% lwarp
35 \ifdefstring{\LWR@tempcolor}{000000}% lwarp
36 {__siunitx_print_text:}% lwarp
37 {% lwarp
38 \LWR@textcurrentcolor{% lwarp
39 __siunitx_print_text:
40 }% lwarp
41 }% lwarp
42 }
43 \color@endgroup
44 }
45 }
46 }
47
48
49 \cs_undefine:N __siunitx_set_math_fam:n
50 \cs_new_protected:Npn __siunitx_set_math_fam:n #1 {
51 \int_new:c { c__siunitx_math #1 _int }
52 \group_begin:% lwarp
53 \LetLtxMacro\@ensuredmath\LWR@origensuredmath% lwarp
54 \LetLtxMacro\mbox\LWR@print@mbox% lwarp
55 \hbox_set:Nn \l__siunitx_tmp_box
56 {
57 \ensuremath
58 {
59 \use:c { math #1 }
```

```

60 {
61 \int_gset:cn { c__siunitx_math #1 _int } { \fam }
62 }
63 }
64 }
65 \group_end:% lwarp
66 }
67
68 \cs_undefine:N __siunitx_combined_output:n
69 \cs_new_protected:Npn __siunitx_combined_output:n #1 {
70 \group_begin:% lwarp
71 \LetLtxMacro\ensuredmath\LWR@origensuredmath% lwarp
72 \LetLtxMacro\mbox\LWR@print@mbox% lwarp
73 \bool_if:NTF \l__siunitx_number_parse_bool
74 {
75 \tl_clear:N \l__siunitx_number_out_tl
76 \bool_set_false:N \l__siunitx_number_compound_bool
77 __siunitx_number_output_parse:n {#1}
78 }
79 {

```

For parse-numbers=false:

```

80 __siunitx_unit_output_pre_print:
81 \begingroup% lwarp
82 \boolfalse{mathjax}% lwarp
83 % __siunitx_print:nn { number } { \ensuremath {#1} }
84 \LWR@subsingledollar{% lwarp
85 \textbackslash(\LWR@HTMLsanitize{#1} \textbackslash)% lwarp
86 }{siunitx}{%
87 __siunitx_print:nn { number } {%
88 \LWR@origensuredmath{#1}%
89 }%
90 }% lwarp
91 \endgroup% lwarp
92 __siunitx_unit_output_pre_print:
93 }
94 \group_end:% lwarp
95 }

```

For parse-numbers=false:

```

96 \cs_set_protected:Npn __siunitx_range_numbers_aux:n #1
97 {
98 \bool_if:NTF \l__siunitx_number_parse_bool
99 {
100 \tl_clear:N \l__siunitx_number_out_tl
101 \tl_clear:N \l__siunitx_number_out_saved_tl
102 \bool_set_false:N \l__siunitx_number_compound_bool
103 __siunitx_number_output_parse:n {#1}
104 \bool_if:NT \l__siunitx_number_compound_bool
105 { \msg_error:nx { siunitx } { multi-part-range } {#1} }
106 }
107 {
108 __siunitx_unit_output_pre_print:

```

```

109 \begingroup% lwarp
110 \boolfalse{mathjax}% lwarp
111 % __siunitx_print:nn { number } {#1}
112 \LWR@subsingledollar{% lwarp
113 \textbackslash(\LWR@HTMLsanitize{#1} \textbackslash)% lwarp
114 }{siunitx}{%
115 __siunitx_print:nn { number } {
116 \LWR@origensuredmath{#1}%
117 } % lwarp
118 }% lwarp
119 \endgroup% lwarp
120 __siunitx_unit_output_print:
121 }
122 }

```

For parse-numbers=false:

```

123 \cs_set_protected:Npn __siunitx_angle_print_direct_aux:nn #1#2 {
124 \tl_if_empty:nF {#1}
125 {
126 \tl_set:Nn \l__siunitx_unit_tl {#2}
127 \begingroup% lwarp
128 \boolfalse{mathjax}% lwarp
129 % __siunitx_print:nn { number } {#1}
130 \LWR@subsingledollar{% lwarp
131 \textbackslash(\LWR@HTMLsanitize{#1} \textbackslash)% lwarp
132 }{siunitx}{%
133 __siunitx_print:nn { number } {
134 \LWR@origensuredmath{#1}%
135 } % lwarp
136 }% lwarp
137 \endgroup% lwarp
138 __siunitx_unit_output_print:
139 }
140 }
141 %

```

For quotients, the fraction code is replaced by the symbol code:

```

142 \cs_undefine:N __siunitx_number_output_quotient_fraction:
143 \cs_new_protected:Npn __siunitx_number_output_quotient_fraction: {
144 \bool_set_true:N \l__siunitx_number_compound_bool
145 __siunitx_number_output_quotient_aux_i:
146 \tl_set_eq:NN \l__siunitx_number_out_tl
147 \l__siunitx_number_numerator_tl
148 \tl_put_right:NV \l__siunitx_number_out_tl \l__siunitx_output_quotient_tl
149 \tl_put_right:NV \l__siunitx_number_out_tl
150 \l__siunitx_number_denominator_tl
151 __siunitx_number_output_single_aux:
152 }

```

For units, the fraction code is replaced by the symbol code:

```

153 \cs_undefine:N __siunitx_unit_format_fraction_fraction:
154 \cs_new_protected:Npn __siunitx_unit_format_fraction_fraction: {

```

```

155 __siunitx_unit_format_fraction_symbol_aux:
156 \int_compare:nNnT { \l__siunitx_unit_denominator_int } > { 1 }
157 {
158 \bool_if:NT \l__siunitx_unit_denominator_bracket_bool
159 {
160 \tl_put_left:NV \l__siunitx_unit_denominator_tl \l__siunitx_bracket_open_tl
161 \tl_put_right:NV \l__siunitx_unit_denominator_tl \l__siunitx_bracket_close_tl
162 }
163 }
164 \tl_set_eq:NN \l__siunitx_unit_tl \l__siunitx_unit_numerator_tl
165 \tl_put_right:NV \l__siunitx_unit_tl \l__siunitx_per_symbol_tl
166 \tl_put_right:NV \l__siunitx_unit_tl \l__siunitx_unit_denominator_tl
167 }

168 \cs_undefine:N __siunitx_angle_print_astronomy_aux:
169 \cs_new_protected:Npn __siunitx_angle_print_astronomy_aux: {
170 \prop_get:NnNT \l__siunitx_number_out_prop { mantissa-integer }
171 \l__siunitx_tmpa_tl
172 { __siunitx_print:nV { number } \l__siunitx_tmpa_tl }
173 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}% lwarp
174 {% lateximage
175 \hbox_set:Nn \l__siunitx_angle_marker_box
176 {
177 __siunitx_print:nn { number } { { \l__siunitx_output_decimal_tl } }
178 }
179 \hbox_set:Nn \l__siunitx_angle_unit_box
180 {
181 __siunitx_print:nV { unit } \l__siunitx_unit_tl
182 \skip_horizontal:n { -\scriptspace }
183 }
184 __siunitx_angle_print_astronomy_aux:n { marker }
185 __siunitx_angle_print_astronomy_aux:n { unit }
186 \hbox_set:Nn \l__siunitx_angle_marker_box
187 {
188 \box_use:N \l__siunitx_angle_marker_box
189 \box_use:N \l__siunitx_angle_unit_box
190 }
191 \dim_compare:nNnTF
192 { \l__siunitx_angle_marker_dim } > { \l__siunitx_angle_unit_dim }
193 { __siunitx_angle_print_astronomy_marker: }
194 { __siunitx_angle_print_astronomy_unit: }
195 }% lateximage
196 {% not a lateximage
197 __siunitx_print:nV { unit } \l__siunitx_unit_tl
198 __siunitx_print:nn { number } { { \l__siunitx_output_decimal_tl } }
199 }% not a lateximage
200 \prop_get:NnNT \l__siunitx_number_out_prop { mantissa-decimal }
201 \l__siunitx_tmpa_tl
202 { __siunitx_print:nV { number } \l__siunitx_tmpa_tl }
203 }

204 \cs_undefine:N __siunitx_textsuperscript:n
205 \cs_new_protected:Npn __siunitx_textsuperscript:n #1 {#1}

```



```

206 \RenewDocumentCommand \num { o m } {
207 \leavevmode
208 \group_begin:% lwarp
209 \LetLtxMacro\@ensuredmath\LWR@origensuredmath% lwarp
210 \LetLtxMacro\mbox\LWR@print@mbox% lwarp
211 \bool_set_false:N \l__siunitx_font_set_bool
212 \IfNoValueF {#1}
213 { \keys_set:nn { siunitx } {#1} }
214 __siunitx_number_output:n {#2}
215 \group_end:% lwarp
216 }
217
218 \RenewDocumentCommand \numrange { o m m } {
219 \leavevmode
220 \group_begin:% lwarp
221 \LetLtxMacro\@ensuredmath\LWR@origensuredmath% lwarp
222 \LetLtxMacro\mbox\LWR@print@mbox% lwarp
223 \bool_set_false:N \l__siunitx_font_set_bool
224 \IfNoValueF {#1}
225 { \keys_set:nn { siunitx } {#1} }
226 __siunitx_range_numbers:nn {#2} {#3}
227 \group_end:% lwarp
228 }
229
230 \RenewDocumentCommand \ang { o > { \SplitArgument { 2 } { ; } } m } {
231 \group_begin:% lwarp
232 \LetLtxMacro\@ensuredmath\LWR@origensuredmath% lwarp
233 \LetLtxMacro\mbox\LWR@print@mbox% lwarp
234 \IfNoValueF {#1}
235 { \keys_set:nn { siunitx } {#1} }
236 __siunitx_angle_output:nnn #2
237 \group_end:% lwarp
238 }
239
240 \RenewDocumentCommand \si { o m } {
241 \leavevmode
242 \group_begin:% lwarp
243 \LetLtxMacro\@ensuredmath\LWR@origensuredmath% lwarp
244 \LetLtxMacro\mbox\LWR@print@mbox% lwarp
245 \bool_set_false:N \l__siunitx_font_set_bool
246 \IfNoValueTF {#1}
247 { __siunitx_unit_output:nn {#2} { } }
248 {
249 \keys_set:nn { siunitx } {#1}
250 __siunitx_unit_output:nn {#2} {#1}
251 }
252 \group_end:% lwarp
253 }
254
255
256 \RenewDocumentCommand{\SIrange}{o m m m}
257 {%
258 \leavevmode
259 \group_begin:% lwarp
260 \LetLtxMacro\@ensuredmath\LWR@origensuredmath% lwarp

```

```

261 \LetLtxMacro\mbox\LWR@print@mbox% lwarp
262 \bool_set_false:N \l__siunitx_font_set_bool
263 \IfNoValueTF {#1}
264 { __siunitx_range_unit:nnnn {#4} { } {#2} {#3} }
265 {
266 \keys_set:nn { siunitx } {#1}
267 __siunitx_range_unit:nnnn {#4} {#1} {#2} {#3}
268 }
269 \group_end:% lwarp
270 }
271
272 \ExplSyntaxOff

```

For MATHJAX. (The following runs much faster as separate `\CusomizeMathJax` calls instead of one single call.)

```

273 \begin{warpMathJax}
274 \LWR@infoprocessingmathjax{siunitx}

275 \CustomizeMathJax{\newcommand{\tothe}[1]{^{#1}}}
276 \CustomizeMathJax{\newcommand{\raiseto}[2]{#2^{#1}}}
277
278 \CustomizeMathJax{\newcommand{\ang}[2][{}]{\mathrm{#2}\degree}}
279 \CustomizeMathJax{\newcommand{\num}[2][{}]{\mathrm{#2}}}
280 \CustomizeMathJax{\newcommand{\si}[2][{}]{\mathrm{#2}}}
281 %
282 % \SI[opt]{num}[preunit]{unit}
283 \CustomizeMathJax{\newcommand{\LWRSI}[2][{}]{\mathrm{#1}\LWRSInumber\, #2}}}
284 \CustomizeMathJax{\newcommand{\SI}[2][{}]{\def\LWRSInumber{#2}\LWRSI}}

285 \CustomizeMathJax{\newcommand{\numlist}[2][{}]{\mathrm{#2}}}
286 \CustomizeMathJax{\newcommand{\numrange}[3][{}]{\mathrm{#2}\, \unicode{x2013}\, #3}}}
287 \CustomizeMathJax{\newcommand{\SIlist}[3][{}]{\mathrm{#2}\, #3}}}
288 \CustomizeMathJax{\newcommand{\SIrange}[4][{}]{\mathrm{#2}\, #4\, \unicode{x2013}\, #3\, #4}}}
289 \CustomizeMathJax{\newcommand{\tablenum}[2][{}]{\mathrm{#2}}}
290 %
291 \CustomizeMathJax{\newcommand{\ampere}{\mathrm{A}}}
292 \CustomizeMathJax{\newcommand{\candela}{\mathrm{cd}}}
293 \CustomizeMathJax{\newcommand{\kelvin}{\mathrm{K}}}
294 \CustomizeMathJax{\newcommand{\kilogram}{\mathrm{kg}}}
295 \CustomizeMathJax{\newcommand{\metre}{\mathrm{m}}}
296 \CustomizeMathJax{\newcommand{\mole}{\mathrm{mol}}}
297 \CustomizeMathJax{\newcommand{\second}{\mathrm{s}}}
298 %
299 \CustomizeMathJax{\newcommand{\becquerel}{\mathrm{Bq}}}
300 \CustomizeMathJax{\newcommand{\degreeCelsius}{\unicode{x2103}}}
301 \CustomizeMathJax{\newcommand{\coulomb}{\mathrm{C}}}
302 \CustomizeMathJax{\newcommand{\farad}{\mathrm{F}}}
303 \CustomizeMathJax{\newcommand{\gray}{\mathrm{Gy}}}
304 \CustomizeMathJax{\newcommand{\hertz}{\mathrm{Hz}}}
305 \CustomizeMathJax{\newcommand{\henry}{\mathrm{H}}}
306 \CustomizeMathJax{\newcommand{\joule}{\mathrm{J}}}
307 \CustomizeMathJax{\newcommand{\katal}{\mathrm{kat}}}
308 \CustomizeMathJax{\newcommand{\lumen}{\mathrm{lm}}}

```

```

309 \CustomizeMathJax{\newcommand{\lux}{\mathrm{Lx}}}
310 \CustomizeMathJax{\newcommand{\newton}{\mathrm{N}}}
311 \CustomizeMathJax{\newcommand{\ohm}{\mathrm{\Omega}}}
312 \CustomizeMathJax{\newcommand{\pascal}{\mathrm{Pa}}}
313 \CustomizeMathJax{\newcommand{\radian}{\mathrm{rad}}}
314 \CustomizeMathJax{\newcommand{\siemens}{\mathrm{S}}}
315 \CustomizeMathJax{\newcommand{\sievert}{\mathrm{Sv}}}
316 \CustomizeMathJax{\newcommand{\steradian}{\mathrm{sr}}}
317 \CustomizeMathJax{\newcommand{\tesla}{\mathrm{T}}}
318 \CustomizeMathJax{\newcommand{\volt}{\mathrm{V}}}
319 \CustomizeMathJax{\newcommand{\watt}{\mathrm{W}}}
320 \CustomizeMathJax{\newcommand{\weber}{\mathrm{Wb}}}
321 \CustomizeMathJax{\newcommand{\day}{\mathrm{d}}}
322 \CustomizeMathJax{\newcommand{\degree}{\mathrm{^\circ}}}
323 \CustomizeMathJax{\newcommand{\hectare}{\mathrm{ha}}}
324 \CustomizeMathJax{\newcommand{\hour}{\mathrm{h}}}
325 \CustomizeMathJax{\newcommand{\litre}{\mathrm{l}}}
326 \CustomizeMathJax{\newcommand{\liter}{\mathrm{L}}}
327 \CustomizeMathJax{\newcommand{\arcminute}{\mathrm{^\prime}}}
328 \CustomizeMathJax{\newcommand{\minute}{\mathrm{min}}}
329 \CustomizeMathJax{\newcommand{\arcsecond}{\mathrm{^\prime\prime}}}
330 \CustomizeMathJax{\newcommand{\tonne}{\mathrm{t}}}
331 \CustomizeMathJax{\newcommand{\astronomicalunit}{\mathrm{au}}}
332 \CustomizeMathJax{\newcommand{\atomicmassunit}{\mathrm{u}}}
333 \CustomizeMathJax{\newcommand{\bohr}{\mathrm{a}_0}}
334 \CustomizeMathJax{\newcommand{\clight}{\mathrm{c}_0}}
335 \CustomizeMathJax{\newcommand{\dalton}{\mathrm{D}_\mathrm{a}}}
336 \CustomizeMathJax{\newcommand{\electronmass}{\mathrm{m}_\mathrm{e}}}
337 \CustomizeMathJax{\newcommand{\electronvolt}{\mathrm{eV}}}
338 \CustomizeMathJax{\newcommand{\elementarycharge}{\mathrm{e}}}
339 \CustomizeMathJax{\newcommand{\hartree}{\mathrm{E}_\mathrm{h}}}
340 \CustomizeMathJax{\newcommand{\planckbar}{\mathrm{\unicode{x210F}}}}
341 \CustomizeMathJax{\newcommand{\angstrom}{\mathrm{\unicode{x212B}}}}
342 \CustomizeMathJax{\let\LRorigbar\bar}
343 \CustomizeMathJax{\newcommand{\bar}{\mathrm{bar}}}
344 \CustomizeMathJax{\newcommand{\barn}{\mathrm{b}}}
345 \CustomizeMathJax{\newcommand{\bel}{\mathrm{B}}}
346 \CustomizeMathJax{\newcommand{\decibel}{\mathrm{dB}}}
347 \CustomizeMathJax{\newcommand{\knot}{\mathrm{kn}}}
348 \CustomizeMathJax{\newcommand{\mmHg}{\mathrm{mmHg}}}
349 \CustomizeMathJax{\newcommand{\nauticalmile}{\mathrm{M}}}
350 \CustomizeMathJax{\newcommand{\neper}{\mathrm{Np}}}
351 %
352 \CustomizeMathJax{\newcommand{\yocto}{\mathrm{y}}}
353 \CustomizeMathJax{\newcommand{\zepto}{\mathrm{z}}}
354 \CustomizeMathJax{\newcommand{\atto}{\mathrm{a}}}
355 \CustomizeMathJax{\newcommand{\femto}{\mathrm{f}}}
356 \CustomizeMathJax{\newcommand{\pico}{\mathrm{p}}}
357 \CustomizeMathJax{\newcommand{\nano}{\mathrm{n}}}
358 \CustomizeMathJax{\newcommand{\micro}{\mathrm{\unicode{x00B5}}}}
359 \CustomizeMathJax{\newcommand{\milli}{\mathrm{m}}}
360 \CustomizeMathJax{\newcommand{\centi}{\mathrm{c}}}
361 \CustomizeMathJax{\newcommand{\deci}{\mathrm{d}}}
362 \CustomizeMathJax{\newcommand{\deca}{\mathrm{da}}}
363 \CustomizeMathJax{\newcommand{\hecto}{\mathrm{h}}}

```

```
364 \CustomizeMathJax{\newcommand{\kilo}{\mathrm{k}}}
365 \CustomizeMathJax{\newcommand{\mega}{\mathrm{M}}}
366 \CustomizeMathJax{\newcommand{\giga}{\mathrm{G}}}
367 \CustomizeMathJax{\newcommand{\tera}{\mathrm{T}}}
368 \CustomizeMathJax{\newcommand{\peta}{\mathrm{P}}}
369 \CustomizeMathJax{\newcommand{\exa}{\mathrm{E}}}
370 \CustomizeMathJax{\newcommand{\zetta}{\mathrm{Z}}}
371 \CustomizeMathJax{\newcommand{\yotta}{\mathrm{Y}}}
372 %
373 \CustomizeMathJax{\newcommand{\percent}{\mathrm{\%}}}
374 %
375 \CustomizeMathJax{\newcommand{\meter}{\mathrm{m}}}
376 \CustomizeMathJax{\newcommand{\metre}{\mathrm{m}}}
377 %
378 \CustomizeMathJax{\newcommand{\gram}{\mathrm{g}}}
379 \CustomizeMathJax{\newcommand{\kg}{\kilo\gram}}
380 \CustomizeMathJax{\newcommand{\of}[1]{_{\mathrm{#1}}}}
381 \CustomizeMathJax{\newcommand{\squared}{^2}}
382 \CustomizeMathJax{\newcommand{\square}[1]{\mathrm{#1}^2}}
383 \CustomizeMathJax{\newcommand{\cubed}{^3}}
384 \CustomizeMathJax{\newcommand{\cubic}[1]{\mathrm{#1}^3}}
385 \CustomizeMathJax{\newcommand{\per}{/}}
386 \CustomizeMathJax{\newcommand{\celsius}{\unicode{x2103}}}
387 %
388 \CustomizeMathJax{\newcommand{\fg}{\femto\gram}}
389 \CustomizeMathJax{\newcommand{\pg}{\pico\gram}}
390 \CustomizeMathJax{\newcommand{\ng}{\nano\gram}}
391 \CustomizeMathJax{\newcommand{\ug}{\micro\gram}}
392 \CustomizeMathJax{\newcommand{\mg}{\milli\gram}}
393 \CustomizeMathJax{\newcommand{\g}{\gram}}
394 \CustomizeMathJax{\newcommand{\kg}{\kilo\gram}}
395 %
396 \CustomizeMathJax{\newcommand{\amu}{\mathrm{u}}}
397 %
398 \CustomizeMathJax{\newcommand{\pm}{\pico\metre}}
399 \CustomizeMathJax{\newcommand{\nm}{\nano\metre}}
400 \CustomizeMathJax{\newcommand{\um}{\micro\metre}}
401 \CustomizeMathJax{\newcommand{\mm}{\milli\metre}}
402 \CustomizeMathJax{\newcommand{\cm}{\centi\metre}}
403 \CustomizeMathJax{\newcommand{\dm}{\deci\metre}}
404 \CustomizeMathJax{\newcommand{\m}{\metre}}
405 \CustomizeMathJax{\newcommand{\km}{\kilo\metre}}
406 %
407 \CustomizeMathJax{\newcommand{\as}{\atto\second}}
408 \CustomizeMathJax{\newcommand{\fs}{\femto\second}}
409 \CustomizeMathJax{\newcommand{\ps}{\pico\second}}
410 \CustomizeMathJax{\newcommand{\ns}{\nano\second}}
411 \CustomizeMathJax{\newcommand{\us}{\micro\second}}
412 \CustomizeMathJax{\newcommand{\ms}{\milli\second}}
413 \CustomizeMathJax{\newcommand{\s}{\second}}
414 %
415 \CustomizeMathJax{\newcommand{\fmol}{\femto\mol}}
416 \CustomizeMathJax{\newcommand{\pmol}{\pico\mol}}
417 \CustomizeMathJax{\newcommand{\nmol}{\nano\mol}}
418 \CustomizeMathJax{\newcommand{\umol}{\micro\mol}}
```

```
419 \CustomizeMathJax{\newcommand{\mmol}{\milli\mol}}
420 \CustomizeMathJax{\newcommand{\mol}{\mol}}
421 \CustomizeMathJax{\newcommand{\kmol}{\kilo\mol}}
422 %
423 \CustomizeMathJax{\newcommand{\pA}{\pico\ampere}}
424 \CustomizeMathJax{\newcommand{\nA}{\nano\ampere}}
425 \CustomizeMathJax{\newcommand{\uA}{\micro\ampere}}
426 \CustomizeMathJax{\newcommand{\mA}{\milli\ampere}}
427 \CustomizeMathJax{\newcommand{\A}{\ampere}}
428 \CustomizeMathJax{\newcommand{\kA}{\kilo\ampere}}
429 %
430 \CustomizeMathJax{\newcommand{\uL}{\micro\litre}}
431 \CustomizeMathJax{\newcommand{\mL}{\milli\litre}}
432 \CustomizeMathJax{\newcommand{\L}{\litre}}
433 \CustomizeMathJax{\newcommand{\hL}{\hecto\litre}}
434 \CustomizeMathJax{\newcommand{\uL}{\micro\liter}}
435 \CustomizeMathJax{\newcommand{\mL}{\milli\liter}}
436 \CustomizeMathJax{\newcommand{\L}{\liter}}
437 \CustomizeMathJax{\newcommand{\hL}{\hecto\liter}}
438 %
439 \CustomizeMathJax{\newcommand{\mHz}{\milli\hertz}}
440 \CustomizeMathJax{\newcommand{\Hz}{\hertz}}
441 \CustomizeMathJax{\newcommand{\kHz}{\kilo\hertz}}
442 \CustomizeMathJax{\newcommand{\MHz}{\mega\hertz}}
443 \CustomizeMathJax{\newcommand{\GHz}{\giga\hertz}}
444 \CustomizeMathJax{\newcommand{\THz}{\tera\hertz}}
445 %
446 \CustomizeMathJax{\newcommand{\mN}{\milli\newton}}
447 \CustomizeMathJax{\newcommand{\N}{\newton}}
448 \CustomizeMathJax{\newcommand{\kN}{\kilo\newton}}
449 \CustomizeMathJax{\newcommand{\MN}{\mega\newton}}
450 %
451 \CustomizeMathJax{\newcommand{\Pa}{\pascal}}
452 \CustomizeMathJax{\newcommand{\kPa}{\kilo\pascal}}
453 \CustomizeMathJax{\newcommand{\MPa}{\mega\pascal}}
454 \CustomizeMathJax{\newcommand{\GPa}{\giga\pascal}}
455 %
456 \CustomizeMathJax{\newcommand{\mohm}{\milli\ohm}}
457 \CustomizeMathJax{\newcommand{\kohm}{\kilo\ohm}}
458 \CustomizeMathJax{\newcommand{\Mohm}{\mega\ohm}}
459 %
460 \CustomizeMathJax{\newcommand{\pV}{\pico\volt}}
461 \CustomizeMathJax{\newcommand{\nV}{\nano\volt}}
462 \CustomizeMathJax{\newcommand{\uV}{\micro\volt}}
463 \CustomizeMathJax{\newcommand{\mV}{\milli\volt}}
464 \CustomizeMathJax{\newcommand{\V}{\volt}}
465 \CustomizeMathJax{\newcommand{\kV}{\kilo\volt}}
466 %
467 \CustomizeMathJax{\newcommand{\W}{\watt}}
468 \CustomizeMathJax{\newcommand{\uW}{\micro\watt}}
469 \CustomizeMathJax{\newcommand{\mW}{\milli\watt}}
470 \CustomizeMathJax{\newcommand{\kW}{\kilo\watt}}
471 \CustomizeMathJax{\newcommand{\MW}{\mega\watt}}
472 \CustomizeMathJax{\newcommand{\GW}{\giga\watt}}
473 %
```

```

474 \CustomizeMathJax{\newcommand{\J}{\joule}}
475 \CustomizeMathJax{\newcommand{\uJ}{\micro\joule}}
476 \CustomizeMathJax{\newcommand{\mJ}{\milli\joule}}
477 \CustomizeMathJax{\newcommand{\kJ}{\kilo\joule}}
478 %
479 \CustomizeMathJax{\newcommand{\eV}{\electronvolt}}
480 \CustomizeMathJax{\newcommand{\meV}{\milli\electronvolt}}
481 \CustomizeMathJax{\newcommand{\keV}{\kilo\electronvolt}}
482 \CustomizeMathJax{\newcommand{\MeV}{\mega\electronvolt}}
483 \CustomizeMathJax{\newcommand{\GeV}{\giga\electronvolt}}
484 \CustomizeMathJax{\newcommand{\TeV}{\tera\electronvolt}}
485 %
486 \CustomizeMathJax{\newcommand{\kWh}{\kilo\watt\hour}}
487 %
488 \CustomizeMathJax{\newcommand{\F}{\farad}}
489 \CustomizeMathJax{\newcommand{\fF}{\femto\farad}}
490 \CustomizeMathJax{\newcommand{\pF}{\pico\farad}}
491 %
492 \CustomizeMathJax{\newcommand{\K}{\mathrm{K}}}
493 %
494 \CustomizeMathJax{\newcommand{\dB}{\mathrm{dB}}}
495 %
496 \CustomizeMathJax{\newcommand{\kibi}{\mathrm{Ki}}}
497 \CustomizeMathJax{\newcommand{\mebi}{\mathrm{Mi}}}
498 \CustomizeMathJax{\newcommand{\gibi}{\mathrm{Gi}}}
499 \CustomizeMathJax{\newcommand{\tebi}{\mathrm{Ti}}}
500 \CustomizeMathJax{\newcommand{\pebi}{\mathrm{Pi}}}
501 \CustomizeMathJax{\newcommand{\exbi}{\mathrm{Ei}}}
502 \CustomizeMathJax{\newcommand{\zebi}{\mathrm{Zi}}}
503 \CustomizeMathJax{\newcommand{\yobi}{\mathrm{Yi}}}
504 \end{warpMathJax}

```

---

File 426 **lwarp-slantsc.sty**

§ 532 Package **slantsc**

*(Emulates or patches code by HARALD HARDERS.)*

Pkg slantsc slantsc is emulated for HTML, and used as-is for print output.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{slantsc}[2012/01/01]

2 \newcommand*{\LWR@HTML@noscsshape}{}
3 \LWR@formatted{noscsshape}
4
5 \FilenameNullify{%
6 \LetLtxMacro\noscsshape\@empty%
7 }

```

File 427 **lwarp-slashed.sty**

§ 533 Package **slashed**

*(Emulates or patches code by DAVID CARLISLE.)*

Pkg slashed slashed works as-s for HTML SVG math. For MATHJAX, emulation is provided.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{slashed}[1997/01/16]
2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\slashed}[1]{\cancel{#1}}}
4 \end{warpMathJax}

```

File 428 **lwarp-soul.sty**

§ 534 Package **soul**

*(Emulates or patches code by MELCHIOR FRANZ.)*

Pkg soul soul is emulated.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{soul}[2003/11/17]
2 \RequirePackage{xcolor}% for \convertcolorspec

```

Storage for the colors to use:

```

3 \newcommand*\LWR@soululcolor{}
4
5 \newcommand*\LWR@soulstcolor{}
6
7 % \definecolor{\LWR@soulhlcolordefault}{HTML}{F8E800}
8 % \newcommand*\LWR@soulhlcolor{\LWR@soulhlcolordefault}
9 \newcommand*\LWR@soulhlcolor{}

```

\so *{<text>}*

Basic markup with css:

```

10 \newcommand{\so}[1]{%
11 \InlineClass(letter-spacing:.2ex){letterspacing}{#1}%
12 }

```

\caps *{<text>}*

```

13 \newcommand{\caps}[1]{%
14 \InlineClass%
15 (font-variant:small-caps;letter-spacing:.1ex)%

```

```
16 {capsspacing}{#1}%
17 }
```

```
\LWR@soulcolor {<text>} {<color>} {<class>} {<colorstyle>} {<FormatWPstyle>}
```

Add colors if not empty:

```
18 \newcommand{\LWR@soulcolor}[5]{%
19 \ifcseempty{#2}%
20 {%
21 \InlineClass(#5){#3}{#1}%
22 }%
23 {%
24 \convertcolorspec{named}{\@nameuse{#2}}{HTML}\LWR@tempcolor%
25 \LWR@htmlspanclass[#5;#4:\LWR@origpound\LWR@tempcolor]{#3}{#1}%
26 }%
27 }
```

```
28 \newcommand{\ul}[1]{%
29 \LWR@soulcolor{#1}{\LWR@soululcolor}{uline}{text-decoration-color}%
30 {text-decoration:underline; text-decoration-skip: auto;}%
31 }
32
33 \newcommand{\st}[1]{
34 \LWR@soulcolor{#1}{\LWR@soulstcolor}{sout}{text-decoration-color}%
35 {text-decoration:line-through}%
36 }
37
38 \newcommand{\hl}[1]{
39 \LWR@soulcolor{#1}{\LWR@soulhlcolor}{highlight}{background-color}%
40 {background:\LWR@origpound{F8E800}}
41 }
```

Nullified:

```
42 \newcommand*\soulaccent[1]{}
43 \newcommand*\soulregister[2]{}
44 \newcommand*\sloppyword[1]{#1}
45 \newcommand*\sodef[5]{\DeclareRobustCommand*#1[1]{\so{##1}}}
46 \newcommand*\resetso{}
47 \newcommand*\capsdef[5]{}
48 \newcommand*\capsreset{}
49 \newcommand*\capssave[1]{}
50 \newcommand*\capsselect[1]{}
51 \newcommand*\setul[2]{}
52 \newcommand*\resetul{}
53 \newcommand*\setuldepth[1]{}
54 \newcommand*\setuloverlap[1]{}
55 \newcommand*\<{}{}
```

Set colors:

```
56 \newcommand*\setulcolor[1]{\renewcommand{\LWR@soululcolor}{#1}}
57 \newcommand*\setstcolor[1]{\renewcommand{\LWR@soulstcolor}{#1}}
58 \newcommand*\sethlcolor[1]{\renewcommand{\LWR@soulhlcolor}{#1}}
```



Long versions of the user-level macros:

```
59 \let\textso\so
60 \let\textul\ul
61 \let\texthl\hl
62 \let\textcaps\caps
```

---

File 429 **lwarp-soulpos.sty**

§ 535 Package **soulpos**

*(Emulates or patches code by JAVIER BEZOS.)*

Pkg soulpos soulpos is emulated.

**for HTML output:**

```
1 \RequirePackage{soul}
2 \RequirePackage{soulutf8}
3 \LWR@ProvidesPackageDrop{soulpos}[2012/02/25]

4 \NewDocumentCommand{\ulposdef}{m o m}{}
5
6 \newdimen\ulwidth
7
8 \newcommand\ifulstarttype[1]{%
9 \expandafter\@secondoftwo%
10 }
11
12 \newcommand\ifulendtype[1]{%
13 \expandafter\@secondoftwo%
14 }
15
16 \newcommand{\ulstarttype}{0}
17 \newcommand{\ulendtype}{0}
18 \newcommand\ulpostolerance{0}%
```

---

File 430 **lwarp-soulutf8.sty**

§ 536 Package **soulutf8**

Pkg soulutf8 soulutf8 is emulated.

lwarp's HTML output naturally supports UTF-8 encoding.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{soulutf8}[2016/05/16]
2 \RequirePackage{soul}
```

---

File 431 **lwarp-splitbib.sty**

§ 537 Package **splitbib**

(Emulates or patches code by NICOLAS MARKEY.)

Pkg splitbib **splitbib** is patched for use by **lwarp**.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{splitbib}[2005/12/22]
2 \def\NMSB@stylebox#1#2{%
3 \begin{BlockClass}[text-align:center ; border: 1px solid black]{splitbibbox}
4 \csname SB\NMSB@level font\endcsname{\LWR@textcurrentfont{#1#2}}
5 \end{BlockClass}
6 }
7
8 \def\NMSB@stylebar#1#2{%
9 \begin{BlockClass}[%
10 text-align:center ;
11 border-top: 1px solid black ;
12 border-bottom: 1px solid black ;
13]{splitbibbar}
14 \csname SB\NMSB@level font\endcsname{\LWR@textcurrentfont{#1#2}}
15 \end{BlockClass}
16 }
17
18 \def\NMSB@styledash#1#2{%
19 \begin{BlockClass}[%
20 text-align:center ;
21]{splitbibdash}
22 \csname SB\NMSB@level font\endcsname{\LWR@textcurrentfont{---#1#2~---}}
23 \end{BlockClass}
24 }
25
26 \def\NMSB@stylenone#1#2{%
27 \par
28 }
29
30 \def\NMSB@stylesimple#1#2{%
31 \par
32 \csname SB\NMSB@level font\endcsname{\LWR@textcurrentfont{#1#2}}
33 \par
34 }

```

---

File 432 **lwarp-splitidx.sty**

§ 538 Package **splitidx**

(Emulates or patches code by MARKUS KOHM.)

Pkg `splitidx` `splitidx` is patched for use by `lwarp`.

If the `latexmk` option is selected for `lwarp`, `latexmk` will compile the document but will *not* compile the indexes. `lwarpmk printindex` and `lwarpmk htmlindex` will still be required.

⚠ `\thepage` When using `\AtWriteToIndex` or `\AtNextWriteToIndex`, the user must not refer to `\thepage` during HTML output, as the concept of a page number is meaningless. Instead, do

```
\addtocounter{LWR@autoindex}{1}
\LWR@new@label{LWRindex-\arabic{LWR@autoindex}}
```

where the `\index`-like action occurs, and then refer to `\arabic{LWR@autoindex}` instead of `\thepage` where the reference should occur.

See section 654.17 in the `lwarp-patch-memoir` package for the `\@@wrsindexhyp` macro as an example.

for HTML output: 1 `\LWR@ProvidesPackagePass{splitidx}[2016/02/18]`

```
2 \catcode'_ =12%
3 \xpatchcmd{\newindex}
4 {\jobname-#2.idx}
5 {\jobname-#2_html.idx}
6 {}
7 {\LWR@patcherror{splitidx}{@newindex}}
8 \catcode'_ =8%
```

Patched to use `lwarp`'s automatic indexing counter instead of `\thepage`:

```
9 \renewcommand*{\@wrsindex}[2][]{%
10 \ifx\relax#1\relax
11 \if@splitidx
12 \@wrsindex[idx]{#2}%
13 \else
14 \def\@tempa{#2}%
15 \if@verbindindex\@oneLevel@sanitize\@tempa\fi
16 \@wrsindex{\@tempa}%
17 \fi
18 \else
19 \def\@tempa{#2}%
20 \csname index@#1@hook\endcsname
21 % \expandafter\ifx\csname @@wrsindex\endcsname\relax
22 \addtocounter{LWR@autoindex}{1}% lwarp
23 \label{LWRindex-\arabic{LWR@autoindex}}% lwarp
24 % \@@@wrsindex{#1}{\@tempa}{\thepage}}%
25 \@@@wrsindex{#1}{\@tempa}{\arabic{LWR@autoindex}}}%
26 % \else
27 % \def\@tempb{\@wrsindex{#1}}%
28 % \expandafter\@tempb\@tempa||\%
29 % \fi
30 \endgroup
31 \@esphack
```

```
32 \fi
33 }
```

lwarp defines sectioning commands with xparse, so the below patches are done as temporary redefinitions instead of being \let.

```
34 \xpatchcmd{\printsubindex}
35 {\let\section\subsection}
36 {\renewcommand*{\section}{\subsection}}
37 {}
38 {\LWR@patcherror{splitidx}{printsubindex-section}}
39
40 \xpatchcmd{\printsubindex}
41 {\let\chapter\section}
42 {\renewcommand*{\chapter}{\section}}
43 {}
44 {\LWR@patcherror{splitidx}{printsubindex-chapter}}
45
46 \xpatchcmd{\printsubindex}
47 {\let\@makechapterhead\section}
48 {\def\@makechapterhead{\section}}
49 {}
50 {\LWR@patcherror{splitidx}{printsubindex-chapter}}
```

---

File 433 **lwarp-srcltx.sty**

§ 539 Package **srcltx**

Pkg srcltx srcltx is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{srcltx}[2006/11/12]

```
2 \newif\ifSRCOK \SRCOKfalse
3 \newcommand*\srcIncludeHook[1]{}
4 \newcommand*\srcInputHook[1]{}
5 \newcommand*\MainFile{}
6 \def\MainFile{\jobname.tex}
7 \newcommand*\CurrentInput{}
8 \gdef\CurrentInput{\MainFile}
9 \newcommand\Input{}
10 \let\Input\input
```

---

File 434 **lwarp-srctex.sty**

§ 540 Package **srctex**

Pkg srctex srctex is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{srctex}[2006/11/12]  
2 \LWR@origRequirePackage{lwarp-srcltx}

File 435 **lwarp-stabular.sty**

§ 541 Package **stabular**

*(Emulates or patches code by SIGITAS TOLUŠIS.)*

Pkg stabular stabular is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{stabular}[2014/03/20]

Env stabular [*<vpos>*] [*<colspec>*]

```
2 \newenvironment{stabular}[2][c]
3 {
4 \begin{tabular}[#1]{#2}
5 \renewcommand{\noalign}[1]{}
6 }
7 {\end{tabular}}
```

Env stabular [*<width>*] [*<vpos>*] [*<colspec>*]

```
8 \NewDocumentEnvironment{stabular*}{m o m}
9 {
10 \begin{tabular}[#2]{#3}
11 \renewcommand{\noalign}[1]{}
12 }
13 {\end{tabular}}
```

File 436 **lwarp-stackengine.sty**

§ 542 Package **stackengine**

*(Emulates or patches code by STEVEN B. SEGLETES.)*

Pkg stackengine stackengine is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{stackengine}[2017/02/13]

The original version is necessary for the patched \@stack and \stackanchor, where nesting lateximages does not work:

```
2 \LetLtxMacro\LWR@orig@stackengine\stackengine

3 \renewcommand*\stackengine[8]{%
4 \ifstrequal{#4}{0}%
5 {\begin{lateximage}[\ImageAltText]}%
6 {\begin{lateximage}[\ImageAltText][][vertical-align:top]}%}
```

```

7 \LWR@orig@stackengine{#1}{#2}{#3}{#4}{#5}{#6}{#7}{#8}%
8 \end{lateximage}%
9 }

```

`\@stack` uses a `lateximage` with a vertical alignment:

```

10 \LetLtxMacro\LWR@orig@@stack\@stack
11
12 \xpatchcmd{\LWR@orig@@stack}{\stackengine}{\LWR@orig@stackengine}
13 {}
14 {\LWR@patcherror{stackengine}{LWR@orig@@stack}}
15
16 \renewcommand*{\@stack}[4]{%
17 \ifstrequal{#3}{0}%
18 {\begin{lateximage}[\ImageAltText]}%
19 {\begin{lateximage}[\ImageAltText][][vertical-align:top]}%
20 \LWR@orig@@stack{#1}{#2}{#3}{#4}%
21 \end{lateximage}%
22 }

```

The lapping macros are disabled for HTML:

```

23 \newcommand*\LWR@HTML@@stacklap[4]{#3}
24 \LWR@formatted{@stacklap}

```

`\stackanchor` is patched for two instances of `\stackengine`. A `lateximage` with vertical alignment is used.

```

25 \xpatchcmd{\stackanchor}{\stackengine}{\LWR@orig@stackengine}
26 {}
27 {\LWR@patcherror{stackengine}{stackanchor patch 1}}
28
29 \xpatchcmd{\stackanchor}{\stackengine}{\LWR@orig@stackengine}
30 {}
31 {\LWR@patcherror{stackengine}{stackanchor patch 2}}
32
33 \xpretocmd{\stackanchor}
34 {\begin{lateximage}[\ImageAltText][][vertical-align:middle]}
35 {}
36 {\LWR@patcherror{stackengine}{stackanchor pre}}
37
38 \xapptocmd{\stackanchor}{\end{lateximage}}
39 {}
40 {\LWR@patcherror{stackengine}{stackanchor app}}

```

`\Centerstack` is simply placed inside a `lateximage` with a vertical alignment:

```

41 \xpretocmd{\Centerstack}
42 {\begin{lateximage}[\ImageAltText][][vertical-align:middle]}
43 {}
44 {\LWR@patcherror{stackengine}{Centerstack pre}}
45
46 \xapptocmd{\Centerstack}{\end{lateximage}}
47 {}
48 {\LWR@patcherror{stackengine}{Centerstack app}}

```

`\savestack` reverts to print mode while saving the box, then places it inside a `lateximage` when used:

```

49 \renewcommand*\savestack[2]{%
50 \xdef\sv@name{\stack@macro@name{#1}}%
51 \@ifundefined{sv@name content}{%
52 \expandafter\newsavebox\expandafter{\csname\sv@name content\endcsname}%
53 }{}%
54 \begingroup% lwarp
55 \LWR@restoreorigformatting% lwarp
56 \RenewDocumentEnvironment{lateximage}{s o s o o}{}{}% lwarp: inside group
57 \expandafter\LWR@gsavebox\csname\sv@name content\endcsname{#2}%
58 \expandafter\gdef\expandafter#1\expandafter{%
59 \expandafter\begin\expandafter{lateximage\expandafter}% lwarp
60 \expandafter\usebox\expandafter%
61 {\csname\sv@name content\endcsname}%
62 \expandafter\end\expandafter{lateximage\expandafter}% lwarp
63 }%
64 \endgroup% lwarp
65 }

```

---

File 437 **lwarp-stackrel.sty**

§ 543 Package **stackrel**

(Emulates or patches code by HEIKO OBERDIEK.)

Pkg stackrel stackrel is used as-is for SVG math, and is emulated for MATHJAX.

for HTML output: 1 \LWR@ProvidesPackagePass{stackrel}[2016/05/16]

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{\renewcommand{\stackrel}[3][[]]{%
4 \mathrel{\mathop{#3}\limits_{#1}^{#2}}}%
5 }}
6
7 \CustomizeMathJax{\newcommand{\stackbin}[3][[]]{%
8 \mathbin{\mathop{#3}\limits_{#1}^{#2}}}%
9 }}
10 \end{warpMathJax}

```

---

File 438 **lwarp-statex2.sty**

§ 544 Package **statex2**

(Emulates or patches code by RODNEY A SPARAPANI.)

Pkg statex2 statex2 is patched for use by lwarp, and emulated for MATHJAX.



As of this version, option `autobold` does not appear to work for PDF output.

⚠ For MATHJAX, the tilde character  $\sim$  does not create  $\sim$ . Use  $\sim$  directly.

⚠ Because MATHJAX has limited conditional processing:

- $\wrap$  only creates square braces, no matter what its optional arguments.
- $\P$ ,  $\pCau$ ,  $\pN$ , and  $\pU$  do not handle special cases.

⚠  $\and$  To have  $\and$  work if using  $\maketitle$ , place the following after the start of the document:

```

\newcommand*\and{%
 \relax\ifmmode%
 \expandafter\;\mb{\mathrm{and}}\;%
 \else%
 \expandafter\STATEXand%
 \fi%
}

```

for HTML output:

```

1 \LWR@ProvidesPackagePass{statex2}[2011/09/14]
2 \newcommand*\LWR@HTML@Alpha[1][1]{%
3 \fcolorbox{black}{ForestGreen}{\textcolor{white}{\textsf{ALPHA}}}%
4 \textbf{\textcolor{ForestGreen}{\textsf{#1}}}%
5 }
6 \LWR@formatted{Alpha}
7
8 \newcommand*\LWR@HTML@List[1]{%
9 \textbf{\textcolor{Dandelion}{\textsf{L}\textsubscript{\textit{#1}}}}%
10 }
11 \LWR@formatted{List}
12
13 \newcommand*\LWR@HTML@Snd[1][1]{%
14 \fcolorbox{black}{Dandelion}{\textcolor{white}{\textsf{2nd}}}%
15 \textbf{\textcolor{Dandelion}{\textsf{#1}}}%
16 }
17 \LWR@formatted{Snd}
18
19 \begin{warpMathJax}
20 \LWR@infoprocessingmathjax{statex2}
21
22 \CustomizeMathJax{\newcommand{\cpi}{\boldsymbol{\pi}}}
23 \CustomizeMathJax{\newcommand{\c}[1]{\boldsymbol{\mathrm{#1}}}}
24 \CustomizeMathJax{\newcommand{\sfs}[1]{\mathsf{#1}}}% not slanted
25
26 \if@manualbold
27 \CustomizeMathJax{\newcommand{\mb}[1]{#1}}
28 \else
29 \CustomizeMathJax{\newcommand{\mb}[1]{\boldsymbol{#1}}}
30 \fi
31
32 \CustomizeMathJax{\newcommand{\diag}{\mb{\mathrm{diag}}}}
33 \CustomizeMathJax{\newcommand{\blockdiag}{\mb{\mathrm{blockdiag}}}}

```



```

34 \CustomizeMathJax{\newcommand{\erf}{\mb{\mathrm{erf}}}}
35 \CustomizeMathJax{\newcommand{\logit}{\mb{\mathrm{logit}}}}
36 \CustomizeMathJax{\newcommand{\trace}{\mb{\mathrm{trace}}}}
37
38 \CustomizeMathJax{\newcommand{\chisq}{\mb{\chi^2}}}
39 \CustomizeMathJax{\newcommand{\deriv}[2]{\mb{\frac{d}{d{#1}}}\wrap{\mb{#2}}}}
40 \CustomizeMathJax{\newcommand{\derivf}[2]{\mb{\frac{d}{d{#2}}}\wrap{\mb{#1}}}}
41 \CustomizeMathJax{\newcommand{\e}[1]{\mb{\mathrm{e}}^{#1}}}
42 \CustomizeMathJax{\newcommand{\E}[2][\mb{\mathrm{E}}_{\mb{#1}} \wrap{\mb{#2}}}}
43 \CustomizeMathJax{\newcommand{\ha}{\mb{\frac{\alpha}{2}}}}
44 \CustomizeMathJax{\newcommand{\I}[2][\%
45 \mb{\mathrm{I}}_{\mb{#1}} \LWRwrapparen{\mb{#2}}\%
46]}
47 \CustomizeMathJax{\newcommand{\IBeta}[2][\%
48 \mb{\frac{\Gamma[#+#2]}{\Gamma[#1]\Gamma[#2]}}\%
49]}
50 \CustomizeMathJax{\newcommand{\If}{\; \mb{\mathrm{if}} \; ;}}
51 \CustomizeMathJax{\newcommand{\im}{\mb{\mathrm{i}}}}
52 \CustomizeMathJax{\newcommand{\ol}{\overline}}
53 \CustomizeMathJax{\newcommand{\ow}{\; \mb{\mathrm{otherwise}} \; ;}}
54 \CustomizeMathJax{\newcommand{\pderiv}[2][\%
55 \mb{\frac{\partial}{\partial #1}}\wrap{\mb{#2}}\%
56]}
57 \CustomizeMathJax{\newcommand{\pderivf}[2][\%
58 \mb{\frac{\partial}{\partial #2}}\wrap{\mb{#1}}\%
59]}
60 \CustomizeMathJax{\newcommand{\sd}{\mb{\sigma}}}
61 \CustomizeMathJax{\newcommand{\ul}{\underline}}
62 \CustomizeMathJax{\newcommand{\V}[2][\mb{\mathrm{V}}_{\mb{#1}} \wrap{\mb{#2}}}}
63 \CustomizeMathJax{\newcommand{\vs}{\; \mb{\mathrm{vs.}} \; ;}}
64 \CustomizeMathJax{\newcommand{\where}{\; \mb{\mathrm{where}} \; ;}}
65 \CustomizeMathJax{\newcommand{\wrap}[2][\left[#2 \right]]\% only []
66 \CustomizeMathJax{\newcommand{\LWRwrapparen}[1]{\left(#1 \right)}}\% lwarp
67
68 % \CustomizeMathJax{\renewcommand{\sim}{\mb{\sim}}}\% doesn't work,
69 % replace <space>~<space> with <space>\sim<space>
70
71 \CustomizeMathJax{\newcommand{\iid}{\; \stackrel{\mb{\mathrm{iid}}}{\sim} \; ;}}
72 \CustomizeMathJax{\newcommand{\ind}{\; \stackrel{\mb{\mathrm{ind}}}{\sim} \; ;}}
73 \CustomizeMathJax{\newcommand{\indpr}{\%
74 \; \stackrel{\mb{\mathrm{ind}}}{\sim} \stackrel{\mb{\mathrm{prior}}}{\sim} \; ;\%
75 }}
76 \CustomizeMathJax{\newcommand{\post}{\; \stackrel{\mb{\mathrm{post}}}{\sim} \; ;}}
77 \CustomizeMathJax{\newcommand{\prior}{\; \stackrel{\mb{\mathrm{prior}}}{\sim} \; ;}}
78
79 \CustomizeMathJax{\let\STATEXGamma=\Gamma}
80 \CustomizeMathJax{\renewcommand{\Gamma}[1][\mb{\STATEXGamma}\LWRwrapparen{\mb{#1}}}}
81 %
82 \CustomizeMathJax{\renewcommand{\and}{\; \mb{\mathrm{and}} \; ;}}
83 %
84 \CustomizeMathJax{\newcommand{\H}{\mb{\mathrm{H}}}}
85 %
86 \CustomizeMathJax{\newcommand{\P}[2][\mb{\mathrm{P}}_{\mb{#1}}\wrap{\mb{#2}}}}
87 %
88 \CustomizeMathJax{\newcommand{\|}{\mb{\mid}}}

```

```

89
90 \CustomizeMathJax{\newcommand{\B}[1]{\mb{\mathrm{B}}\LWRwrapparen{\mb{#1}}}}
91 \CustomizeMathJax{\newcommand{\BB}[1]{\mb{\mathrm{BetaBin}}\LWRwrapparen{\mb{#1}}}}
92 \CustomizeMathJax{\newcommand{\Bin}[2]{\mb{\mathrm{Bin}}\LWRwrapparen{\mb{#1},\ #2}}}}
93 \CustomizeMathJax{\newcommand{\Dir}[1]{\mb{\mathrm{Dirichlet}}\LWRwrapparen{\mb{#1}}}}
94 \CustomizeMathJax{\newcommand{\HG}[3]{%
95 \mb{\mathrm{Hypergeometric}}\LWRwrapparen{\mb{#1},\ #2,\ #3}}%
96 }}
97 \CustomizeMathJax{\newcommand{\M}[2]{%
98 \mb{\mathrm{Multinomial}}\LWRwrapparen{\mb{#1},\ #2}}%
99 }}
100 \CustomizeMathJax{\newcommand{\NB}[2]{\mb{\mathrm{NegBin}}\LWRwrapparen{\mb{#1},\ #2}}}}
101 \CustomizeMathJax{\newcommand{\Poi}[1]{\mb{\mathrm{Poisson}}\LWRwrapparen{\mb{#1}}}}
102 \CustomizeMathJax{\let\Poisson=\Poi}
103
104 \CustomizeMathJax{\newcommand{\pBB}[4][x]{%
105 \mb{\frac{\Gamma[#2+1]\Gamma[#3+1]\Gamma[#2+#4-#1]\Gamma[#3+#4]}
106 {\Gamma[#1+1]\Gamma[#2-#1+1]\Gamma[#2+#3+#4]\Gamma[#3]\Gamma[#4]}}%
107 \I[#1]{\{0, 1, \dots, #2\}}, \where #3>0, \; #4>0 \and n=1, 2, \dots}%
108 }}
109 \CustomizeMathJax{\newcommand{\pBin}[3][x]{%
110 \mb{\binom{#2}{#1}#3^{#1}} \LWRwrapparen{\mb{\{1-#3\}^{#2-#1}}}}%
111 \mb{\I[#1]{\{0,1,\dots,#2\}}, \where p \in (0, 1) \and n=1, 2, \dots}%
112 }}
113 \CustomizeMathJax{\newcommand{\pPoi}[2][x]{%
114 \mb{\frac{1}{#1!}#2^{#1}e^{-#2}\I[#1]{\{0, 1, \dots\}}, \where #2>0}%
115 }}
116
117 \CustomizeMathJax{\newcommand{\Cau}[2]{\mb{\mathrm{Cauchy}}\LWRwrapparen{\mb{#1},\ #2}}}}
118 \CustomizeMathJax{\let\Cauchy=\Cau}
119 \CustomizeMathJax{\newcommand{\Chi}[2][x]{%
120 \chisq_{\mb{#1}}\LWRwrapparen{\mb{#2}}}%
121 }}
122 \CustomizeMathJax{\let\Chisq=\Chi}
123 \CustomizeMathJax{\newcommand{\Bet}[2]{\mb{\mathrm{Beta}}\LWRwrapparen{\mb{#1},\ #2}}}}
124 \CustomizeMathJax{\let\Beta=\Bet}
125 \CustomizeMathJax{\newcommand{\Exp}[1]{\mb{\mathrm{Exp}}\LWRwrapparen{\mb{#1}}}}
126 \CustomizeMathJax{\newcommand{\F}[2]{\mb{\mathrm{F}}\LWRwrapparen{\mb{#1},\ #2}}}}
127 \CustomizeMathJax{\newcommand{\Gam}[2]{\mb{\mathrm{Gamma}}\LWRwrapparen{\mb{#1},\ #2}}}}
128 \CustomizeMathJax{\newcommand{\IC}[1]{\mb{\mathrm{\chi^{-2}}}\LWRwrapparen{\mb{#1}}}}
129 \CustomizeMathJax{\newcommand{\IG}[2]{%
130 \mb{\mathrm{Gamma}^{-1}}\LWRwrapparen{\mb{#1},\ #2}}%
131 }}
132 \CustomizeMathJax{\newcommand{\IW}[2]{%
133 \mb{\mathrm{Wishart}^{-1}}\LWRwrapparen{\mb{#1},\ #2}}%
134 }}
135 \CustomizeMathJax{\newcommand{\Log}[2]{%
136 \mb{\mathrm{Logistic}}\LWRwrapparen{\mb{#1},\ #2}}%
137 }}
138 \CustomizeMathJax{\newcommand{\LogN}[2]{%
139 \mb{\mathrm{Log}\!-\!N}}\LWRwrapparen{\mb{#1},\ #2}}%
140 }}
141 \CustomizeMathJax{\newcommand{\N}[3][x]{%
142 \mb{\mathrm{N}}_{\mb{#1}}\LWRwrapparen{\mb{#2},\ #3}}%
143 }}

```

```

144 \CustomizeMathJax{\newcommand{\Par}[2]{\mb{\mathrm{Pareto}}\LWRwrapparen{\mb{#1, \ #2}}}}
145 \CustomizeMathJax{\let\Pareto=\Par}
146 \CustomizeMathJax{\newcommand{\Tsq}[2]{\mb{\mathrm{T}^2}}\LWRwrapparen{\mb{#1, \ #2}}}}
147 \CustomizeMathJax{\newcommand{\U}[1]{\mb{\mathrm{U}}}\LWRwrapparen{\mb{#1}}}}
148 \CustomizeMathJax{\newcommand{\W}[2]{\mb{\mathrm{Wishart}}}\LWRwrapparen{\mb{#1, \ #2}}}}
149
150 \CustomizeMathJax{\renewcommand{\t}[1]{\mb{\mathrm{t}}}\LWRwrapparen{\mb{#1}}}}
151
152 \CustomizeMathJax{\newcommand{\pBet}[3][x]{%
153 \IBeta{#2}{#3}%
154 #1^{#2-1}\LWRwrapparen{1-#1}^{#3-1}\II[#1]{0, \ 1}, \where #2>0 \and #3>0%
155 }}
156 \CustomizeMathJax{\newcommand{\pCau}[3][x]{%
157 % \ifthenelse{equal{#2, #3}{0, 1}}{\frac{1}{\cpi}\LWRwrapparen{1+#1^2}}%
158 {\frac{1}{#3\cpi}\left\{1+\wrap{\LWRwrapparen{x-#2}/#3^2\right\}}, \where #3>0%
159 }}% no special case for 0,1
160 \CustomizeMathJax{\newcommand{\pChi}[2][x]{%
161 \frac{2^{-#2/2}}{\Gamma[#2/2]}#1^{#2/2-1}e^{-#1/2}%
162 \II[#1]{0, \infty}, \where #2>0%
163 }}
164 \CustomizeMathJax{\newcommand{\pExp}[2][x]{%
165 \frac{1}{#2}e^{-#1/#2}\II[#1]{0, \infty},%
166 \where #2>0%
167 }}
168 \CustomizeMathJax{\newcommand{\pGam}[3][x]{%
169 \frac{#3^{#2}}{\Gamma[#2]}#1^{#2-1}e^{-#3#1}%
170 \II[#1]{0, \infty}, \where #2>0 \and #3>0%
171 }}
172 \CustomizeMathJax{\newcommand{\pN}[3][x]{%
173 % \ifthenelse{equal{#2, #3}{0, 1}}%
174 % {\frac{1}{\sqrt{2\cpi}}e^{-#1^2/2}}%
175 {\frac{1}{\sqrt{2\cpi \cdot #3}}e^{-\LWRwrapparen{#1-#2}^2/2 \cdot #3}}%
176 }}% no test for 0,1, must add \cdot
177 \CustomizeMathJax{\newcommand{\pPar}[3][x]{%
178 \frac{#3}{#2}\LWRwrapparen{1+#1/#2}^{#3+1}\II[#1]{0, \infty},%
179 \where #2>0 \and #3>0%
180 }}
181 \CustomizeMathJax{\newcommand{\pU}[3][x]{%
182 % \ifthenelse{equal{#2, #3}{0, 1}}{\II[#1]{0, \ 1}}%
183 {\frac{1}{#3-#2}\II[#1]{#2, \ #3}, \where #2<#3}%
184 }}% no special case for 0,1
185
186 \CustomizeMathJax{\newcommand{\=} [1]{\bar{#1}}}
187 \CustomizeMathJax{\let\^{\widehat}}
188 \CustomizeMathJax{\let\~{\widetilde}}
189 \CustomizeMathJax{\newcommand{\'} [1]{\LWRwrapparen{\mb{#1}}}}
190 \CustomizeMathJax{\newcommand{\b}[1]{\bar{#1}}}
191 \CustomizeMathJax{\newcommand{\c}[1]{\mb{\mathrm{#1}}}}
192 \CustomizeMathJax{\newcommand{\d}[1]{\, \mb{\mathrm{d}}{#1}}}}
193 \CustomizeMathJax{\newcommand{\.}{\mb{\ldots}}}
194 \end{warpMathJax}


```


File 439 **lwarp-statistics.sty**

§ 545 Package **statistics**

(Emulates or patches code by JULIEN RIVAUD.)

Pkg statistics statistics is patched for use by lwarp.

 **\color** The statistics documentation examples include the use of the `\color` macro. Use `\textcolor` instead.

 **math** The statistics package uses math arrays, but the HTML version uses text tabulars to allow text copy/paste. If math is required, use `\ensuremath` or `\(` and `\)` as needed.

Pre/postline is ignored, and `\hline` is used instead. Each table will have an `\hline` above and below as a frame.

**for HTML output:** 1 \LWR@ProvidesPackagePass{statistics}[2019/09/29]

2 \ExplSyntaxOn

To use text tabular instead of math array. This allows text copy/paste of the results.

In the following, all changes for the Lwarp package are labelled "lwarp".

Redefined using the lwarp version of &:

```

3 \StartDefiningTabulars% lwarp
4 \cs_set_protected_nopar:Nn __statistics_table_make:nn {
5 \int_compare:nT
6 { 0 < \l__statistics_table_maxcols_int
7 = \l__statistics_nbvals_int } {
8 __statistics_table_end:
9 \tl_use:N \l__statistics_table_sep_tl
10 __statistics_table_start:
11 }
12 \int_incr:N \l__statistics_nbvals_int
13 \int_incr:N \l__statistics_currange_int
14 \fp_add:Nn \l__statistics_curtotal_fp { #2 }
15 __statistics_set_if_shown:N \l_tmpa_bool
16 \tl_set:Nx \l_tmpa_tl {
17 \exp_not:n { & \tl_set:Nn \currentcolumn } {
18 \int_use:N \l__statistics_currange_int
19 }
20 }
21 \bool_if:NTF \l_tmpa_bool {
22 \tl_put_right:Nn \l_tmpa_tl
23 { __statistics_table_shown_format:n }
24 }{
25 \tl_put_right:Nn \l_tmpa_tl
26 { __statistics_table_hidden_format:n }

```

```

27 }
28 \seq_put_right:Nn \l__statistics_store_values_seq { #1 }
29 \bool_if:NT \l__statistics_table_values_bool {
30 \tl_put_right:Nx \l__statistics_table_values_tl {
31 \exp_not:V \l_tmpa_tl {
32 \exp_not:n {
33 __statistics_table_values_format:n { #1 }
34 }
35 }
36 }
37 }
38 \seq_put_right:Nx \l__statistics_store_counts_seq { \fp_eval:n {#2} }
39 \bool_if:NT \l__statistics_table_counts_bool {
40 \tl_put_right:Nx \l__statistics_table_counts_tl {
41 \exp_not:V \l_tmpa_tl {
42 \exp_not:n {
43 __statistics_table_counts_format:n {
44 { __statistics_table_allcounts_format:n { #2 } }
45 }
46 }
47 }
48 }
49 }
50 \bool_if:NT \l__statistics_table_icc_bool {
51 \tl_put_right:Nx \l__statistics_table_icc_tl {
52 \exp_not:V \l_tmpa_tl {
53 \exp_not:n { __statistics_table_icc_format:n }
54 {
55 \exp_not:n{ __statistics_table_allcounts_format:n }
56 { \fp_use:N \l__statistics_curtotal_fp }
57 }
58 }
59 }
60 }
61 \bool_if:NT \l__statistics_table_dcc_bool {
62 \tl_put_right:Nx \l__statistics_table_dcc_tl {
63 \exp_not:V \l_tmpa_tl {
64 \exp_not:n { __statistics_table_dcc_format:n }
65 {
66 \exp_not:n{ __statistics_table_allcounts_format:n }
67 {
68 \fp_eval:n {
69 \l__statistics_total_fp
70 - \l__statistics_curtotal_fp
71 + #2
72 }
73 }
74 }
75 }
76 }
77 }
78 \fp_set:Nn \l__statistics_table_curICF_fp {
79 round(\l__statistics_curtotal_fp
80 / \l__statistics_total_fp,
81 \l__statistics_table_round_int)

```

```

82 }
83 \bool_if:NT \l__statistics_table_frequencies_bool {
84 \tl_put_right:Nx \l__statistics_table_frequencies_tl {
85 \exp_not:V \l_tmpa_tl {
86 \exp_not:n { \l__statistics_table_frequencies_format:n }
87 {
88 \exp_not:n{ \l__statistics_table_allfreqs_format:n }
89 {
90 \fp_eval:n {
91 \l__statistics_table_curICF_fp
92 - \l__statistics_table_prevICF_fp
93 }
94 }
95 }
96 }
97 }
98 }
99 \bool_if:NT \l__statistics_table_icf_bool {
100 \tl_put_right:Nx \l__statistics_table_icf_tl {
101 \exp_not:V \l_tmpa_tl {
102 \exp_not:n { \l__statistics_table_icf_format:n }
103 {
104 \exp_not:n{ \l__statistics_table_allfreqs_format:n }
105 { \fp_to_decimal:N \l__statistics_table_curICF_fp }
106 }
107 }
108 }
109 }
110 \bool_if:NT \l__statistics_table_dcf_bool {
111 \tl_put_right:Nx \l__statistics_table_dcf_tl {
112 \exp_not:V \l_tmpa_tl {
113 \exp_not:n { \l__statistics_table_dcf_format:n }
114 {
115 \exp_not:n{ \l__statistics_table_allfreqs_format:n }
116 {
117 \fp_eval:n {
118 1 - \l__statistics_table_prevICF_fp
119 }
120 }
121 }
122 }
123 }
124 }
125 \fp_set_eq:NN
126 \l__statistics_table_prevICF_fp
127 \l__statistics_table_curICF_fp
128 }
129 \StopDefiningTabulars% lwarp

```

Redefined using tabular. Also, preline and postline do not work correctly with `lwarp`, which looks for certain tokens to detect `\hlines`, so `\hline` is used instead.

```

130 \cs_set_protected_nopar:Nn \l__statistics_table_end: {
131 \tl_set:Nx \l__statistics_table_preamble_tl {
132 \exp_not:n { \begin{array}[]

```

```

133 \exp_not:n {\begin{tabular}[]}% lwarp
134 \exp_not:V \l__statistics_table_valign_tl
135 \exp_not:n {] }
136 { \exp_not:V \l__statistics_table_headcoltype_tl
137 \prg_replicate:nn { \l__statistics_nbvals_int }
138 { \exp_not:V \l__statistics_table_coltype_tl } }
139 }
140 \seq_clear:N \l__statistics_table_contents_seq
141 \clist_map_inline:nn { values, counts, dcc, frequencies, icf, dcf } {
142 \bool_if:cT { \l__statistics_table_##1_bool } {
143 \seq_put_right:Nv
144 \l__statistics_table_contents_seq
145 { \l__statistics_table_##1_tl }
146 }
147 }
148 % $
149 \tl_use:N \l__statistics_table_preamble_tl
150 \hline% lwarp
151 % \l__statistics_table_preline_tl
152 \seq_use:Nn
153 \l__statistics_table_contents_seq
154 { \l__statistics_table_newline_tl }
155 \\
156 % \l__statistics_table_postline_tl
157 \hline% lwarp
158 % \end{array}$
159 \end{tabular}% lwarp
160 }

```

With `lwarp`, `\ensuremath` creates an svg image, but its `alt` tag does not contain the text of the contents for copy/paste, since these expressions are usually not simple text. For the `statistics` package, copy/paste is restored by using text instead of math output.

For the leftmost column. Redefined to use text output:

```

161 \cs_set_protected_nopar:Nn \l__statistics_table_start: {
162 \int_zero:N \l__statistics_nbvals_int
163 \clist_pop:NNT \l__statistics_table_maxcols_clist \l_tmpa_tl {
164 \int_set:Nn \l__statistics_table_maxcols_int { \l_tmpa_tl }
165 }
166 \clist_map_inline:nn { values, counts, frequencies, icc, icf, dcc, dcf } {
167 \tl_set:cx { \l__statistics_table_##1_tl } {
168 % \exp_not:N \ensuremath {
169 \exp_not:N \hbox {
170 \exp_not:c { \l__statistics_table_##1_name_tl }
171 }
172 % }
173 }
174 }
175 }

```

For the first row. Redefined to use text output:

```

176 \RenewDocumentCommand \l__statistics_IN:w { m u{;} u{;} m } {
177 % \ensuremath{ \left#1 \num{#2} \mathbin{;} \num{#3} \right#4 }

```

```

178 #1 #2 ; #3 #4% lwarp
179 }
180
181 __statistics_setup:nn { table } {
182 % values/format = \ensuremath{#1},
183 values/format = {#1},% lwarp
184 }

```

Added \ExplSyntaxOn/Off to avoid errors. (In once instance, a double subscript error appeared.)

```

185 \RenewDocumentCommand \StatsGraph { +0{} +m +0{} } {
186 \group_begin:
187 \int_gincr:N \g__statistics_graph_last_int
188 \tl_set:Nx \l_tmpa_tl {
189 \exp_not:n { g__statistics_graph_xstep_ }
190 \int_use:N \g__statistics_graph_last_int
191 \exp_not:n { _tl }
192 }
193 \tl_if_exist:cTF { \l_tmpa_tl } {
194 \fp_gset:Nn \g__statistics_graph_xstep_fp
195 { \tl_use:c { \l_tmpa_tl } }
196 }{
197 \fp_gset:Nn \g__statistics_graph_xstep_fp { \c_one_int }
198 }
199 __statistics_setup:nn { graph } { #1, #3 }
200 \tl_if_single:nTF { #2 } {
201 \cs_if_exist:NF #2 { #2 }
202 \tl_set_eq:NN \l__statistics_data_tl #2
203 }{
204 \tl_set:Nn \l__statistics_data_tl { #2 }
205 }
206 \fp_zero:N \l__statistics_graph_maxheight_fp
207 \fp_set:Nn \l__statistics_graph_minvalue_fp {inf}
208 \fp_set:Nn \l__statistics_graph_maxvalue_fp {-inf}
209 \fp_zero:N \l__statistics_total_fp
210 \int_zero:N \l__statistics_nbvals_int
211 \bool_set_true:N \l__statistics_graph_allranges_bool
212 \keyval_parse:NNV
213 __statistics_graph_prepare:n
214 __statistics_graph_prepare:nn
215 \l__statistics_data_tl
216 \tl_clear:N \l__statistics_graph_tikzdata_tl
217 \tl_clear:N \l__statistics_graph_tikzinfo_tl
218 \int_zero:N \l__statistics_currange_int
219 \bool_if:NTF \l__statistics_graph_allranges_bool {
220 \bool_if:NTF \l__statistics_graph_cumulative_bool {
221 \ExplSyntaxOn% lwarp
222 __statistics_graph_dopicture_cumulative:
223 \ExplSyntaxOff% lwarp
224 }{
225 \ExplSyntaxOn% lwarp
226 __statistics_graph_dopicture_hist:
227 \ExplSyntaxOff% lwarp
228 }

```



```

229 }{
230 \ExplSyntaxOn% lwarp
231 __statistics_graph_dopicture_comb:
232 \ExplSyntaxOff% lwarp
233 }
234 \iow_now:Nx \@auxout {
235 \exp_not:n {
236 \ExplSyntaxOn
237 \tl_gset:cn
238 }
239 {
240 \exp_not:n {g__statistics_graph_xstep_}
241 \int_use:N \g__statistics_graph_last_int
242 \exp_not:n {_tl}
243 }
244 {
245 \fp_to_decimal:N \g__statistics_graph_xstep_fp
246 }
247 \exp_not:n {
248 \ExplSyntaxOff
249 }
250 }
251 \group_end:
252 }
253
254 \ExplSyntaxOff

```

---

File 440 **lwarp-statmath.sty**

§ 546 Package **statmath**

*(Emulates or patches code by SEBASTIAN ANKARGREN.)*

Pkg statmath **statmath** is used as-is for SVG math, and is emulated for MATHJAX.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{statmath}[2018/03/08]
2 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
3
4 \begin{warpMathJax}
5 \LWR@infoprocessingmathjax{statmath}
6
7 \ifdefequal{\abcbf}{\mathbf}
8 {\CustomizeMathJax{\newcommand{\abcbf}[1]{\mathbf{#1}}}}
9 {\CustomizeMathJax{\newcommand{\abcbf}[1]{\boldsymbol{#1}}}}
10
11 \CustomizeMathJax{\newcommand{\greekbf}[1]{\boldsymbol{#1}}}
12
13 \CustomizeMathJax{\newcommand{\bfA}{\abcbf A}}
14 \CustomizeMathJax{\newcommand{\bfB}{\abcbf B}}
15 \CustomizeMathJax{\newcommand{\bfC}{\abcbf C}}
16 \CustomizeMathJax{\newcommand{\bfD}{\abcbf D}}
17 \CustomizeMathJax{\newcommand{\bfE}{\abcbf E}}

```

```

18 \CustomizeMathJax{\newcommand{\bfF}}{\abcbf F}}
19 \CustomizeMathJax{\newcommand{\bfG}}{\abcbf G}}
20 \CustomizeMathJax{\newcommand{\bfH}}{\abcbf H}}
21 \CustomizeMathJax{\newcommand{\bfI}}{\abcbf I}}
22 \CustomizeMathJax{\newcommand{\bfJ}}{\abcbf J}}
23 \CustomizeMathJax{\newcommand{\bfK}}{\abcbf K}}
24 \CustomizeMathJax{\newcommand{\bfL}}{\abcbf L}}
25 \CustomizeMathJax{\newcommand{\bfM}}{\abcbf M}}
26 \CustomizeMathJax{\newcommand{\bfN}}{\abcbf N}}
27 \CustomizeMathJax{\newcommand{\bfO}}{\abcbf O}}
28 \CustomizeMathJax{\newcommand{\bfP}}{\abcbf P}}
29 \CustomizeMathJax{\newcommand{\bfQ}}{\abcbf Q}}
30 \CustomizeMathJax{\newcommand{\bfR}}{\abcbf R}}
31 \CustomizeMathJax{\newcommand{\bfS}}{\abcbf S}}
32 \CustomizeMathJax{\newcommand{\bfT}}{\abcbf T}}
33 \CustomizeMathJax{\newcommand{\bfU}}{\abcbf U}}
34 \CustomizeMathJax{\newcommand{\bfV}}{\abcbf V}}
35 \CustomizeMathJax{\newcommand{\bfW}}{\abcbf W}}
36 \CustomizeMathJax{\newcommand{\bfX}}{\abcbf X}}
37 \CustomizeMathJax{\newcommand{\bfY}}{\abcbf Y}}
38 \CustomizeMathJax{\newcommand{\bfZ}}{\abcbf Z}}
39 \CustomizeMathJax{\newcommand{\bfa}}{\abcbf a}}
40 \CustomizeMathJax{\newcommand{\bfb}}{\abcbf b}}
41 \CustomizeMathJax{\newcommand{\bfc}}{\abcbf c}}
42 \CustomizeMathJax{\newcommand{\bfd}}{\abcbf d}}
43 \CustomizeMathJax{\newcommand{\bfe}}{\abcbf e}}
44 \CustomizeMathJax{\newcommand{\bff}}{\abcbf f}}
45 \CustomizeMathJax{\newcommand{\bfg}}{\abcbf g}}
46 \CustomizeMathJax{\newcommand{\bfh}}{\abcbf h}}
47 \CustomizeMathJax{\newcommand{\bfi}}{\abcbf i}}
48 \CustomizeMathJax{\newcommand{\bfj}}{\abcbf j}}
49 \CustomizeMathJax{\newcommand{\bfk}}{\abcbf k}}
50 \CustomizeMathJax{\newcommand{\bfl}}{\abcbf l}}
51 \CustomizeMathJax{\newcommand{\bfm}}{\abcbf m}}
52 \CustomizeMathJax{\newcommand{\bfn}}{\abcbf n}}
53 \CustomizeMathJax{\newcommand{\bfo}}{\abcbf o}}
54 \CustomizeMathJax{\newcommand{\bfp}}{\abcbf p}}
55 \CustomizeMathJax{\newcommand{\bfq}}{\abcbf q}}
56 \CustomizeMathJax{\newcommand{\bfr}}{\abcbf r}}
57 \CustomizeMathJax{\newcommand{\bfs}}{\abcbf s}}
58 \CustomizeMathJax{\newcommand{\bft}}{\abcbf t}}
59 \CustomizeMathJax{\newcommand{\bfu}}{\abcbf u}}
60 \CustomizeMathJax{\newcommand{\bfv}}{\abcbf v}}
61 \CustomizeMathJax{\newcommand{\bfw}}{\abcbf w}}
62 \CustomizeMathJax{\newcommand{\bfx}}{\abcbf x}}
63 \CustomizeMathJax{\newcommand{\bfy}}{\abcbf y}}
64 \CustomizeMathJax{\newcommand{\bfz}}{\abcbf z}}
65
66 \LWR@mathjax@addgreek@l@bfit{bf}{}% Greek lowercase bold face italic
67 \LWR@mathjax@addgreek@u@bfup*{bf}{}% Greek uppercase bold face upright, cap macros.
68
69 \CustomizeMathJax{\newcommand{\bfzero}}{\greekbf 0}}
70
71 \CustomizeMathJax{\DeclareMathOperator{\cov}{Cov}}
72 \CustomizeMathJax{\DeclareMathOperator{E}{E}}

```

---

```

73 \CustomizeMathJax{\DeclareMathOperator{\V}{V}}
74 \CustomizeMathJax{\newcommand{\inas}{\overset{a.s.}{\to}}}
75 \CustomizeMathJax{\newcommand{\indist}{\overset{d}{\to}}}
76 \CustomizeMathJax{\newcommand{\inprob}{\overset{p}{\to}}}
77 \CustomizeMathJax{\DeclareMathOperator{\plim}{plim}}
78 \CustomizeMathJax{\DeclareMathOperator{\tr}{tr}}
79 \CustomizeMathJax{\DeclareMathOperator{\vc}{vec}}
80 \CustomizeMathJax{\DeclareMathOperator{\vcs}{vecs}}
81 \CustomizeMathJax{\DeclareMathOperator{\vch}{vech}}
82 \CustomizeMathJax{\DeclareMathOperator{\diag}{diag}}
83 \CustomizeMathJax{\DeclareMathOperator{\argmin}{arg\,min}}
84 \CustomizeMathJax{\DeclareMathOperator{\argmax}{arg\,max}}
85 \end{warpMathJax}

```

---

File 441 **lwarp-steinmetz.sty**

§ 547 Package **steinmetz**

*(Emulates or patches code by ENRICO GREGORIO.)*

Pkg steinmetz steinmetz is patched for use by lwarp. Emulation is provided for MATHJAX

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{steinmetz}[2009/06/14]

2 \renewcommand{\phase}[2][]{%
3 \begin{lateximage}*[steinmetz\{\detokenize{#2}\}]
4 \ensuremath{\underline{/#2}}
5 \end{lateximage}
6 }
7
8 \begin{warpMathJax}
9 \CustomizeMathJax{\newcommand{\phase}[2][]{\underline{/#2}}}
10 \end{warpMathJax}

```

---

File 442 **lwarp-stfloats.sty**

§ 548 Package **stfloats**

Pkg stfloats stfloats is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{stfloats}[2017/03/27]

```

stfloats may have been preloaded by a ltj\* class.

The following are provided in case they have not yet been defined:

```

2 \providecommand*\fnbelowfloat{}
3 \providecommand*\fnunderfloat{}
4 \providecommand*\setbaselinefloat{}
5 \providecommand*\setbaselinefixed{}

```

Nullified for HTML:

```
6 \renewcommand*\fnbelowfloat{}
7 \renewcommand*\fnunderfloat{}
8 \renewcommand*\setbaselinefloat{}
9 \renewcommand*\setbaselinefixed{}
```

---

File 443 **lwarp-struktex.sty**

§ 549 Package **struktex**

*(Emulates or patches code by JOBST HOFFMANN.)*

Pkg struktex struktex is patched for use by lwarp.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{struktex}

2 \BeforeBeginEnvironment{struktogramm}{%
3 \begin{lateximage}[-struktex-~\PackageDiagramAltText]%
4 }
5 \AfterEndEnvironment{struktogramm}{\end{lateximage}}
6
7 \newenvironment{LWR@HTML@centernss}{\begin{center}}{\end{center}}
8 \LWR@formattedenv{centernss}
9
10 \newcommand{\LWR@HTML@CenterNssFile}[1]{%
11 \begin{center}
12 \input{#1.nss}
13 \end{center}
14 }
15 \LWR@formatted{CenterNssFile}
16
17 \newcommand{\LWR@HTML@centernssfile}{\LWR@HTML@CenterNssFile}
18 \LWR@formatted{centernssfile}
```

---

File 444 **lwarp-subcaption.sty**

§ 550 Package **subcaption**

*(Emulates or patches code by AXEL SOMMERFELDT.)*

Pkg subcaption subcaption is patched for use by lwarp.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{subcaption}[2018/05/01]
```

Tells **lwarp** to ignore minipage widths inside a subfigure or subtable. In print mode the minipages are used to place the items next to each other. In **HTML** they are placed side-by-side automatically.

```

2 \xpretocmd{\subcaption@iiminipage}
3 {\minipagefullwidth}
4 {}
5 {\LWR@patcherror{subcaption}{subcaption@iiminipage}}

```

Likewise for a `\subcaptionbox`:

```

6 \xpretocmd{\subcaptionbox}
7 {\minipagefullwidth}
8 {}
9 {\LWR@patcherror{subcaption}{subcaptionbox}}

```

---

File 445 **lwarp-subfig.sty**

§ 551 Package **subfig**

*(Emulates or patches code by STEVEN DOUGLAS COCHRAN.)*

Pkg subfig subfig is supported and patched by lwarp.

⚠ **table numbering** To have correct sub table numbers:

```

\usepackage{caption}
\captionsetup[table]{position=top}

```

⚠ **lof/lotdepth** At present, the package options for `lofdepth` and `lotdepth` are not working. These counters must be set separately after the package has been loaded.

⚠ **horizontal spacing** In the document source, use `\hfill` and `\hspace*` between subfigures to spread them apart horizontally. The use of other forms of whitespace may cause paragraph tags to be generated, resulting in subfigures appearing on the following lines instead of all on a single line.

**for HTML output:** Accept all options for `lwarp-subfig`:

```

1 \LWR@ProvidesPackagePass{subfig}[2005/06/28]

```

```

\sfsf@@@subfloat {<1 type>} [<2 LOF entry>] [<3 caption>] {<4 contents>}

```

The outer minipage allows side-by-side subfloats with `\hfill` between.

```

2 \long\def\sfsf@@@subfloat#1[#2][#3]#4{%
3 \begin{minipage}{\linewidth}% lwarp
4 \IfValueTF{#2}{%
5 \LWR@setlatestname{#2}%
6 }{%
7 \IfValueTF{#3}{%
8 \LWR@setlatestname{#3}%
9 }{%
10 }%
11 \LWR@stoppars% lwarp
12 \@ifundefined{FBsc@max}{}%

```

```

13 {\FB@readaux{\let\FBsuboheight\relax}}%
14 \@tempcnta=\@ne
15 \if@minipage
16 \@tempcnta=\z@
17 \else\ifdim \lastskip=\z@ \else
18 \@tempcnta=\tw@
19 \fi\fi
20 \ifmaincaptiontop
21 \sf@top=\sf@nearskip
22 \sf@bottom=\sf@farskip
23 \else
24 \sf@top=\sf@farskip
25 \sf@bottom=\sf@nearskip
26 \fi
27 \leavevmode

28 % \setbox\@tempboxa \hbox{#4}%
29 % \@tempdima=\wd\@tempboxa
30 % \@ifundefined{FBsc@max}{}%
31 % {\global\advance\Xhsize-\wd\@tempboxa
32 % \dimen@=\ht\@tempboxa
33 % \advance\dimen@\dp\@tempboxa
34 % \ifdim\dimen@>\FBso@max
35 % \global\FBso@max\dimen@
36 % \fi}%

```

Do not use boxes, which interfere with lateximages:

```

37 % \vtop%
38 \bgroup
39 % \vbox%
40 \bgroup
41 \ifcase\@tempcnta
42 \@minipagefalse
43 \or
44 \vskip\sf@top
45 \or
46 \ifdim \lastskip=\z@ \else
47 \@tempskipb\sf@top\relax\@xaddvskip
48 \fi
49 \fi
50 \sf@ifpositiontop{%
51 \ifx \empty#3\relax \else
52 \sf@subcaption{#1}{#2}{#3}%
53 \vskip\sf@capskip
54 \vskip\sf@captopadj
55 \fi\egroup
56 \hrule width0pt height0pt depth0pt
57 \LWR@startpars% lwarp
58 % \box\@tempboxa
59 % #4
60 \LWR@stoppars% lwarp
61 }{%
62 \LWR@startpars% lwarp
63 \@ifundefined{FBsc@max}%
64 {

```

```

65 % \box\@tempboxa
66 #4
67]%
68 {\ifx\FBsuboheight\relax
69 % \box\@tempboxa
70 #4
71 \else
72 % \vbox to \FBsuboheight{\FBafil\box\@tempboxa\FBbfil}%
73 #4
74 \fi}%
75 \LWR@stoppars% lwarp
76 \egroup
77 \ifx \empty#3\relax \else
78 % \vskip\sf@capskip
79 % \hrule width0pt height0pt depth0pt
80 \sf@subcaption{#1}{#2}{#3}%
81 \fi
82]%
83 % \vskip\sf@bottom
84 \egroup
85 \@ifundefined{FBsc@max}{}%
86 {\addtocounter{FRobj}{-1}%
87 \ifnum\c@FRobj=0\else
88 \subfloatrowsep
89 \fi}%
90 \ifmaincaptiontop\else
91 \global\advance\@nameuse{c@\@capytype}\m@ne
92 \fi
93 \end{minipage}% lwarp
94 \LWR@startpars% lwarp
95 \endgroup\ignorespaces%
96]%

```

\sf@subcaption {<1 type>} {<2 LOF entry>} {<3 caption>}

```

97 \long\def\sf@subcaption#1#2#3{%
98 \LWR@stoppars% lwarp
99 \ifx \relax#2\relax \else
100 \bgroup
101 \let\label=\@gobble
102 \let\protect=\string
103 \def\@subcaplabel{%
104 \caption@lstfmt{\@nameuse{p#1}}{\@nameuse{the#1}}}%
105 \sf@updatecaptionlist{#1}{#2}{\the\value{\@capytype}}{\the\value{#1}}%
106 \egroup
107 \fi
108 \bgroup
109 \ifx \relax#3\relax
110 \let\captionlabelsep=\relax
111 \fi
112 % \setbox0\vbox{%
113 % \hb@xt@\the\@tempdima{%
114 %
115 % \hss
116 % \parbox[t]{\the\@tempdima}{%

```

```

117 % \caption@make
118 % {\@nameuse{sub\@capttype name}}%
119 % {\@nameuse{thesub\@capttype}}%
120 % {#3}
121 % % }%
122 % % \hss
123 % % }
124 % % }%
125 % \@ifundefined{FBsc@max}%
126 % {\box0}%
127 % {
128 % \parbox[t]{\the\@tempdima}{%
129 \LWR@traceinfo{sfsubcap B1}% lwarp
130 \LWR@figcaption% lwarp
131 \caption@make
132 {\@nameuse{sub\@capttype name}}%
133 {\@nameuse{thesub\@capttype}}%
134 {\LWR@isolate{#3}}%

135 \endLWR@figcaption% lwarp
136 \LWR@traceinfo{sfsubcap B2}% lwarp
137 % % }%
138 % % }%
139 % {\dimen@ht0%
140 % \advance\dimen@dp0%
141 % \ifdim\dimen@>\FBsc@max
142 % \global\FBsc@max\dimen@
143 % \fi
144 % \FB@readaux{\let\FBsubcheight\relax}%
145 % \ifx\FBsubcheight\relax
146 % \def\next{
147 % \parbox[t]{\the\@tempdima}
148 % }%
149 % \else
150 % \def\next{
151 % \parbox[t][\FBsubcheight][t]{\the\@tempdima}
152 % }%
153 % \fi
154 % \vbox{%
155 % \hbext@\the\@tempdima{%
156 %
157 % \hss
158 % \next{%
159 \LWR@traceinfo{sfsubcap C1}% lwarp
160 \caption@make
161 {\@nameuse{sub\@capttype name}}%
162 {\@nameuse{thesub\@capttype}}%
163 {#3}
164 \LWR@traceinfo{sfsubcap C1}% lwarp
165 % % }%
166 % \hss
167 %
168 % }
169 % }
170 % % }%
171 % \egroup

```



```
172 \LWR@startpars% lwarp
173 }
```

`\subfloat@label` Patches for `\sf@sub@label`:

```
174 \def\subfloat@label{%
175 \LWR@ensuredoingapar% lwarp
176 \ifnextchar(% %) match left parenthesis
177 {\sf@sub@label}
178 {\sf@sub@label(Sub\@capytype\space
179 \@ifundefined{thechapter}{\@nameuse{thechapter}\space}%
180 \@nameuse{p@sub\@capytype}%
181 \@nameuse{thesub\@capytype}.)}}}
```

Patches for `\subref`.

`\sf@subref` `{\langle label \rangle}`

The unstarred version uses a `\ref` link whose printed text comes from the `sub@<label>`:

```
182 \renewcommand{\sf@subref}[1]{%
183 \LWR@subnewref{#1}{sub@#1}%
184 }
```

`\sf@@subref` `{\langle label \rangle}`

The starred version uses the printed `sub@<label>` which is stored as if it were a page number:

```
185 \renewcommand{\sf@@subref}[1]{\LWR@orig@pageref{sub@#1}}
```

Defining new subfloats. The `l@sub<type>` for each is redefined.

`\@newsubfloat` `[\langle keys/values \rangle] {\langle float name \rangle}`

```
186 \LetLtxMacro\LWR@orig@newsubfloat\@newsubfloat
187
188 \def\@newsubfloat[#1]#2{%
189 \LWR@orig@newsubfloat[#1]{#2}%
190 \renewcommand{\l@sub#2}[2]{\hypertocfloat{2}{sub#2}{\ext@sub#2}{##1}{##2}}%
191 }
```

Pre-defined for figures and tables:

`\l@subfigure` `{\langle text \rangle} {\langle pagenum \rangle}`

```
192 \renewcommand{\l@subfigure}[2]{\hypertocfloat{2}{subfigure}{lof}{#1}{#2}}
```

`\l@subtable` `{\langle text \rangle} {\langle pagenum \rangle}`

```
193 \renewcommand{\l@subtable}[2]{\hypertocfloat{2}{subtable}{lot}{#1}{#2}}
```

File 446 **lwarp-subfigure.sty**

§ 552 Package **subfigure**

Pkg subfigure subfigure is emulated by subfig.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{subfigure}[2002/03/15]
2 \RequirePackage{subfig}

3 \LetLtxMacro\subfigure\subfloat
4 \LetLtxMacro\subtable\subfloat
5 \LetLtxMacro\Subref\subref
6 \@ifundefined{figuretopcaptrue}{\newif\iffiguretopcap}{}
7 \newif\ifsubfiguretopcap
8 \newif\ifsubcaphang
9 \newif\ifsubcapcenter
10 \newif\ifsubcapcenterlast
11 \newif\ifsubcapnooneline
12 \newif\ifsubcapraggedright
13 \newskip\subfigtopskip
14 \newskip\subfigcapskip
15 \newdimen\subfigcaptopadj
16 \newskip\subfigbottomskip
17 \newdimen\subfigcapmargin
18 \newskip\subfiglabelskip
19 \newcommand*\subcapsize{}
20 \newcommand*\subcaplabelfont{}
21 \newcommand*\subcapfont{}

```

File 447 **lwarp-subsubscripts.sty**

§ 553 Package **subsubscripts**

*(Emulates or patches code by RICCARDO BRESCIANI.)*

Pkg subsubscripts subsubscripts is used as-is for SVG math, and is emulated for MATHJAX.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{subsubscripts}[2009/10/27]

```

The larger skips are used here.

```

2 \begin{warpMathJax}
3 \CustomizeMathJax{%
4 \newcommand{\fourscriptsC}[7]{%
5 {}^{#2}_{#3}\hspace{#6}#1\hspace{#7}{}^{#4}_{#5}%
6 }
7 }
8 \CustomizeMathJax{%

```

```

9 \newcommand{\lrsubscriptsC}[5]{%
10 \fourscriptsC{#1}{#2}{#3}{#4}{#5}%
11 }
12 }
13 \CustomizeMathJax{%
14 \newcommand{\lrsuperscriptsC}[5]{%
15 \fourscriptsC{#1}{#2}{#3}{#4}{#5}%
16 }
17 }
18 \CustomizeMathJax{%
19 \newcommand{\fourscripts}[5]{%
20 \fourscriptsC{#1}{#2}{#3}{#4}{#5}{0ex}{0ex}%
21 }
22 }
23 \CustomizeMathJax{%
24 \newcommand{\lrsubscripts}[3]{\fourscripts{#1}{#2}{#3}}
25 }
26 \CustomizeMathJax{%
27 \newcommand{\lrsuperscripts}[3]{\fourscripts{#1}{#2}{#3}}
28 }
29 \CustomizeMathJax{%
30 \newcommand{\twolscripts}[4][-.16ex]{\^{\#3}_{\#4}\hspace{#1}\#2}
31 }
32 \CustomizeMathJax{%
33 \newcommand{\tworscripts}[4][-.07ex]{\#2\hspace{#1}{\^{\#3}_{\#4}}
34 }
35 \CustomizeMathJax{%
36 \newcommand{\lsubscript}[3][-.16ex]{\twolscripts[#1]{#2}{#3}}
37 }
38 \CustomizeMathJax{%
39 \newcommand{\lsuperscript}[3][-.16ex]{\twolscripts[#1]{#2}{#3}}
40 }
41 \CustomizeMathJax{%
42 \newcommand{\rsubscript}[3][-.07ex]{\tworscripts[#1]{#2}{#3}}
43 }
44 \CustomizeMathJax{%
45 \newcommand{\rsuperscript}[3][-.07ex]{\tworscripts[#1]{#2}{#3}}
46 }
47 \end{warpMathJax}

```

---


File 448 **lwarp-supertabular.sty**

§ 554 Package **supertabular**

(Emulates or patches code by JOHANNES BRAAMS, THEO JURRIENS.)

Pkg supertabular supertabular is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{supertabular}[2004/02/20]


 **Misplaced alignment tab character &** For `\tablefirsthead`, etc., enclose them as follows:

```

\StartDefiningTabulars
\tablefirsthead
. . .
\StopDefiningTabulars

```

See section 8.10.1.

 **lateximage** `supertabular` and `xtab` are not supported inside a `lateximage`.

```

2 \newcommand{\LWRST@firsthead}{}
3
4 \newcommand{\tablefirsthead}[1]{%
5 \long\gdef\LWRST@firsthead{#1}%
6 }
7
8 \newcommand{\tablehead}[1]{}
9 \newcommand{\tabletail}[1]{}
10
11 \newcommand{\LWRST@lasttail}{}
12
13 \newcommand{\tablelasttail}[1]{%
14 \long\gdef\LWRST@lasttail{#1}%
15 }

16 \newcommand{\tablecaption}[2][{}]{%
17 \long\gdef\LWRST@caption{%
18 \ifblank{#1}%
19 {\caption{#2}}%
20 {\caption[#1]{#2}}%
21 }%
22 }
23
24 \let\topcaption\tablecaption
25 \let\bottomcaption\tablecaption

26 \newcommand*{\LWRST@caption}{}
27
28 \newcommand*{\shrinkheight}[1]{}
29
30 \NewDocumentEnvironment{supertabular}{s o m}
31 {%
32 \LWR@traceinfo{supertabular}%
33 \begin{table}%
34 \LWRST@caption%
35 \begin{tabular}{#3}%
36 \TabularMacro\ifdefvoid{\LWRST@firsthead}%
37 {\LWR@getmynexttoken}%
38 {\expandafter\LWR@getmynexttoken\LWRST@firsthead}%
39 }%
40 {%
41 \ifdefvoid{\LWRST@lasttail}%
42 {}%
43 {%
44 \TabularMacro\ResumeTabular%
45 \LWRST@lasttail%

```

```

46 }%
47 \end{tabular}%
48 \end{table}%

49 \gdef\LWRST@caption{}%

50 \LWR@traceinfo{supertabular done}%
51 }
52
53 \NewDocumentEnvironment{mpsupertabular}{s o m}
54 {\minipage{\linewidth}\supertabular{#3}}
55 {\endsupertabular\endminipage}

```

---

File 449 **lwarp-svg.sty**

§ 555 Package **svg**

*(Emulates or patches code by PHILIP ILTEN, FALK HANISCH.)*

Pkg `svg` `svg` is patched for use by `lwarp`.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{svg}[2020/10/23]

2 \xpretocmd{\includesvg}%
3 {\begin{lateximage}}%
4 {}%
5 {\LWR@patcherror{svg}{includesvg}}
6
7 \xapptocmd{\includesvg}%
8 {\end{lateximage}}%
9 {}%
10 {\LWR@patcherror{svg}{includesvg}}
11
12 \xpretocmd{\includeinkscape}%
13 {\begin{lateximage}}%
14 {}%
15 {\LWR@patcherror{svg}{includeinkscape}}
16
17 \xapptocmd{\includeinkscape}%
18 {\end{lateximage}}%
19 {}%
20 {\LWR@patcherror{svg}{includeinkscape}}

```

---

File 450 **lwarp-swfigure.sty**

§ 556 Package **swfigure**

*(Emulates or patches code by CLAUDIO BECCARI.)*

Pkg swfigure swfigure is emulated.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{swfigure}[2020-11-10]

2 \NewDocumentEnvironment{DFimage}%
3 {O{SW} m O{#4} m o D(){0.8} D<>{0} D||{0.25} D!!{}}%
4 {%
5 \begin{figure}
6 \centering
7 \includegraphics{#2}
8 \caption[#3]{#4}
9 \IfValueT{#5}{\label{#5}}
10 \end{figure}
11 }%
12 {}%
```

---

File 451 **lwarp-syntonly.sty**

§ 557 Package **syntonly**

*(Emulates or patches code by FRANK MITTELBACH, RAINER SCHÖPF.)*

Pkg syntonly syntonly is ignored.

**for HTML output:** Discard all options for lwarp-syntonly:

```

1 \LWR@ProvidesPackageDrop{syntonly}[2017/06/30]

2 \newif\ifsyntax@
3 \syntax@false
4
5 \newcommand*{\syntonly}{}
6
7 \@onlypreamble\syntonly

8 \def\nopages@{}
```

---

File 452 **lwarp-tabfigures.sty**

§ 558 Package **tabfigures**

Pkg tabfigures tabfigures is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{tabfigures}[2012/01/24]
```

File 453 **lwarp-tablefootnote.sty**

§ 559 Package **tablefootnote**

Pkg tablefootnote tablefootnote is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{tablefootnote}[2014/01/26]

This works because in HTML tables are no longer floats.

2 \LetLtxMacro\tablefootnote\footnote

File 454 **lwarp-tables.sty**

§ 560 Package **tables**

*(Emulates or patches code by DONALD ARSENEAU.)*

Pkg tables tables is emulated. \LWR@hline is used to handle the optional argument when tables is loaded.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{tables}

2 \newdimen\tablinesep  
3 \newdimen\arraylinesep  
4 \newdimen\extrarulesep

File 455 **lwarp-tabularx.sty**

§ 561 Package **tabularx**

*(Emulates or patches code by DAVID CARLISLE.)*

Pkg tabularx tabularx is emulated by lwarp.

**for HTML output:** Discard all options for lwarp-tabularx:

1 \LWR@ProvidesPackageDrop{tabularx}[2016/02/03]  
2 \RequirePackage{array}  
  
3 \DeclareDocumentEnvironment{tabularx}{m o m}  
4 {\tabular{#3}}  
5 {\endtabular}  
6  
7 \DeclareDocumentEnvironment{tabularx\*}{m o m}

```
8 {\tabular{#3}}
9 {\endtabular}
```

---

File 456 **lwarp-tabulary.sty**

§ 562 Package **tabulary**

*(Emulates or patches code by DAVID CARLISLE.)*

Pkg tabulary **tabulary** is emulated by lwarp.

**for HTML output:** Discard all options for lwarp-tabulary.

Column types L, C, R, and J are emulated by lwarp core code.

```
1 \LWR@ProvidesPackageDrop{tabulary}[2014/06/11]
2 \RequirePackage{array}

3 \NewDocumentEnvironment{tabulary}{m o m}
4 {\tabular{#3}}
5 {\endtabular}
6
7 \NewDocumentEnvironment{tabulary*}{m o m}
8 {\tabular{#3}}
9 {\endtabular}
10
11 \newdimen\tymin
12 \newdimen\tymax
13 \def\tyformat{}
```

---

File 457 **lwarp-tagpdf.sty**

§ 563 Package **tagpdf**

Pkg tagpdf **tagpdf** is mostly ignored, but emulates alt text, for images only. (HTML only has alternate text for images.)

(If left enabled for HTML output, tagpdf errors when producing HTML, somehow due to the HTML page numbers.)

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{tagpdf}[2019/07/02]

2 \ExplSyntaxOn
3
4 \tl_new:N \l__uftag_mc_key_label_tl
5
6 \keys_define:nn { uftag / mc }
7 {
8 tag .code:n = % the name (H,P,Span etc
9 },
```



```

10 raw .code:n =
11 {}
12 ,
13 alttext .code:n = % Alt property
14 {
15 \gdef\LWR@ThisAltText{\detokenize\expandafter{#1}}%
16 },
17 alttext-o .code:n = % Alt property
18 {
19 \gdef\LWR@ThisAltText{\detokenize\expandafter{#1}}%
20 },
21 actualtext .code:n = % ActualText property
22 {},
23 actualtext-o .code:n = % ActualText property
24 {},
25 label .tl_set:N = \l__uftag_mc_key_label_tl,
26 artifact .code:n = {},
27 artifact .default:n = {notype}
28 }
29
30 \keys_define:nn { uftag / struct }
31 {
32 label .tl_set:N = \l__uftag_struct_key_label_tl,
33 stash .bool_set:N = \l__uftag_struct_elem_stash_bool,
34 tag .code:n = % S property
35 {},
36 title .code:n = % T property
37 {},
38 title-o .code:n = % T property
39 {},
40 alttext .code:n = % Alt property
41 {
42 \gdef\LWR@ThisAltText{\detokenize\expandafter{#1}}%
43 },
44 alttext-o .code:n = % Alt property
45 {
46 \gdef\LWR@ThisAltText{\detokenize\expandafter{#1}}%
47 },
48 actualtext .code:n = % ActualText property
49 {},
50 actualtext-o .code:n = % ActualText property
51 {},
52 }
53
54 \NewDocumentCommand \tagpdfsetup { m }{}
55
56 \cs_set_eq:NN\tagpdfifluatexTF \sys_if_engine_luatex:TF
57 \cs_set_eq:NN\tagpdfifluatexT \sys_if_engine_luatex:T
58 \cs_set_eq:NN\tagpdfifpdfTeXT \sys_if_engine_pdfTeX:T
59 \cs_new:Npn \tagpdfget #1 {}
60 \cs_new:Npn \uftag_get:n #1 {}
61
62 \NewDocumentCommand \tagmcifinTF { m m }{}
63
64 \NewDocumentCommand \tagmcbegin { m }{\uftag_mc_begin:n {#1}\ignorespaces}

```

```

65 \cs_new_protected:Nn \uftag_mc_begin:n {
66 \group_begin:
67 \keys_set:nn { uftag / mc } {#1}
68 \group_end:
69 }
70
71 \NewDocumentCommand \tagmccend {}{\ThisAltText{}}
72
73 \cs_new_protected:Nn \uftag_mc_end: {\ThisAltText{}}
74
75 \NewDocumentCommand \tagmcuse { m }{}
76
77 \cs_new_protected:Nn \uftag_mc_use:n {}
78
79 \NewDocumentCommand \tagstructbegin { m }{
80 \uftag_struct_begin:n {#1}
81 }
82
83 \cs_new_protected:Nn \uftag_struct_begin:n
84 {
85 \group_begin:
86 \keys_set:nn {uftag / struct} { #1 }
87 \group_end:
88 }
89
90 \NewDocumentCommand \tagstructend { }{\ThisAltText{}}
91
92 \cs_new_protected:Nn \uftag_struct_end: {\ThisAltText{}}
93
94 \NewDocumentCommand \tagstructuse { m }{}
95
96 % \NewDocumentCommand\showtagpdfmccdata { 0 { __uftag_get_mc_abs_cnt: } }{}
97 % What is the second argument?
98
99 \NewDocumentCommand\showtagpdfattributes { }{}
100
101 \sys_if_engine_luatex:T
102 {
103 \NewDocumentCommand\pdffakespace { }
104 {
105 __uftag_fakespace:
106 }
107 }
108
109 \ExplSyntaxOff

```

---

File 458 **lwarp-tascmac.sty**

§ 564 Package **tascmac**

Pkg tascmac tascmac is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{tascmac}[2018/03/09]

```
2 \newenvironment*{boxnote}
3 {
4 \BlockClass[
5 padding: .5ex ;
6 border: 1px solid black ;
7 border-top: 1px dashed black ;
8]{boxnote}
9 }
10 {\endBlockClass}
11
12 \newenvironment*{screen}[1][]
13 {
14 \BlockClass[
15 padding: .5ex ;
16 border: 1px solid gray ;
17 border-radius: 8pt
18]{boxnote}
19 }
20 {\endBlockClass}
21
22 \newenvironment*{itembox}[2][]
23 {
24 \BlockClass[
25 padding: .5ex ;
26 border: 1px solid gray ;
27 border-radius: 8pt
28]{boxnote}
29 \InlineClass{itemboxtitle}{#2}\par
30 }
31 {\endBlockClass}
32
33 \newenvironment*{shadebox}
34 {
35 \BlockClass[
36 padding: .5ex ;
37 border: 1px solid black ;
38 box-shadow: 3px 3px 3px \#808080 ;
39]{boxnote}
40 }
41 {\endBlockClass}
42
43 \newcommand*{\mask}[2]{%
44 \InlineClass[background: lightgray]{mask}{#1}%
45 }
46
47 \newcommand*{\maskbox}[5]{%
48 \InlineClass[background: lightgray]{mask}{#5}%
49 }
50
51 \newcommand*{\Maskbox}[6]{%
52 \InlineClass[
53 background: lightgray ;
54 border: #5 solid black
55]{mask}{#6}%
56 }
```

```

57
58 \newcommand*{\keytop}[2][]{%
59 \InlineClass[%
60 padding: .2ex ;
61 border: 1px solid black ;
62 border-radius: .7ex ;
63]{keytop}{#2}%
64 }
65
66 \def\yen{\HTMLUnicode{00A5}}
67
68 \def\return{\HTMLUnicode{23CE}}
69
70 \def\Return{\HTMLUnicode{23CE}}
71
72 \def\ascii{ASCII Corporation}
73
74 \def\Ascii{ASCII Corporation}
75
76 \def\ASCII{ASCII Corporation}

```

---

File 459 **lwarp-tcolorbox.sty**

§ 565 Package **tcolorbox**

(Emulates or patches code by THOMAS F. STURM.)

Pkg tcolorbox tcolorbox is patched for use by lwarp.

See section 8.3.8 for limitations.

**for HTML output:** 1 \LWR@ProvidesPackagePass{tcolorbox}[2020/04/28]

```

2 \newbool{LWR@havetcblower}
3 \boolfalse{LWR@havetcblower}

```

Colors are supported via HTML styles:

```

4 \newcommand{\LWR@tcolorbox@findcolors}{%
5 \convertcolorspec{named}{tcbcolback}{HTML}\LWR@tcbcolback
6 \convertcolorspec{named}{tcbcolframe}{HTML}\LWR@tcbcolframe
7 \iftcb@titlefilled%
8 \convertcolorspec{named}{tcbcolbacktitle}{HTML}\LWR@tcbcolbacktitle
9 \else
10 \convertcolorspec{named}{tcbcolframe}{HTML}\LWR@tcbcolbacktitle
11 \fi
12 \convertcolorspec{named}{tcbcoltitle}{HTML}\LWR@tcbcoltitle
13 \convertcolorspec{named}{tcbcolupper}{HTML}\LWR@tcbcolupper
14 \convertcolorspec{named}{tcbcollower}{HTML}\LWR@tcbcollower
15 }
16
17 \newcommand*{\LWR@tcolorbox@titlecolorstyles}{%

```

```

18 border-top: 1px solid \LWR@origpound\LWR@tcbcolframe ;
19 border-bottom: 1px solid \LWR@origpound\LWR@tcbcolframe ;
20 background: \LWR@origpound\LWR@tcbcolbacktitle ;
21 color: \LWR@origpound\LWR@tcbcoltitle ;
22 }

```

The title is placed inside its own <div> of class tcolorboxtitle.

```

23 \newcommand*\LWR@showtitle@[1]{%
24 \begin{BlockClass}[
25 \LWR@tcolorbox@titlecolorstyles
26]{tcolorboxtitle}
27 % \cmdKV@LWR@tcolorbox@title\par
28 \kvtcb@before@title#1\kvtcb@after@title
29 \end{BlockClass}
30 }

```

If no title, a non-breakable space is used to take some vertical space.

```

31 \newcommand*\LWR@showtitle}[1]{%
32 \iftcb@titlevisible
33 \LWR@showtitle@{#1}
34 \else
35 \LWR@showtitle@{~}
36 \fi
37 }
38
39 \newcommand*\LWR@tcolorbox@dopantom{%
40 % \sbox\tcb@phantombox{\kvtcb@phantom}%
41 % \iftcb@hasPhantom%
42 % \box\tcb@phantombox%
43 % \tcb@hasPhantomfalse%
44 % \fi%
45 \kvtcb@phantom
46 \let\kvtcb@phantom\@empty%
47 }

```

The tcolorbox is placed inside an external <div> of class #1, which is tcolorbox or tcolorbox inlineminipage. The upper and lower parts are placed into their own internal <div>s of class tcolorboxupper and tcolorboxlower.

```

48 \newcommand*\LWR@tcolorboxstart@[1]{
49 \LWR@tcolorbox@findcolors
50 \begin{BlockClass}[
51 border: 1px solid \LWR@origpound\LWR@tcbcolframe ;
52 background: \LWR@origpound\LWR@tcbcolback ;
53]{#1}
54 \LWR@tcolorbox@dopantom%
55 \ifdefined\kvtcb@title}
56 {}
57 {
58 \LWR@showtitle{\kvtcb@title}
59 }
60 \end{BlockClass}[
61 color: \LWR@origpound\LWR@tcbcolupper ;

```

```
62]{tcolorboxupper}
63 }
```

Floats enclose the tcolorbox.

```
64 \newcommand*{\LWR@tcolorbox@dostartfloat}{%
65 \ifx\kvtcb@float\@empty%
66 % \tcb@set@normal@unbroken@beforeafter%
67 \else%
68 % \edef\tcb@before@unbroken{%
69 % \noexpand\tcb@float@env@begin{tcbfloat}[\kvtcb@float]%
70 % \noexpand\kvtcb@everyfloat%
71 % }%
72 % \let\tcb@after@unbroken=\tcb@float@env@end%
73 % \tcb@float@env@begin{tcbfloat}[\kvtcb@float]
74 % \noexpand\kvtcb@everyfloat
75 \fi%
76 }
77
78 \newcommand*{\LWR@tcolorbox@doendfloat}{%
79 \ifx\kvtcb@float\@empty%
80 \else%
81 \tcb@float@env@end%
82 \fi%
83 }
```

Footnotes are handled via the main footnote mechanism, and pending notes are printed before and after each tcolorbox. Footnote numbering will not match the print output.

```
84 \renewenvironment{tcolorbox}[1][[]
85 {
86 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
87 {
88 \PackageError{lwarp}
89 {%
90 Lwarp cannot process a tcolorbox inside a lateximage\MessageBreak
91 or SVG math.\MessageBreak
92 Enter 'H' for possible solutions%
93 }
94 {%
95 Use \protect\tcbbox, \protect\tcbboxmath, or
96 \protect\tcbhighmath\space instead.\MessageBreak%
97 (Inside math, you probably want to use these anyhow.)%
98 }
99 }{\relax}
100 \LWR@printpendingfootnotes
101 \tcb@layer@inc
102 \tcb@apply@box@options{#1}
103 \LWR@tcolorbox@dostartfloat%
104 % \tcbset{title=#1}
105 \boolfalse{LWR@havetcblower}
106 \LWR@tcolorboxstart{tcolorbox}
107 \tcb@insert@before@upper%
108 }
```

```

109 {
110 \ifbool{LWR@havetcblower}{%
111 \tcb@insert@after@lower%
112 }{%
113 \tcb@insert@after@upper%
114 }%
115 \end{BlockClass}
116 \LWR@printpendingfootnotes
117 \tcb@layer@dec
118 \end{BlockClass}
119 \LWR@tcolorbox@doendfloat%
120 }

```

For the lower part, the upper part is finished then the lower is started. `\tcblower` is only temporarily defined where appropriate, so the HTML version is defined globally via `\newcommand` instead of `\renewcommand`.

```

121 \newcommand{\tcblower}{
122 \tcb@insert@after@upper%
123 \end{BlockClass}
124 \begin{BlockClass}[%
125 border-top: 1px dashed \LWR@origpound\LWR@tcbcolframe ;
126 color: \LWR@origpound\LWR@tcbcollower ;
127]{tcolorboxlower}
128 \tcb@insert@before@lower%
129 }

```

Starred and unstarred `\tcbline` are simple `\hrules`.

```

130 \AtBeginDocument{
131 \ifdef{\tcbline}{
132 \newcommand*\LWR@sub@tcbline}{%
133 \begin{BlockClass}{hrule}
134 \end{BlockClass}
135 }
136 \newcommand{\LWR@HTML@tcbline}{\@ifstar\LWR@sub@tcbline\LWR@sub@tcbline}
137 \LWR@formatted{\tcbline}
138 }{}
139 }
140
141 \newcommand{\LWR@HTML@tcbbox}[2][]{
142 \LWR@printpendingfootnotes
143 \LWR@tcolorbox@dostartfloat%
144 \begingroup
145 \tcb@layer@inc
146 \tcb@apply@box@options{#1}
147 % \tcbset{title=#1}
148 \boolfalse{LWR@havetcblower}
149 \LWR@tcolorboxstart{tcolorbox inlineminipage}
150 \tcb@insert@before@upper%
151 #2
152 \ifbool{LWR@havetcblower}{%
153 \tcb@insert@after@lower%
154 }{%
155 \tcb@insert@after@upper%

```

```

156 }%
157 \end{BlockClass}
158 \LWR@printpendingfootnotes
159 \end{BlockClass}
160 \tcb@layer@dec%
161 \endgroup%
162 \LWR@tcolorbox@dostartfloat%
163 \global\booltrue{LWR@minipagethispar}%
164 }
165 \LWR@formatted{tcbbox}
166
167 \appto\LWR@restoreMathJaxformatting{%
168 \renewcommand{\tcbbox}[2][\#2]%
169 }

```

Patches for the subtitle, which is placed inside a <div> of class tcolorboxsubtitle.

```

170 \xpatchcmd{\tcbsubtitle}
171 {\begin{group}}
172 {\begin{group}\let\kvtcb@title\relax\begin{BlockClass}{tcolorboxsubtitle}}
173 {}
174 {\LWR@patcherror{tcolorbox}{tcbsubtitle}}
175
176 \xpatchcmd{\tcbsubtitle}
177 {\end{group}}
178 {\end{BlockClass}\end{group}}
179 {}
180 {\LWR@patcherror{tcolorbox}{tcbsubtitleB}}

```

\tcbboxfit is the same as \tcbbox.

```

181 \AtBeginDocument{
182 \ifdef{\tcbboxfit}{%
183 \let\LWR@HTML@tcbboxfit\tcbbox%
184 \LWR@formatted{tcbboxfit}
185 }{}
186 }

```

\tcbtitle is patched to support the text font.

```

187 \LetLtxMacro\LWR@HTML@tcbtitle\tcbtitle
188 \xpatchcmd{\LWR@HTML@tcbtitle}
189 {\kvtcb@before@title\tcbtitletext}
190 {\kvtcb@before@title\LWR@textcurrentfont{\LWR@textcurrentcolor{\tcbtitletext}}}
191 {}
192 {\LWR@patcherror{tcolorbox}{LWR@HTML@tcbtitle}}
193 \LWR@formatted{tcbtitle}

```

List-of:

```

194 \renewcommand*\l@tcolorbox[2]{\hypertocfloat{1}{tcolorbox}{lof}{#1}{#2}}

```



Theorem limitations. An error is printed if the document uses `math`, `ams equation`, etc. `\tcboxmath` and `\tcbhighmath` are ignored for HTML.

```

195 \AtBeginDocument{
196 \pgfkeysifdefined{/tcb/libload/theorems}{
197
198 \def\LWR@HTML@tcb@hack@amsmath{%
199 \PackageError{lwarp}
200 {%
201 tcolorbox ‘‘math’’, ‘‘ams equation’’, and related\MessageBreak
202 are not supported.\MessageBreak
203 \protect\tcbboxmath\space and
204 \protect\tcbhighmath\space are emulated.\MessageBreak
205 Enter ‘H’ for possible solutions%
206 }
207 {%
208 Remove tcolorbox math-related options, and instead\MessageBreak
209 use the usual math environments inside each tcolorbox.%
210 }
211 }
212 \LWR@formatted{tcb@hack@amsmath}
213
214 % Cause an error if using math:
215 \tcbset{%
216 math upper/.style={before upper*=\tcb@hack@amsmath,after upper*=$},%
217 math lower/.style={before lower*=\tcb@hack@amsmath,after lower*=$},%
218 }
219
220 \appto\LWR@restoreorigformatting{%
221 \tcbset{%
222 math upper/.style={before upper*=$\displaystyle,after upper*=$},%
223 math lower/.style={before lower*=$\displaystyle,after lower*=$},%
224 }%
225 }
226
227 \newcommand{\LWR@HTML@tcbboxmath}[2][[#2]
228 \LWR@formatted{tcbboxmath}
229 \newcommand{\LWR@HTML@tcbhighmath}[2][[#2]
230 \LWR@formatted{tcbhighmath}
231 \appto\LWR@restoreMathJaxformatting{%
232 \renewcommand{\tcbboxmath}[2][[#2]%
233 \renewcommand{\tcbhighmath}[2][[#2]%
234 }
235 }{}% theorems loaded
236 }% AtBeginDocument

```

#### FOR MATHJAX:

```

237 \CustomizeMathJax{\newcommand{\tcbset}[1]{}
238 \CustomizeMathJax{\newcommand{\tcbsetforeverylayer}[1]{}
239 \CustomizeMathJax{\newcommand{\tcbbox}[2][[\boxed{\text{#2}}]}
240 \CustomizeMathJax{\newcommand{\tcbboxfit}[2][[\boxed{#2}]}
241 \CustomizeMathJax{\newcommand{\tcblower}{}
242 \CustomizeMathJax{\newcommand{\tcbline}{}
243 \CustomizeMathJax{\newcommand{\tcbtitle}{}

```

```

244 \CustomizeMathJax{\newcommand{\tcbsubtitle}[2][\mathrm{#2}]}
245 \CustomizeMathJax{\newcommand{\tcboxmath}[2][\boxed{#2}]}
246 \CustomizeMathJax{\newcommand{\tcbhighmath}[2][\boxed{#2}]}

```

---

File 460 **lwarp-termcal.sty**

§ 566 Package **termcal**

*(Emulates or patches code by BILL MITCHELL.)*

Pkg termcal termcal is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{termcal}% questionable date in the .sty file

Nullify the @ because everything is being done in a token list.

```

2 \xpatchcmd{\endcalendar}
3 {@{}}
4 {}
5 {}
6 {\LWR@patcherror{termcal}{endcalendar}}

```

Remove the hbox:

```

7 \xpatchcmd{\ca@doaday}
8 {\hbox to \hsize{\calprintdate\hfill\ifclassday\calprintclass\fi}}
9 {%
10 \calprintdate\hfill\ifclassday\calprintclass\fi%
11 }
12 {}
13 {\LWR@patcherror{termcal}{ca@doaday}}

```

Change each of two ampersands to call the lwarp tabular version:

```

14 \xpatchcmd{\calday}
15 {\&}
16 {\LWR@tabularampersand}
17 {}
18 {\LWR@patcherror{termcal}{calday}}
19
20 \xpatchcmd{\calday}
21 {\&}
22 {\LWR@tabularampersand}
23 {}
24 {\LWR@patcherror{termcal}{calday B}}

```

---

File 461 **lwarp-textarea.sty**

§ 567 Package **textarea**

*(Emulates or patches code by ALEXANDER I. ROZHENKO.)*

Pkg textarea **textarea** is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{textarea}[2005/12/26]

```
2 \newcommand\StartFromTextArea{}
3 \newcommand\StartFromHeaderArea{}
4 \newcommand*\RestoreTextArea{}
5 \newcommand*\ExpandTextArea[1][*]{}
6 \let\NCC@restorettextarea\@empty
```

---

File 462 **lwarp-textcomp.sty**


§ 568 Package **textcomp**

*(Emulates or patches code by FRANK MITTELBACH, ROBIN FAIRBAIRNS, WERNER LEMBERG.)*

Pkg textcomp **textcomp** is patched for use by lwarp.

### § 568.1 Limitations

Some textcomp symbols do not have Unicode equivalents, and thus are not supported.

 **missing symbols** Many textcomp symbols are not supported by many system / browser fonts. In the CSS try referencing fonts which are more complete, but expect to see gaps in coverage.

### § 568.2 Package loading

**for HTML output:** 1 \LWR@ProvidesPackagePass{textcomp}[2017/04/05]

### § 568.3 HTML symbols

For HTML, use HTML entities or direct Unicode, depending on the engine.

`\AtBeginDocument` improves support for Lua<sup>L</sup>TeX and X<sup>L</sup>TeX.

### § 568.3.1 pdf $\LaTeX$ symbols

```

2 \AtBeginDocument{
3 \ifPDFTeX% pdflatex or dvi latex
4 \newcommand*\LWR@HTML@textdegree{\HTMLentity{deg}}
5 \newcommand*\LWR@HTML@textcelsius{\HTMLUnicode{2103}}
6 \newcommand*\LWR@HTML@textohm{\HTMLUnicode{2126}}
7 \newcommand*\LWR@HTML@textmu{\HTMLUnicode{00B5}}
8 \newcommand*\LWR@HTML@textlquill{\HTMLUnicode{2045}}
9 \newcommand*\LWR@HTML@textrquill{\HTMLUnicode{2046}}
10 \newcommand*\LWR@HTML@textcircledP{\HTMLUnicode{2117}}
11 \newcommand*\LWR@HTML@texttwelveudash{\HTMLUnicode{2014}}% emdash
12 \newcommand*\LWR@HTML@textthreequartersemdash{\HTMLUnicode{2014}}% emdash
13 \newcommand*\LWR@HTML@textmho{\HTMLUnicode{2127}}
14 \newcommand*\LWR@HTML@textnaira{\HTMLUnicode{20A6}}
15 \newcommand*\LWR@HTML@textpeso{\HTMLUnicode{20B1}}
16 \newcommand*\LWR@HTML@textrecipe{\HTMLUnicode{211E}}
17 \newcommand*\LWR@HTML@textinterrobang{\HTMLUnicode{203D}}
18 \newcommand*\LWR@HTML@textinterrobangdown{\HTMLUnicode{2E18}}
19 \newcommand*\LWR@HTML@textperthousand{\HTMLUnicode{2030}}
20 \newcommand*\LWR@HTML@textpertenthousand{\HTMLUnicode{2031}}
21 \newcommand*\LWR@HTML@textbaht{\HTMLUnicode{0E3F}}
22 \newcommand*\LWR@HTML@textdiscount{\%}
23 \newcommand*\LWR@HTML@textservicemark{\HTMLUnicode{2120}}
24 \else

```

### § 568.3.2 X $\LaTeX$ and Lua $\LaTeX$ symbols

NOTE: Some of the following do not print well in the listing. Consult the .dtx or .sty file for the actual characters.

```

25 \newcommand*\LWR@HTML@textdegree{\textdegree}
26 \newcommand*\LWR@HTML@textcelsius{\textcelsius}
27 \newcommand*\LWR@HTML@textohm{\textohm}
28 \newcommand*\LWR@HTML@textmu{\textmu}
29 \newcommand*\LWR@HTML@textlquill{\textlquill}
30 \newcommand*\LWR@HTML@textrquill{\textrquill}
31 \newcommand*\LWR@HTML@textcircledP{\textcircledP}
32 \newcommand*\LWR@HTML@texttwelveudash{\texttwelveudash}
33 \newcommand*\LWR@HTML@textthreequartersemdash{\textthreequartersemdash}
34 \newcommand*\LWR@HTML@textmho{\textmho}
35 \newcommand*\LWR@HTML@textnaira{\textnaira}
36 \newcommand*\LWR@HTML@textpeso{\textpeso}
37 \newcommand*\LWR@HTML@textrecipe{\textrecipe}
38 \newcommand*\LWR@HTML@textinterrobang{\textinterrobang}
39 \newcommand*\LWR@HTML@textinterrobangdown{\textinterrobangdown}
40 \newcommand*\LWR@HTML@textperthousand{\textperthousand}
41 \newcommand*\LWR@HTML@textpertenthousand{\textpertenthousand}
42 \newcommand*\LWR@HTML@textbaht{\textbaht}
43 \newcommand*\LWR@HTML@textdiscount{\textdiscount}
44 \newcommand*\LWR@HTML@textservicemark{\textservicemark}
45 \fi
46
47 \LWR@formatted{textdegree}

```

```

48 \LWR@formatted{textcelsius}
49 \LWR@formatted{textohm}
50 \LWR@formatted{textmu}
51 \LWR@formatted{textlquill}
52 \LWR@formatted{textrquill}
53 \LWR@formatted{textcircledP}
54 \LWR@formatted{texttwelveudash}
55 \LWR@formatted{textthreequartersemdash}
56 \LWR@formatted{textmho}
57 \LWR@formatted{textnaira}
58 \LWR@formatted{textpeso}
59 \LWR@formatted{textrecipe}
60 \LWR@formatted{textinterrobang}
61 \LWR@formatted{textinterrobangdown}
62 \LWR@formatted{textperthousand}
63 \LWR@formatted{textpertenthousand}
64 \LWR@formatted{textbaht}
65 \LWR@formatted{textdiscount}
66 \LWR@formatted{textservicemark}

```

#### § 568.4 **HTML diacritics**

For HTML, Unicode diacritical marks are used:

```

67 \newcommand*\LWR@HTML@capitalcedilla}[1]{#1\HTMLUnicode{0327}}
68 \newcommand*\LWR@HTML@capitalogonek}[1]{#1\HTMLUnicode{0328}}
69 \newcommand*\LWR@HTML@capitalgrave}[1]{#1\HTMLUnicode{0300}}
70 \newcommand*\LWR@HTML@capitalacute}[1]{#1\HTMLUnicode{0301}}
71 \newcommand*\LWR@HTML@capitalcircumflex}[1]{#1\HTMLUnicode{0302}}
72 \newcommand*\LWR@HTML@capitaltilde}[1]{#1\HTMLUnicode{0303}}
73 \newcommand*\LWR@HTML@capitaldieresis}[1]{#1\HTMLUnicode{0308}}
74 \newcommand*\LWR@HTML@capitalhungarumlaut}[1]{#1\HTMLUnicode{30B}}
75 \newcommand*\LWR@HTML@capitalring}[1]{#1\HTMLUnicode{30A}}
76 \newcommand*\LWR@HTML@capitalcaron}[1]{#1\HTMLUnicode{30C}}
77 \newcommand*\LWR@HTML@capitalbreve}[1]{#1\HTMLUnicode{306}}
78 \newcommand*\LWR@HTML@capitalmacron}[1]{#1\HTMLUnicode{304}}
79 \newcommand*\LWR@HTML@capitaldotaccent}[1]{#1\HTMLUnicode{307}}

```

`\textcircled` becomes a span with a rounded border. `\providecommand` is used to avoid conflict with `xunicode`.

```

80 \providecommand*\LWR@HTML@textcircled}[1]{%
81 \InlineClass[border: 1px solid \LWR@currenttextcolor]{textcircled}{#1}%
82 }
83
84 \LWR@formatted{capitalcedilla}
85 \LWR@formatted{capitalogonek}
86 \LWR@formatted{capitalgrave}
87 \LWR@formatted{capitalacute}
88 \LWR@formatted{capitalcircumflex}
89 \LWR@formatted{capitaltilde}
90 \LWR@formatted{capitaldieresis}
91 \LWR@formatted{capitalhungarumlaut}
92 \LWR@formatted{capitalring}
93 \LWR@formatted{capitalcaron}

```

```

94 \LWR@formatted{capitalbreve}
95 \LWR@formatted{capitalmacron}
96 \LWR@formatted{capitaldotaccent}
97
98 \LWR@formatted{textcircled}

```

Nullify textcomp macros when generating filenames:

```

99 \FilenameNullify{%
100 \renewcommand*\textdegree{}%
101 \renewcommand*\textcelsius{}%
102 \renewcommand*\textohm{}%
103 \renewcommand*\textmu{}%
104 \renewcommand*\textlquill{}%
105 \renewcommand*\textrquill{}%
106 \renewcommand*\textcircledP{}%
107 \renewcommand*\texttwelveudash{}%
108 \renewcommand*\textthreequartersemdash{}%
109 \renewcommand*\textmho{}%
110 \renewcommand*\textnaira{}%
111 \renewcommand*\textpeso{}%
112 \renewcommand*\textrecipe{}%
113 \renewcommand*\textinterrobang{}%
114 \renewcommand*\textinterrobangdown{}%
115 \renewcommand*\textperthousand{}%
116 \renewcommand*\textpertenthousand{}%
117 \renewcommand*\textbaht{}%
118 \renewcommand*\textdiscount{}%
119 \renewcommand*\textservicemark{}%
120 \renewcommand*\textcircled}[1]{#1}%
121 \renewcommand*\capitalcedilla}[1]{#1}%
122 \renewcommand*\capitalogonek}[1]{#1}%
123 \renewcommand*\capitalgrave}[1]{#1}%
124 \renewcommand*\capitalacute}[1]{#1}%
125 \renewcommand*\capitalcircumflex}[1]{#1}%
126 \renewcommand*\capitaltilde}[1]{#1}%
127 \renewcommand*\capitaldieresis}[1]{#1}%
128 \renewcommand*\capitalhungarumlaut}[1]{#1}%
129 \renewcommand*\capitalring}[1]{#1}%
130 \renewcommand*\capitalcaron}[1]{#1}%
131 \renewcommand*\capitalbreve}[1]{#1}%
132 \renewcommand*\capitalmacron}[1]{#1}%
133 \renewcommand*\capitaldotaccent}[1]{#1}%
134 }% FilenameNullify
135
136 }% AtBeginDocument

```

---

File 463 **lwarp-textfit.sty**

§ 569 Package **textfit**

Pkg textfit **textfit** is emulated.

Text is placed into a `<span>` of class `textfit`. Sizes are approximated, and also limited by browser min/max font-size settings.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{textfit}[1994/04/15]

2 \newsavebox{\LWR@textfitbox}
3
4 \newcommand*\LWR@textfitscale[2]{%
5 \setlength{\LWR@templengthone}{#1}%
6 \setlength{\LWR@templengthtwo}{%
7 1em*\ratio{\LWR@templengthone}{\LWR@templengthtwo}%
8 }%
9 \InlineClass[font-size:\LWR@printlength{\LWR@templengthone}]{textfit}{#2}%
10 }
11
12 \newcommand*\scaletowidth[2]{%
13 \sbox{\LWR@textfitbox}{#2}%
14 \settoheight{\LWR@templengthtwo}{\usebox{\LWR@textfitbox}}%
15 \LWR@textfitscale{#1}{#2}%
16 }
17
18 \newcommand*\scaletoheight[2]{%
19 \sbox{\LWR@textfitbox}{#2}%
20 \settoheight{\LWR@templengthtwo}{\usebox{\LWR@textfitbox}}%
21 \LWR@textfitscale{#1}{#2}%
22 }
```

---

File 464 **lwarp-textpos.sty**

§ 570 Package **textpos**

*(Emulates or patches code by NORMAN GRAY.)*

Pkg textpos **textpos** is emulated.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{textpos}[2020/09/26]

2 \NewDocumentEnvironment{textblock}{m o r()}{}{}
3 \NewDocumentEnvironment{textblock*}{m o r()}{}{}
4 \newcommand*\TPGrid[3][{}
5 \def\TPShowGrid{\@ifstar{\@TPShowGrid}{\@TPShowGrid}}
6 \def\@TPShowGrid#1#2{}
7 \NewDocumentCommand{\TPMargin}{s o}{}
8 \newcommand*\textblockcolour[1]{}
9 \newcommand*\textblockrulecolour[1]{}
10 \newcommand*\textblockcolor[1]{}
11 \newcommand*\textblockrulecolor[1]{}
12 \newcommand*\tekstblokkulur[1]{}
13 \newcommand*\tekstblokrulekulur[1]{}
14 \newlength{\TPHorizModule}
15 \newlength{\TPVertModule}
16 \newlength{\TPboxrulesize}
```

```

17 \newcommand{\textblocklabel}[1]{}
18 \newcommand*{\showtextsize}{}
19 \newcommand{\textblockorigin}[2]{}
20 \newcommand*{\TPOptions}[1]{}
21 \newcommand*{\TPReferencePosition}[1]{}

```

---

File 465 **lwarp-theorem.sty**

§ 571 Package **theorem**

(Emulates or patches code by FRANK MITTELBACH.)

Pkg theorem theorem is patched for use by lwarp.

---

Table 19: Theorem package — css styling of theorems and proofs

**Theorem:** <div> of class theorembody<theoremstyle>

**Theorem Header:** <span> of class theoremheader

where <theoremstyle> is plain, break, etc.

---

for HTML output: 1 \LWR@ProvidesPackagePass{theorem}[2014/10/28]

### § 571.1 Remembering the theorem style

Storage for the style being used for new theorems:

```
2 \newcommand{\LWR@newtheoremstyle}{plain}
```

Patched to remember the style being used for new theorems:

```

3 \gdef\theoremstyle#1{%
4 \@ifundefined{th@#1}{\@warning
5 {Unknown theoremstyle ‘#1’. Using ‘plain’}%
6 \theorem@style{plain}%
7 \renewcommand{\LWR@newtheoremstyle}{plain}% lwarp
8 }%
9 {%
10 \theorem@style{#1}%
11 \renewcommand{\LWR@newtheoremstyle}{#1}% lwarp
12 }%
13 \begingroup
14 \csname th@\the\theorem@style \endcsname
15 \endgroup}

```

Patched to remember the style for this theorem type, and set it later when the environment is started.

```
16 \gdef\@xnthm#1#2[#3]{%
```



```

17 \expandafter\@ifdefinable\csname #1\endcsname
18 {%
19 \csedef{LWR@thmstyle#1}{\LWR@newtheoremstyle}% lwarp
20 \@definecounter{#1}\@newctr{#1}[#3]%
21 \expandafter\xdef\csname the#1\endcsname
22 {\expandafter \noexpand \csname the#3\endcsname
23 \@thmcountersep \@thmcounter{#1}}%
24 \def\@tempa{\global\@namedef{#1}}%
25 \expandafter \@tempa \expandafter{%
26 \csname th@the \theoremstyle
27 \expandafter \endcsname \the \theorem@bodyfont
28 \@thm{#1}{#2}}%
29 \global \expandafter \let \csname end#1\endcsname \@endtheorem
30 \AtBeginEnvironment{#1}{\edef\LWR@thisthmstyle{\@nameuse{LWR@thmstyle#1}}}% lwarp
31 }}
32
33 \gdef\@ynthm#1#2{%
34 \expandafter\@ifdefinable\csname #1\endcsname
35 {
36 \csedef{LWR@thmstyle#1}{\LWR@newtheoremstyle}% lwarp
37 \@definecounter{#1}%
38 \expandafter\xdef\csname the#1\endcsname{\@thmcounter{#1}}%
39 \def\@tempa{\global\@namedef{#1}}\expandafter \@tempa
40 \expandafter{\csname th@the \theoremstyle \expandafter
41 \endcsname \the\theorem@bodyfont \@thm{#1}{#2}}%
42 \global \expandafter \let \csname end#1\endcsname \@endtheorem
43 \AtBeginEnvironment{#1}{\edef\LWR@thisthmstyle{\@nameuse{LWR@thmstyle#1}}}% lwarp
44 }}
45
46 \gdef\@othm#1[#2]#3{%
47 \expandafter\ifx\csname c@#2\endcsname\relax
48 \@nocounterr{#2}%
49 \else
50 \expandafter\@ifdefinable\csname #1\endcsname
51 {
52 \csedef{LWR@thmstyle#1}{\LWR@newtheoremstyle}% lwarp
53 \expandafter \xdef \csname the#1\endcsname
54 {\expandafter \noexpand \csname the#2\endcsname}%
55 \def\@tempa{\global\@namedef{#1}}\expandafter \@tempa
56 \expandafter{\csname th@the \theoremstyle \expandafter
57 \endcsname \the\theorem@bodyfont \@thm{#2}{#3}}%
58 \global \expandafter \let \csname end#1\endcsname \@endtheorem
59 \AtBeginEnvironment{#1}{\edef\LWR@thisthmstyle{\@nameuse{LWR@thmstyle#1}}}% lwarp
60 }%
61 \fi}

```

## § 571.2 **css patches**

The following are patched for css.

These were in individual files thp.sty for plain, thmb.sty for margin break, etc. They are gathered together here.

Each theorem is encased in a BlockClass environment of class theorembody<style>.

Each header is encased in an \InlineClass of class theoremheader.

```

62 \gdef\th@plain{%
63 \def\@begintheorem##1##2{%
64 \item[
65 \InlineClass{theoremheader}{##1\ ##2}
66]
67 }%
68 \def\@opargbegintheorem##1##2##3{%
69 \item[
70 \InlineClass{theoremheader}{##1\ ##2\ (##3)}
71]
72 }
73 }
74
75 \gdef\th@break{%
76 \def\@begintheorem##1##2{%
77 \item[
78 \InlineClass{theoremheader}{##1\ ##2}\newline%
79]
80 }%
81 \def\@opargbegintheorem##1##2##3{%
82 \item[
83 \InlineClass{theoremheader}{##1\ ##2\ (##3)}\newline
84]
85 }
86 }
87
88 \gdef\th@marginbreak{%
89 \def\@begintheorem##1##2{%
90 \item[
91 \InlineClass{theoremheader}{##2 \quad ##1}\newline
92]
93 }%
94 \def\@opargbegintheorem##1##2##3{%
95 \item[
96 \InlineClass{theoremheader}{##2 \quad ##1\ %
97 (##3)}\newline
98]
99 }
100 }
101
102 \gdef\th@changebreak{%
103 \def\@begintheorem##1##2{%
104 \item[
105 \InlineClass{theoremheader}{##2\ ##1}\newline
106]

```

```

107 }%
108 \def\@opargbegintheorem##1##2##3{%
109 \item[
110 \InlineClass{theoremheader}{##2\ ##1\ %
111 (##3)}\newline
112]
113 }
114 }
115
116 \gdef\th@change{%
117 \def\@begintheorem##1##2{
118 \item[
119 \InlineClass{theoremheader}{##2\ ##1}
120]
121 }%
122 \def\@opargbegintheorem##1##2##3{%
123 \item[
124 \InlineClass{theoremheader}{##2\ ##1\ (##3)}
125]
126 }
127 }
128
129 \gdef\th@margin{%
130 \def\@begintheorem##1##2{
131 \item[
132 \InlineClass{theoremheader}{##2 \quad ##1}
133]
134 }%
135 \def\@opargbegintheorem##1##2##3{%
136 \item[
137 \InlineClass{theoremheader}{##2 \quad ##1\ (##3)}
138]
139 }
140 }

```

Patched for css:

```

141 \gdef\@thm#1#2{\refstepcounter{#1}%
142 \LWR@forcenewpage% lwarp
143 \BlockClass{theorembody\LWR@thisthmstyle}% lwarp
144 \trivlist
145 \@topsep \theorempreskipamount % used by first \item
146 \@topsepadd \theorempostskipamount % used by \@endparenv
147 \@ifnextchar [%
148 {\@yhtm{#1}{#2}}%
149 {\@begintheorem{#2}{\csname the#1\endcsname}\ignorespaces}}
150
151 \gdef\@endtheorem{%
152 \endtrivlist
153 \endBlockClass
154 }

```

---

File 466 **lwarp-thinsp.sty**

§ 572 Package **thinsp**

Pkg thinsp thinsp is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{thinsp}[2016/10/02]

```

2 \AtBeginDocument{
3 \let\thinthispace\relax% defined by some packages
4 \newcommand*\thinthispace{\thinspace}
5 }
6
7 \newcommand*\stretchthispace{\thinspace}
8 \newcommand*\stretchthinthispace{\thinthispace}
9 \newcommand*\stretchnegthispace{\negthinspace}
```

---

File 467 **lwarp-thm-listof.sty**

§ 573 Package **thm-listof**

*(Emulates or patches code by ULRICH M. SCHWARZ, YUKAI CHOU.)*

Pkg thm-listof thm-listof is part of thmtools, and is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{thm-listof}[2019/12/22]

For font control, see the generated HTML and use CSS per amsthm or ntheorem.

Other thm-\* package may be loaded by thm-listof.

```

2 \ifpackagelater{thm-listof}{2020/08/01}{% v0.72
3 \def\thmtlo@newentry{%
4 \csdef{l@thmt@envname}##1##2{\hypertocfloat{1}{figure}{lof}{##1}{##2}}%
5 }
6 }{% earlier than v0.72
7 \xpatchcmd{\listoftheorems}
8 {%
9 \xa\protected@edef\csname l@thmt@envname\endcsname{%
10 \nx\@dottedtocline{1}{1.5em}{\nx\thmt@listnumwidth}%
11 }%
12 }
13 {%
14 \csdef{l@thmt@envname}##1##2{\hypertocfloat{1}{figure}{lof}{##1}{##2}}%
15 }
16 {}
17 {\LWR@patcherror{thm-listof}{listoftheorems}}
18
```

```

19 \xpatchcmd{\thmt@mklistcmd}
20 {%
21 \xa\protected@edef\csname l@thmt@envname\endcsname{%
22 \@nx\@dottedtocline{1}{1.5em}{\@nx\thmt@listnumwidth}%
23 }%
24 }
25 {%
26 \csdef{l@thmt@envname}##1##2{\hypertocfloat{1}{figure}{lof}{##1}{##2}}%
27 }
28 {}
29 {\LWR@patcherror{thm-listof}{thmt@mklistcmd}}
30 }

```

---

File 468 **lwarp-thm-restate.sty**

§ 574 Package **thm-restate**

*(Emulates or patches code by ULRICH M. SCHWARZ.)*

Pkg thm-restate thm-restate is part of thmtools, and is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{thm-restate}[2020/08/01]

```

2 \xpatchcmd{\thmt@restatable}
3 {\@ifstar}
4 {\edef\LWR@thisthmstyle{#2}\@ifstar}
5 {}
6 {\LWR@patcherror{thm-restate}{thmt@restatable}}

```

---

File 469 **lwarp-thmbox.sty**

§ 575 Package **thmbox**

*(Emulates or patches code by EMMANUEL BEFFARA.)*

Pkg thmbox thmbox is emulated for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{thmbox}[2005/04/24]

```

2 \renewenvironment{thmbox}[2][[]%
3 {%
4 \begin{BlockClass}{thmbox}
5 \begin{BlockClass}{thmboxtitle}
6 #2
7 \end{BlockClass}
8 }
9 {\end{BlockClass}}
10
11 \renewenvironment{proof}[1][[]
12 {%

```

```

13 \begin{BlockClass}{thmboxproof}%
14 \InlineClass{thmboxproofname}{\proofname\ #1\unskip\,;}
15 }
16 {%
17 \quad\HTMLUnicode{220E}% end of proof symbol
18 \end{BlockClass}
19 }
20
21 \renewenvironment{example}[1][\examplename]%
22 {%
23 \begin{BlockClass}{thmboxexample}%
24 \InlineClass{thmboxexamplename}{#1\,;}
25 }
26 {\end{BlockClass}}
27
28 \renewenvironment{leftbar}[1][%
29 {\begin{BlockClass}{thmboxleftbar}}
30 {\end{BlockClass}}

```

---

File 470 **lwarp-thmtools.sty**

§ 576 Package **thmtools**

*(Emulates or patches code by ULRICH M. SCHWARZ.)*

Pkg thmtools thmtools is patched for use by lwarp.

Also see thm-listof and thm-restate.

**for HTML output:** 1 \LWR@ProvidesPackagePass{thmtools}[2020/08/01]

The following patches either thm-amsthm or thm-ntheorem.

```

2 \def\thmt@headstyle@margin{%
3 \InlineClass{amsthmnumbertheorem}{\NUMBER}
4 \
5 \InlineClass{amsthmnametheorem}{\NAME}
6 \InlineClass{amsthmnotetheorem}{\NOTE}
7 }
8
9 \let\thmt@headstyle@swapnumber\thmt@headstyle@margin

```

---

File 471 **lwarp-threadcol.sty**

§ 577 Package **threadcol**

Pkg threadcol threadcol is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{threadcol}[2013/01/06]

---

```
2 \newcommand{\setthreadname}[1]{}

```

---

File 472 **lwarp-threeparttable.sty**

§ 578 Package **threeparttable**

(Emulates or patches code by DONALD ARSENEAU.)

Pkg threeparttable **threeparttable** is emulated.

Table note are contained inside a CSS <div> of class tnotes. If `enumitem` is used, the note item labels are also individually highlighted with an additional CSS <span> of class tnoteitemheader, otherwise they are plain text.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{threeparttable}[2003/06/13]

Env threeparttable [*<alignment>*]

```
2 \newenvironment*{threeparttable}[1][b]
3 {\def\@capttype{table}}
4 {}

```

Env tablenotes [*<options>*]

```
5 \newenvironment*{tablenotes}[1][[]
6 {%
7 \LWR@forcenewpage
8 \BlockClass{tnotes}%

9 \description%
10 }
11 {%
12 \enddescription%
13 \endBlockClass%
14 }

```

\tnote {*<text>*}

```
15 \newcommand{\tnote}[1]{\LWR@htmlspan{sup}{#1}}

```

Env measuredfigure [*<alignment>*]

```
16 \newenvironment*{measuredfigure}[1][t]
17 {\def\@capttype{figure}}
18 {}

```

File 473 **lwarp-threeparttablex.sty**

§ 579 Package **threeparttablex**

Pkg threeparttablex threeparttablex is patched for use by lwarp.

threeparttablex is used with longtable and booktabs as follows:

```

\begin{longtable}{ [column specifiers] }
[. . .] \endfirsthead % or \endhead, for print and HTML
\warpprintonly{ % not used in HTML
[. . .] \endhead % or \endfirsthead
[. . .] \endfoot
\bottomrule \insertTableNotes \endlastfoot
}
. . . table contents . . .
\warpHTMLonly{ % HTML last footer
\bottomrule
\UseMinipageWidths % optional
\insertTableNotes
\endlastfoot
}
\end{longtable}

```

**table width** The table notes are created using a `\multicolumn`. By default the width is not specified to the browser, so long table notes can cause the table to be spread out horizontally. For HTML output, `lwarp` guesses the width of the table depending on the number of columns, then restricts its guess to a min/max range. To use this guess for the width of the table notes, use `\UseMinipageWidths` before `\insertTableNotes`. The width is then specified, and in many cases the result is an improvement in overall table layout.

**for HTML output:** 1 `\LWR@ProvidesPackagePass{threeparttablex}[2013/07/23]`

The width is guessed depending on the number of columns, then limited to a min/max.

```

2 \renewcommand\insertTableNotes{%
3 \setlength{\LWR@templengthone}{.375in*\value{\LWR@tabletotalLaTeXcols}}%
4 \setlength{\LWR@templengthone}{\minof{\textwidth}{\LWR@templengthone}}%
5 \setlength{\LWR@templengthone}{\maxof{2.5in}{\LWR@templengthone}}%
6 \multicolumn{\value{\LWR@tabletotalLaTeXcols}}{c}{%
7 \parbox{\LWR@templengthone}{%
8 \begin{tablenotes}[\TPTL@optarg]%
9 \TPTL@font%
10 \TPTL@body%
11 \end{tablenotes}}%
12 }%
13 }%
14 }
15
16 \renewcommand\TPTL@tnotex[2]{\tnote{\nameref{#2}}}

```



File 474 **lwarp-thumb.sty**

§ 580 Package **thumb**

Pkg thumb thumb is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{thumb}[1997/12/24]

```
2 \newcommand*\Overviewpage{}
3 \newlength{\thumbheight}
4 \newlength{\thumbwidth}
```

File 475 **lwarp-thumbs.sty**

§ 581 Package **thumbs**

Pkg thumbs thumbs is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{thumbs}[2014/03/09]

```
2 \newcommand{\addthumb}[4]{}
3 \newcommand{\addtitlethumb}[5]{}
4 \newcommand{\stopthumb}{}
5 \newcommand{\continuethumb}{}
6 \newcommand{\thumbsoverview}[1]{}
7 \newcommand{\thumbsoverviewback}[1]{}
8 \newcommand{\thumbsoverviewverso}[1]{}
9 \newcommand{\thumbsoverviewdouble}[1]{}
10 \newcommand{\thumbnewcolumn}{}
11 \newcommand{\addthumbsoverviewtocontents}[2]{}
12 \newcommand{\thumbsnophantom}{}


```

File 476 **lwarp-tikz.sty**

§ 582 Package **tikz**

*(Emulates or patches code by TILL TANTAU.)*

Pkg tikz tikz is supported.

 **displaymath and matrices** If using display math with tikzpicture or \tikz, along with matrices with the & character, the document must be modified as follows:

```
\usepackage{tikz}
\tikzset{every picture/.style={ampersand replacement=\&}}
```

and each instance of & in the tikz expression must be replaced with \&.

Accept all options for lwarp-tikz:

```
1 \LWR@ProvidesPackagePass{tikz}[2015/08/07]
```

**catcodes** lwarp changes the catcode of \$ for its own use. The Tikz babel library temporarily changes catcodes back to normal for Tikz's use. tikz v3.0.0 introduced the babel library which handles catcode changes. For older versions, lwarp must change \$'s catcode itself.

Also see:

<https://tex.stackexchange.com/questions/16199/test-if-a-package-or-package-option-is-loaded>

```
2 \newbool{LWR@tikzbabel}
3
4 \@ifpackagelater{tikz}{2013/12/20}% Test for Tikz version v3.0.0
5 {\usetikzlibrary{babel}\booltrue{LWR@tikzbabel}}
6 {\boolfalse{LWR@tikzbabel}}
```

Env pgfpicture The \pgfpicture environment is enclosed inside a \lateximage. Enclose the low-level \pgfpicture in a lateximage. This is also used by the higher-level \tikz and tikzpicture.

```
7 \preto\pgfpicture{%
8 \begin{lateximage}[-tikz-~\PackageDiagramAltText]%
9 \ifbool{LWR@tikzbabel}% Test for Tikz version v3.0.0
10 {}%
11 {\catcode'\$=3}% dollar sign is math shift
12 }
13
14 \appto\endpgfpicture{\end{lateximage}}
```

Tikz is placed inside an svg image, so use the original meanings of the following:

```
15 \let\ltxMacro\pgfutil@minipage\LWR@print@minipage
16 \let\pgfutil@endminipage\endLWR@print@minipage
17
18 \let\pgfutil@raggedleft\LWR@print@raggedleft
19 \let\pgfutil@raggedright\LWR@print@raggedright

20 \def\pgfutil@font@tiny{\LWR@print@tiny}
21 \def\pgfutil@font@scriptsize{\LWR@print@scriptsize}
22 \def\pgfutil@font@footnotesize{\LWR@print@footnotesize}
23 \def\pgfutil@font@small{\LWR@print@small}
24 \def\pgfutil@font@normalsize{\LWR@print@normalsize}
25 \def\pgfutil@font@large{\LWR@print@large}
26 \def\pgfutil@font@Large{\LWR@print@Large}
27 \def\pgfutil@font@huge{\LWR@print@huge}
28 \def\pgfutil@font@Huge{\LWR@print@Huge}
29
30 \def\pgfutil@font@itshape{\LWR@print@itshape}
```

```

31 \def\pgfutil@font@bfseries{\LWR@print@bfseries}
32
33 \def\pgfutil@font@normalfont{\LWR@print@normalfont}

```

---

File 477 **lwarp-titlegs.sty**

§ 583 Package **titlegs**

*(Emulates or patches code by JAVIER BEZOS.)*

Pkg titlegs titlegs is loaded and used by lwarp during HTML output. All user options and macros are ignored and disabled.

Discard all options for lwarp-titlegs:

**for HTML output:** 1 \LWR@ProvidesPackageDrop{titlegs}[2016/03/15]

\pagestyle and \thispagestyle are already disabled in the lwarp code.

\newpagestyle {<name> [<style>] {<commands>}}  
2 \NewDocumentCommand{\newpagestyle}{m o m}{}

\renewpagestyle {<name> [<style>] {<commands>}}  
3 \NewDocumentCommand{\renewpagestyle}{m o m}{}

\sethead [<el>] [<ec>] [<er>] {<ol>} {<oc>} {<or>}}  
4 \NewDocumentCommand{\sethead}{o o o m m m}{}

\setfoot [<el>] [<ec>] [<er>] {<ol>} {<oc>} {<or>}}  
5 \NewDocumentCommand{\setfoot}{o o o m m m}{}

\settitlemarks \* {<names>}}  
6 \NewDocumentCommand{\settitlemarks}{s m}{}

\headrule  
7 \newcommand\*{\headrule}{}

\footrule  
8 \newcommand\*{\footrule}{}

\setheadrule {<length>}}  
9 \newcommand\*{\setheadrule}[1]{}

---

|                               |                                                             |
|-------------------------------|-------------------------------------------------------------|
| <code>\setfootrule</code>     | <code>{&lt;length&gt;}</code>                               |
| 10                            | <code>\newcommand*{\setfootrule}[1]{}{}</code>              |
| <code>\makeheadrule</code>    |                                                             |
| 11                            | <code>\newcommand*{\makeheadrule}{}{}</code>                |
| <code>\makefootrule</code>    |                                                             |
| 12                            | <code>\newcommand*{\makefootrule}{}{}</code>                |
| <code>\setmarkboth</code>     | <code>{&lt;code&gt;}</code>                                 |
| 13                            | <code>\newcommand{\setmarkboth}[1]{}{}</code>               |
| <code>\widenhead</code>       |                                                             |
| 14                            | <code>\NewDocumentCommand{\widenhead}{s o o m m}{}{}</code> |
| <code>\bottitlemarks</code>   |                                                             |
| 15                            | <code>\newcommand*{\bottitlemarks}{}{}</code>               |
| <code>\toptitlemarks</code>   |                                                             |
| 16                            | <code>\newcommand*{\toptitlemarks}{}{}</code>               |
| <code>\firsttitlemarks</code> |                                                             |
| 17                            | <code>\newcommand*{\firsttitlemarks}{}{}</code>             |
| <code>\nexttitlemarks</code>  |                                                             |
| 18                            | <code>\newcommand*{\nexttoptitlemarks}{}{}</code>           |
| <code>\outertitlemarks</code> |                                                             |
| 19                            | <code>\newcommand*{\outertitlemarks}{}{}</code>             |
| <code>\innertitlemarks</code> |                                                             |
| 20                            | <code>\newcommand*{\innertitlemarks}{}{}</code>             |
| <code>\newtitlemark</code>    | <code>* {&lt;name&gt;}</code>                               |
| 21                            | <code>\NewDocumentCommand{\newtitlemark}{s m}{}{}</code>    |
| <code>\pretitlemark</code>    | <code>* {&lt;section&gt;} {&lt;text&gt;}</code>             |
| 22                            | <code>\NewDocumentCommand{\pretitlemark}{s m m}{}{}</code>  |

|                               |                                                                            |
|-------------------------------|----------------------------------------------------------------------------|
| <code>\ifsamemark</code>      | <code>{⟨group⟩}{⟨command⟩}{⟨true⟩}{⟨false⟩}</code>                         |
|                               | 23 <code>\newcommand{\ifsamemark}[4]{}{}</code>                            |
| <code>\setfloathead</code>    | <code>* [⟨.⟩] [⟨.⟩] [⟨.⟩] {⟨.⟩} {⟨.⟩} {⟨.⟩} {⟨extra⟩} [⟨which⟩]</code>     |
|                               | 24 <code>\NewDocumentCommand{\setfloathead}{s o o o m m m m m}{}{}</code>  |
| <code>\setfloatfoot</code>    | <code>* [⟨.⟩] [⟨.⟩] [⟨.⟩] {⟨.⟩} {⟨.⟩} {⟨.⟩} {⟨extra⟩} [⟨which⟩]</code>     |
|                               | 25 <code>\NewDocumentCommand{\setfloatfoot}{s o o o m m m m m}{}{}</code>  |
| <code>\nextfloathead</code>   | <code>* [⟨.⟩] [⟨.⟩] [⟨.⟩] {⟨.⟩} {⟨.⟩} {⟨.⟩} {⟨extra⟩} [⟨which⟩]</code>     |
|                               | 26 <code>\NewDocumentCommand{\nextfloathead}{s o o o m m m m m}{}{}</code> |
| <code>\nextfloatfoot</code>   | <code>* [⟨.⟩] [⟨.⟩] [⟨.⟩] {⟨.⟩} {⟨.⟩} {⟨.⟩} {⟨extra⟩} [⟨which⟩]</code>     |
|                               | 27 <code>\NewDocumentCommand{\nextfloatfoot}{s o o o m m m m m}{}{}</code> |
| <code>\newmarkset</code>      | <code>{⟨markset⟩}</code>                                                   |
|                               | 28 <code>\newcommand{\newmarkset}[1]{}{}</code>                            |
| <code>\newextramark</code>    | <code>* {⟨markset⟩}{⟨macro-name⟩}</code>                                   |
|                               | 29 <code>\NewDocumentCommand{\newextramarkset}{s m m}{}{}</code>           |
| <code>\botextramarks</code>   | <code>{⟨markset⟩}</code>                                                   |
|                               | 30 <code>\newcommand{\botextramarks}[1]{}{}</code>                         |
| <code>\topextramarks</code>   | <code>{⟨markset⟩}</code>                                                   |
|                               | 31 <code>\newcommand{\topextramarks}[1]{}{}</code>                         |
| <code>\firstextramarks</code> | <code>{⟨markset⟩}</code>                                                   |
|                               | 32 <code>\newcommand{\firstextramarks}[1]{}{}</code>                       |
| <code>\nextextramarks</code>  | <code>{⟨markset⟩}</code>                                                   |
|                               | 33 <code>\newcommand{\nexttopextramarks}[1]{}{}</code>                     |
| <code>\outerextramarks</code> | <code>{⟨markset⟩}</code>                                                   |
|                               | 34 <code>\newcommand{\outerextramarks}[1]{}{}</code>                       |
| <code>\innerextramarks</code> | <code>{⟨markset⟩}</code>                                                   |
|                               | 35 <code>\newcommand{\innerextramarks}[1]{}{}</code>                       |

---

File 478 **lwarp-titleref.sty**

§ 584 Package **titleref**

Pkg titleref titleref is emulated.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{titleref}[2001/04/05]
2
3 \LetLtxMacro\titleref\nameref
4
5 \providecounter{LWR@currenttitle}
6
7 \newcommand*{\currenttitle}{%
8 \addtocounter{LWR@currenttitle}{1}%
9 \label{currenttitle\arabic{LWR@currenttitle}}%
10 \nameref{currenttitle\arabic{LWR@currenttitle}}%
11 }
12
13 \newcommand*{\theTitleReference}[2]{}

```

---

File 479 **lwarp-titlesec.sty**

§ 585 Package **titlesec**

*(Emulates or patches code by JAVIER BEZOS.)*

Pkg titlesec titlesec is emulated. All user options and macros are ignored and disabled.

Discard all options for lwarp-titlesec:

**for HTML output:**

```

1 \PackageInfo{lwarp}{Using the lwarp version of package 'titlesec'.}%
2 \ProvidesPackage{lwarp-titlesec}[2016/03/21]
3
4 \newbool{LWR@loadtitleps}
5 \boolfalse{LWR@loadtitleps}
6
7 \DeclareOption{pagestyles}{
8 \booltrue{LWR@loadtitleps}
9 }
10
11 \DeclareOption*{}
12
13 \ProcessOptions\relax
14
15 \ifbool{LWR@loadtitleps}{
16 \RequirePackage{lwarp-titleps}
17 }{}

```

`\titlelabel`     $\{\langle label-format \rangle\}$   
 18 `\newcommand*\titlelabel}[1]{}`

`\titleformat*`     $\{\langle command \rangle\} \{\langle format \rangle\}$

`\titleformat`     $\{\langle command \rangle\} [\langle shape \rangle] \{\langle format \rangle\} \{\langle label \rangle\} \{\langle sep \rangle\} \{\langle before \rangle\} [\langle after \rangle]$   
 19 `\newcommand\titleformat%`  
 20 `\@ifstar{\ttl@format@s}%`  
 21 `\ttl@format@i}`  
 22 `\newcommand{\ttl@format@s}[1]{}`  
 23 `\NewDocumentCommand{\ttl@format@i}{m o m m m o}{}`

`\chaptertitlename`  
 24 `\@ifundefined{@chapapp}{\let\@chapapp\chaptername}{}`  
 25 `\newcommand\chaptertitlename{\@chapapp}`

`\titlespacing`     $* \{\langle command \rangle\} \{\langle left \rangle\} \{\langle before \rangle\} \{\langle after \rangle\} [\langle right \rangle]$   
 26 `\NewDocumentCommand{\titlespacing}{s m m m m o}{}`

`\filright`  
 27 `\newcommand*\filright{}`

`\filcenter`  
 28 `\newcommand*\filcenter{}`

`\filleft`  
 29 `\newcommand*\filleft{}`

`\fillast`  
 30 `\newcommand*\fillast{}`

`\filinner`  
 31 `\newcommand*\filinner{}`

`\filouter`  
 32 `\newcommand*\filouter{}`

`\wordsep`  
 33 `\newcommand\wordsep{\fontdimen\tw@\font \@plus`  
 34 `\fontdimen\thr@\font \@minus \fontdimen4\font}`

---

|                                |                                                                                                                                                                                                          |
|--------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <code>\titleline</code>        | <code>* [<i>align</i>] {<i>material</i>}</code><br>35 <code>\NewDocumentCommand{\titleline}{s o m}{}</code>                                                                                              |
| <code>\titlerule</code>        | <code>[<i>height</i>]</code><br>36 <code>\providecommand*\titlerule{\@ifstar{\ttl@row}{\ttl@rule}}</code><br>37 <code>\newcommand*\ttl@rule[1]{}{}</code><br>38 <code>\newcommand*\ttl@row[2]{}{}</code> |
| <code>\iftitlemeasuring</code> | <code>{<i>true</i>} {<i>false</i>}</code><br>39 <code>\newcommand{\iftitlemeasuring}[2]{#2}</code>                                                                                                       |
| <code>\assignpagestyle</code>  | <code>{<i>command</i>} {<i>pagestyle</i>}</code><br>40 <code>\newcommand{\assignpagestyle}[2]{#2}</code>                                                                                                 |
| <code>\titleclass</code>       | <code>{<i>name</i>} [<i>startlevel</i>] {<i>class</i>} [<i>cmd</i>]</code><br>41 <code>\NewDocumentCommand{\titleclass}{m o m o}{}</code>                                                                |

---

File 480 **lwarp-titletoc.sty**

§ 586 Package **titletoc**

*(Emulates or patches code by JAVIER BEZOS.)*

Pkg titletoc titletoc is emulated. All user options and macros are ignored and disabled.

Discard all options for lwarp-titletoc:

**for HTML output:** 1 `\LWR@ProvidesPackageDrop{titletoc}[2011/12/15]`

|                                |                                                                                                                                                                                                                                                                                                                                                                                                          |
|--------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <code>\dottedcontents</code>   | <code>{<i>section</i>} [<i>left</i>] {<i>above</i>} {<i>label</i>} {<i>leader</i>}</code><br>2 <code>\NewDocumentCommand{\dottedcontents}{m o m m m}{}</code>                                                                                                                                                                                                                                            |
| <code>\titlecontents</code>    | <code>* {<i>section</i>} [<i>left</i>] {<i>above</i>} {<i>numbered</i>} {<i>numberless</i>} {<i>filler</i>} [<i>below or begin</i>] [<i>separator</i>] [<i>end</i>]</code><br>3 <code>\newcommand{\titlecontents}{\@ifstar{\ttl@tcstar}{\ttl@tcnostar}}</code><br>4 <code>\NewDocumentCommand{\ttl@tcstar}{m o m m m o o o}{}</code><br>5 <code>\NewDocumentCommand{\ttl@tcnostar}{m o m m m o}{}</code> |
| <code>\contentsmargin</code>   | <code>[<i>correction</i>] {<i>right</i>}</code><br>6 <code>\newcommand{\contentsmargin}[2]{}{}</code>                                                                                                                                                                                                                                                                                                    |
| <code>\thecontentslabel</code> | 7 <code>\newcommand*\thecontentslabel{thecontentslabel}</code>                                                                                                                                                                                                                                                                                                                                           |



`\thecontentspage`  
8 `\newcommand*{\thecontentspage}{thecontentspage}`

`\contentslabel` [*format*] {*space*}  
9 `\newcommand{\contentslabel}[2][\thecontentslabel]`

`\contentspage` [*format*]  
10 `\newcommand{\contentspage}[1][\thecontentspage]`

`\contentspush` {*text*}  
11 `\newcommand{\contentspush}[1]{}`

`\contentsuse` {*name*} {*text*}  
12 `\newcommand{\contentsuse}[2]{}`

`\startcontents` [*name*]  
13 `\newcommand*{\startcontents}[1][{}]`

`\stopcontents` [*name*]  
14 `\newcommand*{\stopcontents}[1][{}]`

`\resumecontents` [*name*]  
15 `\newcommand*{\resumecontents}[1][{}]`

`\printcontents` [*name*] {*prefix*} {*start*} {*code*}  
16 `\newcommand{\printcontents}[4][{}]`

`\startlist` [*name*] {*list*}  
17 `\newcommand{\startlist}[2][{}]`

`\stoplist` [*name*] {*list*}  
18 `\newcommand{\stoplist}[2][{}]`

`\resumelist` [*name*] {*list*}  
19 `\newcommand{\resumelist}[2][{}]`

`\printlist` [*name*] {*list*} {*prefix*} {*code*}  
20 `\newcommand{\printlist}[4][{}]`

File 481 **lwarp-titling.sty**

§ 587 Package **titling**

(Emulates or patches code by PETER WILSON.)

Pkg titling

**package support** lwarp supports the native L<sup>A</sup>T<sub>E</sub>X titling commands, and also supports the packages  
 ▲ **load order** authblk and titling. If both are used, authblk should be loaded before titling.

**\published and \subtitle** If using the titling package, additional titlepage fields for \published and \subtitle may be added by using \AddSubtitlePublished in the preamble. See section 67.8.

The various titling footnote restyling commands have no effect.

Pass all options to lwarp-titling:

**for HTML output:** 1 \LWR@ProvidesPackagePass{titling}[2009/09/04]

**\@bsmtitleempty** Patch \@bsmtitleempty:

```
2 \let\LWR@orig@bsmtitleempty\@bsmtitleempty
3 \renewcommand*{\@bsmtitleempty}{%
4 \LWR@orig@bsmtitleempty%
5 }
```

**\keepthetitle** Patch \keepthetitle:

```
6 \let\LWR@origkeepthetitle\keepthetitle
7 \renewcommand*{\keepthetitle}{%
8 \LWR@orig@keepthetitle%
9 }
```

**\killtitle** Patch \killtitle:

```
10 \let\LWR@origkilltitle\killtitle
11 \renewcommand*{\killtitle}{%
12 \LWR@orig@killtitle%
13 }
```

Env titlingpage

```
14 \renewenvironment*{titlingpage}
15 {%
```

Start an HTML titlepage div:

```
16 \LWR@printpendingfootnotes
17 \begin{titlepage}
```

Prepare for a custom version of `\maketitle` inside the `titlingpage`:

```
18 \LWR@maketitlesetup
19 \let\maketitle\LWR@titlingmaketitle
20 }
21 {
```

At the end of the environment, end the `HTML` titlepage div:

```
22 \end{titlepage}
23 }
```

Patch the `pre/post title/author/date` to add `HTML` tags, then initialize:

```
24 \AtBeginDocument{
25 \pretitle{}
26 \posttitle{}
27
28 \preauthor{}
29 \postauthor{}
30
31 \predate{}
32 \postdate{}
33 }
```

`\LWR@maketitlesetup` Patches `\thanks` macros.

```
34 \renewcommand*{\LWR@maketitlesetup}{%
```

Redefine the footnote mark:

```
35 \def\@makefnmark{\@thefnmark}%

 \thefootnote ⇒ \nameuse{arabic}{footnote}, or
 \thefootnote ⇒ \nameuse{fnsymbol}{footnote}
```

Redefine the footnote text:

```
36 \long\def\@makefntext##1{%
```

Make the footnote mark and some extra horizontal space for the tags:

```
37 \makethanksmark~%

 \makethanksmark ⇒ \thanksfootmark ⇒ \tamark ⇒
 \@thefnmark ⇒ \itshape a (or similar)
```

Print the text:

```
38 ##1%
39 }% \@makefntext
40 }
```

`\thanksfootmark`

```
41 \renewcommand{\thanksfootmark}{%
42 % \hb@xt@\thanksmarkwidth{\hfil\normalfont%
43 \thanksscript{%
44 \thanksfootpre \tamark \thanksfootpost%
45 }%
46 % }%
47 }
```

`\maketitle` HTML mode. Creates an HTML titlepage div and typesets the title, etc.

Code from the titling package is adapted, simplified, and modified for HTML output.

```
48 \renewcommand*{\maketitle}{%
```

An HTML titlepage `<div>` is used for all classes.

```
49 \begin{titlepage}
```

Select which kind of footnote marks to use:

```
50 \@bsmarkseries
```

Set up special patches:

```
51 \LWR@maketitlesetup
```

Typeset the title, etc:

```
52 \@maketitle
```

Immediately generate any `\thanks` footnotes:

```
53 \LWR@stoppars\@thanks\LWR@startpars
```

Close the HTML titlepage div:

```
54 \end{titlepage}
```

Reset the footnote counter:

```
55 \@bscontmark
```

```
56 }
```

`\@maketitle` Typesets the title, etc. Patched for HTML.

```
57 \DeclareDocumentCommand{\@maketitle}{*}{%
58 \maketitlehooka
59 {
60 \LWR@stoppars\LWR@htmltag{\LWR@tagtitle}%
```

```

61 \@bspretile \@title \@bsposttitle%
62 \LWR@htmltag{\LWR@tagtitleend}\LWR@startpars%
63 }
64 \maketitlehookb
65 {
66 \begin{BlockClass}{author}
67 \renewcommand{\and}{%
68 \end{BlockClass}%
69 \begin{BlockClass}{oneauthor}%
70 }
71 \begin{BlockClass}{oneauthor}%
72 \@bspreadauthor \@author \@bspostauthor%
73 \end{BlockClass}%
74 \end{BlockClass}%
75 }
76 \maketitlehookc
77 {
78 \begin{BlockClass}{titledate}%
79 \@bspredate \@date \@bspostdate%
80 \end{BlockClass}%
81 }
82 \maketitlehookd
83 }

```

`\LWR@titlingmaketitle` \maketitle for use inside an HTML titlingpage environment.

```
84 \renewcommand*{\LWR@titlingmaketitle}{%
```

Keep pending footnotes out of the title block:

```
85 \LWR@stoppars\@thanks\LWR@startpars
```

Select which kind of footnote marks to use:

```
86 \@bsmarkseries
```

Set up special patches:

```
87 \LWR@maketitlesetup
```

Typeset the title, etc:

```
88 \@maketitle
```

Immediately generate any \thanks footnotes:

```
89 \LWR@stoppars\@thanks\LWR@startpars
```

Reset the footnote counter:

```
90 \@bscontmark
91 }
```

`\thanksmarkseries`  $\{\langle series \rangle\}$

Sets the type of footnote marks used by `\thanks`, where type is ‘arabic’, ‘roman’, ‘fn-symbol’, etc.

```
92 \renewcommand{\thanksmarkseries}[1]{%
93 \def\@bsmarkseries{\renewcommand{\thefootnote}{\@nameuse{#1}{footnote}}}%
94 }
```

Set default titlepage thanks footnote marks. See section 67.7.

```
95 \@ifclassloaded{memoir}{
96 \thanksmarkseries{arabic}
97 }{% not memoir
98 \if@titlepage
99 \thanksmarkseries{arabic}
100 \else
101 \thanksmarkseries{fnsymbol}
102 \fi
103 }% not memoir
```

---

File 482 **lwarp-tocbasic.sty**

§ 588 Package **tocbasic**

*(Emulates or patches code by MARKUS KOHM.)*

Pkg tocbasic tocbasic is nullified for lwarp.

This package may be loaded standalone, but is also loaded automatically if koma-script classes are in use. `\DeclareDocumentCommand` is used to overwrite the koma-script definitions.

**for HTML output:** 1 \LWR@ProvidesPackagePass{tocbasic}[2018/12/30]

```
2 \DeclareDocumentCommand{\usetocbasicnumberline}{o}{}
3 \DeclareDocumentCommand{\DeclareTOCStyleEntry}{o m m}{}
4 \DeclareDocumentCommand{\DeclareTOCStyleEntries}{o m m}{}
5 \DeclareDocumentCommand{\DeclareTOCEntryStyle}{m o m}{}
6 \DeclareDocumentCommand{\DefineTOCEntryOption}{m o m}{}
7 \DeclareDocumentCommand{\DefineTOCEntryBooleanOption}{m o m m m}{}
8 \DeclareDocumentCommand{\DefineTOCEntryCommandOption}{m o m m m}{}
9 \DeclareDocumentCommand{\DefineTOCEntryIfOption}{m o m m m}{}
10 \DeclareDocumentCommand{\DefineTOCEntryLengthOption}{m o m m m}{}
11 \DeclareDocumentCommand{\DefineTOCEntryNumberOption}{m o m m m}{}
12 \DeclareDocumentCommand{\CloneTOCEntryStyle}{m m}{}
13 \DeclareDocumentCommand{\TOCEntryStyleInitCode}{m m}{}
14 \DeclareDocumentCommand{\TOCEntryStyleStartInitCode}{m m}{}

```

---

File 483 **lwarp-tocbibind.sty**

§ 589 Package **tocbibind**

*(Emulates or patches code by PETER WILSON.)*

Pkg tocbibind tocbibind is patched for use by lwarp.

[placement and toc options](#) An index may be placed inline with other HTML text, or on its own HTML page:

Pkg makeidx **Inline, with a manual toc entry:**

A commonly-used method to introduce an index in a L<sup>A</sup>T<sub>E</sub>X document:

```
\cleardoublepage
\phantomsection
\addcontentsline{toc}{section}{\indexname}% or chapter
\printindex
```

Pkg makeidx **On its own HTML page, with a manual toc entry:**

```
\begin{warpprint}
\cleardoublepage
\phantomsection
\addcontentsline{toc}{section}{\indexname}% or chapter
\end{warpprint}
\ForceHTMLPage
\ForceHTMLTOC
\printindex
```

Pkg tocbibind **Inline, with an automatic toc entry:**

The tocbibind package may be used to automatically place an entry in the toc.

```
\usepackage[nottoc]{tocbibind}
...
\cleardoublepage
\phantomsection % to fix print-version index link
\printindex
```

Pkg tocbibind **On its own HTML page, with an automatic toc entry:**

```
\usepackage[nottoc]{tocbibind}
...
\cleardoublepage
\phantomsection % to fix print-version index link
\ForceHTMLPage
\printindex
```

Opt [tocbibind] numindex Use the tocbibind numindex option to generate a numbered index. Without this option, the index heading has no number.

[numbered index section](#)

Other packages, such as imakeidx, may also have options for including the index in the Table of Contents.

```

for HTML output: 1 \let\simplechapterdelim\relax
2
3 \LWR@ProvidesPackagePass{tocbibind}[2010/10/13]

4 \renewenvironment{theindex}%
5 {%
6 \if@bibchapter
7 \if@donumindex
8 \chapter{\indexname}
9 \else
10 \if@dotocind
11 \chapter*{\indexname}
12 \addcontentsline{toc}{chapter}{\LWR@isolate{\indexname}}
13 \else
14 \chapter*{\indexname}
15 \fi
16 \fi
17 \else
18 \if@donumindex
19 \section{\indexname}
20 \else
21 \if@dotocind
22 \section*{\indexname}
23 \addcontentsline{toc}{\@tocextra}{\LWR@isolate{\indexname}}
24 \else
25 \section*{\indexname}
26 \fi
27 \fi
28 \fi
29 \let\item\LWR@indexitem%
30 \let\subitem\LWR@indexsubitem%
31 \let\subsubitem\LWR@indexsubsubitem%
32 }{}

```

The following code is shared by anonchap.

```

33 \DeclareDocumentCommand{\simplechapter}{0{\@empty}}{%
34 \def\@chapcntformat##1{%
35 #1~\csname the##1\endcsname\simplechapterdelim\quad%
36 }%
37 }
38
39 \DeclareDocumentCommand{\restorechapter}{}{%
40 \let\@chapcntformat\@secntformat%
41 }

```

---

File 484 **lwarp-tocdata.sty**

§ 590 Package **tocdata**

(Emulates or patches code by BRIAN DUNN.)



Pkg tocdata tocdata is patched for use by lwarp.

```

for HTML output: 1 \LWR@ProvidesPackagePass{tocdata}[2019/07/06]

2 \renewcommand*{\LWR@maybetocdata}{%
3 \ifdefempty{\TD@thistocdata}{}%
4 \quad \InlineClass{authorartist}{\tocdataformat{\TD@thistocdata}}%
5 \def\TD@thistocdata{}
6 }
7 }

8 \renewrobustcmd{\tocdatapartprint}[4]
9 {%
10 \InlineClass{authorartist}{%
11 \quad --- %
12 \TDoptionalnameprint{#1}\TDoptionalnameprint{#2}#3#4%
13 }%
14 }
15
16 \ifundefined{chapter}{%
17 \let\tocdatachapterprint\tocdatapartprint
18 }
19 \let\tocdatasectionprint\tocdatapartprint
20 \let\tocdatasubsectionprint\tocdatapartprint
21
22 \newcommand*{\LWR@TD@settetalign}[1]{%
23 \def\LWR@TD@textalign{justify}%
24 \ifcsstring{TD@#1align}{\centering}%
25 {\def\LWR@TD@textalign{center}}%
26 {}%
27 \ifcsstring{TD@#1align}{\raggedleft}%
28 {\def\LWR@TD@textalign{right}}%
29 {}%
30 \ifcsstring{TD@#1align}{\raggedright}%
31 {\def\LWR@TD@textalign{left}}%
32 {}%
33 }
34
35 \renewcommand{\TDartistauthorprint}[5]{%
36 \LWR@TD@settetalign{#1}%
37 \begin{BlockClass}[text-align:\LWR@TD@textalign]{floatnotes}%
38 \InlineClass{authorartist}{\TDoptionalnameprint{#2}\TDoptionalnameprint{#3}#4#5}%
39 \end{BlockClass}%
40 }
41
42 \newcommand*{\LWR@TD@setnamealign}[1]{%
43 \def\LWR@TD@textalign{justify}%
44 \ifcsstring{TD@#1textalign}{\centering}%
45 {\def\LWR@TD@textalign{center}}%
46 {}%
47 \ifcsstring{TD@#1textalign}{\raggedleft}%
48 {\def\LWR@TD@textalign{right}}%
49 {}%
50 \ifcsstring{TD@#1textalign}{\raggedright}%

```

```

51 {\def\LWR@TD@textalign{left}}%
52 {}%
53 }
54
55 \renewcommand{\TDartistauthortextprint}[2]{%
56 \LWR@TD@setnamealign{#1}%
57 \begin{BlockClass}[text-align:\LWR@TD@textalign]{floatnotes}%
58 #2%
59 \end{BlockClass}%
60 }

```

---

File 485 **lwarp-tocenter.sty**

§ 591 Package **tocenter**

Pkg tocenter tocenter is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{tocenter}[2004/12/09]

2 \NewDocumentCommand{\ToCenter}{s o m m}{ }
3 \NewDocumentCommand{\FromMargins}{s o m m m}{ }

```

---

File 486 **lwarp-tocloft.sty**

§ 592 Package **tocloft**

*(Emulates or patches code by PETER WILSON.)*

Pkg tocloft tocloft is emulated. Most user options and macros are ignored and disabled. `\newlistof` and `\cftchapterprecis` are supported.

Pkg tocloft If using tocloft with tocbibind, anonchap, fncychap, or other packages which change chapter title formatting, load tocloft with its `titles` option, which tells tocloft to use standard L<sup>A</sup>T<sub>E</sub>X commands to create the titles, allowing other packages to work with it.

⚠ **tocloft & other packages**

Discard all options for **lwarp-tocloft**:

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{tocloft}[2017/08/31]

```

```

\tocloftpagestyle {<style>}
2 \newcommand{\tocloftpagestyle}[1]{ }

```

```

\cftmarktoc
3 \newcommand*\cftmarktoc{}

```

```

\cfttoctitlefont
4 \newcommand*\cfttoctitlefont{}

```

`\cftaftertocitle`

```
5 \newcommand*\cftaftertocitle{}
6 \newlength{\cftbeforetoctitleskip}
7 \newlength{\cftaftertocitleskip}
```

`\cftmarklof`

```
8 \newcommand*\cftmarklof{}
```

`\cftloftitlefont`

```
9 \newcommand*\cftloftitlefont{}
```

`\cftafterloftitle`

```
10 \newcommand*\cftafterloftitle{}
11 \newlength{\cftbeforeloftitleskip}
12 \newlength{\cftafterloftitleskip}
```

`\cftmarklot`

```
13 \newcommand*\cftmarklot{}
```

`\cftlottitlefont`

```
14 \newcommand*\cftlottitlefont{}
```

`\cftafterlottitle`

```
15 \newcommand*\cftafterlottitle{}
16 \newlength{\cftbeforelottitleskip}
17 \newlength{\cftafterlottitleskip}
```

`\cftdot`

```
18 \providecommand*\cftdot{.}
```

`\cftdotsep`

```
19 \providecommand*\cftdotsep{1}
```

`\cftnodots`

```
20 \providecommand*\cftnodots{5000}
```

`\cftdotfill`     $\{\langle sep \rangle\}$   
 21 `\providecommand{\cftdotfill}[1]{}`

`\cftsetpnumwidth`     $\{\langle length \rangle\}$   
 22 `\DeclareDocumentCommand{\cftsetpnumwidth}{m}{}`

`\cftsetrmarg`     $\{\langle length \rangle\}$   
 23 `\DeclareDocumentCommand{\cftsetrmarg}{m}{}`

`\cftpnumalign`     $\{\langle alignment \rangle\}$   
 24 `\DeclareDocumentCommand{\cftpnumalign}{m}{}`  
 25 `\LWR@providelength{\cftparskip}`

The part-related items are also provided by memoir:

26 `\LWR@providelength{\cftbeforepartskip}`  
 27 `\LWR@providelength{\cftpartindent}`  
 28 `\LWR@providelength{\cftpartnumwidth}`  
 29 `\providecommand*\cftpartfont{}{}`  
 30 `\providecommand*\cftpartpresnum{}{}`  
 31 `\providecommand*\cftpartaftersnum{}{}`  
 32 `\providecommand*\cftpartaftersnumb{}{}`  
 33 `\providecommand*\cftpartleader{}{}`  
 34 `\providecommand*\cftpartdotsep}{1}`  
 35 `\providecommand*\cftpartpagefont{}{}`  
 36 `\providecommand*\cftpartafterpnum{}{}`

memoir uses the full name “chapter” instead of “chap”:

37 `\LWR@providelength{\cftbeforechapskip}`  
 38 `\LWR@providelength{\cftchapindent}`  
 39 `\LWR@providelength{\cftchapnumwidth}`  
 40 `\newcommand*\cftchapfont{}{}`  
 41 `\newcommand*\cftchappresnum{}{}`  
 42 `\newcommand*\cftchapaftersnum{}{}`  
 43 `\newcommand*\cftchapaftersnumb{}{}`  
 44 `\newcommand*\cftchapleader{}{}`  
 45 `\newcommand*\cftchapidotsep}{1}`  
 46 `\newcommand*\cftchappagefont{}{}`  
 47 `\newcommand*\cftchapafterpnum{}{}`

The following do not appear in memoir:

48 `\LWR@providelength{\cftbeforesecskip}`  
 49 `\LWR@providelength{\cftsecindent}`  
 50 `\LWR@providelength{\cftsecnumwidth}`  
 51 `\newcommand*\cftsecfont{}{}`  
 52 `\newcommand*\cftsecpresnum{}{}`

```
53 \newcommand*\cftsecaftersnum{}
54 \newcommand*\cftsecaftersnumb{}
55 \newcommand*\cftsecleader{}
56 \newcommand*\cftsecdotsep{1}
57 \newcommand*\cftsecpagefont{}
58 \newcommand*\cftsecafterpnum{}

59 \LWR@providelength{\cftbeforesubsecskip}
60 \LWR@providelength{\cftsubsecindent}
61 \LWR@providelength{\cftsubsecnumwidth}
62 \newcommand*\cftsubsecfont{}
63 \newcommand*\cftsubsecpresnum{}
64 \newcommand*\cftsubsecaftersnum{}
65 \newcommand*\cftsubsecaftersnumb{}
66 \newcommand*\cftsubsecleader{}
67 \newcommand*\cftsubsecdotsep{1}
68 \newcommand*\cftsubsecpagefont{}
69 \newcommand*\cftsubsecafterpnum{}

70 \LWR@providelength{\cftbeforesubsubsecskip}
71 \LWR@providelength{\cftsubsubsecindent}
72 \LWR@providelength{\cftsubsubsecnumwidth}
73 \newcommand*\cftsubsubsecfont{}
74 \newcommand*\cftsubsubsecpresnum{}
75 \newcommand*\cftsubsubsecaftersnum{}
76 \newcommand*\cftsubsubsecaftersnumb{}
77 \newcommand*\cftsubsubsecleader{}
78 \newcommand*\cftsubsubsecdotsep{1}
79 \newcommand*\cftsubsubsecpagefont{}
80 \newcommand*\cftsubsubsecafterpnum{}

81 \LWR@providelength{\cftbeforeparaskip}
82 \LWR@providelength{\cftparaindent}
83 \LWR@providelength{\cftparanumwidth}
84 \newcommand*\cftparafont{}
85 \newcommand*\cftparapresnum{}
86 \newcommand*\cftparaaftersnum{}
87 \newcommand*\cftparaaftersnumb{}
88 \newcommand*\cftparaleader{}
89 \newcommand*\cftparadotsep{1}
90 \newcommand*\cftparapagefont{}
91 \newcommand*\cftparaafterpnum{}

92 \LWR@providelength{\cftbeforesubparaskip}
93 \LWR@providelength{\cftsubparaindent}
94 \LWR@providelength{\cftsubparanumwidth}
95 \newcommand*\cftsubparafont{}
96 \newcommand*\cftsubparapresnum{}
97 \newcommand*\cftsubparaaftersnum{}
98 \newcommand*\cftsubparaaftersnumb{}
99 \newcommand*\cftsubparaleader{}
100 \newcommand*\cftsubparadotsep{1}
101 \newcommand*\cftsubparapagefont{}
102 \newcommand*\cftsubparaafterpnum{}
```

```
103 \LWR@providelength{\cftbeforefigskip}
104 \LWR@providelength{\cftfigindent}
105 \LWR@providelength{\cftfignumwidth}
106 \newcommand*\cftfigfont{}
107 \newcommand*\cftfigpresnum{}
108 \newcommand*\cftfigaftersnum{}
109 \newcommand*\cftfigaftersnumb{}
110 \newcommand*\cftfigleader{}
111 \newcommand*\cftfigdotsep{1}
112 \newcommand*\cftfigpagefont{}
113 \newcommand*\cftfigafterpnum{}

114 \LWR@providelength{\cftbeforesubfigskip}
115 \LWR@providelength{\cftsubfigindent}
116 \LWR@providelength{\cftsubfignumwidth}
117 \newcommand*\cftsubfigfont{}
118 \newcommand*\cftsubfigpresnum{}
119 \newcommand*\cftsubfigaftersnum{}
120 \newcommand*\cftsubfigaftersnumb{}
121 \newcommand*\cftsubfigleader{}
122 \newcommand*\cftsubfigdotsep{1}
123 \newcommand*\cftsubfigpagefont{}
124 \newcommand*\cftsubfigafterpnum{}

125 \LWR@providelength{\cftbeforetabskip}
126 \LWR@providelength{\cfttabindent}
127 \LWR@providelength{\cfttabnumwidth}
128 \newcommand*\cfttabfont{}
129 \newcommand*\cfttabpresnum{}
130 \newcommand*\cfttabaftersnum{}
131 \newcommand*\cfttabaftersnumb{}
132 \newcommand*\cfttableader{}
133 \newcommand*\cfttabdotsep{1}
134 \newcommand*\cfttabpagefont{}
135 \newcommand*\cfttabafterpnum{}

136 \LWR@providelength{\cftbeforesubtabskip}
137 \LWR@providelength{\cftsubtabindent}
138 \LWR@providelength{\cftsubtabnumwidth}
139 \newcommand*\cftsubtabfont{}
140 \newcommand*\cftsubtabpresnum{}
141 \newcommand*\cftsubtabaftersnum{}
142 \newcommand*\cftsubtabaftersnumb{}
143 \newcommand*\cftsubtableader{}
144 \newcommand*\cftsubtabdotsep{1}
145 \newcommand*\cftsubtabpagefont{}
146 \newcommand*\cftsubtabafterpnum{}

147 \DeclareDocumentCommand{\cftsetindents}{m m m}{}

148 \newcommand{\pagenumbersoff}[1]{}
149 \newcommand{\pagenumberson}[1]{}

```

```

\newlistentry [⟨within⟩] {⟨counter⟩} {⟨ext⟩} {⟨level-1⟩}

150 \DeclareDocumentCommand{\newlistentry}{o m m m}
151 {%
152 \LWR@traceinfo{newlistentry #2 #3 #4}%
153 \IfValueTF{#1}%
154 {%
155 \ifundefined{c@#2}{%
156 \newcounter{#2}[#1]%
157 \expandafter\edef\csname the#2\endcsname{%
158 \expandafter\noexpand\csname the#1\endcsname.\noexpand\arabic{#2}%
159 }%
160 }{%
161 }%
162 {%
163 \ifundefined{c@#2}{%
164 \newcounter{#2}%
165 }{%
166 }%
167 \@namedef{l@#2}##1##2{%
168 \hypertocfloat{1}{#2}{#3}{##1}{##2}%
169 \def\cftwhatismyname{#2}% from memoir
170 }%
171 \expandafter\newlength\csname cftbefore#2skip\endcsname%
172 \expandafter\newlength\csname cft#2indent\endcsname%
173 \expandafter\newlength\csname cft#2numwidth\endcsname%
174 \@namedef{cft#2font}{}%
175 \@namedef{cft#2presnum}{}%
176 \@namedef{cft#2aftersnum}{}%
177 \@namedef{cft#2aftersnumb}{}%
178 \@namedef{cft#2leader}{}%
179 \@namedef{cft#2dotsep}{1}%
180 \@namedef{cft#2pagefont}{}%
181 \@namedef{cft#2afterpnum}{}%
182 \@namedef{toclevel@#2}{#4}%
183 \@namedef{cft#2fillnum}##1{%
184 \LWR@traceinfo{newlistentry done}%
185 }

```

\newlistof [⟨within⟩] {⟨type⟩} {⟨ext⟩} {⟨listofname⟩}

Emulated through the \newfloat mechanism.

```

186 \DeclareDocumentCommand{\newlistof}{o m m m}
187 {%
188 \IfValueTF{#1}%
189 {\newlistentry[#1]{#2}{#3}{0}}%
190 {\newlistentry{#2}{#3}{0}}%
191 \@namedef{ext@#2}{#3}%
192 \ifundefined{c@#3depth}{\newcounter{#3depth}}{%
193 \setcounter{#3depth}{1}%
194 \@namedef{cftmark#3}{}%
195 \@namedef{listof#2}{\listof{#2}{#4}}%
196 \@namedef{@cftmake#3title}{}%
197 \expandafter\newlength\csname cftbefore#3titleskip\endcsname%
198 \expandafter\newlength\csname cftafter#3titleskip\endcsname%

```

```

199 \namedef{cft#3titlefont}{}%
200 \namedef{cftafter#3title}{}%
201 \namedef{cft#3prehook}{}%
202 \namedef{cft#3posthook}{}%
203 }

```

`\cftchapterprecis`     $\langle text \rangle$

```

204 \newcommand{\cftchapterprecis}[1]{%
205 \cftchapterprecishere{#1}
206 \cftchapterprecistoc{#1}}
207 \newcommand{\cftchapterprecishere}[1]{%
208 \begin{quote}\textit{#1}\end{quote}}
209 \newcommand{\cftchapterprecistoc}[1]{
210 \addtocontents{toc}{%
211 {
212 \protect\begin{quote}#1\protect\end{quote}}
213 }
214 }

```

---

File 487    **lwarp-tocstyle.sty**

§ 593    Package    **tocstyle**

Pkg    tocstyle    tocstyle is ignored.

 **Not fully tested!**    [Please send bug reports!](#)

**for HTML output:**    1 \LWR@ProvidesPackageDrop{tocstyle}[2017/02/23]

```

2 \newcommand*\usetocstyle}[2]{}
3 \newcommand*\deactivatetocstyle}[1]{}
4 \newcommand*\reactivatetocstyle}[1]{}
5 \NewDocumentCommand{\settocfeature}{o o m m}{}
6 \NewDocumentCommand{\settocstylefeature}{o m m}{}
7 \NewDocumentCommand{\newtocstyle}{o o m m}{}
8 \newcommand*\aliastoc}[2]{}
9 \newcommand*\showtoc}[2]{}
10 \newcommand{\iftochasdepth}[4]{}

```

---

File 488    **lwarp-todo.sty**

§ 594    Package    **todo**

*(Emulates or patches code by FEDERICO GARCIA.)*

Pkg    todo    todo is patched for use by lwarp.

**for HTML output:**    1 \LWR@ProvidesPackagePass{todo}[2010/03/31]



```

2 \renewcommand\todoitem[2]{%
3 \refstepcounter{todo}%
4 \item[%
5 \HTMLUnicode{2610} \quad
6 \ref{todopage:\thetodo}
7] : {\todoformat\ifx#1\todomain\else\textbf{#1} \fi}#2%
8 \label{todolbl:\thetodo}%
9 }%
10
11 \renewcommand\doneitem[2]{%
12 \stepcounter{todo}%
13 \item[%
14 \HTMLUnicode{2611} \quad
15 \ref{todopage:\thetodo}
16] \@nameuse{@done\the\c@todo}:
17 {\todoformat\ifx#1\todomain\else\textbf{#1} \fi}#2%
18 }
19
20 \xpatchcmd{\@displaytodo}
21 {\todoformat #1}{\todoformat \textbf{#1}}{}
22 {\PackageWarning{lwarp-todo}{Unable to patch @displaytodo.}}
23
24 \xpatchcmd{\@displayfulltodo}
25 {\todoformat #1}{\todoformat \textbf{#1}}{}
26 {\PackageWarning{lwarp-todo}{Unable to patch @displayfulltodo.}}
27
28 \patchcmd{\todoenv}{\itshape see text.}{\textit{see text.}}{}
29 {\PackageWarning{lwarp-todo}{Unable to patch todoenv.}}
30
31 \patchcmd{\astodos}{\todoformat #1}{\todoformat \textbf{#1}}{}
32 {\PackageWarning{lwarp-todo}{Unable to patch astodos.}}
33
34 \AtBeginDocument{
35 \crefname{todo}{todo}{todos}
36 \Crefname{todo}{Todo}{Todos}
37 }

```

---

File 489 **lwarp-todonotes.sty**

§ 595 Package **todonotes**

(Emulates or patches code by HENRIK SKOV MIDTBY.)

Pkg todonotes **todonotes** is emulated.

The documentation for **todonotes** and **luatodonotes** have an example with a **todo** inside a caption. If this example does not work it will be necessary to move the **todo** outside of the caption.

**for HTML output:** 1 \LWR@ProvidesPackagePass{todonotes}[2012/07/25]

```

2 \if@todonotes@disabled
3 \else

```

```
4
5 \newcommand{\ext@todo}{tdo}
6
7 \renewcommand{\l@todo}[2]{\hypertocfloat{1}{todo}{ldo}{#1}{#2}}

8 \let\LWRTODONOTES@orig@todotoc\todotoc
9
10 \renewcommand*\todotoc{%
11 \LWR@phantomsection%
12 \LWRTODONOTES@orig@todotoc%
13 }
14
15 \renewcommand{\@todonotes@drawMarginNoteWithLine}{
16 \fcolorbox
17 {\@todonotes@currentbordercolor}
18 {\@todonotes@currentbackgroundcolor}
19 {\arabic{\@todonotes@numberoftodonotes}}
20 \marginpar{\@todonotes@drawMarginNote}
21 }
22
23 \renewcommand{\@todonotes@drawInlineNote}{%
24 \fcolorboxBlock%
25 {\@todonotes@currentbordercolor}%
26 {\@todonotes@currentbackgroundcolor}%
27 {%
28 \if@todonotes@authorgiven%
29 {\@todonotes@author:\,}%
30 \fi%
31 \@todonotes@text%
32 }%
33 }
34
35 \renewcommand{\@todonotes@drawMarginNote}{%
36 \if@todonotes@authorgiven%
37 \@todonotes@author\par%
38 \fi%
39 \arabic{\@todonotes@numberoftodonotes}: %
40 \fcolorbox%
41 {\@todonotes@currentbordercolor}%
42 {\@todonotes@currentbackgroundcolor}%
43 {%
44 \@todonotes@sizecommand%
45 \@todonotes@text %
46 }%
47 }%
48
49 \renewcommand{\@todonotes@drawLineToRightMargin}{ }
50
51 \renewcommand{\@todonotes@drawLineToLeftMargin}{ }
52
53 \renewcommand{\missingfigure}[2][]{%
54 \setkeys{todonotes}{#1}%
55 \addcontentsline{tdo}{todo}{\@todonotes@MissingFigureText: #2}%
56 \fcolorboxBlock%
57 {\@todonotes@currentbordercolor}%
```

```

58 {\@todonotes@currentfigcolor}%
59 {%
60 \setlength{\fboxrule}{4pt}%
61 \fcolorbox{red}{white}{Missing figure} \quad #2%
62 }
63 }
64
65 \LetLtxMacro\LWRTODONOTES@orig@todo\@todo
66
67 \RenewDocumentCommand{\@todo}{o m}{%
68 \begingroup%
69 \renewcommand*\phantomsection}{}%
70 \IfValueTF{#1}{%
71 \LWRTODONOTES@orig@todo[#1]{#2}%
72 }{%
73 \LWRTODONOTES@orig@todo{#2}%
74 }
75 \endgroup%
76 }
77
78 \fi% \if@todonotes@disabled

```

---

File 490 **lwarp-topcapt.sty**

§ 596 Package **topcapt**

Pkg topcapt topcapt is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{topcapt}[2004/12/11]


2 \LetLtxMacro\topcaption\caption

---

File 491 **lwarp-tram.sty**

§ 597 Package **tram**

Pkg tram tram is emulated.

 **block only** The HTML emulation uses a <div>, which must not appear inside an HTML <span> or an HTML paragraph. For this reason, the tram environment should only be used to contain paragraphs inside a \parbox or minipage. tram should not be used to mark up inline text.

To disable tram, allowing source compatibility with inline uses:

```

\begin{warpHTML}
\renewenvironment{tram}[1][[]]{%}{}
\end{warpHTML}

```

**for HTML output:** 1 \LWR@ProvidesPackageDrop{tram}[2013/04/04]

```

2 \newenvironment{tram}[1][]%
3 {\BlockClass[background:lightgray]{tram}}
4 {\endBlockClass}

```

---

File 492 **lwarp-transparent.sty**

§ 598 Package **transparent**

(Emulates or patches code by HEIKO OBERDIEK.)

Pkg transparent transparent is emulated. \texttransparent works for inline objects. \transparent only works for \includegraphics.

 **Not X<sub>Y</sub>L<sup>A</sup>T<sub>E</sub>X!** Note that transparent does not work with X<sub>Y</sub>L<sup>A</sup>T<sub>E</sub>X.

**for HTML output:** 1 \LWR@ProvidesPackagePass{transparent}[2019/11/29]

```

2 \newcommand*\LWR@HTML@transparent[1]{\edef\LWR@opacity{#1}}
3
4 \LWR@formatted{transparent}
5
6
7 \newcommand*\LWR@HTML@texttransparent[2]{%
8 \begingroup%
9 \transparent{#1}%
10 \InlineClass[opacity: #1]{transparent}{#2}%
11 \endgroup%
12 }
13
14 \LWR@formatted{texttransparent}

```

---

File 493 **lwarp-trimclip.sty**

§ 599 Package **trimclip**

Pkg trimclip trimclip is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{trimclip}[2018/04/08]

The third argument, the text, is not touched. This allows \bgroup / \egroup, and verbatim content.

```

2 \csdef{trimbox}{\@ifstar@gobble@gobble}
3 \csletcs{trimbox*}{trimbox}
4 \def\endtrimbox{}
5 \csletcs{endtrimbox*}{endtrimbox}
6
7 \csletcs{clipbox}{trimbox}
8 \csletcs{clipbox*}{trimbox}

```

---

```

9 \csletcs{endclipbox}{endtrimbox}
10 \csletcs{endclipbox*}{endtrimbox}
11
12 \csletcs{marginbox}{trimbox}
13 \csletcs{marginbox*}{trimbox}
14 \csletcs{endmarginbox}{endtrimbox}
15 \csletcs{endmarginbox*}{endtrimbox}

```

---

File 494 **lwarp-trivfloat.sty**

§ 600 Package **trivfloat**

*(Emulates or patches code by JOSEPH WRIGHT.)*

Pkg trivfloat trivfloat is forced to use the built-in lwarp emulation for floats.

To create a new float type and change its name:

---

```

\trivfloat{example}
\renewcommand{\examplename}{Example Name}
\crefname{example}{example}{examples}
\Crefname{example}{Example}{Examples}

```

---

Discard all options for lwarp-trivfloat. This tells trivfloat not to use floatrow or memoir.

```

1 \LWR@ProvidesPackageDrop{trivfloat}[2009/04/23]
2 \LWR@origRequirePackage{trivfloat}

```

\tfl@chapter@fix Nullified at the beginning of the document. Is used by trivfloat to correct float chapter numbers, but is not needed for lwarp.

```

3 \AtBeginDocument{\DeclareDocumentCommand{\tfl@chapter@fix}{m m}{}}

```

§ 600.1 **Combining \newfloat, \trivfloat, and algorithmicx**

**For both print and HTML output:**

- ⚠ When using float, trivfloat, or algorithmicx at the same time, be aware of conflicting file usage. algorithmicx uses .loa. trivfloat by default starts with .loa and goes up for additional floats, skipping .lof and .lot.
  - ⚠ When using \newfloat, be sure to manually assign higher letters to the \newfloat files to avoid .loa used by algorithmicx, and any files used by trivfloat. Also avoid using .lof and .lot.
  - ⚠ When using \trivfloat, you may force it to avoid conflicting with algorithmicx by starting trivfloat's file extensions with .lob:
-

---

```
\makeatletter
\setcounter{tfl@float@cnt}{1} % start trivfloats with .lob
\makeatletter
```

---

File 495 **lwarp-truncate.sty**

§ 601 Package **truncate**

Pkg truncate truncate is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{truncate}[2001/08/20]

```
2 \providecommand{\TruncateMarker}{}
3 \newcommand{\truncate}[3][\TruncateMarker]{#3}
```

---

File 496 **lwarp-turnthepage.sty**

§ 602 Package **turnthepage**

Pkg turnthepage turnthepage is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{turnthepage}[2011/03/24]

```
2 \newcommand{\turnthepage}{}
```

---

File 497 **lwarp-twoup.sty**

§ 603 Package **twoup**

Pkg twoup twoup is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{twoup}[2007/02/26]

```
2 \newcommand{\cleartolastpage}{}
```

---

File 498 **lwarp-txfonts.sty**

§ 604 Package **txfonts**

*(Emulates or patches code by YOUNG RYU.)*

Pkg txfonts txfonts is used as-is for SVG math, and is emulated for MATHJAX.

**for HTML output:** 1 \LWR@ProvidesPackagePass{txfonts}[2008/01/22]



Pkg typearea **typearea** is emulated.

This package may be loaded standalone, but is also loaded automatically if koma-script classes are in use. `\DeclareDocumentCommand` is used to overwrite the koma-script definitions.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{typearea}[2018/03/30]

2 \DeclareDocumentCommand{\typearea}{o m}{}
3 \DeclareDocumentCommand{\reca\lctypearea}{}{}
4 \@ifundefined{footheight}{\newlength\footheight}{}
5 \DeclareDocumentCommand{\areaset}{o m m}{}
6 \DeclareDocumentCommand{\activateareas}{}{}
7 \DeclareDocumentCommand{\storeareas}{m}{}
8 \DeclareDocumentCommand{\BeforeRestoreareas}{s m}{}
9 \DeclareDocumentCommand{\AfterRestoreareas}{s m}{}
10 \DeclareDocumentCommand{\AfterCalculatingTypearea}{s m}{}
11 \DeclareDocumentCommand{\AfterSettingArea}{s m}{}

```

---

File 501 **lwarp-typicons.sty**

§ 607 Package **typicons**

*(Emulates or patches code by ARTHUR VIGIL, XAVIER DANAUX.)*

Pkg typicons **typicons** is patched for use by lwarp.

If `\ticon` is used, the name of the icon is used in the alt tag. Otherwise, for each of the individual icon macros, a generic alt tag is used.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{typicons}[2015/05/20]

2 \LetLtxMacro\LWR@orig@symbol\symbol
3
4 \let\LWR@orig@typicon@TI\TI
5
6 \newcommand*{\LWR@typicon@symbol}[1]{%
7 \begin{lateximage}*[typicon][typicon#1]%
8 \begingroup%
9 \LWR@orig@typicon@TI%
10 \LWR@orig@symbol{#1}%
11 \endgroup%
12 \end{lateximage}%
13 }
14
15 \renewcommand*{\TI}{%
16 \LetLtxMacro\symbol\LWR@typicon@symbol%
17 }
18
19 \renewcommand*{\ticon}[1]
20 {%
21 \begin{lateximage}*[#1 icon][typicon#1]%

```



```

22 \TI\csname ticon@#1\endcsname%
23 \end{lateximage}%
24 }

```

---

File 502 **lwarp-ulem.sty**

§ 608 Package **ulem**

*(Emulates or patches code by DONALD ARSENEAU.)*

Pkg ulem Patched for use by lwarp.

**for HTML output:** Use the original package:

```
1 \LWR@ProvidesPackagePass{ulem}[2012/05/18]
```

Basic markup commands, using css:

```

2 \NewDocumentCommand{\LWR@HTML@uline}{+m}{%
3 \InlineClass%
4 (text-decoration:underline; text-decoration-skip: auto)%
5 {uline}{\LWR@isolate{#1}}%
6 }
7 \LWR@formatted{uline}
8
9 \NewDocumentCommand{\LWR@HTML@uuline}{+m}{%
10 \InlineClass%
11 (%
12 text-decoration:underline; text-decoration-skip: auto;%
13 text-decoration-style:double%
14)%
15 {uuline}{\LWR@isolate{#1}}%
16 }
17 \LWR@formatted{uuline}
18
19 \NewDocumentCommand{\LWR@HTML@uwave}{+m}{%
20 \InlineClass%
21 (%
22 text-decoration:underline; text-decoration-skip: auto;%
23 text-decoration-style:wavy%
24)%
25 {uwave}{\LWR@isolate{#1}}%
26 }
27 \LWR@formatted{uwave}
28
29 \NewDocumentCommand{\LWR@HTML@sout}{+m}{%
30 \InlineClass%
31 (text-decoration:line-through)%
32 {sout}{\LWR@isolate{#1}}%
33 }
34 \LWR@formatted{sout}
35
36 \NewDocumentCommand{\LWR@HTML@xout}{+m}{%

```

```

37 \InlineClass%
38 (text-decoration:line-through)%
39 {xout}{\LWR@isolate{#1}}%
40 }
41 \LWR@formatted{xout}
42
43 \NewDocumentCommand{\LWR@HTML@dashuline}{+m}{%
44 \InlineClass%
45 (%
46 text-decoration:underline;%
47 text-decoration-skip: auto;%
48 text-decoration-style:dashed%
49)%
50 {dashuline}{\LWR@isolate{#1}}%
51 }
52 \LWR@formatted{dashuline}
53
54 \NewDocumentCommand{\LWR@HTML@dotuline}{+m}{%
55 \InlineClass%
56 (%
57 text-decoration:underline;%
58 text-decoration-skip: auto;%
59 text-decoration-style: dotted%
60)%
61 {dotuline}{\LWR@isolate{#1}}%
62 }
63 \LWR@formatted{dotuline}

```

Nullified/emulated macros:

```

64 \NewDocumentCommand{\LWR@HTML@markoverwith}{m}{}
65 \LWR@formatted{markoverwith}
66
67 \NewDocumentCommand{\LWR@HTML@ULon}{+m}{\uline{#1}\egroup}
68 \LWR@formatted{ULon}

```

---

File 503 **lwarp-umoline.sty**

§ 609 Package **umoline**

*(Emulates or patches code by HIROSHI NAKASHIMA.)*

Pkg umoline **umoline** is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{umoline}[2000/07/11]
2 \newcommand*{\LWR@HTML@Underline}[1]{%
3 \InlineClass{uline}{#1}%
4 }
5 \LWR@formatted{Underline}
6
7 \newcommand*{\LWR@HTML@Midline}[1]{%
8 \InlineClass{sout}{#1}%

```

```

9 }
10 \LWR@formatted{Midline}
11
12 \newcommand*\LWR@HTML@Overline[1]{%
13 \InlineClass{oline}{#1}%
14 }
15 \LWR@formatted{Overline}
16
17 \newcommand*\LWR@HTML@UMoline[2]{%
18 \InlineClass{uline}{#2}%
19 }
20 \LWR@formatted{UMoline}
21
22 \NewDocumentCommand{\LWR@HTML@UMospace}{s m o}{\hspace*{#2}}
23 \LWR@formatted{UMospace}
24
25 \NewDocumentCommand{\LWR@HTML@UMonewline}{s}{\newline}
26 \LWR@formatted{UMonewline}

```

---

File 504 **lwarp-underscore.sty**

§ 610 Package **underscore**

Pkg underscore underscore is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{underscore}[2006/09/13]


---

File 505 **lwarp-unicode-math.sty**


§ 611 Package **unicode-math**

(Emulates or patches code by WILL ROBERTSON.)

Pkg unicode-math unicode-math is supported as-is for HTML with SVGmath.

 **MATHJAX** If the document source includes embedded Unicode characters, these may not be reproduced correctly for *pdftotext*, and thus not display correctly in MATHJAX.

Symbol font commands are emulated, but not all combinations are supported by MathJax, especially with the dedicated Greek macros. Symbol macros such as `\symbfsf` may not be sans or bold. For Greek, use the Unicode equivalent, if necessary.

 **\mathversion** The MATHJAX emulation does not change with the use of `\mathversion`. Whatever emulation is established at the begin of the document will remain.

The option `sans-style` honors `upright` and `italic`, but `italic` will not be sans, in order to support Greek macros.

Greek macros such as `\alpha` respond to the `math-style` option. Latin symbols does not, per MATHJAX limitations, unless placed inside `\symbit` or similar.

Macros from the categories `\mathopen`, `\mathclose`, and `\mathfence` are emulated. Due to current MATHJAX limitations, not all stretch to the correct height.

Also emulated are macros from the categories `\mathpunct`, `\mathover`, `\mathunder`, `\mathaccent`, `\mathbotaccent`, and `\mathop`.

The individual `unicode-math` macros of categories `\mathbin`, `\mathord`, and `\mathrel` are not emulated for MATHJAX, as there are more than two thousand of them, but they may be added as needed. Place the following in the document preamble after loading `unicode-math`, including a definition for each macro which is used in the document but undefined in MATHJAX:

```
\begin{warpMathJax}
\CustomizeMathJax{\newcommand{\uplus}{\mathbin{\unicode{x0228E}}}}
...
\end{warpMathJax}
```

Use `\mathrel`, `\mathbin`, etc. depending on the category of each macro. For a list of macro names and symbols, see [texdoc unimath-symbols](#).

for HTML output:

```
1 \LWR@ProvidesPackagePass{unicode-math}[2019/09/26]
2 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
3
4 \begin{warpMathJax}
5 \LWR@infoprocessingmathjax{unicode-math}
6
7 % Not all are possible in MathJax.
8 \CustomizeMathJax{\let\symnormal\mathit}
9 \CustomizeMathJax{\let\symliteral\mathrm}
10 \CustomizeMathJax{\let\sybbb\mathbb}
11 \CustomizeMathJax{\let\sybbbit\mathbb}% not italic
12 \CustomizeMathJax{\let\symcal\mathcal}
13 \CustomizeMathJax{\let\symscr\mathscr}
14 \CustomizeMathJax{\let\symfrac\mathfrak}
15
16 \CustomizeMathJax{\let\symsfup\mathsf}
17
18 \CustomizeMathJax{\let\symsfit\mathit}% not sans
19 % \CustomizeMathJax{\newcommand{\symsfit}[1]{%
20 % \mmlToken{mi}[mathvariant="sans-serif-italic"]{#1}}% not greek
21 % }
22
23 \CustomizeMathJax{\let\sybfsf\mathbf}% not sans
24 % \CustomizeMathJax{\newcommand{\sybfsf}[1]{%
25 % \mmlToken{mi}[mathvariant="bold-sans-serif"]{#1}}% not greek
26 % }
27
28 \CustomizeMathJax{\let\sybfup\mathbf}
29 \CustomizeMathJax{\newcommand{\sybfup}[1]{\boldsymbol{#1}}}
30 \CustomizeMathJax{\let\sybfcal\mathcal}% not bold
31
32 \CustomizeMathJax{\let\sybfscr\mathscr}% not bold
33 % \CustomizeMathJax{\newcommand{\sybfscr}[1]{
```

```

34 % \mmlToken{mi}[mathvariant="math-bold-script"]{#1}}% not greek
35 % }
36
37 \CustomizeMathJax{\let\symbffrak\mathfrak}% not bold
38 % \CustomizeMathJax{\newcommand{\symbffrak}[1]{%
39 % \mmlToken{mi}[mathvariant="math-bold-fraktur"]{#1}}% not greek
40 % }
41
42 \CustomizeMathJax{\let\symbfsfup\mathbf}% not sans
43 % \CustomizeMathJax{\newcommand{\symbfsfup}[1]{%
44 % \mmlToken{mi}[mathvariant="bold-sans-serif"]{#1}}% not greek
45 % }
46
47 \CustomizeMathJax{\newcommand{\symbfsfit}[1]{\boldsymbol{#1}}}% not sans
48 % \CustomizeMathJax{\newcommand{\symbfsfit}[1]{%
49 % \mmlToken{mi}[mathvariant="sans-serif-bold-italic"]{#1}}% not greek
50 % }
51
52 % Duplicates below are commented out.
53 \CustomizeMathJax{\let\symup\mathrm}
54 \CustomizeMathJax{\let\symbf\mathbf}% \symbfup defined above
55 \CustomizeMathJax{\let\symit\mathit}
56 % \CustomizeMathJax{\let\symbfit\mathit}% not bold

57 \ExplSyntaxOn
58 \AtBeginDocument{
59 \bool_if:NTF \g__um_sfliteral_bool
60 {\CustomizeMathJax{\let\symsf\symsfup}}
61 {
62 \bool_if:NTF \g__um_upsans_bool
63 {\CustomizeMathJax{\let\symsf\symsfup}}
64 {\CustomizeMathJax{\let\symsf\symsfit}}
65 }
66 }
67 \ExplSyntaxOff

68 % \CustomizeMathJax{\let\symbfsfup\mathbf}% not sans
69 % \CustomizeMathJax{\let\symsfit\mathit}% not sans
70 % \CustomizeMathJax{\let\symbfsfit\mathit}% not bold nor sans
71 \CustomizeMathJax{\let\symtt\mathtt}
72 \CustomizeMathJax{\let\symbb\mathbb}
73 % \CustomizeMathJax{\let\symbbit\mathbb}% not italic
74 % \CustomizeMathJax{\let\symscr\mathscr}
75 % \CustomizeMathJax{\let\symbfscr\mathscr}% not bold
76 % \CustomizeMathJax{\let\symfrac\mathfrak}
77 \CustomizeMathJax{\let\symbffrac\mathbfrac}

```

Some symbol categories defined by `unicode-math`, in case they are used inside custom macros:

```

78 \CustomizeMathJax{\newcommand{\mathfence}[1]{\mathord{#1}}}
79 \CustomizeMathJax{\newcommand{\mathover}[1]{#1}}
80 \CustomizeMathJax{\newcommand{\mathunder}[1]{#1}}
81 \CustomizeMathJax{\newcommand{\mathaccent}[1]{#1}}

```

```
82 \CustomizeMathJax{\newcommand{\mathbotaccent}[1]{#1}}
83 \CustomizeMathJax{\newcommand{\mathalpha}[1]{\mathord{#1}}}
```

`math-style` is one of: ISO, TeX, french, upright, or literal, which set `\g__um_upGreek_bool` and `\g__um_upgreek_bool`.

```
84 \ExplSyntaxOn
85
86 \AtBeginDocument{
87 \bool_if:NTF \g__um_upGreek_bool
88 {\LWR@mathjax@addgreek@u@up*{}}{}
89 {\LWR@mathjax@addgreek@u@it*{}}{}
90
91 \bool_if:NTF \g__um_upgreek_bool
92 {\LWR@mathjax@addgreek@l@up{}}{}
93 {\LWR@mathjax@addgreek@l@it{}}{}
94 }
95
96 \LWR@mathjax@addgreek@u@up*{up}{ }
97 \LWR@mathjax@addgreek@u@it*{it}{ }
98 \LWR@mathjax@addgreek@l@up{up}{ }
99 \LWR@mathjax@addgreek@l@it{it}{ }
100
101 \ExplSyntaxOff
102
103 \CustomizeMathJax{\let\lparen{}}
104 \CustomizeMathJax{\let\rparen{}}
105 \CustomizeMathJax{\newcommand{\cuberoot}[1]{\,\,}^3\!\!\sqrt{#1}}\,,}
106 \CustomizeMathJax{\newcommand{\fourthroot}[1]{\,\,}^4\!\!\sqrt{#1}}\,,}
```

Many `\mathopen/\mathclose` delimiters are defined in `lwarp_mathjax.txt`, where `\left/\right` support is added.

```
107 \CustomizeMathJax{\newcommand{\longdivision}[1]{\mathord{\unicode{x027CC}#1}}}
108
109 \CustomizeMathJax{\newcommand{\mathcomma}{,}}
110 \CustomizeMathJax{\newcommand{\mathcolon}{:}}
111 \CustomizeMathJax{\newcommand{\mathsemicolon}{;}}
112
113 \CustomizeMathJax{\newcommand{\overbracket}[1]{\mathinner{\overline{\ulcorner#1\urcorner}}}}
114 \CustomizeMathJax{\newcommand{\underbracket}[1]{\mathinner{\underline{\llcorner#1\lrcorner}}}}
115
116 \CustomizeMathJax{\newcommand{\overbar}[1]{\mathord{#1\unicode{x00305}}}}
117 \CustomizeMathJax{\newcommand{\ovhook}[1]{\mathord{#1\unicode{x00309}}}}
118 \CustomizeMathJax{\newcommand{\ocirc}[1]{\mathord{#1\unicode{x0030A}}}}
119 \CustomizeMathJax{\newcommand{\candra}[1]{\mathord{#1\unicode{x00310}}}}
120 \CustomizeMathJax{\newcommand{\oturnedcomma}[1]{\mathord{#1\unicode{x00312}}}}
121 \CustomizeMathJax{\newcommand{\ocommatopright}[1]{\mathord{#1\unicode{x00315}}}}
122 \CustomizeMathJax{\newcommand{\droang}[1]{\mathord{#1\unicode{x0031A}}}}
123 \CustomizeMathJax{\newcommand{\leftharpoonaccent}[1]{\mathord{#1\unicode{x020D0}}}}
124 \CustomizeMathJax{\newcommand{\rightharpoonaccent}[1]{\mathord{#1\unicode{x020D1}}}}
125 \CustomizeMathJax{\newcommand{\vertoverlay}[1]{\mathord{#1\unicode{x020D2}}}}
126 \CustomizeMathJax{\newcommand{\leftarrowaccent}[1]{\mathord{#1\unicode{x020D0}}}}
127 \CustomizeMathJax{\newcommand{\annuity}[1]{\mathord{#1\unicode{x020E7}}}}
128 \CustomizeMathJax{\newcommand{\widebridgeabove}[1]{\mathord{#1\unicode{x020E9}}}}
```

```

129 \CustomizeMathJax{\newcommand{\asteraccent}[1]{\mathord{\#1\unicode{x020F0}}}}
130 \CustomizeMathJax{\newcommand{\threeunderdot}[1]{\mathord{\#1\unicode{x020E8}}}}
131
132 \CustomizeMathJax{\newcommand{\Bbbsum}{\mathop{\unicode{x2140}}\limits}}
133 \CustomizeMathJax{\newcommand{\oiint}{\mathop{\unicode{x222F}}\limits}}
134 \CustomizeMathJax{\newcommand{\oioint}{\mathop{\unicode{x2230}}\limits}}
135 \CustomizeMathJax{\newcommand{\intclockwise}{\mathop{\unicode{x2231}}\limits}}
136 \CustomizeMathJax{\newcommand{\ointclockwise}{\mathop{\unicode{x2232}}\limits}}
137 \CustomizeMathJax{\newcommand{\ointctrlockwise}{\mathop{\unicode{x2233}}\limits}}
138 \CustomizeMathJax{\newcommand{\varointclockwise}{\mathop{\unicode{x2232}}\limits}}
139 \CustomizeMathJax{\newcommand{\leftouterjoin}{\mathop{\unicode{x27D5}}\limits}}
140 \CustomizeMathJax{\newcommand{\rightouterjoin}{\mathop{\unicode{x27D6}}\limits}}
141 \CustomizeMathJax{\newcommand{\fullouterjoin}{\mathop{\unicode{x27D7}}\limits}}
142 \CustomizeMathJax{\newcommand{\bigbot}{\mathop{\unicode{x27D8}}\limits}}
143 \CustomizeMathJax{\newcommand{\bigtop}{\mathop{\unicode{x27D9}}\limits}}
144 \CustomizeMathJax{\newcommand{\xsol}{\mathop{\unicode{x29F8}}\limits}}
145 \CustomizeMathJax{\newcommand{\xbsol}{\mathop{\unicode{x29F9}}\limits}}
146 \CustomizeMathJax{\newcommand{\bigcupdot}{\mathop{\unicode{x2A03}}\limits}}
147 \CustomizeMathJax{\newcommand{\bigsqcap}{\mathop{\unicode{x2A05}}\limits}}
148 \CustomizeMathJax{\newcommand{\conjquant}{\mathop{\unicode{x2A07}}\limits}}
149 \CustomizeMathJax{\newcommand{\disjquant}{\mathop{\unicode{x2A08}}\limits}}
150 \CustomizeMathJax{\newcommand{\bigtimes}{\mathop{\unicode{x2A09}}\limits}}
151 \CustomizeMathJax{\newcommand{\modtwosum}{\mathop{\unicode{x2A0A}}\limits}}
152 \CustomizeMathJax{\newcommand{\sumint}{\mathop{\unicode{x2A0B}}\limits}}
153 \CustomizeMathJax{\newcommand{\intbar}{\mathop{\unicode{x2A0D}}\limits}}
154 \CustomizeMathJax{\newcommand{\intBar}{\mathop{\unicode{x2A0E}}\limits}}
155 \CustomizeMathJax{\newcommand{\fint}{\mathop{\unicode{x2A0F}}\limits}}
156 \CustomizeMathJax{\newcommand{\cirfnint}{\mathop{\unicode{x2A10}}\limits}}
157 \CustomizeMathJax{\newcommand{\awint}{\mathop{\unicode{x2A11}}\limits}}
158 \CustomizeMathJax{\newcommand{\rppolint}{\mathop{\unicode{x2A12}}\limits}}
159 \CustomizeMathJax{\newcommand{\scpolint}{\mathop{\unicode{x2A13}}\limits}}
160 \CustomizeMathJax{\newcommand{\npolint}{\mathop{\unicode{x2A14}}\limits}}
161 \CustomizeMathJax{\newcommand{\pointint}{\mathop{\unicode{x2A15}}\limits}}
162 \CustomizeMathJax{\newcommand{\sqint}{\mathop{\unicode{x2A16}}\limits}}
163 \CustomizeMathJax{\newcommand{\intlarhk}{\mathop{\unicode{x2A17}}\limits}}
164 \CustomizeMathJax{\newcommand{\intx}{\mathop{\unicode{x2A18}}\limits}}
165 \CustomizeMathJax{\newcommand{\intcap}{\mathop{\unicode{x2A19}}\limits}}
166 \CustomizeMathJax{\newcommand{\intcup}{\mathop{\unicode{x2A1A}}\limits}}
167 \CustomizeMathJax{\newcommand{\upint}{\mathop{\unicode{x2A1B}}\limits}}
168 \CustomizeMathJax{\newcommand{\lowint}{\mathop{\unicode{x2A1C}}\limits}}
169 \CustomizeMathJax{\newcommand{\bigtriangleleft}{\mathop{\unicode{x2A1E}}\limits}}
170 \CustomizeMathJax{\newcommand{\zcmp}{\mathop{\unicode{x2A1F}}\limits}}
171 \CustomizeMathJax{\newcommand{\zpipe}{\mathop{\unicode{x2A20}}\limits}}
172 \CustomizeMathJax{\newcommand{\zproject}{\mathop{\unicode{x2A21}}\limits}}
173 \CustomizeMathJax{\newcommand{\biginterleave}{\mathop{\unicode{x2AFC}}\limits}}
174 \CustomizeMathJax{\newcommand{\bigtalloblong}{\mathop{\unicode{x2AFF}}\limits}}
175 \CustomizeMathJax{\newcommand{\arabicmaj}{\mathop{\unicode{x1EEF0}}\limits}}
176 \CustomizeMathJax{\newcommand{\arabichad}{\mathop{\unicode{x1EEF1}}\limits}}
177
178 \end{warpMathJax}

```

File 506 **lwarp-units.sty**

§ 612 Package **units**

*(Emulates or patches code by AXEL REICHERT.)*

Pkg units units is patched for use by lwarp.

Values are not styled by css, and take the style of the surrounding HTML text.

Units are styled according to the print version, so they will be forced to upright roman in HTML if the print version does so. It may be necessary to adjust the document's body css to match the print version.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{units}[1998/08/04]

2 \DeclareRobustCommand*\LWR@HTML@unit}[2][]{%
3 \ifblank{#1}%
4 {\LWR@textcurrentfont{#2}}%
5 {%
6 #1%
7 \ifthenelse{\boolean{B@UnitsLoose}}{~}{\,%
8 \LWR@textcurrentfont{#2}}%
9 }%
10 }
11 \LWR@formatted{unit}

12 \DeclareRobustCommand*\LWR@HTML@unitfrac}[3][]{%
13 \ifblank{#1}%
14 {%
15 \nicefrac{#2}{#3}%
16 }%
17 {%
18 #1%
19 \ifthenelse{\boolean{B@UnitsLoose}}{~}{\,%
20 \nicefrac{#2}{#3}}%
21 }%
22 }
23
24 \LWR@formatted{unitfrac}

```

For Mathjax:

```

25 \begin{warpMathJax}
26 \CustomizeMathJax{\newcommand{\unit}[2][]{#1 \mathinner{#2}}}
27 \CustomizeMathJax{\newcommand{\unitfrac}[3][]{#1 \mathinner{{}^{\#2}\!/_{\!_#3}}}}
28 \end{warpMathJax}

```



File 507 **lwarp-unitsdef.sty**

§ 613 Package **unitsdef**

(Emulates or patches code by PATRICK HAPPEL.)

Pkg unitsdef unitsdef is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{unitsdef}[2005/01/04]
2 \renewcommand{\unitvaluesep}{\,}
3
4 \renewcommand{\unittimes}{\@@setunitsepfalse\HTMLUnicode{22c5}}% \cdot
5
6 \renewunit{\arcmin}{%
7 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
8 {\ensuremath{{}^{\prime}}}%
9 {\HTMLUnicode{2032}}% prime
10 }
11
12 \renewunit{\arcsec}{%
13 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
14 {\ensuremath{{}^{\prime\prime}}}%
15 {\HTMLUnicode{2033}}% dbl prime
16 }
17
18 \renewrobustcmd{\SI}[2]{%
19 \begingroup%
20 \let\unit@@xspace\relax%
21 \unitSIdef\selectfont%
22 \LWR@textcurrentfont{#1#2}% lwarp
23 \endgroup%
24 }
```

File 508 **lwarp-upgreek.sty**

§ 614 Package **upgreek**

(Emulates or patches code by WALTER SCHMIDT.)

Pkg upgreek upgreek is used as-is for SVG math, and is emulated for MATHJAX.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{upgreek}[2003/02/12]
```

For MATHJAX:

```

2 \LWR@origRequirePackage{lwarp-common-mathjax-letters}
3
```

---

```

4 \begin{warpMathJax}
5 \LWR@infoprocessingmathjax{upgreek}
6
7 \LWR@mathjax@addgreek@l@up{up}{}
8 \LWR@mathjax@addgreek@u@up{Up}{}
9
10 \end{warpMathJax}

```

---

File 509 **lwarp-upref.sty**

§ 615 Package **upref**

Pkg upref upref is ignored.

**for HTML output:** Discard all options for lwarp-upref:

```
1 \LWR@ProvidesPackageDrop{upref}[2007/03/14]
```

---

File 510 **lwarp-url.sty**

§ 616 Package **url**

*(Emulates or patches code by DONALD ARSENEAU.)*

Pkg url url is patched for use by lwarp.

**for HTML output:**

```

1 \LetLtxMacro\LWR@url@orig@url\LWR@url
2
3 \LWR@ProvidesPackagePass{url}[2013/09/16]

4 \newcommand*{\LWR@HTML@Url@FormatString}{%
5 \expandafter\LWR@url@orig@url\expandafter{\Url@String}%
6 }
7 \LWR@formatted{Url@FormatString}

```

---

File 511 **lwarp-ushort.sty**

§ 617 Package **ushort**

*(Emulates or patches code by MARTIN VÄTH.)*

Pkg ushort ushort is used as-is, and emulated for MATHJAX.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{ushort}[2001/06/13]

2 \begin{warpMathJax}
3 \CustomizeMathJax{\newcommand{\ushortdline}[1]{%

```

---

```

4 \kern{.1em}\underline{\underline{#1}}\kern{.1em}%
5 }}
6 \CustomizeMathJax{\newcommand{\ushort}[1]{\kern{.1em}\underline{#1}\kern{.1em}}}
7 \CustomizeMathJax{\newcommand{\ushortd}[1]{\ushortdline{#1}}}
8 \CustomizeMathJax{\newcommand{\ushortw}[1]{\kern{.1em}\underline{#1}\kern{.1em}}}
9 \CustomizeMathJax{\newcommand{\ushortdw}[1]{\ushortdline{#1}}}
10 \end{warpMathJax}

```

---

File 512 **lwarp-ospace.sty**

§ 618 Package **ospace**

Pkg ospace ospace is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{ospace}[2016/11/06]

---

File 513 **lwarp-varioref.sty**

§ 619 Package **varioref**

*(Emulates or patches code by FRANK MITTELBACH.)*

Pkg varioref varioref is patched for use by lwarp.

**for HTML output:** 1 \LWR@ProvidesPackagePass{varioref}[2020/01/23]

Page-related output is not used for HTML output.

```

2 \def\reftextfaceafter {\unskip}%
3 \def\reftextfacebefore{\unskip}%
4 \def\reftextafter {\unskip}%
5 \def\reftextbefore {\unskip}%
6 \def\reftextcurrent {\unskip}%
7 \def\reftextfaraway#1{\unskip}%
8 \def\reftextpagerange#1#2{\unskip}%

```

---

File 514 **lwarp-verse.sty**

§ 620 Package **verse**

*(Emulates or patches code by PETER WILSON.)*

Pkg verse verse is supported and patched by lwarp.

**for HTML output:** Pass all options for lwarp-verse:

```
1 \LWR@ProvidesPackagePass{verse}[2009/09/04]
```

When using `verse` or `memoir`, always place a `\\` after each line.

`\attrib` The documentation for the `verse` and `memoir` packages suggest defining an `\attrib` command, which may already exist in current documents, but it will only work for print output. `lwarp` provides `\attribution`, which works for both print and HTML output. To combine the two so that `\attrib` is used for print and `\attribution` is used for HTML:

```
\begin{warpHTML}
\let\attrib\attribution
\end{warpHTML}
```

Len `\vleftskip` These lengths are used by `verse` and `memoir` to control the left margin, and they may already be set by the user for print output. New lengths `\HTMLvleftskip` and `\HTMLleftmargin` are provided to control the margins in HTML output. These new lengths may be set by the user before any `verse` environment, and persist until they are manually changed again. One reason to change `\HTMLleftmargin` is if there is a wide `\flagverse` in use, such as the word “Chorus”, in which case the value of `\HTMLleftmargin` should be set to a wide enough length to contain “Chorus”. The default is wide enough for a stanza number.

Len `\leftmargin`

Len `\HTMLvleftskip`

Len `\HTMLleftmargin`

⚠ spacing Horizontal spacing relies on `pdftotext`'s ability to discern the layout (`-layout` option) of the text in the HTML-tagged PDF output. For some settings of `\HTMLleftmargin` or `\HTMLleftskip` the horizontal alignment may not work out exactly, in which case a label may be shifted by one space. During translation to HTML, the stanza numbers are kept out of the left margin, which would have caused `pdftotext` to shift everything over.

⚠ verse margin

Env `verse` The `verse` environment will be placed inside a HTML `<pre>`.

```
2 \AfterEndPreamble{
3 \LWR@traceinfo{Patching verse.}
```

At the beginning of the `verse` environment:

```
4 \AtBeginEnvironment{verse}
5 {%
```

Use the original `list` environment inside a `<pre>` to attempt to preserve formatting.

```
6 \LWR@restoreoriglists%
```

Pkg `verse` The `verse` or `memoir` packages can place stanza numbers to the left with their `\flagverse` command. The following does not allow them to go into the left margin, which would cause `pdfcrop` to crop the entire page further to the left.

Cls `memoir`

`\flagverse`

Len `\vleftskip`

```
7 \ifdef{\vleftskip}{%
8 \setlength{\vleftskip}{\HTMLvleftskip}
9 \setlength{\leftmargin}{\HTMLleftmargin}
10 }{}
11 \LWR@forcenewpage
12 \LWR@atbeginverbatim{verse}%
13 }
```

After the end of the `verse` environment, which places the `<pre>` tag at the regular left margin:

```
14 \AtEndEnvironment{verse}{%
15 \leavevmode%
16 \LWR@afterendverbatim%
17 }
```

Patch to place `poemtitle` inside an HTML `<span>` of class `poemtitle`:

```
18 \ifdef{\poemtitle}{
19 \DeclareDocumentCommand{\vstypeptitle}{m}{%
20 \vspace{\beforepoemtitleskip}%
21 {\InlineClass{poemtitle}{\poemtitlefont #1}\par}%
22 \vspace{\afterpoemtitleskip}%
23 }
24 }{}
25
26 \LWR@traceinfo{Finished patching verse.}
27 }% AfterEndPreamble
```

File 515 **lwarp-versednotes.sty**

§ 621 Package **versednotes**

*(Emulates or patches code by NORMAN GRAY.)*

Pkg `versednotes` **versednotes** is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{versednotes}[2019/07/06]

```
2 \newcommand{\versednote}[1]{\marginpar{#1}}
3 \newdimen\versotextwidth
4 \newdimen\versoleftmargin
5 \newcommand*{\versolayout}{}

```

In case the user changed the page number before loading `versednotes`:

```
6 \setcounter{page}{1}
```

File 516 **lwarp-vertbars.sty**

§ 622 Package **vertbars**

*(Emulates or patches code by PETER WILSON.)*

Pkg `vertbars` **vertbars** is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{vertbars}[2010/11/27]

```

2 \newlength{\barwidth}
3 \setlength{\barwidth}{0.4pt}
4 \newlength{\barspace}
5 \setlength{\barspace}{1em}
6
7 \newenvironment{vertbar}{
8 \LWR@forcenewpage
9 \LWR@forceminwidth{\barwidth}
10 \begin{BlockClass}{%
11 border-left: \LWR@printlength{\LWR@atleastonept} solid black ; %
12 padding-left: \LWR@printlength{\barspace}%
13 }{vertbar}
14 }{
15 \end{BlockClass}
16 }

```

---

File 517 **lwarp-vmargin.sty**

§ 623 Package **vmargin**

Pkg vmargin vmargin is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{vmargin}[2004/07/15]

```

2 \newcommand*{\LWRVM@customsize}[2]{}
3 \newcommand*{\setpapersize}[2][\ifstrequal{#2}{custom}{\LWRVM@customsize}{}]}
4 \newcommand*{\setmargins}[8]{}
5 \newcommand*{\setmarginsrb}[8]{}
6 \newcommand*{\setmargnohf}[4]{}
7 \newcommand*{\setmargnohfrb}[4]{}
8 \newcommand*{\setmarg}[4]{}
9 \newcommand*{\setmargrb}[4]{}
10 \newlength{\PaperWidth}
11 \setlength{\PaperWidth}{8.5in}
12 \newlength{\PaperHeight}
13 \setlength{\PaperHeight}{11in}
14 \newif\ifLandscape

```

---

File 518 **lwarp-vowel.sty**

§ 624 Package **vowel**

*(Emulates or patches code by FUKUI REI.)*

Pkg vowel vowel is patched for use by lwarp.

This package has been tested with *pdf<sub>l</sub>atex* and the Type 1 TIPA fonts using the following package load sequence:

```

\usepackage[T3,T1]{fontenc}
\usepackage[utf8]{inputenc}
\usepackage[noenc]{tipa}
\usepackage{vowel}

```

**for HTML output:** 1 \LWR@ProvidesPackagePass{vowel}[2002/08/08]

```

2 \renewenvironment{vowel}[1]{}
3 {%
4 \begin{lateximage}[-vowel~\PackageDiagramAltText]%
5 \@vowel[#1]%
6 }
7 {%
8 \@@vowel%
9 \end{lateximage}%
10 }

```

---

File 519 **lwarp-vpe.sty**

§ 625 Package **vpe**

Pkg vpe vpe is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{vpe}[2012/04/18]

---

File 520 **lwarp-vwcol.sty**

§ 626 Package **vwcol**

*(Emulates or patches code by WILL ROBERTSON.)*

Pkg vwcol vwcol is patched for use with lwarp.

The width option is ignored. All vwcol environments adjust to 1–3 equal-width columns, depending on the width of the browser window.

The remaining options are supported, except for lines and maxrecursion.

**for HTML output:** 1 \LWR@ProvidesPackagePass{vwcol}[2015/02/10]

Factored from \vwcol. Each is given a style tag to append to the final style.

```

\LWR@vwcol@addrule {<style tag>}
2 \newcommand*{\LWR@vwcol@addrule}[1]{%
3 \appto{\LWR@vwcolstyle}{%
4 #1: %
5 \LWR@printlength{\vwcol@rule} solid \LWR@origpound\LWR@vwcol@rulecolor ; %
6 }%
7 }

```

```

\LRW@vwcol@addrule {<style tag>}
8 \newcommand*{\LRW@vwcol@addgap}[1]{%
9 \appto{\LRW@vwcolstyle}{%
10 #1: %
11 \LRW@printlength{\vwcol@sep} ; %
12 }%
13 }

```

Env vwcol {<key/values>}

Redefine the environment to add a HTML style. The style is built depending on the required options.

```
14 \renewenvironment*{vwcol}[[1]]{%
```

New paragraph, and process the options:

```
15 \LRW@stoppars%
16 \vwcolsetup{#1}%
```

Begin with no style:

```
17 \newcommand*{\LRW@vwcolstyle}{}

```

presep and postsep are created with HTML margins:

```
18 \if@vwcol@presep
19 \appto{\LRW@vwcolstyle}{margin-left: 1em ; padding-left: .5em ; }
20 \fi
21 \if@vwcol@postsep
22 \appto{\LRW@vwcolstyle}{margin-right: 1em ; padding-right: .5em ; }
23 \fi

```

sep becomes column-gap:

```
24 \ifdimgreater{\vwcol@sep}{1sp}{
25 \LRW@vwcol@addgap{column-gap}
26 \LRW@vwcol@addgap{-moz-column-gap}
27 \LRW@vwcol@addgap{-webkit-column-gap}
28 }{}

```

rule become column-rule, while prerule and postrule become HTML borders:

```
29 \convertcolorspec{named}{\vwcol@rulecol}{HTML}\LRW@vwcol@rulecolor%
30 \ifdimgreater{\vwcol@rule}{0pt}{
31 \ifdimless{\vwcol@rule}{1pt}{
32 \setlength{\vwcol@rule}{1pt}
33 }{}
34 \LRW@vwcol@addrule{column-rule}
35 \LRW@vwcol@addrule{-moz-column-rule}
36 \LRW@vwcol@addrule{-webkit-column-rule}
37 \if@vwcol@prerule\LRW@vwcol@addrule{border-left}\fi
38 \if@vwcol@postrule\LRW@vwcol@addrule{border-right}\fi
39 }{}

```

Each of the justify options becomes a text-align. Indentation is added where appropriate.

```
40 \ifdefequal{\vwcol@justify}{\RaggedRight}{

```



```

41 \appto{\LWR@vwcolstyle}{text-align: left ; }
42 \ifdimgreater{\vwcol@parindent}{0pt}{
43 \appto{\LWR@vwcolstyle}{%
44 text-indent: \LWR@printlength{\vwcol@parindent} ; %
45 }
46 }{}
47 }{}

48 \ifdefequal{\vwcol@justify}{\RaggedLeft}{
49 \appto{\LWR@vwcolstyle}{text-align: right ; }
50 }{}

51 \ifdefequal{\vwcol@justify}{\Centering}{
52 \appto{\LWR@vwcolstyle}{text-align: center ; }
53 }{}

54 \ifdefequal{\vwcol@justify}{\justifying}{
55 \appto{\LWR@vwcolstyle}{text-align: justify ; }
56 \ifdimgreater{\vwcol@parindent}{0pt}{
57 \appto{\LWR@vwcolstyle}{%
58 text-indent: \LWR@printlength{\vwcol@parindent} ; %
59 }
60 }{}
61 }{}

```

Create the <div> with the assembled style:

```

62 \BlockClass[\LWR@vwcolstyle]{multicols}
63 }

```

When the environment ends:

```

64 {
65 \endBlockClass
66 \LWR@startpars
67 }

```

---

File 521 **lwarp-wallpaper.sty**

§ 627 Package **wallpaper**

*(Emulates or patches code by MICHAEL H.F. WILKINSON.)*

Pkg wallpaper **wallpaper is ignored.**

**for HTML output:** 1 \LWR@ProvidesPackageDrop{wallpaper}[2005/01/18]

```

2 \newcommand*{\CenterWallPaper}[2]{}
3 \newcommand*{\ThisCenterWallPaper}[2]{}
4 \newcommand*{\TileWallPaper}[3]{}
5 \newcommand*{\ThisTileWallPaper}[3]{}
6 \newcommand*{\TileSquareWallPaper}[2]{}
7 \newcommand*{\ThisTileSquareWallPaper}[2]{}
8 \newcommand*{\ULCornerWallPaper}[2]{}
9 \newcommand*{\ThisULCornerWallPaper}[2]{}

```

---

```

10 \newcommand*\LLCornerWallPaper}[2]{}
11 \newcommand*\ThisLLCornerWallPaper}[2]{}
12 \newcommand*\URCornerWallPaper}[2]{}
13 \newcommand*\ThisURCornerWallPaper}[2]{}
14 \newcommand*\LRCornerWallPaper}[2]{}
15 \newcommand*\ThisLRCornerWallPaper}[2]{}
16 \newcommand*\ClearWallPaper[1]{}
17 \newlength\wpXoffset
18 \newlength\wpYoffset

```

---

File 522 **lwarp-watermark.sty**

§ 628 Package **watermark**

*(Emulates or patches code by ALEXANDER I. ROZHENKO.)*

Pkg watermark watermark is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{watermark}[2004/12/09]

```

2 \newcommand\watermark[1]{}
3 \newcommand\leftwatermark[1]{}
4 \newcommand\rightwatermark[1]{}
5 \newcommand\thiswatermark[1]{}
6 \newcommand\thispageheading[1]{}

```

---

File 523 **lwarp-widetable.sty**

§ 629 Package **widetable**

*(Emulates or patches code by CLAUDIO BECCARI.)*

Pkg widetable widetable is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{widetable}[2019-06-25]

```

2 \newenvironment{widetable}{\begin{tabular*}}{\end{tabular*}}

```

---

File 524 **lwarp-widows-and-orphans.sty**

§ 630 Package **widows-and-orphans**

Pkg widows-and-orphans widows-and-orphans is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{widows-and-orphans}[2018/09/01]

```

2 \NewDocumentCommand\Wa0setup{m}{}
3 \NewDocumentCommand\Wa0parameters{}{}
4 \NewDocumentCommand\Wa0ignorenext{}{}

```

File 525 **lwarp-witharrows.sty**

§ 631 Package **witharrows**

*(Emulates or patches code by F. PANTIGNY.)*

Pkg witharrows **witharrows** is patched for use by **lwarp**. Emulation is provided for **MATHJAX**.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{witharrows}[2019/12/27]

2 \ifbool{mathjax}{
3 % For the hidden print version in the HTML:
4 \newcommand{\Arrow}[2][{}]{
5 \newcommand{\unicode}[1]{
6 \NewDocumentEnvironment { DispWithArrows } { ! d < > ! 0 { } +b}
7 {
8 \IfValueTF{#1}{
9 \begin{displaymath}
10 #1 \left\lbracket
11 \begin{align}
12 #3
13 \end{align}
14 \right .
15 \end{displaymath}
16 }{
17 \begin{displaymath}
18 \begin{align}
19 #3
20 \end{align}
21 \end{displaymath}
22 }
23 }
24 {}
25 \NewDocumentEnvironment { DispWithArrows* } { ! d < > ! 0 { } +b}
26 {
27 \IfValueTF{#1}{
28 \begin{displaymath}
29 #1 \left\lbracket
30 \begin{align*}
31 #3
32 \end{align*}
33 \right .
34 \end{displaymath}
35 }{
36 \begin{displaymath}
37 \begin{align*}
38 #3
39 \end{align*}
40 \end{displaymath}

```

```

41 }
42 }
43 {}
44 }{
45 % If not MathJax, use SVG images.
46 \BeforeBeginEnvironment{WithArrows}{\global\booltrue{LWR@unknownmathsize}}
47 \BeforeBeginEnvironment{DispWithArrows}{%
48 \begin{BlockClass}{displaymathnumbered}%
49 \begin{lateximage}%
50 }
51 \AfterEndEnvironment{DispWithArrows}{\end{lateximage}\end{BlockClass}}
52 \BeforeBeginEnvironment{DispWithArrows*}{%
53 \begin{BlockClass}{displaymath}%
54 \begin{lateximage}%
55 }
56 \AfterEndEnvironment{DispWithArrows*}{\end{lateximage}\end{BlockClass}}
57 }
58
59 \begin{warpMathJax}
60 \CustomizeMathJax{\newenvironment{WithArrows}[1][\begin{aligned}]{\end{aligned}}}
61 % Unable to make a sized box.
62 \CustomizeMathJax{\newcommand{\Arrow}[2][\&{\Large\unicode{x2938}}~\textit{#2}}}{%
63 \end{warpMathJax}

```

---

File 526 **lwarp-wrapfig.sty**

§ 632 Package **wrapfig**

(Emulates or patches code by DONALD ARSENEAU.)

Pkg wrapfig wrapfig is emulated.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{wrapfig}[2003/01/31]
2 \newcommand*{\LWR@wrapposition}{}
3
4 \newcommand*{\LWR@subwrapfigure}[2]{%
5 \renewcommand*{\LWR@wrapposition}{}%
6 \ifthenelse{%
7 \equal{#1}{r}\OR\equal{#1}{R}\OR%
8 \equal{#1}{o}\OR\equal{#1}{O}%
9 }%
10 {\renewcommand*{\LWR@wrapposition}{float:right}}%
11 {\renewcommand*{\LWR@wrapposition}{float:left}}%
12 \setlength{\LWR@templengthone}{#2}%
13 \LWR@BlockClassWP{%
14 width:\LWR@printlength{\LWR@templengthone}; \LWR@wrapposition; %
15 margin:10pt%
16 }%
17 {%
18 width:\LWR@printlength{\LWR@templengthone}; \LWR@wrapposition; %
19 }%
20 {marginblock}%

```

```

21 \setlength{\linewidth}{\LWR@templengthone}%
22 }
23
24
25 \NewDocumentEnvironment{wrapfigure}{o m o m}
26 {%
27 \begin{LWR@setvirtualpage}*%
28 \LWR@subwrapfigure{#2}{#4}%
29 \renewcommand*{\@capttype}{figure}%
30 }
31 {%
32 \endLWR@BlockClassWP%
33 \end{LWR@setvirtualpage}%
34 }
35
36
37 \NewDocumentEnvironment{wraptable}{o m o m}
38 {%
39 \begin{LWR@setvirtualpage}*%
40 \LWR@subwrapfigure{#2}{#4}%
41 \renewcommand*{\@capttype}{table}%
42 }
43 {%
44 \endLWR@BlockClassWP%
45 \end{LWR@setvirtualpage}%
46 }
47
48
49 \NewDocumentEnvironment{wrapfloat}{m o m o m}
50 {%
51 \begin{LWR@setvirtualpage}*%
52 \LWR@subwrapfigure{#3}{#5}%
53 \renewcommand*{\@capttype}{#1}%
54 }
55 {%
56 \endLWR@BlockClassWP%
57 \end{LWR@setvirtualpage}%
58 }
59
60 \newlength{\wrapoverhang}

```

---

File 527 **lwarp-xbmks.sty**

§ 633 Package **xbmks**

Pkg xbmks xbmks is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{xbmks}[2018/07/04]

2 \newcommand{\xbmksetup}[1]{}
3 \NewDocumentCommand{\pdfbookmarkx}{o m o m}{}
4 \NewDocumentCommand{\currentpdfbookmarkx}{m o m}{}

```

---

```
5 \NewDocumentCommand{\subpdfbookmarkx}{m o m}{}
6 \NewDocumentCommand{\belowpdfbookmarkx}{m o m}{}

```

---

File 528 **lwarp-xcolor.sty**

§ 634 Package **xcolor**

(Emulates or patches code by DR. UWE KERN.)

Pkg xcolor xcolor is supported by lwarp.

§ 634.1 **Limitations**

`\colorboxBlock` and `\fcolorboxBlock` are provided for increased HTML compatibility, and they are identical to `\colorbox` and `\fcolorbox` in print mode. In HTML mode they place their contents into a `<div>` instead of a `<span>`. These `<div>`s are set to display: `inline-block` so adjacent `\colorboxBlock`s appear side-by-side in HTML, although text is placed before or after each.

Print-mode definitions for `\colorboxBlock` and `\fcolorboxBlock` are created by lwarp's core if xcolor is loaded.

**background: none** `\colorbox` and `\fcolorboxBlock` allow a background color of none, in which case only the frame is drawn, which can be useful for HTML.

**color support** Color definitions, models, and mixing are fully supported without any changes required.

**colored tables** `\rowcolors` is supported, except that the optional argument is ignored so far.

**colored text and boxes** `\textcolor`, `\colorbox`, and `\fcolorbox` are supported.

**\color and \pagecolor** `\color` and `\pagecolor` are ignored. Use `css` or `\textcolor` where possible.

§ 634.2 **xcolor definitions: location and timing**

The lwarp core and its lwarp-xcolor package are tightly integrated to allow comparable results for print, HTML, and print inside an HTML `lateximage`. This requires a number of definitions and redefinitions depending on whether each of xcolor and `lateximage` is being used, and whether print or HTML is being generated. Some of these actions are one-time when xcolor is loaded, and others are temporary as `lateximage` is used.

**When xcolor is loaded in print mode:** No special actions are taken at the time that xcolor is loaded in print mode, but see `\AtBeginDocument` below.

**When lwarp-xcolor is loaded in HTML mode:** xcolor's original definitions are saved for later restoration. `\LWR@restoreorigformatting` is appended to restore these definitions for use inside a `lateximage`. New HTML-mode definitions are created for `\textcolor`, `\pagecolor`, `\nopagecolor`, `\colorbox`, `\colorboxBlock`, `\fcolorbox`, `\fcolorboxBlock`, and `fcolorminipage`.

**\AtBeginDocument in print or HTML mode:** See Section 87. If xcolor has been loaded, the print-mode `\fcolorbox` is modified to accept a background color of none, and additional definitions are created for lwarp's new macros print-mode macros `\colorboxBlock`, `\fcolorboxBlock`, and `fcolorminipage`. The HTML versions of these macros will already have been created by lwarp-xcolor if it has been loaded. For use inside an HTML lateximage, `\LWR@restoreorigformatting` is appended to temporarily set these functions to their print-mode versions.

**In a lateximage in HTML mode:** `\LWR@restoreorigformatting` temporarily restores the print-mode definitions of xcolor's functions. See `\LWR@restoreorigformatting` on page 543.

**\color:**

**Print:** Used as-is.

**HTML:** Ignored by *pdftotext*, and will not appear.

**HTML lateximage:** Colors will appear in a lateximage.

**\textcolor:**

**Print:** Used as-is.

**HTML:** Redefined by lwarp-xcolor, page 1210.

**HTML lateximage:** Remembers and reuses the print version.

**\pagecolor:**

**Print:** Used as-is.

**HTML:** Ignored.

**HTML lateximage:** Colors will be picked up in a lateximage.

**\nopagecolor:**

**Print:** Used as-is.

**HTML:** Ignored.

**HTML lateximage:** Colors will be picked up in a lateximage.

**\colorbox:**

**Print:** Used as-is.

**HTML:** Redefined by lwarp-xcolor, page 1211.

**HTML lateximage:** Remembers and reuses the print version.

**\colorboxBlock:**

**Print:** Becomes `\colorbox`.

**HTML:** Newly defined by lwarp-xcolor to use a `<div>`, page 1211.

**HTML lateximage:** Remembers and reuses the print version `\colorbox`.

**\fcolorbox:**

**Print:** Modified to allow a background of none.

`\LWR@print@fcolorbox` at section 87

**HTML:** Redefined by `lwarp-xcolor`, page 1212.

**HTML lateximage:** Remembers and reuses the print version.

**\fcolorboxBlock:**

**Print:** Becomes `\fcolorbox`. Section 87

**HTML:** Newly defined by `lwarp-xcolor` to use a `<div>`, page 1212.

**HTML lateximage:** Remembers and reuses the print version `\fcolorbox`.

**fcolorminipage:**

**Print:** Newly defined in the `lwarp` core.

`LWR@print@fcolorminipage` at section 87

**HTML:** Newly defined by `lwarp-xcolor`, page 1213.

**HTML lateximage:** Uses the print version.

**\boxframe:**

**Print:** Used as-is.

**HTML:** Redefined by `lwarp-xcolor`, page 1214.

**HTML lateximage:** Remembers and reuses the print version.

### § 634.3 Package loading

**for HTML output:** `1 \LWR@ProvidesPackagePass{xcolor}[2016/05/11]`

### § 634.4 Remembering and restoring original definitions

Remember the following print-mode actions to be restored when inside a `lateximage` environment:

`2 \LetLtxMacro\LWR@print@pagecolor\pagecolor`

`3 \LetLtxMacro\LWR@print@nopagecolor\nopagecolor`

`\LWR@restoreorigformatting` Inside a `lateximage` the following gets restored to their print-mode actions:

`4 \appto\LWR@restoreorigformatting{%`

`5 \LetLtxMacro\pagecolor\LWR@print@pagecolor%`

`6 \LetLtxMacro\nopagecolor\LWR@print@nopagecolor%`

`7 }`



§ 634.5 **\normalcolor**`\normalcolor`

```

8 \DeclareRobustCommand{\LWR@HTML@normalcolor}{\color{black}}%
9
10 \LWR@formatted{normalcolor}

```

§ 634.6 **HTML color style**`\LWR@findcurrenttextcolor` Sets `\LWR@tempcolor` to the current color.

```

11 \renewcommand*{\LWR@findcurrenttextcolor}{%
12 \protect\colorlet{\LWR@current@color}{.}%
13 \protect\convertcolorspec{named}{\LWR@current@color}{HTML}\LWR@tempcolor%
14 }

```

Prints a color style for the current color.

`\LWR@currenttextcolorstyle`

```

15 \newcommand*{\LWR@currenttextcolorstyle}{%
16 \LWR@findcurrenttextcolor%
17 \ifdefstring{\LWR@tempcolor}{000000}%
18 {}%
19 {color: \LWR@origpound\LWR@tempcolor ; }%
20 }

```

`\LWR@textcurrentcolor` `{<text>}` Like `\textcolor` but uses the current `\color` instead.

```

21 \DeclareDocumentCommand{\LWR@textcurrentcolor}{m}{%
22 \begingroup%
23 \LWR@FBcancel%
24 \LWR@findcurrenttextcolor%
25 \InlineClass[color:\LWR@origpound\LWR@tempcolor]{textcolor}{%
26 \renewcommand*{\LWR@currenttextcolor}{\LWR@origpound\LWR@tempcolor}%
27 #1%
28 }%
29 \endgroup%
30 }

```

`\LWR@colorstyle` `{<1: model>} {<2: color>}`

For a color style, prints the color converted to HTML colors.

```

31 \NewDocumentCommand{\LWR@colorstyle}{m m}{%
32 \begingroup%
33 \LWR@FBcancel%

```

Use the `xcolor` package to convert to an HTML color space:

```

34 \convertcolorspec{#1}{#2}{HTML}\LWR@tempcolor%

```

Print the converted color:

```

35 \LWR@origpound\LWR@tempcolor%
36 \endgroup%
37 }

```

`\LWR@backgroundcolor` [*model*] {*color*} {*text*}

Similar to `\textcolor`, but prints black text against a color background.

Converted into an HTML hex color span.

```
38 \NewDocumentCommand{\LWR@backgroundcolor}{O{named} m m}{%
39 \begingroup%
40 \LWR@FBcancel%
41 \InlineClass[background:\LWR@colorstyle{#1}{#2}]{backgroundcolor}{%
42 #3%
43 }%
44 \endgroup%
45 }
```

### § 634.7 HTML border

`\LWR@borderpadding` {*colorstyle*} {*color*} Prints the HTML attributes for a black border and padding.

`\LWR@forceminwidth` must be used first in order to set the border width.

```
46 \newcommand*{\LWR@borderpadding}[2]{%
47 border:\LWR@printlength{\LWR@atleastonept} solid \LWR@colorstyle{#1}{#2} ; %
48 padding:\LWR@printlength{\fboxsep}%
49 }
```

### § 634.8 High-level macros

`\color` [*model*] {*color*}



The current `\color` is used by HTML rules and frames, but does not affect the current HTML text output, due to the lack of HTML states and scoping limitations. Use `\textcolor` if possible.

```
50 \NewDocumentCommand{\LWR@HTML@color}{o m}{%
51 \IfValueTF{#1}{%
52 \LWR@print@color[#1]{#2}%
53 \convertcolorspec{#1}{#2}{HTML}\LWR@tempcolor%
54 }{%
55 \LWR@print@color{#2}%
56 \convertcolorspec{named}{#2}{HTML}\LWR@tempcolor%
57 }%
58 \edef\LWR@currenttextcolor{\LWR@origpound\LWR@tempcolor}%
59 }
60
61 \LWR@formatted{color}
```

`\textcolor` [*model*] {*color*} {*text*}

Converted into an HTML hex color span.

```
62 \NewDocumentCommand{\LWR@HTML@textcolor}{o m m}{%
63 \begingroup%
64 \LWR@FBcancel%
```

```

65 \IfValueTF{#1}{%
66 \color[#1]{#2}%
67 }{%
68 \color{#2}%
69 }%
70 \InlineClass[color:\LWR@currenttextcolor]{textcolor}{#3}%
71 \endgroup%
72 }%
73
74 \LWR@formatted{textcolor}

```

`\pagecolor` [*model*] {*color*}

Ignored. Use CSS instead.

```
75 \renewcommand*{\pagecolor}[2][named]{}
```

`\nopagecolor` Ignored.

```
76 \renewcommand*{\nopagecolor}{}

```

`\colorbox` [*model*] {*color*} {*text*}

Converted into an HTML hex background color `<span>`.

```

77 \NewDocumentCommand{\LWR@HTML@colorbox}{O{named} m +m}{%
78 \begingroup%
79 \LWR@FBcancel%
80 \InlineClass[%
81 background:\LWR@colorstyle{#1}{#2} ; %
82 padding:\LWR@printlength{\fboxsep}%
83]{colorbox}{#3}%
84 \endgroup%
85 }
86
87 \AtBeginDocument{
88 \LWR@formatted{colorbox}
89 }

```

`\colorboxBlock` [*model*] {*color*} {*text*}

Converted into an HTML hex background color `<div>`.

```

90 \NewDocumentCommand{\LWR@HTML@colorboxBlock}{O{named} m +m}{%
91 \begingroup%
92 \LWR@FBcancel%
93 \LWR@stoppars%

```

```

94 \begin{BlockClass}[%
95 background:\LWR@colorstyle{#1}{#2} ; %
96 padding:\LWR@printlength{\fboxsep}%
97]{colorboxBlock}
98 #3
99 \end{BlockClass}%
100 \endgroup%
```

Prevent paragraph tags around horizontal white space until the start of the next paragraph:

```

101 \global\booltrue{LWR@minipagethispar}%
102 }
103
104 \AtBeginDocument{
105 \LWR@formatted{colorboxBlock}
106 }
```

`\fcolorbox` [*framemodel*] {*framecolor*} [*boxmodel*] {*boxcolor*} {*text*}

Converted into a framed HTML hex background color span.

A background color of none creates a colored frame without a background color.

```

107 \NewDocumentCommand{\LWR@HTML@fcolorbox}{O{named} m O{#1} m +m}{%
108 \LWR@traceinfo{HTML fcolorbox #2 #4}%
109 \begingroup%
110 \LWR@FBcancel%
111 \LWR@forceminwidth{\fboxrule}%
112 \ifthenelse{\equal{#4}{none}}{%
113 {% no background color
114 \InlineClass[%
115 \LWR@borderpadding{#1}{#2}%
116]{fcolorbox}{#5}%
117 }%
118 {% yes background color
119 \InlineClass[%
120 \LWR@borderpadding{#1}{#2} ; %
121 background:\LWR@colorstyle{#3}{#4}%
122]{fcolorbox}{#5}%
123 }%
124 \endgroup%
125 }
126
127 \AtBeginDocument{
128 \LWR@formatted{fcolorbox}
129 }
```

`\fcolorboxBlock` [*framemodel*] {*framecolor*} [*boxmodel*] {*boxcolor*} {*text*}

Converted into a framed HTML hex background color span.

A background color of none creates a colored frame without a background color.

```

130 \NewDocumentCommand{\LWR@HTML@fcolorboxBlock}{O{named} m O{#1} m +m}{%
131 \LWR@traceinfo{HTML fcolorboxBlock #2 #4}%
132 \begingroup%
133 \LWR@FBcancel%
134 \LWR@forceminwidth{\fboxrule}%

135 \LWR@stoppars%

136 \ifthenelse{\equal{#4}{none}}{%
137 {% no background color
138 \begin{BlockClass}[%
139 \LWR@borderpadding{#1}{#2}%
140]{fcolorboxBlock}
141 #5
142 \end{BlockClass}%
143 }%
144 {% yes background color
145 \convertcolorspec{#3}{#4}{HTML}\LWR@tempcolortwo%
146 \begin{BlockClass}[%
147 background:\LWR@origpound\LWR@tempcolortwo\ ; %
148 \LWR@borderpadding{#1}{#2}%
149]{fcolorboxBlock}
150 #5
151 \end{BlockClass}%
152 }%
153 \endgroup%
```

Prevent paragraph tags around horizontal white space until the start of the next paragraph:

```

154 \global\booltrue{\LWR@minipagethispar}%
155 \LWR@traceinfo{HTML fcolorboxBlock done}%
156 }
157
158 \AtBeginDocument{
159 \LWR@formatted{fcolorboxBlock}
160 }
```

Creates a framed HTML <div> around its contents.

A print-output version is defined in the lwarp core: [section 87](#)

```

\LWR@subfcolorminipage {\framemodel} {\framecolor} {\background tag} {\height}

161 \NewDocumentCommand{\LWR@subfcolorminipage}{m m m m}{%

162 \LWR@stoppars%

163 \begin{BlockClass}[%
164 #3%
165 \LWR@borderpadding{#1}{#2} ; %
```

```

166 \IfValueT{#4}{height:\LWR@printlength{\LWR@tempheight} ; }%
167 width:\LWR@printlength{\LWR@tempwidth}%
168]{fcolorminipage}%
169 }

```

Env fcolorminipage [*<1:framecolor>*] [*<2:framecolor>*] [*<3:boxmodel>*] [*<4:boxcolor>*] [*<5:align>*] [*<6:height>*] [*<7:inner-align>*] [*<8:width>*]

```

170 \NewDocumentEnvironment{LWR@HTML@fcolorminipage}{0{named} m O{#1} m O{c} o o m}
171 {%
172 \LWR@FBcancel%
173 \setlength{\LWR@tempwidth}{#8}%
174 \IfValueT{#6}{\setlength{\LWR@tempheight}{#6}}%
175 \LWR@forceminwidth{\fboxrule}%
176 \convertcolorspec{#1}{#2}{HTML}\LWR@tempcolor%
177 \ifthenelse{equal{#4}{none}}%
178 {\LWR@subfcolorminipage{#1}{#2}{#6}}%
179 {%
180 \convertcolorspec{#3}{#4}{HTML}\LWR@tempcolortwo%
181 \LWR@subfcolorminipage{#1}{#2}%
182 {background:\LWR@origpound\LWR@tempcolortwo\ ; }%
183 {#6}%
184 }%
185 }%
186 {%
187 \end{BlockClass}%

```

Prevent paragraph tags around horizontal white space until the start of the next paragraph:

```

188 \global\booltrue{LWR@minipagethispar}%
189 }
190
191 \AtBeginDocument{
192 \LWR@formattedenv{fcolorminipage}
193 }

```

`\boxframe` {*<width>*} {*<height>*} {*<depth>*}

The depth is added to the height, but the box is not decended below by the depth. `\textcolor` is honored.

```

194 \newcommand*{\LWR@HTML@boxframe}[3]{%
195 {%
196 \setlength{\LWR@tempwidth}{#1}%
197 \setlength{\LWR@tempheight}{#2}%
198 \addtolength{\LWR@tempheight}{#3}%
199 \LWR@forceminwidth{\fboxrule}%
200 \LWR@findcurrenttextcolor%
201 \InlineClass[%
202 display:inline-block ; %
203 border:\LWR@printlength{\LWR@atleastonept} solid \LWR@currenttextcolor{} ; %

```

```

204 width:\LWR@printlength{\LWR@tempwidth} ; %
205 height:\LWR@printlength{\LWR@tempheight}%
206]{boxframe}{}%
207 }%
208 }
209
210 \LWR@formatted{boxframe}

```

### § 634.9 Row colors

```

\rowcol@rs [⟨cmds⟩] {⟨startrow⟩} {⟨odd color⟩} {⟨even color⟩}

211 \newcommand*{\LWR@xcolortempcolor}{}
212
213 \def\rowcol@rs[#1]#2#3#4%
214 {
215 \rownum=1%
216 \@rowcolorstrue%
217 \@ifxempty{#3}%
218 {\def\@oddrowcolor{\@norowcolor}}%
219 {%
220 \convertcolorspec{named}{#3}{HTML}\LWR@xcolortempcolor%
221 \edef\@oddrowcolor{%
222 \csdef{\LWR@xcolorrowHTMLcolor}{\LWR@xcolortempcolor}%
223 }%
224 }%
225 \@ifxempty{#4}%
226 {\def\@evenrowcolor{\@norowcolor}}%
227 {%
228 \convertcolorspec{named}{#4}{HTML}\LWR@xcolortempcolor%
229 \edef\@evenrowcolor{%
230 \csdef{\LWR@xcolorrowHTMLcolor}{\LWR@xcolortempcolor}%
231 }%
232 }%
233 \if@rowcmd
234 \def\@rowcolors
235 {%
236 % #1%
237 \if@rowcolors
238 % \noalign{%
239 % \relax\ifnum\rownum<#2\@norowcolor\else
240 % \ifodd\rownum\@oddrowcolor\else\@evenrowcolor\fi\fi%
241 % }%
242 \fi%
243 }%
244 \else
245 \def\@rowcolors
246 {%
247 \if@rowcolors
248 % \ifnum\rownum<#2%
249 % \noalign{%
250 % \@norowcolor
251 % }
252 % \else
253 % #1%
254 % \noalign{%

```

```

255 \ifodd\rownum\@oddrowcolor\else\@evenrowcolor\fi%
256 % }%
257 \fi
258 \fi%
259 }%
260 \fi
261 \ignorespaces%
262 }

```

`\@norowcolor` Turns off color for this row.

```

263 \def\@norowcolor{%
264 \renewcommand{\LWR@xcolorrowHTMLcolor}{}%
265 }

```

`\@rowc@lors` Executed at the end of each row.

```

266 \def\@rowc@lors{%
267 % \noalign{%
268 \advance\rownum\@ne%
269 % }%
270 \@rowcolors%
271 }

```

---

File 529 **lwarp-xexchangebar.sty**

§ 635 Package **xexchangebar**

Pkg xexchangebar xexchangebar is ignored

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{xexchangebar}[2017/08/03]
2 \LWR@origRequirePackage{lwarp-changebar}

```

---

File 530 **lwarp-xellipsis.sty**

§ 636 Package **xellipsis**

*(Emulates or patches code by DONALD P. GOODMAN III.)*

Pkg xellipsis xellipsis is patched for use by lwarp.

When non-zero, each of the spaces is converted to an HTML thin unbreakable space.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{xellipsis}[2015/11/01]

2 \newcommand*{\LWR@xellipsispace}[1]{%
3 \ifdim#1=0pt\else%
4 \ifdim#1<\fontdimen2\font%
5 \,%

```



```

6 \else%
7 ~%
8 \fi%
9 \fi%
10 }
11
12 \def\xelip{%
13 \mbox{%
14 \LWR@xellipsespace{\xelipprebef}%
15 \xelipprechar%
16 \LWR@xellipsespace{\xelippreaft}%
17 \LWR@xellipsespace{\xelipbef}%
18 \xelipchar%
19 \xel@loopi = 1%
20 \loop\ifnum\xelipnum>\xel@loopi%
21 \advance\xel@loopi by1%
22 \LWR@xellipsespace{\xelipgap}%
23 \xelipchar%
24 \repeat%
25 \LWR@xellipsespace{\xelipaft}%
26 \LWR@xellipsespace{\xelippostbef}%
27 \xelippostchar%
28 \LWR@xellipsespace{\xelippostaft}%
29 }%
30 }%

```

---

File 531 **lwarp-xetexko-vertical.sty**

§ 637 Package **xetexko-vertical**

*(Emulates or patches code by DOHYUN KIM.)*

Pkg xetexko-vertical xetexko-vertical is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@loadbefore{xetexko-vertical}
2
3 \LWR@ProvidesPackagePass{xetexko-vertical}[2018/04/06]

4 \renewcommand{\verticaltypesetting}{}
5 \renewenvironment{vertical}[1]{\BlockClass{verticalrl}}{\endBlockClass}
6 \renewenvironment{horizontal}[1]{\BlockClass{horizontaltb}}{\endBlockClass}
7 \renewcommand{\vertlatin}[1]{#1}

```

---


File 532 **lwarp-xfakebold.sty**

§ 638 Package **xfakebold**

*(Emulates or patches code by HERBERT VOSS.)*

Pkg xfakebold xfakebold is patched for use by lwarp, and additional underlying support is found in

the lwarp core.

 **text mode** `xfakebold` is only used in `svg math` and `lateximages`. Text mode is not set bold, but `\setBold` in text will be applied to any following `svg math`.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{xfakebold}[2020/06/24]

2 \newcommand*\LWR@HTML@setBold{\booltrue{LWR@xfakebold}}
3 \LWR@formatted{setBold}
4
5 \newcommand*\LWR@HTML@unsetBold{\boolfalse{LWR@xfakebold}}
6 \LWR@formatted{unsetBold}
7
8 \renewcommand*\LWR@applyxfakebold{%
9 \ifbool{LWR@xfakebold}{\LWR@print@setBold}{\LWR@print@unsetBold}%
10 }
```

For `MATHJAX`, `xfakebold` is ignored.

```

11 \begin{warpMathJax}
12 \CustomizeMathJax{\newcommand{\setBold}[1][{}]}
13 \CustomizeMathJax{\newcommand{\unsetBold}{}]}
14 \end{warpMathJax}
```

---

File 533 **lwarp-xfrac.sty**

§ 639 Package **xfrac**


*(Emulates or patches code by THE L<sup>A</sup>T<sub>E</sub>X3 PROJECT.)*

Pkg `xfrac` Supported by adding `xfrac` instances, and emulated for `MATHJAX`.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{xfrac}[2018-08-23]
```

 **font size** During `HTML` conversion, this font is used by `lwarp` to generate its initial `PDF` output containing `HTML` tags, later to be converted by `pdftotext` to a plain text file. While the text may be in any font which `pdftotext` can read, the math is directly converted into `svg` images using this same user-selected font. `xfrac` below is set for the Latin Modern (`lmr`) font. If another font is used, it may be desirable to redefine `\xfracHTMLfontsize` with a different `em` size.

```
\sfrac [instance] {num} [sep] {denom}
```

A text-mode instance for the default font is provided below. The numerator and denominator formats are adjusted to encase everything in `HTML` tags. `\scalebox` is made null inside the numerator and denominator, since the `HTML` tags should not be scaled, and we do not want to introduce additional `HTML` tags for scaling.

In math mode, which will appear inside a `lateximage`, no adjustments are necessary.

`\fracHTMLfontsize` User-redefinable macro which controls the font size of the fraction.

```
2 \newcommand*\fracHTMLfontsize{.6em}
```

**instances** Instances of `xfrac` for various font choices:

Produce CSS for a small raised numerator and a small denominator.

Scaling is turned off so that *pdftotext* correctly reads the result.

```
3 \DeclareInstance{xfrac}{default}{text}{
4 numerator-format = {%
5 \begingroup%
6 \RenewDocumentCommand{\scalebox}{m o m}{##3}%
7 \InlineClass{numerator}{#1}\,%
8 \endgroup%
9 },
10 denominator-format = {%
11 \begingroup%
12 \RenewDocumentCommand{\scalebox}{m o m}{##3}%
13 \InlineClass{denominator}{#1}%
14 \endgroup%
15 },
```

For *pdftotext*, do not scale the text:

```
16 scaling = false
17 }
18
19 \DeclareInstance{xfrac}{lmr}{text}{
20 numerator-format = {%
21 \begingroup%
22 \RenewDocumentCommand{\scalebox}{m o m}{##3}%
23 \InlineClass{numerator}{#1}\,%
24 \endgroup%
25 },
26 denominator-format = {%
27 \begingroup%
28 \RenewDocumentCommand{\scalebox}{m o m}{##3}%
29 \InlineClass{denominator}{#1}%
30 \endgroup%
31 },
```

For *pdftotext*, do not scale the text:

```
32 scaling = false
33 }
34
35 \DeclareInstance{xfrac}{lmss}{text}{
36 numerator-format = {%
37 \begingroup%
38 \RenewDocumentCommand{\scalebox}{m o m}{##3}%
39 \InlineClass{numerator}{#1}\,%
40 \endgroup%
```

```

41 },
42 denominator-format = {%
43 \begingroup%
44 \RenewDocumentCommand{\scalebox}{m o m}{##3}%
45 \InlineClass{denominator}{#1}%
46 \endgroup%
47 },

```

For *pdftotext*, do not scale the text:

```

48 scaling = false
49 }
50
51 \DeclareInstance{xfrac}{lmtt}{text}{
52 numerator-format = {%
53 \begingroup%
54 \RenewDocumentCommand{\scalebox}{m o m}{##3}%
55 \InlineClass{numerator}{#1}\,%
56 \endgroup%
57 },
58 denominator-format = {%
59 \begingroup%
60 \RenewDocumentCommand{\scalebox}{m o m}{##3}%
61 \InlineClass{denominator}{#1}%
62 \endgroup%
63 },

```

For *pdftotext*, do not scale the text:

```

64 scaling = false
65 }

```

For MATHJAX:

```

66 \begin{warpMathJax}
67 \CustomizeMathJax{\newcommand{\LWRsfrac}[2][/]{\{}^{\LWRsfracnumerator\!#1}_{#2}}
68 \CustomizeMathJax{\newcommand{\sfrac}[2][]{\def\LWRsfracnumerator{#2}\LWRsfrac}}
69 \end{warpMathJax}

```


File 534 **lwarp-xltabular.sty**

§ 640 Package **xltabular**

(Emulates or patches code by ROLF NIEPRASCHK, HERBERT VOSS.)

Pkg xltabular xltabular is emulated by lwarp.

for HTML output: Relies on tabularx.

 **table numbering** At present, an xltabular without a caption or with only a \caption\* may be misnumbered in HTML, so it may be necessary to place at the end of the table:

---

```
\warpHTMLonly{\addtocounter{table}{-1}}
```

```
1 \RequirePackage{tabularx}
2 \RequirePackage{ltablex}
3
4 \LWR@ProvidesPackageDrop{xltabular}[2018/05/23]
5
6 \DeclareDocumentEnvironment{xltabular}{o m m}
7 {\longtable{#3}}
8 {\endlongtable}
```

---

File 535 **lwarp-xltextra.sty**

§ 641 Package **xltextra**

*(Emulates or patches code by WILL ROBERTSON, JONATHAN KEW.)*

Pkg xltextra xltextra is emulated.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{xltextra}[2016/01/21]

```
2 \RequirePackage{realscripts}
3 \RequirePackage{metalogo}
4 \newcommand*{\TeX@logo@spacing}[6]{}
5
6 \newcommand*{\vfrac}[2]{%
7 #1/\textsubscript{#2}%
8 }
9
10 \newcommand\namedglyph[1]{%
11 \@tempcnta=\XeTeXglyphindex "#1"\relax
12 \ifnum\@tempcnta>0
13 \XeTeXglyph\@tempcnta
14 \else
15 \xxt@namedglyph@fallback{#1}%
16 \fi}
17
18 \newcommand\xxt@namedglyph@fallback[1][[#1]]
19
20 \DeclareDocumentCommand{\showhyphens}{m}{}
```

---

File 536 **lwarp-xmpincl.sty**

§ 642 Package **xmpincl**

*(Emulates or patches code by MAARTEN SNEEP.)*

Pkg xmpincl xmpincl is ignored.

**for HTML output:**

Discard all options for `lwarp-xmpincl`:

```
1 \LWR@ProvidesPackageDrop{xmpincl}[2008/05/10]
2 \newcommand*\includemp}[1]{}

```

---

File 537 **lwarp-xpiano.sty**

§ 643 Package **xpiano**

*(Emulates or patches code by ENRICO GREGORIO.)*

Pkg xpiano xpiano is patched for use by lwarp.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{xpiano}
2 \ExplSyntaxOn
3 \NewDocumentCommand{\LWR@print@keyboard}{ O{}m }
4 {
5 \xpiano_keyboard:nn { #1 } { #2 }
6 }
7
8 \NewDocumentCommand{\LWR@HTML@keyboard}{ O{}m }
9 {
10 \begin{lateximage}*
11 [%
12 -xpiano--\PackageDiagramAltText{}: \detokenize\expandafter{#2}%
13]
14 [\detokenize\expandafter{#1}]
15 \xpiano_keyboard:nn { #1 } { #2 }
16 \end{lateximage}
17 }
18 \ExplSyntaxOff
19
20 \LWR@formatted{keyboard}

```

---

File 538 **lwarp-xpinyin.sty**

§ 644 Package **xpinyin**

*(Emulates or patches code by SOBEN LEE.)*

Pkg xpinyin xpinyin is supported.

Pinyin is disabled for file names, the `sideroc`, and regular footnotes, but is left enabled for minipage footnotes, as per the print mode.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{xpinyin}[2019-04-07]

```

The original's boxes are not used, instead the contents are used with <ruby>, <rb>, and <rt> tags per modern HTML. Color is detected. ratio is ignored for *pdftotext* to work correctly. Extra spaces are placed inside the tags to allow line breaks in the HTML text.

```

2 \ExplSyntaxOn
3 \cs_new_protected_nopar:Npn \LWR@HTML@__xpinyin_make_pinyin_box:nnn #1#2#3
4 {
5 \color_group_begin: \color_ensure_current:
6 \l__xpinyin_pinyin_box_hook_tl
7 \renewcommand*{\l__xpinyin_ratio_tl}{1}% for pdftotext
8 __xpinyin_select_font:
9 \clist_if_exist:cTF { c__xpinyin_multiple_ #1 _clist }
10 { \l__xpinyin_multiple_tl \l__xpinyin_format_tl }
11 { \l__xpinyin_format_tl }
12 \ifdefempty{\l__xpinyin_format_tl}
13 {#3}
14 {\LWR@textcurrentcolor{#3}}
15 \color_group_end:
16 }
17 \LWR@formatted{__xpinyin_make_pinyin_box:nnn}
18
19 \cs_new_protected_nopar:Npn \LWR@HTML@__xpinyin_CJKsymbol:nn #1#2
20 {
21 __xpinyin_leavevmode:
22 \LWR@htmltagc{ruby}
23 \LWR@htmltagc{rb}
24 __xpinyin_save_CJKsymbol:n {#2}\null% \null removes extra space
25 \LWR@htmltagc{/rb\space}
26 \LWR@htmltagc{rp}{\LWR@htmltagc{/rp\space}
27 \LWR@htmltagc{rt}
28 __xpinyin_make_pinyin_box:nnn {#1} {#2} { \use:c { c__xpinyin_ #1 _tl } }
29 \LWR@htmltagc{/rt\space}
30 \LWR@htmltagc{rp})\LWR@htmltagc{/rp\space}
31 \LWR@htmltagc{/ruby\space}\null
32 }
33 \LWR@formatted{__xpinyin_CJKsymbol:nn}
34
35 \cs_new_protected_nopar:Npn \LWR@HTML@__xpinyin_single_CJKsymbol:nn #1#2
36 {
37 __xpinyin_leavevmode:
38 \LWR@htmltagc{ruby}
39 \LWR@htmltagc{rb}
40 __xpinyin_save_CJKsymbol:n {#1}\null% \null removes extra space
41 \LWR@htmltagc{/rb\space}
42 \LWR@htmltagc{rp}{\LWR@htmltagc{/rp\space}
43 \LWR@htmltagc{rt}
44 __xpinyin_make_pinyin_box:xnn
45 { __xpinyin_to_unicode:n {#1} } {#1} { __xpinyin_pinyin:n {#2} }
46 \LWR@htmltagc{/rt\space}
47 \LWR@htmltagc{rp})\LWR@htmltagc{/rp\space}
48 \LWR@htmltagc{/ruby\space}\null
49 }
50 \LWR@formatted{__xpinyin_single_CJKsymbol:nn}
51

```

```
52 \ExplSyntaxOff
```

The **lwarp** core uses the following to disable CJK xpinyin for filenames, sideroc, and footnotes.

```
53 \renewcommand*\LWR@disablepinyin{\disablepinyin}
54
55 \FilenameNullify{\LWR@disablepinyin}
```

File 539 **lwarp-xr.sty**

§ 645 Package **xr**

*(Emulates or patches code by JEAN-PIERRE DRUCBERT, DAVID CARLISLE.)*

Pkg xr xr is patched for use by **lwarp**. The `*_html.aux` file is used. `\externaldocument` is modified to also accept the optional arguments for `xr-hyper`, which currently uses `xr` for HTML output.

See section 5.17.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{xr}[2019/07/22]%
2 \LetLtxMacro\LWR@orig@externaldocument\externaldocument
3
4 \RenewDocumentCommand{\externaldocument}{O{} O{} m O{}}{%
5 \ifblank{#1}{%
6 \LWR@orig@externaldocument{#3_html}%
7 }{%
8 \LWR@orig@externaldocument[#1]{#3_html}%
9 }%
10 }
```

File 540 **lwarp-xr-hyper.sty**

§ 646 Package **xr-hyper**

*(Emulates or patches code by DAVID CARLISLE.)*

Pkg xr-hyper `xr-hyper` is replaced by `xr`, which is modified to accept the optional arguments for `\externaldocument`. So far, no hyperlinks are provided for citations.

See section 5.17.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{xr-hyper}[2019/10/03]%
2
3 \LWR@origRequirePackage{lwarp-xr}
```



File 541 **lwarp-xtab.sty**

§ 647 Package **xtab**

(Emulates or patches code by PETER WILSON.)

Pkg xtab **xtab** is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{xtab}[2011/07/31]

⚠ Misplaced alignment tab character &

For `\tablefirsthead`, etc., enclose them as follows:

```
\StartDefiningTabulars
\tablefirsthead
...
\StopDefiningTabulars
```

See section 8.10.1.

⚠ lateximage `supertabular` and `xtab` are not supported inside a `lateximage`.

```
2 \newcommand{\LWRXT@firsthead}{}
3
4 \newcommand{\tablefirsthead}[1]{%
5 \long\gdef\LWRXT@firsthead{#1}%
6 }
7
8 \newcommand{\tablehead}[1]{}
9
10 \newcommand{\tablelasthead}[1]{}
11
12 \newcommand{\notablelasthead}{}
13
14 \newcommand{\tabletail}[1]{}
15
16 \newcommand{\LWRXT@lasttail}{}
17
18 \newcommand{\tablelasttail}[1]{%
19 \long\gdef\LWRXT@lasttail{#1}%
20 }

21 \newcommand{\tablecaption}[2][]{%
22 \long\gdef\LWRXT@caption{%
23 \ifblank{#1}%
24 {\caption{#2}}%
25 {\caption[#1]{#2}}%
26 }%
27 }
28
29 \let\topcaption\tablecaption
30 \let\bottomcaption\tablecaption
```

```

31 \newcommand*\LWRXT@caption{}
32
33 \newcommand*\shrinkheight[1]{}
34
35 \newcommand*\xentrystretch[1]{}
36
37 \NewDocumentEnvironment{xtabular}{s o m}
38 {%
39 \LWR@traceinfo{xtabular}%
40 \table%
41 \LWRXT@caption%
42 \begin{tabular}{#3}%
43 \TabularMacro\ifdefvoid{\LWRXT@firsthead}%
44 {\LWR@getmynexttoken}%
45 {\expandafter\LWR@getmynexttoken\LWRXT@firsthead}%
46 }%
47 {%
48 \ifdefvoid{\LWRXT@lasttail}%
49 }%
50 {%
51 \TabularMacro\ResumeTabular%
52 \LWRXT@lasttail%
53 }%
54 \end{tabular}%
55 \endtable%

56 \gdef\LWRXT@caption{}%

57 \LWR@traceinfo{xtabular done}%
58 }
59
60 \NewDocumentEnvironment{mpxtabular}{s o m}
61 {\minipage{\linewidth}\xtabular{#3}}
62 {\endxtabular\endminipage}

```

---

File 542 **lwarp-xunicode.sty**

§ 648 Package **xunicode**

Pkg xunicode Error if xunicode is loaded after lwarp.

Patch lwarp-xunicode, but also verify that it was loaded before lwarp:

**for HTML output:**

```

1 \LWR@loadbefore{xunicode}%
2
3 \LWR@ProvidesPackagePass{xunicode}[2011/09/09]

```

`\textcircled` becomes a span with a rounded border. `\providecommand` is used to avoid conflict with `textcomp`.

```

4 \providecommand*\LWR@HTML@textcircled[1]{}
5 \InlineClass[border: 1px solid \LWR@currenttextcolor]{textcircled}{#1}%

```

```

6 }
7
8 \LWR@formatted{textcircled}

```

Nullify xunicode macros when generating filenames:

```

9 \FilenameNullify{%
10 \renewcommand*\textdegree{}%
11 \renewcommand*\textcelsius{}%
12 \renewcommand*\textohm{}%
13 \renewcommand*\textmu{}%
14 \renewcommand*\textlquill{}%
15 \renewcommand*\textrquill{}%
16 \renewcommand*\textcircledP{}%
17 \renewcommand*\texttwelveudash{}%
18 \renewcommand*\textthreequartersemdash{}%
19 \renewcommand*\textmho{}%
20 \renewcommand*\textnaira{}%
21 \renewcommand*\textpeso{}%
22 \renewcommand*\textrecipe{}%
23 \renewcommand*\textinterrobang{}%
24 \renewcommand*\textinterrobangdown{}%
25 \renewcommand*\textperthousand{}%
26 \renewcommand*\textpertenthousand{}%
27 \renewcommand*\textbaht{}%
28 \renewcommand*\textdiscount{}%
29 \renewcommand*\textservicemark{}%
30 \renewcommand*\textcircled[1]{#1}%
31 \renewcommand*\capitalcedilla[1]{#1}%
32 \renewcommand*\capitalogonek[1]{#1}%
33 \renewcommand*\capitalgrave[1]{#1}%
34 \renewcommand*\capitalacute[1]{#1}%
35 \renewcommand*\capitalcircumflex[1]{#1}%
36 \renewcommand*\capitaltilde[1]{#1}%
37 \renewcommand*\capitaldieresis[1]{#1}%
38 \renewcommand*\capitalhungarumlaut[1]{#1}%
39 \renewcommand*\capitalring[1]{#1}%
40 \renewcommand*\capitalcaron[1]{#1}%
41 \renewcommand*\capitalbreve[1]{#1}%
42 \renewcommand*\capitalmacron[1]{#1}%
43 \renewcommand*\capitaldotaccent[1]{#1}%
44 }% FilenameNullify

```

---

File 543 **lwarp-xurl.sty**

§ 649 Package **xurl**

Pkg xurl xurl is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{xurl}[2020/01/14]
2
3 \def\useOriginalUrlSetting{}

```

File 544 **lwarp-xy.sty**

§ 650 Package **XY**

(Emulates or patches code by KRISTOFFER H. ROSE, ROSS MOORE.)

Pkg xy xy is patched for use by lwarp.

for HTML output: 1 \LWR@ProvidesPackagePass{xy}[2013/10/06]

After xy modules have been loaded:

```
2 \AtBeginDocument{
```

The original definitions without a lateximage:

```
3 \LetLtxMacro\LWR@orig@xy\xy
4 \LetLtxMacro\LWR@orig@endxy\endxy
```

The outer-most xy environment is placed in a lateximage, but not more than one level deep, which would conflict with xy:

```
5 \renewcommand*{\xy}{%
6 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
7 {\addtocounter{LWR@lateximagedepth}{1}}%
8 {\begin{lateximage}[-xy-~\PackageDiagramAltText]}%
9 \LWR@orig@xy%
10 }
11
12 \renewcommand*{\endxy}{%
13 \LWR@orig@endxy%
14 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{1}%
15 {\addtocounter{LWR@lateximagedepth}{-1}}%
16 {\end{lateximage}}%
17 }
```

The \xybox must use the original definitions of \xy, \endxy:

```
18 \def\xybox#1{%
19 \LWR@orig@xy#1\LWR@orig@endxy%
20 \Edge@c={\rectangleEdge}\computeLeftUpness@%
21 }
```

If \xygraph is used, it is placed inside a lateximage:

```
22 \@ifundefined{xygraph}{}{
23
24 \LetLtxMacro\LWR@origxygraph\xygraph
25
26 \renewcommand{\xygraph}[1]{%
```

```

27 \begin{lateximage}[-xy- xygraph \PackageDiagramAltText]
28 \LWR@origxygraph{#1}
29 \end{lateximage}
30 }
31
32 }% xygraph defined
33
34 }% AtBeginDocument

```

---

File 545 **lwarp-zhlineskip.sty**

§ 651 Package **zhlineskip**

Pkg zhlineskip zhlineskip is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{zhlineskip}[2019/05/15]

2 \newcommand*\SetTextEnvironmentSinglespace[1]{}
3 \newcommand*\RestoreTextEnvironmentLeading[1]{}
4 \newcommand*\SetMathEnvironmentSinglespace[1]{}
5 \newcommand*\RestoreMathEnvironmentLeading[1]{}

```

---

File 546 **lwarp-zwpagelayout.sty**

§ 652 Package **zwpagelayout**

*(Emulates or patches code by ZDENĚK WAGNER.)*

Pkg zwpagelayout zwpagelayout is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{zwpagelayout}[2013/01/13]

2 \def\noBboxes{}
3 \@onlypreamble\noBboxes
4
5 \expandafter\ifx\csname definecolor\endcsname\relax \else
6 \definecolor{cmykblack}{cmyk}{0,0,0,1}
7 \definecolor{grblack}{gray}{0}
8 % \ifzwpl@redefineblack
9 % \definecolor{black}{cmyk}{0,0,0,1}\color{black}
10 % \fi
11 \definecolor{cmykred}{cmyk}{0,1,1,0}
12 \definecolor{cmykgreen}{cmyk}{1,0,1,0}
13 \definecolor{cmykblue}{cmyk}{1,1,0,0}
14 \definecolor{rgbred}{rgb}{1,0,0}
15 \definecolor{rgbgreen}{rgb}{0,1,0}
16 \definecolor{rgbblue}{rgb}{0,0,1}
17 % \ifzwpl@redefinetcmyk
18 % \definecolor{red}{cmyk}{0,1,1,0}

```

```

19 % \definecolor{green}{cmyk}{1,0,1,0}
20 % \definecolor{blue}{cmyk}{1,1,0,0}
21 % \fi
22 \fi
23
24 \let\OverprintXeTeXExtGState\relax
25
26 \DeclareRobustCommand\SetOverprint{\ignorespaces}
27 \DeclareRobustCommand\SetKnockout{\ignorespaces}
28 \DeclareRobustCommand\textoverprint[1]{\SetOverprint#1}
29 \DeclareRobustCommand\textknockout[1]{\SetKnockout#1}
30
31 \def\SetPDFminorversion#1{}
32 \@onlypreamble\SetPDFminorversion
33
34 \newcommand*\Vcorr{}
35
36 \DeclareRobustCommand\vb[1][1]{}
37 \NewDocumentCommand{\NewOddPage}{* o}{}
38 \NewDocumentCommand{\NewEvenPage}{* o}{}
39 \def\SetOddPageMessage#\gdef\ZW@oddwarning}
40 \def\SetEvenPageMessage#\gdef\ZW@evenwarning}
41 \def\ZW@oddwarning{Empty page inserted}\let\ZW@evenwarning\ZW@oddwarning
42
43 \def\clap#1{#1}
44
45 \def\CropFlap{2in}
46 \def\CropSpine{1in}
47 \def\CropXSpine{1in}
48 \def\CropXtrim{.25in}
49 \def\CropYtrim{.25in}
50 \def\UserWidth{5in}
51 \def\UserLeftMargin{1in}
52 \def\UserRightMargin{1in}
53 \def\UserTopMargin{1in}
54 \def\UserBotMargin{1in}
55 \def\thePageNumber{\LWR@origpound\, \arabic{page}}
56 \ifXeTeX
57 \def\ifcaseZWdriver{\ifcase2}
58 \else
59 \def\ifcaseZWdriver{\ifcase1}
60 \fi
61 \DeclareRobustCommand\ZWifdriver[2]{}

```

---

File 547 **lwarp-patch-komascript.sty**

§ 653 Package **patch-komascript**

Pkg lwarp-patch-komascript Patches for komascript classes.

lwarp loads this package when scrbook, scartcl, or screprt classes are detected.

Many features are ignored during the HTML conversion. The goal is source-level compatibility.

`\captionformat`, `\figureformat`, and `\tableformat` are not yet emulated.

 **Not fully tested!** [Please send bug reports!](#)

Some features have not yet been tested. Please contact the author with any bug reports.

**for HTML output:** 1 `\ProvidesPackage{lwarp-patch-komascript}`

`typearea` is emulated.

2 `\RequirePackage{lwarp-typearea}`

`tocbasic` is emulated.

3 `\RequirePackage{lwarp-tocbasic}`

`scrextend` patches most of the new macros.

4 `\RequirePackage{lwarp-scrextend}`

Indexing macros, simplified for `lwarp`:

```

5 \AtBeginDocument{
6
7 \renewcommand*{\idx@heading}{%
8 \idx@@heading{\indexname}%
9 }
10
11 \renewenvironment{theindex}{%
12 \idx@heading%
13 \index@preamble\par\nobreak
14 \let\item\LWR@indexitem%
15 \let\subitem\LWR@indexsubitem%
16 \let\subsubitem\LWR@indexsubsubitem%
17 }
18 {}
19
20 \renewcommand*\indexspace{}
21
22 }% AtBeginDocument

```

The `\minisec` is placed inside a `<div>` of class `minisec`.

```

23 \renewcommand*{\minisec}[1]{
24 \begin{BlockClass}{minisec}
25 #1
26 \end{BlockClass}
27 }

```

The part and chapter preambles are placed as plain text just after each heading.

```

28 \@ifundefined{setpartpreamble}{}{
29 \RenewDocumentCommand{\setpartpreamble}{o o +m}{%
30 \renewcommand{\part@preamble}{#3}%
31 }
32 }
33
34 \@ifundefined{setchapterpreamble}{}{
35 \RenewDocumentCommand{\setchapterpreamble}{o o +m}{%
36 \renewcommand{\chapter@preamble}{#3}%
37 }
38 }

```

Do not use `\chaptername`:

```

39 \renewcommand*\LWR@printchaptername{}

```

Simple captions are used in all cases.

```

40 \AtBeginDocument{
41 \AtBeginDocument{
42 \LetLtxMacro\captionbelow\caption
43 \LetLtxMacro\captionabove\caption
44
45 \LetLtxMacro\captionofbelow\captionof
46 \LetLtxMacro\captionofabove\captionof
47 }
48 }
49
50 \RenewDocumentEnvironment{captionbeside}{o m o o o s}
51 {}
52 {%
53 \IfValueTF{#1}%
54 {\caption[#1]{#2}}%
55 {\caption{#2}}%
56 }
57
58 \RenewDocumentEnvironment{captionofbeside}{m o m o o o s}
59 {}
60 {%
61 \IfValueTF{#2}%
62 {\captionof{#1}[#2]{#3}}%
63 {\captionof{#1}{#3}}%
64 }
65
66 \RenewDocumentCommand{\setcapindent}{s m}{}
67 \renewcommand*\setcaphanging{}
68 \renewcommand*\setcapwidth[2][{}]{
69 \renewcommand*\setcapdynwidth[2][{}]{
70 \RenewDocumentCommand{\setcapmargin}{s o m}{}

```



File 548 **lwarp-patch-memoir.sty**

§ 654 Package **patch-memoir**

*(Emulates or patches code by PETER WILSON.)*

Pkg lwarp-patch-memoir Patches for memoir class.

⚠ **Not fully tested!** [Please send bug reports!](#)

lwarp loads this package when the memoir class is detected.

⚠ **captions** lwarp uses caption, which causes a warning from memoir. This is normal. Adjust captions via caption, instead of memoir.

⚠ **options clash** While emulating memoir, lwarp pre-loads a number of packages (section 654.1). This can cause an options clash when the user's document later loads the same packages with options. To fix this problem, specify the options before loading lwarp:

```
\documentclass{memoir}
...
\PassOptionsToPackage{options_list}{package_name}
...
\usepackage{lwarp}
...
\usepackage{package_name}
```

⚠ **version numbers** memoir emulates a number of packages, and declares a version date for each which often does not match the date of the corresponding freestanding package. This can cause warnings about incorrect version numbers. Since lwarp is intended to support the freestanding packages, which are often newer than the date declared by memoir, it is hoped that memoir will update and change its emulated version numbers to match.

`\label{bookmark}{tag}` \label accepts an optional (bookmark) argument, but this is ignored in HTML.

⚠ **comment** The comment environment is from the comment package, and thus requires that the \begin and \end each be on its own line:

```
\begin{comment}
This is a comment.
\end{comment}
```

`\newcomment` Comments defined with \newcomment use memoir's definitions, and behave as expected, where the \begin and \end do have to each be on its own line.

⚠ **verbatim footnotes** \verbfootnote is not supported.


⚠ `\newfootnoteseries` \newfootnoteseries, etc. are not supported.


⚠ **page notes** lwarp loads pagenote to perform memoir's pagenote functions, but there are minor differences in \pagenotesubhead and related macros.


[page notes with cleveref](#) To add support for pagenotes with `cleveref`, add:

```
\crefname{pagenote}{page note}{page notes}
\Crefname{pagenote}{Page note}{Page notes}
```

[page note \nameref](#) Note that for print mode, `\nameref` print the section name where the page notes are declared in the text, but for HTML it prints the name where the page notes are printed.

 [poems](#) Poem numbering is not supported.

 [verbatim](#) The `verbatim` environment does not yet support the memoir enhancements. It is currently recommended to load and use `fancyvrb` instead.

 [glossaries](#) The memoir glossary system is not yet supported by *lwarpmk*. The `glossaries` package may be used instead, but does require the glossary entries be changed from the memoir syntax to the `glossaries` syntax.

**for HTML output:** `1 \ProvidesPackage{lwarp-patch-memoir}`

## § 654.1 Packages

These are pre-loaded to provide emulation for many of memoir's functions. memoir pretends that `abstract`, etc. are already loaded, via its “emulated” package mechanism, but `warp` is directly loading the “lwarp-” version of each, which happens to avoid memoir's emulation system.

```
2 \RequirePackage{lwarp-abstract}% req'd
3 % \RequirePackage{lwarp-array}% no longer req'd
4 \RequirePackage{lwarp-booktabs}% req'd
5 % \RequirePackage{lwarp-ccaption}% emulated below
6 \RequirePackage{lwarp-changepage}% req'd
7 \RequirePackage{lwarp-crop}
8 % \RequirePackage{lwarp-dcolumn}% no longer req'd
9 \RequirePackage{lwarp-enumerate}% req'd
10 \RequirePackage{lwarp-epigraph}% req'd
11 \RequirePackage{lwarp-fancyvrb}% req'd
12 \RequirePackage{lwarp-footmisc}% req'd

13 \let\framed\relax \let\endframed\relax
14 \let\shaded\relax \let\endshaded\relax
15 \let\leftbar\relax \let\endleftbar\relax
16 \let\snugshade\relax \let\endsnugshade\relax
17 \RequirePackage{lwarp-framed}% req'd
18
19 \RequirePackage{lwarp-hanging}% req'd
20 \RequirePackage{lwarp-makeidx}% req'd
21 \DisemulatePackage{moreverb}
22 \RequirePackage{lwarp-moreverb}
23 \RequirePackage{lwarp-mparhack}
24 \RequirePackage{lwarp-needspace}% req'd
25 \RequirePackage{lwarp-nextpage}% req'd
26 \RequirePackage{lwarp-pagenote}% req'd
27 \RequirePackage{lwarp-parskip}
28 \RequirePackage{lwarp-setspace}% req'd
29 \RequirePackage{lwarp-showidx}
```

```

30 \makeindex

31 % \RequirePackage{lwarp-tabularx}% no longer req'd
32 \RequirePackage{lwarp-titling}% req'd
33 % \RequirePackage{lwarp-tocbibind}% not emulated by memoir
34 \RequirePackage{lwarp-tocloft}% req'd
35 \RequirePackage{lwarp-verse}% req'd

```

## § 654.2 Label handling

Insert the lwarp label mechanism into the memoir package mechanism:

- `\@mem@old@label` is the L<sup>A</sup>T<sub>E</sub>X definition of `\label`.
- `\LWR@orig@label` adds the memoir definition.
- lwarp's `\LWR@new@label` uses `\LWR@orig@label`.
- Want memoir's `\label` to use lwarp's `\label`, which then would use L<sup>A</sup>T<sub>E</sub>X's `\label`.
- So:
  - `\@mem@old@label` becomes `\LWR@new@label`.
  - `\LWR@orig@label` becomes `\@mem@old@label`.
- `cleveref` then encapsulates all the above.
- For a subcaption, `cleveref` modifies memoir's `\sf@memsub@label`.

```

36 \let\LWR@orig@label\@mem@old@label
37 \let\@mem@old@label\LWR@new@label

```

Patches for subfloats to support additional lwarp labels:

```

38 \AtBeginDocument{
39 \renewcommand*{\sf@memsub@label}[1]{%
40 \@bsphack
41 \sf@memsub@label@hook{#1}%
42 \@memoldlabel{#1}%
43 \LWR@label@createtag{sub@#1}%
44 \protected@write\@auxout{ }{%
45 \string\newlabel{sub@#1}%
46 {\@nameuse{@thesub\@capttype}}%
47 {\thepage}}%
48 \LWR@write@lwarplabel{sub@#1}%
49 \@esphack
50 }
51 }

```

### § 654.3 Page layout

memoir already set the page size to a default, so it must be forced large for lwarp's use, to avoid tag overflows off the page.

```

52 \setstocksize{190in}{20in}
53 \setlrmarginsandblock{2in}{2in}{*}
54 \setulmarginsandblock{1in}{1in}{*}

55 \renewcommand*\stockavi{}
56 \renewcommand*\stockav{}
57 \renewcommand*\stockaiv{}
58 \renewcommand*\stockaiii{}
59 \renewcommand*\stockavii{}
60 \renewcommand*\stockbvi{}
61 \renewcommand*\stockbv{}
62 \renewcommand*\stockbiv{}
63 \renewcommand*\stockbiii{}
64 \renewcommand*\stockbvii{}
65 % \renewcommand*\stockmetriccrownvo{}% in docs but not in the package
66 \renewcommand*\stockmlargecrownvo{}
67 \renewcommand*\stockmdemyvo{}
68 \renewcommand*\stocksmallroyalvo{}
69 \renewcommand*\pageavi{}
70 \renewcommand*\pageavii{}
71 \renewcommand*\pageav{}
72 \renewcommand*\pageaiv{}
73 \renewcommand*\pageaiii{}
74 \renewcommand*\pagebvi{}
75 \renewcommand*\pagebvii{}
76 \renewcommand*\pagebv{}
77 \renewcommand*\pagebiv{}
78 \renewcommand*\pagebiii{}
79 % \renewcommand*\pagemetriccrownvo{}% in docs but not in the package
80 \renewcommand*\pagemlargecrownvo{}
81 \renewcommand*\pagemdemyvo{}
82 \renewcommand*\pagemsmallroyalvo{}
83
84 \renewcommand*\stockdbill{}
85 \renewcommand*\stockstatement{}
86 \renewcommand*\stockexecutive{}
87 \renewcommand*\stockletter{}
88 \renewcommand*\stockold{}
89 \renewcommand*\stocklegal{}
90 \renewcommand*\stockledger{}
91 \renewcommand*\stockbroadsheet{}
92 \renewcommand*\pagedbill{}
93 \renewcommand*\pagestatement{}
94 \renewcommand*\pageexecutive{}
95 \renewcommand*\pageletter{}
96 \renewcommand*\pageold{}
97 \renewcommand*\pagelegal{}
98 \renewcommand*\pageledger{}
99 \renewcommand*\pagebroadsheet{}

```

```
101 \renewcommand*\stockpottvo{}
102 \renewcommand*\stockfoolscapvo{}
103 \renewcommand*\stockcrownvo{}
104 \renewcommand*\stockpostvo{}
105 \renewcommand*\stocklargecrownvo{}
106 \renewcommand*\stocklargepostvo{}
107 \renewcommand*\stocksmalldemyvo{}
108 \renewcommand*\stockdemyvo{}
109 \renewcommand*\stockmediumvo{}
110 \renewcommand*\stocksmallroyalvo{}
111 \renewcommand*\stockroyalvo{}
112 \renewcommand*\stocksuperroyalvo{}
113 \renewcommand*\stockimperialvo{}
114 \renewcommand*\pagepottvo{}
115 \renewcommand*\pagefoolscapvo{}
116 \renewcommand*\pagecrownvo{}
117 \renewcommand*\pagepostvo{}
118 \renewcommand*\pagelargecrownvo{}
119 \renewcommand*\pagelargepostvo{}
120 \renewcommand*\pagesmalldemyvo{}
121 \renewcommand*\pagedemyvo{}
122 \renewcommand*\pagemediumvo{}
123 \renewcommand*\pagesmallroyalvo{}
124 \renewcommand*\pageroyalvo{}
125 \renewcommand*\pagesuperroyalvo{}
126 \renewcommand*\pageimperialvo{}
127
128 \renewcommand*\memfontfamily{}
129 \renewcommand*\memfontenc{}
130 \renewcommand*\memfontpack{}
131
132 \renewcommand*\anyptfilebase{}
133 \renewcommand*\anyptsize{10}
134
135 \renewcommand*\setstocksize[2]{}
136 \renewcommand*\settrimmedsize[3]{}
137 \renewcommand*\settrims[2]{}
138
139 % \newlength{\lxvchars}
140 % \setlength{\lxvchars}{305pt}
141 % \newlength{\xlvchars}
142 % \setlength{\xlvchars}{190pt}
143 \renewcommand*\setxlvchars[1]{}
144 \renewcommand*\setlxvchars[1]{}
145
146 \renewcommand*\settypeblocksize[3]{}
147 \renewcommand*\setlrmargins[3]{}
148 \renewcommand*\setlrmarginsandblock[3]{}
149 \renewcommand*\setbinding[1]{}
150 \renewcommand*\setulmargins[3]{}
151 \renewcommand*\setulmarginsandblock[3]{}
152 \renewcommand*\setcolsepandrule[2]{}
153
154 \renewcommand*\setheadfoot[2]{}
155 \renewcommand*\setheaderspaces[3]{}

```

```

156 \renewcommand*{\setmarginnotes}[3]{}
157 \renewcommand*{\setfootins}[2]{}
158 \renewcommand*{\checkandfixthelayout}[1][{}]{
159 \renewcommand*{\checkthelayout}[1]{}
160 \renewcommand*{\fixthelayout}{}
161 %
162 % \newlength{\stockheight}
163 % \newlength{\trimtop}
164 % \newlength{\trimedge}
165 % \newlength{\stockwidth}
166 % \newlength{\spinemargin}
167 % \newlength{\foremargin}
168 % \newlength{\uppermargin}
169 % \newlength{\headmargin}
170 %
171 \renewcommand*{\typeoutlayout}{}
172 \renewcommand*{\typeoutstandardlayout}{}
173 \renewcommand*{\settypeoutlayoutunit}[1][{}]{
174 \renewcommand*{\fixpdflayout}{}
175 \renewcommand*{\fixdvipslayout}{}
176
177 \renewcommand*{\medievalpage}[1][{}]{
178 \renewcommand*{\isopage}[1][{}]{
179 \renewcommand*{\semiisopage}[1][{}]{
180
181 \renewcommand{\setpagebl}[3]{}
182 \renewcommand{\setpageml}[3]{}
183 \renewcommand{\setpagetl}[3]{}
184 \renewcommand{\setpagetm}[3]{}
185 \renewcommand{\setpagetr}[3]{}
186 \renewcommand{\setpagemr}[3]{}
187 \renewcommand{\setpagebr}[3]{}
188 \renewcommand{\setpagebm}[3]{}
189 \renewcommand{\setpagecc}[3]{}

```

#### § 654.4 Text and fonts

```

190 \let\miniscule\tiny
191 \let\HUGE\Huge
192
193 \renewcommand*{\abnormalparskip}[1]{}
194 \renewcommand*{\nonzeroparskip}{}
195 \renewcommand*{\traditionalparskip}{}
196
197 \let\onelineskip\baselineskip
198
199 \let\OnehalfSpacing\onehalfspacing
200 \let\DoubleSpacing\doublespacing
201 \renewcommand*{\setPagenoteSpacing}[1]{}
202 \renewcommand*{\setFloatSpacing}[1]{}

203 \renewcommand{\SingleSpacing}{\@ifstar\inglespacing\inglespacing}

204 \let\setSingleSpace\SetSingleSpace
205 \let\SingleSpace\inglespace

```

```

206 \let\endSingleSpace\endsinglespace
207 \let\Spacing\spacing
208 \let\endSpacing\endspacing
209 \let\OnehalfSpace\onehalfspace
210 \let\endOnehalfSpace\endonehalfspace
211 \csletcs{OnehalfSpace*}{onehalfspace}
212 \csletcs{endOnehalfSpace*}{endonehalfspace}
213 \let\DoubleSpace\doublespace
214 \let\endDoubleSpace\enddoublespace
215 \csletcs{DoubleSpace*}{doublespace}
216 \csletcs{endDoubleSpace*}{enddoublespace}
217 \renewcommand*\setDisplayskipStretch[1]{}
218 \renewcommand*\memdskipstretch{}
219 \renewcommand*\noDisplayskipStretch{}
220 \renewcommand*\memdskips{}
221
222 \renewcommand*\midslippy{}
223 \renewenvironment*{midslippypar}{}{}
224
225 \renewcommand*\slippybottom{}

```

## § 654.5 Titles

```

226 \csletcs{titlingpage*}{titlingpage}
227 \csletcs{endtitlingpage*}{endtitlingpage}
228 \let\titlingpageend\relax
229 \newcommand{\titlingpageend}[2]{}
230 \let\andnext\and
231 \renewcommand*\thanksmarkstyle[1]{}
232
233 \renewcommand{\thanksfootmark}{%
234 \thanksscript{\tmark}%
235 }
236
237 % \newlength{\thanksmarksep}% already provided by memoir

238 \renewcommand\titlingpageend[2]{}

```

## § 654.6 Abstracts

```

239 % \newlength{\absindent}
240 % \newlength{\absparsep}
241 \renewcommand*\abstractcol{}
242 \renewcommand*\abstractintoc{}
243 \renewcommand*\abstractnum{}
244 \renewcommand*\abstractrunin{}

```

## § 654.7 Document divisions

```

\book * (<2:PDF name>) [<3:TOC name>] [<4:PDF name>] (<5:PDF name>) {<6:name>}

245 \DeclareDocumentCommand{\book}{s d() o o d() m}{%
246 \LWR@section{#1}{#3}{#6}{book}%
247 }

```

```

248 \def\@apppage{%
249 \part*\appendixpagename}
250 }
251 \renewcommand\mempreaddapppagetotochook{}
252 \renewcommand\mempostaddapppagetotochook{}
253
254 \def\@sapppage{%
255 \part*\appendixpagename}
256 }

257 \DeclareDocumentCommand{\mainmatter}{s}{%
258 \booltrue{LWR@mainmatter}%
259 }
260
261 \DeclareDocumentCommand{\frontmatter}{s}{%
262 \boolfalse{LWR@mainmatter}%
263 }

264 \renewcommand*\raggedbottomsection{}
265 \renewcommand*\normalbottomsection{}
266 \renewcommand*\bottomsectionskip{}
267 \renewcommand*\bottomsectionpenalty{}
268 \csletcs{appendixpage*}{appendixpage}
269 \renewcommand*\namedsubappendices{}
270 \renewcommand*\unnamedsubappendices{}
271 \renewcommand*\beforebookskip{}
272 \renewcommand*\afterbookskip{}
273 \renewcommand*\beforepartskip{}
274 \renewcommand*\afterpartskip{}
275 \renewcommand*\midbookskip{}
276 \renewcommand*\midpartskip{}
277 \renewcommand*\printbookname{}
278 \renewcommand*\booknamefont{}
279 \renewcommand*\booknamenenum{}
280 \renewcommand*\printbooknum{}
281 \renewcommand*\booknumfont{}
282 \renewcommand*\printpartname{}
283 \renewcommand*\partnamefont{}
284 \renewcommand*\partnamenenum{}
285 \renewcommand*\printpartnum{}
286 \renewcommand*\partnumfont{}
287 \renewcommand*\printbooktitle[1]{}
288 \renewcommand*\booktitlefont{}
289 \renewcommand*\printparttitle[1]{}
290 \renewcommand*\parttitlefont{}
291 \renewcommand*\bookpageend{}
292 \renewcommand*\bookblankpage{}
293 \renewcommand*\nobookblankpage{}
294 \renewcommand*\partpageend{}
295 \renewcommand*\partblankpage{}
296 \renewcommand*\nopartblankpage{}
297 \RenewDocumentCommand{\newleadpage}{s o m m}{}% todo
298 \RenewDocumentCommand{\renewleadpage}{s o m m}{}% todo
299 \renewcommand*\leadpagetoclevel{chapter}

```



```
300
301 \renewcommand*\openright{}
302 \renewcommand*\openleft{}
303 \renewcommand*\openany{}
304 \renewcommand*\clearforchapter{}
305 \renewcommand*\memendofchapterhook{}
306 \renewcommand*\chapterheadstart{}
307 % \newlength{\beforechapskip}
308 \renewcommand*\afterchapternum{}
309 % \newlength{\midchapskip}
310 \renewcommand*\afterchaptertitle{}
311 % \newlength{\afterchapskip}
312 \renewcommand*\printchaptername{}
313 \renewcommand*\chapnamefont{}
314 \renewcommand*\chapternamenum{}
315 \renewcommand*\printchapternum{}
316 \renewcommand*\chapnumfont{}
317 \renewcommand{\printchaptertitle}[1]{}
318 \renewcommand*\chaptitelfont{}
319 \renewcommand*\printchapternonum{}
320 \renewcommand*\indentafterchapter{}
321 \renewcommand*\noindentafterchapter{}
322 \renewcommand*\insertchapterspace{}
323
324 \renewcommand*\chapterstyle}[1]{}
325 \renewcommand{\makechapterstyle}[2]{}
326 \renewcommand*\chapindent{}
327 \let\chapterprecis\cftchapterprecis
328 \let\chapterprecishere\cftchapterprecishere
329 \let\chapterprecistoc\cftchapterprecistoc
330 \renewcommand*\precisfont{}
331 \renewcommand*\prechapterprecis{}
332 \renewcommand*\postchapterprecis{}
333 \renewcommand{\precistoc}[1]{}
334 \renewcommand*\precistocfont{}
335 \renewcommand*\precistocformat{}
336 % \newlength{\prechapterprecisshift}
337
338 \renewcommand*\setbeforesecskip}[1]{}
339 \renewcommand*\setaftersecskip}[1]{}
340 \renewcommand*\setsecindent}[1]{}
341 \renewcommand*\setsecheadstyle}[1]{}
342 \renewcommand*\setbeforesubsecskip}[1]{}
343 \renewcommand*\setaftersubsecskip}[1]{}
344 \renewcommand*\setsubsecindent}[1]{}
345 \renewcommand*\setsubsecheadstyle}[1]{}
346 \renewcommand*\setbeforesubsubsecskip}[1]{}
347 \renewcommand*\setaftersubsubsecskip}[1]{}
348 \renewcommand*\setsubsubsecindent}[1]{}
349 \renewcommand*\setsubsubsecheadstyle}[1]{}
350 \renewcommand*\setbeforeparaskip}[1]{}
351 \renewcommand*\setafterparaskip}[1]{}
352 \renewcommand*\setparaindent}[1]{}
353 \renewcommand*\setparaheadstyle}[1]{}
354 \renewcommand*\setbeforesubparaskip}[1]{}

```

```

355 \renewcommand*\setaftersubparaskip}[1]{}
356 \renewcommand*\setsubparaindent}[1]{}
357 \renewcommand*\setsubparaheadstyle}[1]{}
358 \renewcommand{\@hangfrom}[1]{#1}
359 \renewcommand{\sethangfrom}[1]{}
360 \renewcommand{\setsecnumformat}[1]{}
361
362 \renewcommand*\hangsecnum{}
363 \renewcommand*\defaultsecnum{}
364
365 \renewcommand*\sechook{}
366 \renewcommand{\setsechook}[1]{}
367 \renewcommand*\subsechook{}
368 \renewcommand{\setsubsechook}[1]{}
369 \renewcommand*\subsubsechook{}
370 \renewcommand{\setsubsubsechook}[1]{}
371 \renewcommand*\parahook{}
372 \renewcommand{\setparahook}[1]{}
373 \renewcommand*\subparahook{}
374 \renewcommand{\setsubparahook}[1]{}
375
376 \RenewDocumentCommand{\plainbreak}{s m}{\begin{center}~\end{center}}
377
378 \RenewDocumentCommand{\fancybreak}{s +m}{%
379 \begin{center}#2\end{center}%
380 }
381
382 \RenewDocumentCommand{\plainfancybreak}{s m m +m}{%
383 \begin{center}#4\end{center}%
384 }
385
386 \RenewDocumentCommand{\pfbreak}{s}{%
387 \begin{center}
388 \pfbreakdisplay
389 \end{center}
390 }
391
392 % \newlength{\pfbreakskip}
393 \renewcommand{\pfbreakdisplay}{*\quad*\quad*}
394
395 \renewcommand{\makeheadstyles}[2]{}
396 \renewcommand*\headstyles}[1]{}

```

## § 654.8 **Pagination and headers**

```

397 \renewcommand*\savepagenumber{}
398 \renewcommand*\restorepagenumber{}
399 \renewcommand*\uppercaseheads{}
400 \renewcommand*\nouppercaseheads{}
401
402 \renewcommand*\bookpagemark}[1]{}
403 \renewcommand*\partmark}[1]{}
404 \renewcommand*\bibmark{}
405 \renewcommand*\indexmark{}
406 \renewcommand*\glossarymark{}
407

```

```

408 \LWR@origpagestyle{empty}
409 \renewcommand*{\ps@empty}{}
410 \renewcommand*{\makepagestyle}[1]{}
411 \renewcommand*{\emptypshook}{}%
412 % \renewcommand*{\empty@oddhead}{}
413 % \renewcommand*{\empty@oddfoot}{}
414 % \renewcommand*{\empty@evenhead}{}
415 % \renewcommand*{\empty@evenfoot}{}
416 \renewcommand*{\@oddhead}{}
417 \renewcommand*{\@oddfoot}{}
418 \renewcommand*{\@evenhead}{}
419 \renewcommand*{\@evenfoot}{}
420 \renewcommand*{\aliaspagestyle}[2]{}
421 \renewcommand*{\copypagestyle}[2]{}
422
423 \renewcommand*{\makeevenhead}[4]{}
424 \renewcommand*{\makeoddhead}[4]{}
425 \renewcommand*{\makeevenfoot}[4]{}
426 \renewcommand*{\makeoddfoot}[4]{}
427 \renewcommand*{\makerunningwidth}[3]{}
428 % \newlength{\headwidth}
429 \renewcommand*{\makeheadrule}[3]{}
430 \renewcommand*{\makefootrule}[3]{}
431 \renewcommand*{\makeheadfootruleprefix}[3]{}
432 % \newlength{\normalrulethickness}
433 % \setlength{\normalrulethickness}{.4pt}
434 % \newlength{\footruleheight}
435 % \newlength{\footruleskip}
436 \renewcommand*{\makeheadposition}[5]{}
437 \renewcommand{\makepsmarks}[2]{}
438 \renewcommand*{\makeheadfootstrut}[3]{}

439 \renewcommand{\createmark}[5]{\csdef{#1mark}[1]{} }
440 \renewcommand{\createplainmark}[3]{\csdef{#1mark}{} }

441 \renewcommand{\memUHead}[1]{}
442 \renewcommand*{\clearplainmark}[1]{}
443 \renewcommand*{\clearmark}[1]{}
444 \renewcommand{\addtopsmarks}[3]{}
445 \renewcommand{\ifonlyfloats}[2]{#2}
446 \renewcommand*{\mergepagefloatstyle}[3]{}
447
448 \renewcommand*{\framepichead}{}
449 \renewcommand*{\framepictextfoot}{}
450 \renewcommand*{\framepichook}{}
451 \renewcommand*{\showheadfootlocoff}{}
452 \renewcommand*{\showtextblocklocoff}{}

```

## § 654.9 Paragraphs and lists

```

453 \renewcommand{\hangfrom}[1]{#1}
454 \let\centerfloat\centering
455 \renewcommand*{\raggedyright}[1]{}
456 % \newlength{\ragrparindent}
457 \renewcommand{\sourceatright}[2]{}{\attribution{#2}}

```

```

458 \let\memorigdbs\LWR@endofline
459 \let\memorigpar\par
460 \let\atcentercr\LWR@endofline
461
462 \renewcommand*\linenottooshort}[1][{}
463 \renewcommand*\russianpar}{
464 \renewcommand*\lastlinerulefill}{
465 \renewcommand*\lastlineparrule}{
466 \renewcommand*\justlastraggedleft}{
467 \renewcommand*\raggedrightthenleft}{
468 \renewcommand*\leftcenterright}{
469
470 \renewcommand{\leftspringright}[4]{%
471 \begin{minipage}{#1\linewidth}#3\end{minipage}\qqquad%
472 \begin{minipage}{#2\linewidth}\begin{flushright}#4\end{flushright}\end{minipage}%
473 }
474
475 \renewenvironment*{blockdescription}
476 {\LWR@descriptionstart\LWR@origdescription}
477 {\enddescription}
478
479 \renewcommand*\blockdescriptionlabel}[1]{\textbf{#1}}
480 \renewenvironment*{labelled}[1]{\begin{description}}{\end{description}}
481 \renewenvironment*{flexlabelled}[6]{\begin{description}}{\end{description}}
482 \renewcommand*\tightlists}{
483 \renewcommand*\defaultlists}{
484 \RenewDocumentCommand{\firmlists}{s}{
485 \renewcommand*\firmlist}{
486 \renewcommand*\tightlist}{
487 \renewcommand*\zerotrivseps}{
488 \renewcommand*\savetrivseps}{
489 \renewcommand*\restoretrivseps}{

```

## § 654.10 Contents lists

```

490 \csletcs{tableofcontents*}{tableofcontents}
491 \csletcs{listoffigures*}{listoffigures}
492 \csletcs{listoftables*}{listoftables}
493 \renewenvironment{KeepFromToc}{}{}
494 \renewcommand*\onecoltocetc}{
495 \renewcommand*\twocoltocetc}{
496 \renewcommand*\ensureonecol}{
497 \renewcommand*\restorefromonecol}{
498 \renewcommand*\doccoltocetc}{
499
500 \renewcommand{\toheadstart}{
501 \renewcommand{\printtoctitle}[1]{
502 \renewcommand{\tocmark}{
503 \renewcommand{\aftertoctitle}{
504 \renewcommand{\lofheadstart}{
505 \renewcommand{\printloftitle}[1]{
506 \renewcommand{\lofmark}{
507 \renewcommand{\afterloftitle}{
508 \renewcommand{\lotheadstart}{
509 \renewcommand{\printlottitle}[1]{
510 \renewcommand{\lotmark}{

```

```

511 \renewcommand{\afterlottitle}{}
512
513 \renewcommand*\setpnumwidth[1]{}
514 \renewcommand*\setmarg[1]{}
515 \renewcommand*\cftbookbreak{}
516 \renewcommand*\cftpartbreak{}
517 \renewcommand*\cftchapterbreak{}

518 % \newlength{\cftbeforebookskip}
519 % \newlength{\cftbookindent}
520 % \newlength{\cftbooknumwidth}
521 \renewcommand*\cftbookfont{}
522 \renewcommand*\cftbookname{}
523 \renewcommand*\cftbookpresnum{}
524 \renewcommand*\cftbookaftersnum{}
525 \renewcommand*\cftbookaftersnumb{}
526 \renewcommand*\cftbookleader{}
527 \renewcommand*\cftbookdotsep{1}
528 \renewcommand*\cftbookpagefont{}
529 \renewcommand*\cftbookafterpnum{}
530 \renewcommand*\cftbookformatpnum[1]{}
531 \renewcommand*\cftbookformatpnumhook[1]{}

```

Part is already defined by tocloft.

```

532 % \newlength{\cftbeforechapterskip}
533 % \newlength{\cftchapterindent}
534 % \newlength{\cftchapternumwidth}
535 \renewcommand*\cftchapterfont{}
536 \renewcommand*\cftchaptername{}
537 \renewcommand*\cftchapterpresnum{}
538 \renewcommand*\cftchapteraftersnum{}
539 \renewcommand*\cftchapteraftersnumb{}
540 \renewcommand*\cftchapterleader{}
541 \renewcommand*\cftchapterdotsep{1}
542 \renewcommand*\cftchapterpagefont{}
543 \renewcommand*\cftchapterafterpnum{}
544 \renewcommand*\cftchapterformatpnum[1]{}
545 \renewcommand*\cftchapterformatpnumhook[1]{}

546 % \newlength{\cftbeforesectionsip}
547 % \newlength{\cftsectionindent}
548 % \newlength{\cftsectionnumwidth}
549 \renewcommand*\cftsectionfont{}
550 \renewcommand*\cftsectionname{}
551 \renewcommand*\cftsectionpresnum{}
552 \renewcommand*\cftsectionaftersnum{}
553 \renewcommand*\cftsectionaftersnumb{}
554 \renewcommand*\cftsectionleader{}
555 \renewcommand*\cftsectiondotsep{1}
556 \renewcommand*\cftsectionpagefont{}
557 \renewcommand*\cftsectionafterpnum{}
558 \renewcommand*\cftsectionformatpnum[1]{}
559 \renewcommand*\cftsectionformatpnumhook[1]{}

560 % \newlength{\cftbeforesubsectionsip}

```

```
561 % \newlength{\cftsubsectionindent}
562 % \newlength{\cftsubsectionnumwidth}
563 \renewcommand*{\cftsubsectionfont}{}
564 \renewcommand*{\cftsubsectionname}{}
565 \renewcommand*{\cftsubsectionpresnum}{}
566 \renewcommand*{\cftsubsectionaftersnum}{}
567 \renewcommand*{\cftsubsectionaftersnumb}{}
568 \renewcommand*{\cftsubsectionleader}{}
569 \renewcommand*{\cftsubsectiondotsep}{1}
570 \renewcommand*{\cftsubsectionpagefont}{}
571 \renewcommand*{\cftsubsectionafterpnum}{}
572 \renewcommand*{\cftsubsectionformatpnum}[1]{}
573 \renewcommand*{\cftsubsectionformatpnumhook}[1]{}

574 % \newlength{\cftbeforesubsubsectionsip}
575 % \newlength{\cftsubsubsectionindent}
576 % \newlength{\cftsubsubsectionnumwidth}
577 \renewcommand*{\cftsubsubsectionfont}{}
578 \renewcommand*{\cftsubsubsectionname}{}
579 \renewcommand*{\cftsubsubsectionpresnum}{}
580 \renewcommand*{\cftsubsubsectionaftersnum}{}
581 \renewcommand*{\cftsubsubsectionaftersnumb}{}
582 \renewcommand*{\cftsubsubsectionleader}{}
583 \renewcommand*{\cftsubsubsectiondotsep}{1}
584 \renewcommand*{\cftsubsubsectionpagefont}{}
585 \renewcommand*{\cftsubsubsectionafterpnum}{}
586 \renewcommand*{\cftsubsubsectionformatpnum}[1]{}
587 \renewcommand*{\cftsubsubsectionformatpnumhook}[1]{}

588 % \newlength{\cftbeforeparagraphskip}
589 % \newlength{\cftparagraphindent}
590 % \newlength{\cftparagraphnumwidth}
591 \renewcommand*{\cftparagraphfont}{}
592 \renewcommand*{\cftparagraphname}{}
593 \renewcommand*{\cftparagraphpresnum}{}
594 \renewcommand*{\cftparagraphaftersnum}{}
595 \renewcommand*{\cftparagraphaftersnumb}{}
596 \renewcommand*{\cftparagraphleader}{}
597 \renewcommand*{\cftparagraphdotsep}{1}
598 \renewcommand*{\cftparagraphpagefont}{}
599 \renewcommand*{\cftparagraphafterpnum}{}
600 \renewcommand*{\cftparagraphformatpnum}[1]{}
601 \renewcommand*{\cftparagraphformatpnumhook}[1]{}

602 % \newlength{\cftbeforesubparagraphskip}
603 % \newlength{\cftsubparagraphindent}
604 % \newlength{\cftsubparagraphnumwidth}
605 \renewcommand*{\cftsubparagraphfont}{}
606 \renewcommand*{\cftsubparagraphname}{}
607 \renewcommand*{\cftsubparagraphpresnum}{}
608 \renewcommand*{\cftsubparagraphaftersnum}{}
609 \renewcommand*{\cftsubparagraphaftersnumb}{}
610 \renewcommand*{\cftsubparagraphleader}{}
611 \renewcommand*{\cftsubparagraphdotsep}{1}
612 \renewcommand*{\cftsubparagraphpagefont}{}
613 \renewcommand*{\cftsubparagraphafterpnum}{}

```

```
614 \renewcommand*{\cftsubparagraphformatpnum}[1]{
615 \renewcommand*{\cftsubparagraphformatpnumhook}[1]{

616 % \newlength{\cftbeforefigureskip}
617 % \newlength{\cftfigureindent}
618 % \newlength{\cftfigurenumwidth}
619 \renewcommand*{\cftfigurefont}{}
620 \renewcommand*{\cftfigurename}{}
621 \renewcommand*{\cftfigurepresnum}{}
622 \renewcommand*{\cftfigureaftersnum}{}
623 \renewcommand*{\cftfigureaftersnumb}{}
624 \renewcommand*{\cftfigureleader}{}
625 \renewcommand*{\cftfiguredotsep}{1}
626 \renewcommand*{\cftfigurepagefont}{}
627 \renewcommand*{\cftfigureafterpnum}{}
628 \renewcommand*{\cftfigureformatpnum}[1]{
629 \renewcommand*{\cftfigureformatpnumhook}[1]{

630 % \newlength{\cftbeforesubfigureskip}
631 % \newlength{\cftsubfigureindent}
632 % \newlength{\cftsubfigurenumwidth}
633 \newcommand*{\cftsubfigurefont}{}
634 \newcommand*{\cftsubfigurename}{}
635 \newcommand*{\cftsubfigurepresnum}{}
636 \newcommand*{\cftsubfigureaftersnum}{}
637 \newcommand*{\cftsubfigureaftersnumb}{}
638 \newcommand*{\cftsubfigureleader}{}
639 \newcommand*{\cftsubfiguredotsep}{1}
640 \newcommand*{\cftsubfigurepagefont}{}
641 \newcommand*{\cftsubfigureafterpnum}{}
642 \newcommand*{\cftsubfigureformatpnum}[1]{
643 \newcommand*{\cftsubfigureformatpnumhook}[1]{

644 % \newlength{\cftbeforetablesip}
645 % \newlength{\cfttableindent}
646 % \newlength{\cfttablenumwidth}
647 \renewcommand*{\cfttablefont}{}
648 \renewcommand*{\cfttablename}{}
649 \renewcommand*{\cfttablepresnum}{}
650 \renewcommand*{\cfttableaftersnum}{}
651 \renewcommand*{\cfttableaftersnumb}{}
652 \renewcommand*{\cfttableleader}{}
653 \renewcommand*{\cfttabledotsep}{1}
654 \renewcommand*{\cfttablepagefont}{}
655 \renewcommand*{\cfttableafterpnum}{}
656 \renewcommand*{\cfttableformatpnum}[1]{
657 \renewcommand*{\cfttableformatpnumhook}[1]{

658 % \newlength{\cftbeforesubtablesip}
659 % \newlength{\cftsubtableindent}
660 % \newlength{\cftsubtablenumwidth}
661 \newcommand*{\cftsubtablefont}{}
662 \newcommand*{\cftsubtablename}{}
663 \newcommand*{\cftsubtablepresnum}{}
664 \newcommand*{\cftsubtableaftersnum}{}
665 \newcommand*{\cftsubtableaftersnumb}{}

```

```

666 \newcommand*\cftsubtableleader{}
667 \newcommand*\cftsubtabledotsep{1}
668 \newcommand*\cftsubtablepagefont{}
669 \newcommand*\cftsubtableafterpnum{}
670 \newcommand*\cftsubtableformatpnum[1]{}
671 \newcommand*\cftsubtableformatpnumhook[1]{}

672 \renewcommand*\booknumberline[1]{}
673 \renewcommand*\partnumberline[1]{}
674 \renewcommand*\chapternumberline[1]{}
675 \renewcommand*\numberlinehook[1]{}
676 % \renewcommand*\cftwhatismyname{}%
677 \renewcommand*\booknumberlinehook[1]{}
678 \renewcommand*\partnumberlinehook[1]{}
679 \renewcommand*\chapternumberlinehook[1]{}
680 \renewcommand*\numberlinebox[2]{}
681 \renewcommand*\booknumberlinebox[2]{}
682 \renewcommand*\partnumberlinebox[2]{}
683 \renewcommand*\chapternumberlinebox[2]{}
684 %
685 % \newlength\cftparfillskip
686 \renewcommand*\cftpagenumbersoff[1]{}
687 \renewcommand*\cftpagenumberon[1]{}
688 \renewcommand*\cftlocalchange[3]{}
689 \renewcommand*\cftaddtitleline[4]{}
690 \renewcommand*\cftaddnumtitleline[4]{}
691 \renewcommand*\cftinsertcode[2]{}
692 \renewcommand*\cftinserthook[2]{}
693 \renewcommand*\settocpreprocessor[2]{}
694 \DeclareRobustCommand*\cftpagenumbersoff[1]{}
695 \DeclareRobustCommand*\cftpagenumberon[1]{}

```

## § 654.11 Floats and captions

\xfloat

\@xdblfloat Reestablish lwarp's takeover the float handing, which memoir tried to grab:

```

696 \AtBeginDocument{
697 \def\xfloat #1[#2]{%
698 \LWR@floatbegin{#1}[#2]
699 \normalsize
700 \@nameuse{#1adjustment}%
701 \LWR@futureenonspaclet\LWR@mynexttoken\LWR@floatalignment%
702 }
703 \def\@xdblfloat #1[#2]{%
704 \LWR@floatbegin{#1}[#2]
705 \normalsize
706 \@nameuse{#1adjustment}%
707 \LWR@futureenonspaclet\LWR@mynexttoken\LWR@floatalignment%
708 }
709 }

```

\newfloat [*1: within*] [*2: type*] [*3: ext*] [*4: capname*]

```
710 \RenewDocumentCommand*\newfloat{o m m m}{%
```



```

711 \def\LWR@tempone{#4}%
712 \def\LWR@temptwo{\@nameuse{#2name}}%
713 \ifdefequal{\LWR@tempone}{\LWR@temptwo}{% recursive name, already defined
714 \IfValueTF{#1}%
715 {\DeclareFloatingEnvironment[fileext=#3,within=#1]{#2}}%
716 {\DeclareFloatingEnvironment[fileext=#3]{#2}}%
717 }{% not recursive name
718 \IfValueTF{#1}%
719 {\DeclareFloatingEnvironment[fileext=#3,within=#1,name={#4}]{#2}}%
720 {\DeclareFloatingEnvironment[fileext=#3,name={#4}]{#2}}%
721 }%

```

**newfloat** package automatically creates the `\listof` command for new floats, but `float` does not, so remove `\listof` here in case it is manually created later.

```

722 \cslet{listof#2s}\relax%
723 \cslet{listof#2es}\relax%
724 }

```

`\newlistof` [*<within>*] [*<type>*] [*<ext>*] [*<listofname>*]

Emulated through the `\newfloat` mechanism. Note that `memoir` uses a different syntax than `tocloft` for the name.

```

725 \RenewDocumentCommand{\newlistof}{o m m m}
726 {%
727 \IfValueTF{#1}%
728 {\newlistentry[#1]{#2}{#3}{0}}%
729 {\newlistentry{#2}{#3}{0}}%
730 \@namedef{ext@#2}{#3}%
731 \@ifundefined{c@#3depth}{\newcounter{#3depth}}{}%
732 \setcounter{#3depth}{1}%
733 \@namedef{#3mark}{}%
734 \@namedef{#2}{\listof{#2}{#4}}%
735 \@namedef{@cftmake#3title}{}%
736 \@ifundefined{cftbefore#3titleskip}{%
737 \expandafter\newlength\csname cftbefore#3titleskip\endcsname%
738 \expandafter\newlength\csname cftafter#3titleskip\endcsname%
739 }{}%
740 \@namedef{cft#3titlefont}{}%
741 \@namedef{cftafter#3title}{}%
742 \@namedef{cft#3prehook}{}%
743 \@namedef{cft#3posthook}{}%
744 }

```

```

745 \renewcommand{\setfloatadjustment}[2]{}

```

Borrowed from the `lwarp` version of `keyfloat`:

```

746 \NewDocumentEnvironment{KFLTmemoir@marginfloat}{0{-1.2ex} m}
747 {% start
748 \LWR@BlockClassWP{float:right; width:2in; margin:10pt}{}{marginblock}%
749 \renewcommand*{\@capttype}{#2}%
750 }
751 {%
752 \endLWR@BlockClassWP%

```

```

753 }
754
755 \DeclareDocumentEnvironment{marginfigure}{o}
756 {\begin{KFLTmemoir@marginfloat}{figure}}
757 {\end{KFLTmemoir@marginfloat}}
758
759 \DeclareDocumentEnvironment{margintable}{o}
760 {\begin{KFLTmemoir@marginfloat}{table}}
761 {\end{KFLTmemoir@marginfloat}}

762 \renewcommand{\setmarginfloatcaptionadjustment}[2]{}
763 \renewcommand{\setmpjustification}[2]{}
764 \renewcommand*{\mpjustification}{}
765 \renewcommand*{\setfloatlocations}[2]{}
766 \DeclareDocumentCommand{\suppressfloats}{o}{}
767 \renewcommand*{\FloatBlock}{}
768 \renewcommand*{\FloatBlockAllowAbove}{}
769 \renewcommand*{\FloatBlockAllowBelow}{}
770 \renewcommand*{\setFloatBlockFor}{}
771
772 \renewcommand{\captiontitlefinal}[1]{}

```

`\flegtable`, `\flegfigure`, `\flegtocfigure` are defined by memoir using `\newfloat`. These are defined with an @ in ccaption.

```

773 \renewcommand{\flegtable}{\tablename}
774 \renewcommand{\flegfigure}{\figurename}
775 \renewcommand{\flegtocfigure}{}
776 \renewcommand{\flegtocfigure}{}

777 \renewcommand{@makesubfloatcaption}[2]{%
778 \minipagefullwidth
779 \begin{minipage}{\linewidth}%
780 #1 \ignorespaces #2 \unskip%
781 \end{minipage}
782 }
783
784 \renewcommand*{\tightsubcaptions}{}
785 \renewcommand*{\loosesubcaptions}{}
786
787 \renewcommand*{\subcaptionsize}[1]{}
788 \renewcommand*{\subcaptionlabelfont}[1]{}
789 \renewcommand*{\subcaptionfont}[1]{}
790 \renewcommand*{\subcaptionstyle}[1]{}
791
792 \renewcommand*{\hangsubcaption}{}
793 \renewcommand*{\shortsubcaption}{}
794 \renewcommand*{\normalsubcaption}{}
795
796 \RenewDocumentEnvironment{sidecaption}{o m o}
797 {}
798 {}
799 \IfValueTF{#1}{\caption[#1]{#2}}{\caption{#2}}%
800 \IfValueT{#3}{\label{#3}}%

```

```

801 }
802
803 % \newlength{\sidecapwidth}
804 % \newlength{\sidecapsep}
805 \renewcommand*\setsidecaps[2]{}
806 \renewcommand*\sidecapmargin[1]{}
807 % \newif\ifscapmargleft
808 \scapmargleftfalse
809 \renewcommand*\setsidecappos[1]{}

```

Env sidecontcaption

```

810 \RenewDocumentEnvironment{sidecontcaption}{m o}
811 {}
812 {%
813 \ifdef{\ContinuedFloat}%
814 {\ContinuedFloat}%
815 {\addtocounter{\@capttype}{-1}}%
816 \caption{#1}%

```

Without \@capttype, the section is referred to instead.

```

817 \IfValueT{#2}{\label[\@capttype]{#2}}%
818 }

```

\sidenamedlegend does not appear to use the toc argument.

```

819 \renewenvironment{sidenamedlegend}[2][]{
820 \begin{center}
821 \@nameuse{\@capttype name}\CaptionSeparator#2
822 \end{center}
823 }
824 {}
825
826 \renewenvironment{sidelegend}[1]
827 {\begin{center}
828 #1
829
830 }
831 {\end{center}}
832
833 \renewcommand*\sidecapstyle{}
834 \renewcommand*\overridescapmargin[1]{}
835 % \newlength{\sidecapraise}
836 \renewcommand*\sidecapfloatwidth{\linewidth}
837
838 \LetLtxMacro\ctabular\tabular
839 \LetLtxMacro\endctabular\endtabular
840
841 \renewcommand{\autorows}[5][]{%
842 #5%
843 }
844
845 \renewcommand{\autocols}[5][]{%
846 #5%
847 }

```

§ 654.12 **Footnotes and page notes**

```

848 \renewcommand*\feetabovefloat{}
849 \renewcommand*\feetbelowfloat{}
850 \renewcommand*\feetatbottom{}
851
852 \renewcommand*\verbfootnote}[2][{}%
853 \PackageError{lwarp, memoir}%
854 {Verbatim footnotes are not yet supported by lwarp}%
855 {This may be improved some day.}%
856 }
857
858 \renewcommand*\plainfootnotes{}
859 \renewcommand*\twocolumnfootnotes{}
860 \renewcommand*\threecolumnfootnotes{}
861 \renewcommand*\paragraphfootnotes{}
862 \renewcommand*\footfudgefiddle{}
863
864 \renewcommand*\newfootnoteseries}[1]{%
865 \PackageError{lwarp, memoir}%
866 {Memoir footnote series are not yet supported by lwarp}%
867 {This may be improved some day.}%
868 }
869
870 \renewcommand*\plainfootstyle}[1]{}
871 \renewcommand*\twocolumnfootstyle}[1]{}
872 \renewcommand*\threecolumnfootstyle}[1]{}
873 \renewcommand*\paragraphfootstyle}[1]{}
874
875 \renewcommand*\footfootmark{}
876 \renewcommand*\footmarkstyle}[1]{}
877
878 % \newlength{\footmarkwidth}
879 % \newlength{\footmarksep}
880 % \newlength{\footparindent}
881
882 \renewcommand*\foottextfont{}
883
884 \renewcommand*\marginparmargin}[1]{}
885 \renewcommand*\sideparmargin}[1]{}
886
887 \LetLtxMacro\sidepar\marginpar
888 \renewcommand*\sideparfont{}
889 \renewcommand*\sideparform{}
890 \LWR@providelength{\sideparvshift}
891
892 \renewcommand*\parnopar{}
893
894 \renewcommand{\sidebar}[1]{\begin{quote}#1\end{quote}}
895 \renewcommand*\sidebarmargin}[1]{}
896 \renewcommand*\sidebarfont{}
897 \renewcommand*\sidebarform{}
898 % \newlength{\sidebarhsep}
899 % \newlength{\sidebarmvsep}
900 % \newlength{\sidebarwidth}
901 % \newlength{\sidebartopsep}

```

```

902 \renewcommand{\setsidebarheight}[1]{}
903 \renewcommand*\setsidebars[6]{}
904 \renewcommand*\footnotesatfoot{}
905 \renewcommand*\footnotesinmargin{}
906
907 \LetLtxMacro\sidefootnote\footnote
908 \LetLtxMacro\sidefootnotemark\footnotemark
909 \LetLtxMacro\sidefootnotetext\footnotetext
910
911 \renewcommand*\sidefootmargin[1]{}
912 % \newlength{\sidefootsep}
913 % \newlength{\sidefootvsep}
914 % \newlength{\sidefootwidth}
915 % \newlength{\sidefootadjust}
916 % \newlength{\sidefootheight}
917 \renewcommand*\setsidefootheight[1]{}
918 % \renewcommand*\sidefootfont{}% in docs but not in the package
919 \renewcommand*\setsidefeet[6]{}
920 \renewcommand*\sidefootmarkstyle[1]{}
921 \renewcommand*\sidefoottextfont{}
922 \renewcommand*\sidefootform{}

923 \renewcommand*\continuousnotenums{\pncontopttrue}% from pagenote
924 \renewcommand*\notepageref{}
925 \renewcommand*\prenotetext{}
926 \renewcommand*\postnotetext{}
927 \LetLtxMacro\printpageinnoteshyperref\printpageinnotes
928 \renewcommand*\foottopagenote{}
929 \renewcommand*\pagetofootnote{}


```

`\m@m@wrpnote`

`\startnoteentrystart` To have `cleveref` work with page note labels, the following patch writes `\thepagenote` and also adds `\arabic{pagenote}` to the first argument written to the `.ent` file:

```
\startnoteentry{\thepagenote}{\arabic{pagenote}} . . .
```

The arabic value is required for `cleveref`. `\thepagenote` becomes `\@firstoftwo#1` and the arabic value becomes `\@secondoftwo#1`.

 `\nameref` Note that for print mode, `\nameref` print the section name where the page notes are declared in the text, but for HTML it prints the name where the page notes are printed.

```

930 \xpatchcmd{\m@m@wrpnote}
931 {\string\startnoteentry{\thepagenote}}
932 {\string\startnoteentry{\thepagenote}{\arabic{pagenote}}}}
933 {}
934 {\LWR@patcherror{memoir}{m@m@wrpnote}}
935
936 \renewcommand\startnoteentrystart[4]{%
937 \prenoteinnotes%
938 \noteidinnotes{\@firstoftwo#1}{#2}%
939 \ifmtarg{#2}{%
940 % \phantomsection\def\@currentlabel{#1}% original
941 \def\@currentlabel{\@firstoftwo#1}% lwarp
942 \def\cref@currentlabel{% lwarp

```

```

943 [pagenote][\@secondoftwo#1][\@firstoftwo#1% lwarp
944 }% lwarp
945 }{}%
946 \pagenoteanchor{#4}%
947 \pageinnotes{#3}%
948 \prenotetext%
949 }

```

### § 654.13 **Decorative text**

```

950 \renewcommand*\epigraphposition}[1]{}
951 \renewcommand*\epigraphtextposition}[1]{}
952 \renewcommand*\epigraphsourceposition}[1]{}
953 \renewcommand*\epigraphfontsize}[1]{}
954 \renewcommand*\epigraphforheader}[2]{}
955 \renewcommand*\epigraphpicture{}

```

### § 654.14 **Poetry**

```

956 \renewcommand*\vinphantom{}
957 \renewcommand*\vleftofline}[1]{#1}
958 % \let\linenumberfrequency\poemlines
959 % \renewcommand*\linenumberfont}[1]{}
960
961 \DeclareDocumentCommand{\PoemTitle}{s o o m}{%
962 \IfValueTF{#2}%
963 {\poemtitle[#2]{#4}}%
964 {\poemtitle{#4}}%
965 }
966
967 \renewcommand*\NumberPoemTitle{}
968 \renewcommand*\PlainPoemTitle{}
969 \renewcommand*\poemtitlestyle{}
970 \renewcommand*\poemtitlestarmark}[1]{}
971 \renewcommand*\poemtitlestarpstyle{}
972 \renewcommand*\PoemTitleheadstart{}
973 \renewcommand*\printPoemTitlenum{}
974 \renewcommand*\printPoemTitlenum{}
975 \renewcommand*\afterPoemTitlenum{}
976 \renewcommand*\printPoemTitletitle}[1]{}
977 \renewcommand*\afterPoemTitle{}
978 \newlength{\midpoemtitleskip}
979 \renewcommand*\PoemTitlenumfont{}
980 \renewcommand*\PoemTitlefont{}

```

### § 654.15 **Boxes, verbatims and files**

```

981 \renewenvironment{qframe}{\framed}{\endframed}
982 \renewenvironment{qshade}{\shaded}{\endshaded}

983 \renewcommand*\setverbatimfont}[1]{}
984 \renewcommand*\tabson}[1]{}
985 \renewcommand*\tabsoff{}
986 \renewcommand*\wrappingon{}
987 \renewcommand*\wrappingoff{}

```

```

988 \renewcommand*\verbatimindent{}
989 \renewcommand*\verbatimbreakchar}[1]{}

990 \DefineVerbatimEnvironment{fboxverbatim}{Verbatim}{frame=single}

```

boxedverbatim is already defined by moreverb. boxedverbatim\* does not appear to work at all, even in a minimal print memoir document.

```

991 \renewcommand*\bvbox{}
992 \renewcommand*\bvtopandtail{}
993 \renewcommand*\bvside{}
994 \renewcommand*\nobvbox{}
995 % \newlength\bvboxsep
996 \renewcommand*\bvtoprulehook{}
997 \renewcommand*\bvtopmidhook{}
998 \renewcommand*\bvendrulehook{}
999 \renewcommand*\bvleftsidehook{}
1000 \renewcommand*\bvrightsidehook{}
1001 \renewcommand*\bvperpagetrue{}
1002 \renewcommand*\bvperpagefalse{}
1003 \renewcommand*\bvtopofpage}[1]{}
1004 \renewcommand*\bvendofpage}[1]{}
1005 \renewcommand*\linenumberfrequency}[1]{}
1006 \renewcommand*\resetbvlinenumber{}
1007 \renewcommand*\setbvlinenums}[2]{}
1008 \renewcommand*\linenumberfont}[1]{}
1009 \renewcommand*\bvnumbersinside{}
1010 \renewcommand*\bvnumbersoutside{}

```

## § 654.16 Cross referencing

```

1011 \renewcommand*\fref}[1]{\cref{#1}}
1012 \renewcommand*\tref}[1]{\cref{#1}}
1013 \renewcommand*\pref}[1]{\cpageref{#1}}
1014 \renewcommand*\Aref}[1]{\cref{#1}}
1015 \renewcommand*\Bref}[1]{\cref{#1}}
1016 \renewcommand*\Pref}[1]{\cref{#1}}
1017 \renewcommand*\Sref}[1]{\cref{#1}}
1018 \renewcommand*\figurerefname{Figure}
1019 \renewcommand*\tablerefname{Table}
1020 \renewcommand*\pagerefname{page}
1021 \renewcommand*\bookrefname{Book~}
1022 \renewcommand*\partrefname{Part~}
1023 \renewcommand*\chapterrefname{Chapter~}
1024 \renewcommand*\sectionrefname{\S}
1025 \renewcommand*\appendixrefname{Appendix~}
1026 \LetLtxMacro\titleref\nameref
1027 \renewcommand*\headnameref{}
1028 \renewcommand*\tocnameref{}
1029
1030 \providecounter{LWR@currenttitle}
1031
1032 \renewcommand*\currenttitle{%
1033 \addtocounter{LWR@currenttitle}{1}%
1034 \label{currenttitle\arabic{LWR@currenttitle}}%

```

```

1035 \nameref{currenttitle\arabic{LWR@currenttitle}}%
1036 }
1037
1038 \renewcommand*{\theTitleReference}[2]{%
1039 \renewcommand*{\namerefon}{%
1040 \renewcommand*{\namerefoff}{%

```

### § 654.17 Back matter

`\@wrindexhyp` Redefined to write the `LWR@autoindex` counter instead of page. Note that memoir has two versions, depending on the use of `hyperref`.

```

1041 \AtBeginDocument{
1042
1043 \def\@wrindexhyp#1||\{\%
1044 \addtocounter{LWR@autoindex}{1}%
1045 \label{LWRindex-\arabic{LWR@autoindex}}%
1046 % \ifshowindexmark\@showidx{#1}\fi
1047 \protected@write\@auxout{%
1048 % {\string\@wrindexm@m{\@idxfile}{#1}{\thepage}}%
1049 {\string\@wrindexm@m{\@idxfile}{#1}{\arabic{LWR@autoindex}}}%
1050 \endgroup
1051 \esphack}%

```

`\@wrspindexhyp` `\specialindex` behaves like a regular `\index`, pointing to where `\specialindex` is used. If `\specialindex` is used inside a figure or table after the `\caption`, then the hyperlink will be given the name of that particular figure or table.

```

1052 \def\@wrspindexhyp#1||\{\%
1053 \addtocounter{LWR@autoindex}{1}%
1054 \label{LWRindex-\arabic{LWR@autoindex}}%
1055 % \ifshowindexmark\@showidx{#1}\fi
1056 \protected@write\@auxout{%
1057 % {\string\@wrindexm@m{\@idxfile}{#1}{\@nameuse{the\@sptheid}}}%
1058 {\string\@wrindexm@m{\@idxfile}{#1}{\arabic{LWR@autoindex}}}%
1059 \endgroup
1060 \esphack}%
1061
1062 }% \AtBeginDocument

```

`\@spindex` Patched to append `_html` to the file:

```

1063 \renewcommand{\@spindex}[2]{%
1064 \ifundefined{#1@idxfile}%
1065 {\ifreportnoidxfile
1066 \memwarn{Undefined index file #1}%
1067 \fi
1068 \begingroup
1069 \@sanitize
1070 \@nowrindex}%
1071 {\def\@idxfile{#1_html}%
1072 \def\@sptheid{#2}%
1073 \begingroup
1074 \@sanitize
1075 \@wrspindex}}

```



`\makeindex` Patched to use `_html` filename and `\BaseJobname`:

```

1076 \catcode'_ =12%
1077 \renewcommand*\makeindex}[1][\BaseJobname]{%
1078 \if@filesw
1079 \def\gindex{\@bsphack%
1080 \@ifnextchar [{\@index}{\@index[\BaseJobname]}}
1081 \def\specialindex{\@bsphack\@spindex}%
1082 \makememindexhook
1083 \expandafter\newwrite\csname #1@idxfile\endcsname
1084 \expandafter\immediate\openout \csname #1@idxfile\endcsname #1_html.idx\relax
1085 \typeout{Writing index file #1_html.idx }%
1086 \fi}
1087 \catcode'_ =8%
```

`\printindex` Patched to use `_html` filename and `\BaseJobname`. This will later be patched by the `lwarp` core.

```

1088 \catcode'_ =12%
1089 \renewcommand{\printindex}[1][\BaseJobname]{\input@{#1_html.idx}}
1090 \catcode'_ =8%

1091 \DeclareDocumentCommand{\newblock}{}{}
1092 %
1093 \renewcommand*\showindexmarks{}
1094 \renewcommand*\hideindexmarks{}
1095
1096 \renewcommand*\xindyindex{}

```

## § 654.18 Miscellaneous

```

1097 \renewcommand*\changemarks{}
1098 \renewcommand*\nochangemarks{}
1099 \renewcommand*\added}[1]{}
1100 \renewcommand*\deleted}[1]{}
1101 \renewcommand*\changed}[1]{}
1102
1103 \renewcommand*\showtrimsoff{}
1104 \renewcommand*\showtrimson{}
1105 \renewcommand*\trimXmarks{}
1106 \renewcommand*\trimLmarks{}
1107 \renewcommand*\trimFrame{}
1108 \renewcommand*\trimNone{}
1109 \renewcommand*\trimmarkscolor{}
1110 \renewcommand*\trimmarks{}
1111 \renewcommand*\tmarktl{}
1112 \renewcommand*\tmarktr{}
1113 \renewcommand*\tmarkbr{}
1114 \renewcommand*\tmarkbl{}
1115 \renewcommand*\tmarktm{}
1116 \renewcommand*\tmarkmr{}
1117 \renewcommand*\tmarkbm{}
1118 \renewcommand*\tmarkml{}
1119 \renewcommand*\trimmark{}

```

```

1120 \renewcommand*\quarkmarks{}
1121 \renewcommand*\registrationColour[1]{}
1122
1123 \renewcommand*\leavespergathering[1]{}
1124
1125 \renewcommand*\noprelistbreak{}
1126
1127 \renewcommand*\cleartorecto{}
1128 \renewcommand*\cleartoverso{}
1129
1130 \renewenvironment{vplace}[1][1]{}{}

```

### § 654.19 **caption emulation**

```

1131 \renewcommand*\captiondelim[1]{\renewcommand*\CaptionSeparator}{#1}}
1132 \renewcommand*\captionnamefont[1]{}
1133 \renewcommand*\captiontitlefont[1]{}
1134 \renewcommand*\flushleft{}
1135 \renewcommand*\centerlastline{}
1136 \renewcommand*\captionstyle[2][1]{}
1137 \DeclareDocumentCommand{captionwidth}{m}{}
1138 \renewcommand*\changecaptionwidth{}
1139 \renewcommand*\normalcaptionwidth{}
1140 \renewcommand*\hangcaption{}
1141 \renewcommand*\indentcaption[1]{}
1142 \renewcommand*\normalcaption{}
1143 \renewcommand{\precaption}[1]{}
1144 \renewcommand{\postcaption}[1]{}
1145 \renewcommand{\midbication}[1]{}
1146 \renewcommand{\contcaption}[1]{%
1147 % \ContinuedFloat%
1148 % \caption{#1}%
1149 \begin{LWR@figcaption}% later becomes \caption*
1150 \LWR@isolate{\@nameuse{\@capttype name}}~%
1151 \thechapter.\the\value{\@capttype}\CaptionSeparator\LWR@isolate{#1}%
1152 \end{LWR@figcaption}%
1153 }

1154 \newlength{\abovelegendskip}
1155 \setlength{\abovelegendskip}{0.5\baselineskip}
1156 \newlength{\belowlegendskip}
1157 \setlength{\belowlegendskip}{\abovelegendskip}

```

The extra `\\` here forces a `<br>` in HTML when `\legend` is used in a `\marginpar`.

```

1158 \renewcommand{\legend}[1]{\begin{center}#1\\end{center}}
1159
1160 \renewcommand{\namedlegend}[2][1]{%
1161 \begin{center}
1162 \@nameuse{fleg\@capttype}\CaptionSeparator#2\\
1163 \end{center}
1164 \@nameuse{flegtoc\@capttype}{#1}
1165 }

```

`\flegtable`, `\flegfigure`, `\flegtocfigure`, `\flegtocfigure` are defined by memoir using `\newfloat`. These are defined with an @ in `ccaption`.

```

1166 \renewcommand{\newfixedcaption}[3][\caption]{%
1167 \renewcommand{#2}{\def\@capttype{#3}#1}}
1168 \renewcommand{\renewfixedcaption}[3][\caption]{%
1169 \renewcommand{#2}{\def\@capttype{#3}#1}}
1170 \renewcommand{\providefixedcaption}[3][\caption]{%
1171 \providecommand{#2}{\def\@capttype{#3}#1}}
1172
1173 \renewcommand{\bitwonumcaption}[6][[%
1174 \ifblank{#2}{\caption{#3}}{\caption[#2]{#3}}%
1175 \addtocounter{\@capttype}{-1}%
1176 \begingroup%
1177 \csdef{\@capttype name}{#4}%
1178 \ifblank{#5}{\caption{#6}}{\caption[#5]{#6}}%
1179 \endgroup%
1180 \ifblank{#1}{\label{#1}}%
1181 }
1182
1183 \LetLtxMacro\bionenumcaption\bitwonumcaption% todo
1184
1185 \renewcommand{\bicaption}[5][[%
1186 \ifblank{#2}{\caption{#3}}{\caption[#2]{#3}}%
1187 \begin{LWR@figcaption}% later becomes \caption*
1188 \LWR@isolate{#4} % space
1189 \thechapter.\the\value{\@capttype}\CaptionSeparator\LWR@isolate{#5}%
1190 \end{LWR@figcaption}%
1191 \ifblank{#1}{\label{#1}}%
1192 }
1193
1194 \renewcommand{\bicontcaption}[3]{%
1195 \contcaption{#1}%
1196 \begingroup%
1197 \csdef{\@capttype name}{#2}%
1198 \contcaption{#3}%
1199 \endgroup%
1200 }

```

Only in `ccaption`, not in memoir:

```

1201 % \LetLtxMacro\longbitwonumcaption\bitwonumcaption%
1202 % \LetLtxMacro\longbionenumcaption\bitwonumcaption%
1203 % \LetLtxMacro\longbicaption\bicaption%

```

Patches for subfloats to support additional lwarp labels:

```

1204 \renewcommand{\@memsubbody}{%
1205 \bgroup
1206 \let\label=\memsub@label
1207 \ifdonemaincaption\else
1208 \advance\csname c@\@capttype\endcsname\@ne
1209 \fi
1210 % \refstepcounter{sub\@capttype}\@contkeep%
1211 % \leavevmode% lwarp
1212 \@ifnextchar [%

```

```

1213 {\@memsubfig}%
1214 {\@memsubfig[\@empty]}
1215
1216 \renewcommand{\@memcontsubbody}{%
1217 \bgroup
1218 \let\label=\memsub@label
1219 \@contset
1220 % \refstepcounter{sub\@capttype}\@contkeep%
1221 % \leavevmode% lwarp
1222 \@ifnextchar [%
1223 {\@memsubfig}%
1224 {\@memsubfig[\@empty]}
1225
1226
1227 \long\def\@memsubfloat#1[#2][#3]#4{%
1228 % \@tempcnta=\@ne
1229 % \if@tightsubcap
1230 % \if@minipage
1231 % \@tempcnta=\z@
1232 % \else
1233 % \ifdim\lastskip=\z@
1234 % \@tempcnta=\@ne
1235 % \else
1236 % \@tempcnta=\tw@
1237 % \fi
1238 % \fi
1239 % \fi
1240 % \if@contbotsub
1241 % \def\subfig@top{\subfloattopskip}%
1242 % \def\subfig@bottom{\subfloatbottomskip}%
1243 % \else
1244 % \def\subfig@top{\subfloatbottomskip}%
1245 % \def\subfig@bottom{\subfloattopskip}%
1246 % \fi
1247 % \setbox\@tempboxa \hbox{#4}%
1248 % \@tempdima=\wd\@tempboxa
1249 % \vbox
1250 % \bgroup%
1251 % \mem@step@subcounter%
1252 % \vbox
1253 % \LWR@stoppars%
1254 % \minipagefullwidth% lwarp
1255 % \begin{minipage}{\linewidth}% lwarp
1256 % \bgroup
1257 % \ifcase\@tempcnta
1258 % \@minipagefalse
1259 % \or
1260 % \vspace{\subfig@top}
1261 % \or
1262 % \ifdim \lastskip=\z@ \else
1263 % \@tempskipb\subfig@top\@xaddvskip
1264 % \fi
1265 % \fi
1266 % \if@contbotsub
1267 % #4% \box\@tempboxa

```

```

1268 \egroup
1269 \ifx \@empty#3\relax \else
1270 % \vskip\subfloatcapskip
1271 \@memsubcaption{#1}{#2}{#3}%
1272 \fi
1273 \else
1274 \ifx \@empty#3\relax \else
1275 \@memsubcaption{#1}{#2}{#3}%
1276 % \vskip\subfloatcapskip
1277 % \vskip\subfloatcaptopadj
1278 \fi\egroup
1279 #4% \box\@tempboxa
1280 \fi
1281 % \vspace{\subfig@bottom}
1282 \end{minipage}% lwarp
1283 \LWR@startpars% lwarp
1284 \egroup
1285 \egroup
1286 }

```

## § 654.20 Final patchwork

```

1287 \newlistof{tableofcontents}{toc}{\contentsname}
1288 \newlistof{listoffigures}{lof}{\listfigurename}
1289 \newlistof{listoftables}{lot}{\listtablename}

```

---

### File 549 **lwarp-common-multimedia.sty**

## § 655 Package **common-multimedia**

Pkg lwarp-common-multimedia Common code for multimedia, movie15, and media9.

The packages multimedia, movie15, and media9 are supported.

HTML5 <audio> and <video> objects are created for .mp3 and .mp4 files.

HTML5 <embed> objects are created for http and ftp links.

\href links are created for other media types. (Unfortunately, there is not much overlap between the file types supported for print output and the file types supported by HTML5.)

For media9, a multimedia object is inserted for each addressource=, as well as each flashvars source= and src=. This may result in duplicate objects.

Undesired objects may be nullified by placing them inside \warpprintonly or the warpprint environment.

Each HTML multimedia object includes the poster text, except for <embed> objects. For movie15, the text option is supported to specify the poster text.

The width, height, and totalheight options are supported. The HTML object is scaled according to the display width, correctly compensating for either tall or wide viewports.

Other options are ignored.

`media9 \addmediapath` is supported. It is assumed that the same path structure will exist for the HTML document.

HTML5 media controls are always specified for each `<audio>` and `<video>` object.

`media9` slideshows are not supported.

`\hyperlinkmovie`, `\movieref`, and `\mediabutton` are not supported.

3D objects are not supported.

If using a YOUTUBE™ video, use an “embedded” URL with `.../embed/...` instead of `.../v/...`

for HTML output:

```

1 \ProvidesPackage{lwarp-common-multimedia}[2019/04/22]
2 \RequirePackage{xkeyval}
3
4 \define@key{LWR@multimedia}{width}{\setlength{\LWR@multimedia@width}{#1}}
5 \define@key{LWR@multimedia}{height}{\setlength{\LWR@multimedia@height}{#1}}
6 \define@key{LWR@multimedia}{totalheight}{\setlength{\LWR@multimedia@height}{#1}}
7 \newlength{\LWR@multimedia@width}
8 \newlength{\LWR@multimedia@height}
9 \newlength{\LWR@multimedia@maxdimension}

```

`\LWR@multimedia@printsiz`

Proportional to `\linewidth` and the viewport’s smaller dimension. This scales each object such that it will always fit on the screen, even if a tall or wide object inside a tall or wide viewport.

```

10 \newcommand*{\LWR@multimedia@printsiz}{%
11 \setlength{\LWR@multimedia@maxdimension}{%
12 \maxof%
13 {\linewidth}%
14 {\maxof{\LWR@multimedia@width}{\LWR@multimedia@height}}%
15 }%
16 \setlength{\LWR@multimedia@maxdimension}{1.1\LWR@multimedia@maxdimension}%
17 \ifdimgreater{\LWR@multimedia@width}{0pt}{%
18 width:%
19 \LWR@printpercentlength%
20 {\LWR@multimedia@width}%
21 {\LWR@multimedia@maxdimension}vmin ; % space
22 }{%
23 \ifdimgreater{\LWR@multimedia@height}{0pt}{%
24 height:%
25 \LWR@printpercentlength%
26 {\LWR@multimedia@height}%
27 {\LWR@multimedia@maxdimension}vmin ; % space
28 }{%
29 }

```

`\LWR@multimedia@fileAV` `{\langle poster text \rangle}{\langle filename \rangle}{\langle audio/video \rangle}{\langle mimetype \rangle}`

Creates a video or audio from a file. The 2019/10 update of the L<sup>A</sup>T<sub>E</sub>X kernel may cause extra quotes to be added in the filenames. They are removed here.

```
30 \newcommand*\LWR@multimedia@fileAV}[4]{%
31 \IfFileExists{#2}{% also sets \@filef@und
32 \StrSubstitute[100]{\@filef@und}{"}{}}[\LWR@parsedfilename]%
```

The container <div> is sized as desired.

```
33 \ifstrequal{#3}{audio}{%
34 \begin{BlockClass}{AVviewport}
35 }{%
36 \begin{BlockClass}[\LWR@multimedia@printsize\ margin:auto]{AVviewport}
37 }
```

Paragraph tags are unnecessary for the A/V tags.

```
38 \LWR@stoppars
```

The A/V element is 100% of the container.

```
39 \LWR@htmltag{%
40 #3\ % space
41 \ifstrequal{#3}{audio}{%
42 width=\textquotedbl{}100%\textquotedbl\ % space
43 height=\textquotedbl{}100%\textquotedbl\ % space
44 }%
45 controls%
46 }\LWR@orignewline
```

The file source and type:

```
47 \LWR@htmltag{%
48 source % space
49 src=\textquotedbl%
50 \LWR@parsedfilename\unskip\textquotedbl\ % space
51 type=\textquotedbl{}#4\textquotedbl}
```

The poster text inside paragraph tags, along with a reference to the file.

```
52 \LWR@startpars
53 \LWR@href{\LWR@parsedfilename}{#1}
54 \LWR@stoppars
```

Finish.

```
55 \LWR@htmltag{/#3}\LWR@orignewline
56 \end{BlockClass}
57 }{%
58 \PackageError{lwarp-common-multimedia}
59 {File '#2' not found}
60 {Perhaps an incorrect path?}
61 }%
62 }
```

```
\LWR@multimedia@httpAV {<poster text>} {<filename>} {<audio/video>} {<mimetype>}
```

Creates a video or audio from a URL link.

```
63 \newcommand*\LWR@multimedia@httpAV}[4]{%
```

The container `<div>` is sized as desired.

```
64 \ifstrequal{#3}{audio}{%
65 \begin{BlockClass}{AVviewport}
66 }{%
67 \begin{BlockClass}[\LWR@multimedia@printsize\ margin:auto]{AVviewport}
68 }
```

Paragraph tags are unnecessary for the A/v tags.

```
69 \LWR@stoppars
```

The A/v element is 100% of the container.

```
70 \LWR@htmltag{%
71 #3\ % space
72 \ifstrequal{#3}{audio}{}{%
73 width=\textquotedbl{}100%\textquotedbl\ % space
74 height=\textquotedbl{}100%\textquotedbl\ controls%
75 }%
76 }\LWR@orignewline
```

The file source and type:

```
77 \LWR@htmltag{%
78 source % space
79 src=\textquotedbl#2\textquotedbl\ % space
80 type=\textquotedbl#4\textquotedbl}
```

The poster text inside paragraph tags, along with a reference to the URL.

```
81 \LWR@startpars
82 \LWR@href{#2}{#1}
83 \LWR@stoppars
```

Finish.

```
84 \LWR@htmltag{/#3}\LWR@orignewline
85 \end{BlockClass}
86 }
```

```
\LWR@multimedia@AV {<poster text>} {<filename>} {<audio/video>} {<mimetype>}
```

Creates an audio or video from a file or a URL.

```
87 \newcommand*\LWR@multimedia@AV[4]{%
88 \IfBeginWith{#2}{http}%
89 {\LWR@multimedia@httpAV{#1}{#2}{#3}{#4}}%
90 {%
91 \IfBeginWith{#2}{HTTP}%
92 {\LWR@multimedia@httpAV{#1}{#2}{#3}{#4}}%
93 {\LWR@multimedia@fileAV{#1}{#2}{#3}{#4}}%
94 }%
95 }
```

```
\LWR@multimedia@embed {<poster text>} {<URL or filename>} {<mime type>}
```

Embeds multimedia of an arbitrary type. The poster text is not used, as it would appear along with the video if the `<embed>` element is supported.

```
96 \newcommand*\LWR@multimedia@embed[3]{%
```



```

97 \begin{BlockClass}[width:100\%]{AVviewport}%
98 \LWR@stoppars
99 \LWR@htmltag{%
100 embed % space
101 \ifblank{#3}{\type=\textquotedbl#3\textquotedbl\ }%
102 style=\textquotedbl\LWR@multimedia@printsizemargin:auto\textquotedbl\ % space
103 src=\textquotedbl#2\textquotedbl\ % space
104 }%
105 \LWR@startpars
106 \end{BlockClass}
107 }

```

Error message if the comment character is used among the arguments of \LWR@multimedia.

\LWR@multimedia@percenterror

```

108 \newcommand*\LWR@multimedia@percenterror{%
109 \PackageError{lwarp-media9}
110 {%
111 Do not use a percent comment between\MessageBreak
112 \protect\includemedia\space arguments%
113 }
114 {%
115 Percent is changed to a regular character\MessageBreak
116 to allow its use inside a URL.%
117 }
118 }

```

\LWR@multimedia [options] {poster text} {filename}

Creates multimedia. Examines the file extension to determine the type. If not a supported type, creates an embedded object if it has a URL. If neither, create a link to the unsupported object.

```
119 \newcommand*\LWR@multimedia[3][]{%
```

Error if the percent character appears among the arguments. This could happen since the comment character has been temporarily disabled, for use in a URL.

```

120 \if#1\@percentchar\LWR@multimedia@percenterror\fi%
121 \if#2\@percentchar\LWR@multimedia@percenterror\fi%
122 \if#3\@percentchar\LWR@multimedia@percenterror\fi%

```

Paragraph handling:

```
123 \LWR@stoppars%
```

Record the desired size.

```

124 \setlength{\LWR@multimedia@width}{0pt}%
125 \setlength{\LWR@multimedia@height}{0pt}%
126 \setkeys*LWR@multimedia}{#1}%

```

If a known A/V type, create an HTML5 <video> or <audio>.

```

127 \IfEndWith{#3}{.mp4}{\LWR@multimedia@AV{#2}{#3}{video}{video/mp4}}{%
128 \IfEndWith{#3}{.MP4}{\LWR@multimedia@AV{#2}{#3}{video}{video/mp4}}{%
129 \IfEndWith{#3}{.mp3}{\LWR@multimedia@AV{#2}{#3}{audio}{audio/mpeg}}{%
130 \IfEndWith{#3}{.MP3}{\LWR@multimedia@AV{#2}{#3}{audio}{audio/mpeg}}{%

```

If an arbitrary URL, embed it.

```

131 \IfBeginWith{#3}{http}{\LWR@multimedia@embed{#2}{#3}}{%
132 \IfBeginWith{#3}{HTTP}{\LWR@multimedia@embed{#2}{#3}}{%
133 \IfBeginWith{#3}{ftp}{\LWR@multimedia@embed{#2}{#3}}{%
134 \IfBeginWith{#3}{FTP}{\LWR@multimedia@embed{#2}{#3}}{%

```

If unknown, create a link to it.

```

135 \LWR@href{#3}{#2}% unknown format
136 }}}}]}%

```

Paragraph handling:

```

137 \LWR@startpars%
138 \endgroup%
139 }

```

Catcodes which may appear in a URL.

```

140 \newrobustcmd*{\LWR@multimedia}{%
141 \begingroup%
142 \LWR@linkmediacatcodes%
143 \LWR@multimediab%
144 }

```

File 550 **lwarp-common-mathjax-letters.sty**

§ 656 Package **common-mathjax-letters**

Pkg Common code used by a number of packages to generate Greek math characters for  
 lwarp-common-mathjax-letters MATHJAX.

**for HTML output:** 1 \ProvidesPackage{lwarp-common-mathjax-letters}[2020/08/10]

\LWR@mathjax@addletter \* {<2: capitalize name?>} {<3: prefix>} {<4: postfix>} {<5: name>} {<6: unicode>}

Star to italicize the result, used when the unicode character does not exist.

```

2 \begin{warpMathJax}
3
4 \NewDocumentCommand{\LWR@mathjax@addletter}{s m m m m m}{
5 \IfBooleanTF{#2}%
6 {\edef\LWR@tempone{\LWRtexttitlecase{#5}}}%
7 {\edef\LWR@tempone{#5}}%
8 \xdef\LWR@customizedMathJax{%
9 \LWR@customizedMathJax%
10 \LWRbackslash%
11 \LWRbackslash def\LWRbackslash%
12 #3% prefix
13 \LWR@tempone%name
14 #4% postfix
15 \LWRleftbrace%
16 }%
17 \IfBooleanTF{#1}{%
18 \xdef\LWR@customizedMathJax{%

```

```

19 \LWR@customizedMathJax%
20 \LWRbackslash mathit\LWRleftbrace%
21 \LWRbackslash unicode\LWRleftbrace x#6\LWRrightbrace%
22 \LWRrightbrace%
23 }%
24 }{%
25 \xdef\LWR@customizedMathJax{%
26 \LWR@customizedMathJax%
27 \LWRbackslash unicode\LWRleftbrace x#6\LWRrightbrace%
28 }%
29 }%
30 \xdef\LWR@customizedMathJax{%
31 \LWR@customizedMathJax%
32 \LWRrightbrace\LWRbackslash)\par%
33 }%
34 }

```

\*  $\langle 2: prefix \rangle \langle 3: postfix \rangle$

\LWR@mathjax@addgreek@l@up

Star to capitalize the macro names.

Adds \CustomizeMathjax expressions to define a set of macros for Greek letters, lowercase upright.

```

35 \NewDocumentCommand{\LWR@mathjax@addgreek@l@up}{s m m}{
36 \LWR@mathjax@addLetter{#1}{#2}{#3}{alpha}{03B1}
37 \LWR@mathjax@addLetter{#1}{#2}{#3}{beta}{03B2}
38 \LWR@mathjax@addLetter{#1}{#2}{#3}{varbeta}{03D0}
39 \LWR@mathjax@addLetter{#1}{#2}{#3}{gamma}{03B3}
40 \LWR@mathjax@addLetter{#1}{#2}{#3}{digamma}{03DD}
41 \LWR@mathjax@addLetter{#1}{#2}{#3}{delta}{03B4}
42 \LWR@mathjax@addLetter{#1}{#2}{#3}{epsilon}{03F5}
43 \LWR@mathjax@addLetter{#1}{#2}{#3}{varepsilon}{03B5}
44 \LWR@mathjax@addLetter{#1}{#2}{#3}{zeta}{03B6}
45 \LWR@mathjax@addLetter{#1}{#2}{#3}{eta}{03B7}
46 \LWR@mathjax@addLetter{#1}{#2}{#3}{theta}{03B8}
47 \LWR@mathjax@addLetter{#1}{#2}{#3}{vartheta}{03D1}
48 \LWR@mathjax@addLetter{#1}{#2}{#3}{iota}{03B9}
49 \LWR@mathjax@addLetter{#1}{#2}{#3}{kappa}{03BA}
50 \LWR@mathjax@addLetter{#1}{#2}{#3}{varkappa}{03F0}
51 \LWR@mathjax@addLetter{#1}{#2}{#3}{lambda}{03BB}
52 \LWR@mathjax@addLetter{#1}{#2}{#3}{mu}{03BC}
53 \LWR@mathjax@addLetter{#1}{#2}{#3}{nu}{03BD}
54 \LWR@mathjax@addLetter{#1}{#2}{#3}{xi}{03BE}
55 \LWR@mathjax@addLetter{#1}{#2}{#3}{omicron}{03BF}
56 \LWR@mathjax@addLetter{#1}{#2}{#3}{pi}{03C0}
57 \LWR@mathjax@addLetter{#1}{#2}{#3}{varpi}{03D6}
58 \LWR@mathjax@addLetter{#1}{#2}{#3}{rho}{03C1}
59 \LWR@mathjax@addLetter{#1}{#2}{#3}{varrho}{03F1}
60 \LWR@mathjax@addLetter{#1}{#2}{#3}{sigma}{03C3}
61 \LWR@mathjax@addLetter{#1}{#2}{#3}{varsigma}{03C2}
62 \LWR@mathjax@addLetter{#1}{#2}{#3}{tau}{03C4}
63 \LWR@mathjax@addLetter{#1}{#2}{#3}{upsilon}{03C5}
64 \LWR@mathjax@addLetter{#1}{#2}{#3}{phi}{03D5}
65 \LWR@mathjax@addLetter{#1}{#2}{#3}{varphi}{03C6}
66 \LWR@mathjax@addLetter{#1}{#2}{#3}{chi}{03C7}

```

```

67 \LWR@mathjax@addLetter{#1}{#2}{#3}{psi}{03C8}
68 \LWR@mathjax@addLetter{#1}{#2}{#3}{omega}{03C9}
69 }

```

\* *{<2: prefix>} {<3: postfix>}*

\LWR@mathjax@addgreek@u@up

Star to capitalize the macro names.

Adds \CustomizeMathjax expressions to define a set of macros for Greek letters, uppercase upright.

```

70 \NewDocumentCommand{\LWR@mathjax@addgreek@u@up}{s m m}{
71 \LWR@mathjax@addLetter{#1}{#2}{#3}{alpha}{0391}
72 \LWR@mathjax@addLetter{#1}{#2}{#3}{beta}{0392}
73 \LWR@mathjax@addLetter{#1}{#2}{#3}{gamma}{0393}
74 \LWR@mathjax@addLetter{#1}{#2}{#3}{digamma}{03DC}
75 \LWR@mathjax@addLetter{#1}{#2}{#3}{delta}{0394}
76 \LWR@mathjax@addLetter{#1}{#2}{#3}{epsilon}{0395}
77 \LWR@mathjax@addLetter{#1}{#2}{#3}{zeta}{0396}
78 \LWR@mathjax@addLetter{#1}{#2}{#3}{eta}{0397}
79 \LWR@mathjax@addLetter{#1}{#2}{#3}{theta}{0398}
80 \LWR@mathjax@addLetter{#1}{#2}{#3}{vartheta}{03F4}
81 \LWR@mathjax@addLetter{#1}{#2}{#3}{iota}{0399}
82 \LWR@mathjax@addLetter{#1}{#2}{#3}{kappa}{039A}
83 \LWR@mathjax@addLetter{#1}{#2}{#3}{lambda}{039B}
84 \LWR@mathjax@addLetter{#1}{#2}{#3}{mu}{039C}
85 \LWR@mathjax@addLetter{#1}{#2}{#3}{nu}{039D}
86 \LWR@mathjax@addLetter{#1}{#2}{#3}{xi}{039E}
87 \LWR@mathjax@addLetter{#1}{#2}{#3}{omicron}{039F}
88 \LWR@mathjax@addLetter{#1}{#2}{#3}{pi}{03A0}
89 \LWR@mathjax@addLetter{#1}{#2}{#3}{varpi}{03D6}
90 \LWR@mathjax@addLetter{#1}{#2}{#3}{rho}{03A1}
91 \LWR@mathjax@addLetter{#1}{#2}{#3}{sigma}{03A3}
92 \LWR@mathjax@addLetter{#1}{#2}{#3}{tau}{03A4}
93 \LWR@mathjax@addLetter{#1}{#2}{#3}{upsilon}{03A5}
94 \LWR@mathjax@addLetter{#1}{#2}{#3}{phi}{03A6}
95 \LWR@mathjax@addLetter{#1}{#2}{#3}{chi}{03A7}
96 \LWR@mathjax@addLetter{#1}{#2}{#3}{psi}{03A8}
97 \LWR@mathjax@addLetter{#1}{#2}{#3}{omega}{03A9}
98 }

```

\* *{<2: prefix>} {<3: postfix>}*

\LWR@mathjax@addgreek@l@it

Star to capitalize the macro names.

Adds \CustomizeMathjax expressions to define a set of macros for Greek letters, lowercase italic.

```

99 \NewDocumentCommand{\LWR@mathjax@addgreek@l@it}{s m m}{
100 \LWR@mathjax@addLetter{#1}{#2}{#3}{alpha}{1D6FC}
101 \LWR@mathjax@addLetter{#1}{#2}{#3}{beta}{1D6FD}
102 \LWR@mathjax@addLetter{#1}{#2}{#3}{varbeta}{03D0}
103 \LWR@mathjax@addLetter{#1}{#2}{#3}{gamma}{1D6FE}
104 \LWR@mathjax@addLetter*{#1}{#2}{#3}{digamma}{03DD}
105 \LWR@mathjax@addLetter{#1}{#2}{#3}{delta}{1D6FF}
106 \LWR@mathjax@addLetter{#1}{#2}{#3}{epsilon}{1D716}
107 \LWR@mathjax@addLetter{#1}{#2}{#3}{varepsilon}{1D700}

```

```

108 \LWR@mathjax@addLetter{#1}{#2}{#3}{zeta}{1D701}
109 \LWR@mathjax@addLetter{#1}{#2}{#3}{eta}{1D702}
110 \LWR@mathjax@addLetter{#1}{#2}{#3}{theta}{1D703}
111 \LWR@mathjax@addLetter{#1}{#2}{#3}{vartheta}{1D717}
112 \LWR@mathjax@addLetter{#1}{#2}{#3}{iota}{1D704}
113 \LWR@mathjax@addLetter{#1}{#2}{#3}{kappa}{1D705}
114 \LWR@mathjax@addLetter{#1}{#2}{#3}{varkappa}{1D718}
115 \LWR@mathjax@addLetter{#1}{#2}{#3}{lambda}{1D706}
116 \LWR@mathjax@addLetter{#1}{#2}{#3}{mu}{1D707}
117 \LWR@mathjax@addLetter{#1}{#2}{#3}{nu}{1D708}
118 \LWR@mathjax@addLetter{#1}{#2}{#3}{xi}{1D709}
119 \LWR@mathjax@addLetter{#1}{#2}{#3}{omicron}{1D70A}
120 \LWR@mathjax@addLetter{#1}{#2}{#3}{pi}{1D70B}
121 \LWR@mathjax@addLetter{#1}{#2}{#3}{varpi}{1D71B}
122 \LWR@mathjax@addLetter{#1}{#2}{#3}{rho}{1D70C}
123 \LWR@mathjax@addLetter{#1}{#2}{#3}{varrho}{1D71A}
124 \LWR@mathjax@addLetter{#1}{#2}{#3}{sigma}{1D70E}
125 \LWR@mathjax@addLetter{#1}{#2}{#3}{varsigma}{1D70D}
126 \LWR@mathjax@addLetter{#1}{#2}{#3}{tau}{1D70F}
127 \LWR@mathjax@addLetter{#1}{#2}{#3}{upsilon}{1D710}
128 \LWR@mathjax@addLetter{#1}{#2}{#3}{phi}{1D719}
129 \LWR@mathjax@addLetter{#1}{#2}{#3}{varphi}{1D711}
130 \LWR@mathjax@addLetter{#1}{#2}{#3}{chi}{1D712}
131 \LWR@mathjax@addLetter{#1}{#2}{#3}{psi}{1D713}
132 \LWR@mathjax@addLetter{#1}{#2}{#3}{omega}{1D714}
133 }

```

\* *{2: prefix}* {3: postfix}

\LWR@mathjax@addgreek@u@it

Star to capitalize the macro names.

Adds \CustomizeMathjax expressions to define a set of macros for Greek letters, uppercase italic.

```

134 \NewDocumentCommand{\LWR@mathjax@addgreek@u@it}{s m m}{
135 \LWR@mathjax@addLetter{#1}{#2}{#3}{alpha}{1D6E2}
136 \LWR@mathjax@addLetter{#1}{#2}{#3}{beta}{1D6E3}
137 \LWR@mathjax@addLetter{#1}{#2}{#3}{gamma}{1D6E4}
138 \LWR@mathjax@addLetter*{#1}{#2}{#3}{digamma}{03DC}
139 \LWR@mathjax@addLetter{#1}{#2}{#3}{delta}{1D6E5}
140 \LWR@mathjax@addLetter{#1}{#2}{#3}{epsilon}{1D6E6}
141 \LWR@mathjax@addLetter{#1}{#2}{#3}{zeta}{1D6E7}
142 \LWR@mathjax@addLetter{#1}{#2}{#3}{eta}{1D6E8}
143 \LWR@mathjax@addLetter{#1}{#2}{#3}{theta}{1D6E9}
144 \LWR@mathjax@addLetter{#1}{#2}{#3}{vartheta}{1D6F3}
145 \LWR@mathjax@addLetter{#1}{#2}{#3}{iota}{1D6EA}
146 \LWR@mathjax@addLetter{#1}{#2}{#3}{kappa}{1D6EB}
147 \LWR@mathjax@addLetter{#1}{#2}{#3}{lambda}{1D6EC}
148 \LWR@mathjax@addLetter{#1}{#2}{#3}{mu}{1D6ED}
149 \LWR@mathjax@addLetter{#1}{#2}{#3}{nu}{1D6EE}
150 \LWR@mathjax@addLetter{#1}{#2}{#3}{xi}{1D6EF}
151 \LWR@mathjax@addLetter{#1}{#2}{#3}{omicron}{1D6F0}
152 \LWR@mathjax@addLetter{#1}{#2}{#3}{pi}{1D6F1}
153 \LWR@mathjax@addLetter{#1}{#2}{#3}{rho}{1D6F2}
154 \LWR@mathjax@addLetter{#1}{#2}{#3}{sigma}{1D6F4}
155 \LWR@mathjax@addLetter{#1}{#2}{#3}{tau}{1D6F5}

```

```

156 \LWR@mathjax@addLetter{#1}{#2}{#3}{\upsilon}{1D6F6}
157 \LWR@mathjax@addLetter{#1}{#2}{#3}{\phi}{1D6F7}
158 \LWR@mathjax@addLetter{#1}{#2}{#3}{\chi}{1D6F8}
159 \LWR@mathjax@addLetter{#1}{#2}{#3}{\psi}{1D6F9}
160 \LWR@mathjax@addLetter{#1}{#2}{#3}{\omega}{1D6FA}
161 }

```

\*  $\langle 2: prefix \rangle \langle 3: postfix \rangle$

`\LWR@mathjax@addgreek@l@bfit`

Star to capitalize the macro names.

Adds `\CustomizeMathjax` expressions to define a set of macros for Greek letters, lowercase boldface italic.

```

162 \NewDocumentCommand{\LWR@mathjax@addgreek@l@bfit}{s m m}{
163 \LWR@mathjax@addLetter{#1}{#2}{#3}{\alpha}{1D736}
164 \LWR@mathjax@addLetter{#1}{#2}{#3}{\beta}{1D737}
165 \LWR@mathjax@addLetter{#1}{#2}{#3}{\varbeta}{03D0}
166 \LWR@mathjax@addLetter{#1}{#2}{#3}{\gamma}{1D738}
167 \LWR@mathjax@addLetter*{#1}{#2}{#3}{\digamma}{03DD}
168 \LWR@mathjax@addLetter{#1}{#2}{#3}{\delta}{1D739}
169 \LWR@mathjax@addLetter{#1}{#2}{#3}{\epsilon}{1D750}
170 \LWR@mathjax@addLetter{#1}{#2}{#3}{\varepsilon}{1D73A}
171 \LWR@mathjax@addLetter{#1}{#2}{#3}{\zeta}{1D73B}
172 \LWR@mathjax@addLetter{#1}{#2}{#3}{\eta}{1D73C}
173 \LWR@mathjax@addLetter{#1}{#2}{#3}{\theta}{1D73D}
174 \LWR@mathjax@addLetter{#1}{#2}{#3}{\vartheta}{1D751}
175 \LWR@mathjax@addLetter{#1}{#2}{#3}{\iota}{1D73E}
176 \LWR@mathjax@addLetter{#1}{#2}{#3}{\kappa}{1D73F}
177 \LWR@mathjax@addLetter{#1}{#2}{#3}{\varkappa}{1D752}
178 \LWR@mathjax@addLetter{#1}{#2}{#3}{\lambda}{1D740}
179 \LWR@mathjax@addLetter{#1}{#2}{#3}{\mu}{1D741}
180 \LWR@mathjax@addLetter{#1}{#2}{#3}{\nu}{1D742}
181 \LWR@mathjax@addLetter{#1}{#2}{#3}{\xi}{1D743}
182 \LWR@mathjax@addLetter{#1}{#2}{#3}{\omicron}{1D744}
183 \LWR@mathjax@addLetter{#1}{#2}{#3}{\pi}{1D745}
184 \LWR@mathjax@addLetter{#1}{#2}{#3}{\varpi}{1D755}
185 \LWR@mathjax@addLetter{#1}{#2}{#3}{\rho}{1D746}
186 \LWR@mathjax@addLetter{#1}{#2}{#3}{\varrho}{1D754}
187 \LWR@mathjax@addLetter{#1}{#2}{#3}{\sigma}{1D748}
188 \LWR@mathjax@addLetter{#1}{#2}{#3}{\varsigma}{1D747}
189 \LWR@mathjax@addLetter{#1}{#2}{#3}{\tau}{1D749}
190 \LWR@mathjax@addLetter{#1}{#2}{#3}{\upsilon}{1D74A}
191 \LWR@mathjax@addLetter{#1}{#2}{#3}{\phi}{1D753}
192 \LWR@mathjax@addLetter{#1}{#2}{#3}{\varphi}{1D74B}
193 \LWR@mathjax@addLetter{#1}{#2}{#3}{\chi}{1D74C}
194 \LWR@mathjax@addLetter{#1}{#2}{#3}{\psi}{1D74D}
195 \LWR@mathjax@addLetter{#1}{#2}{#3}{\omega}{1D74E}
196 }

```

\*  $\langle 2: prefix \rangle \langle 3: postfix \rangle$

`\LWR@mathjax@addgreek@u@bfit`

Star to capitalize the macro names.

Adds `\CustomizeMathjax` expressions to define a set of macros for Greek letters, uppercase boldface italic.

```

197 \NewDocumentCommand{\LWR@mathjax@addgreek@u@bfit}{s m m}{
198 \LWR@mathjax@addLetter{#1}{#2}{#3}{alpha}{1D71C}
199 \LWR@mathjax@addLetter{#1}{#2}{#3}{beta}{1D71D}
200 \LWR@mathjax@addLetter{#1}{#2}{#3}{gamma}{1D71E}
201 \LWR@mathjax@addLetter*{#1}{#2}{#3}{digamma}{03DC}
202 \LWR@mathjax@addLetter{#1}{#2}{#3}{delta}{1D71F}
203 \LWR@mathjax@addLetter{#1}{#2}{#3}{epsilon}{1D720}
204 \LWR@mathjax@addLetter{#1}{#2}{#3}{zeta}{1D721}
205 \LWR@mathjax@addLetter{#1}{#2}{#3}{eta}{1D722}
206 \LWR@mathjax@addLetter{#1}{#2}{#3}{theta}{1D723}
207 \LWR@mathjax@addLetter{#1}{#2}{#3}{vartheta}{1D72D}
208 \LWR@mathjax@addLetter{#1}{#2}{#3}{iota}{1D724}
209 \LWR@mathjax@addLetter{#1}{#2}{#3}{kappa}{1D725}
210 \LWR@mathjax@addLetter{#1}{#2}{#3}{lambda}{1D726}
211 \LWR@mathjax@addLetter{#1}{#2}{#3}{mu}{1D727}
212 \LWR@mathjax@addLetter{#1}{#2}{#3}{nu}{1D728}
213 \LWR@mathjax@addLetter{#1}{#2}{#3}{xi}{1D729}
214 \LWR@mathjax@addLetter{#1}{#2}{#3}{omicron}{1D72A}
215 \LWR@mathjax@addLetter{#1}{#2}{#3}{pi}{1D72B}
216 \LWR@mathjax@addLetter{#1}{#2}{#3}{rho}{1D72C}
217 \LWR@mathjax@addLetter{#1}{#2}{#3}{sigma}{1D72E}
218 \LWR@mathjax@addLetter{#1}{#2}{#3}{tau}{1D72F}
219 \LWR@mathjax@addLetter{#1}{#2}{#3}{upsilon}{1D730}
220 \LWR@mathjax@addLetter{#1}{#2}{#3}{phi}{1D731}
221 \LWR@mathjax@addLetter{#1}{#2}{#3}{chi}{1D732}
222 \LWR@mathjax@addLetter{#1}{#2}{#3}{psi}{1D733}
223 \LWR@mathjax@addLetter{#1}{#2}{#3}{omega}{1D734}
224 }

```

`\LWR@mathjax@addgreek@u@bfup` is not needed.

\*  $\langle 2: prefix \rangle \langle 3: postfix \rangle$

`\LWR@mathjax@addgreek@u@bfup`

Star to capitalize the macro names.

Adds `\CustomizeMathjax` expressions to define a set of macros for Greek letters, uppercase boldface upright.

```

225 \NewDocumentCommand{\LWR@mathjax@addgreek@u@bfup}{s m m}{
226 \LWR@mathjax@addLetter{#1}{#2}{#3}{alpha}{1D6A8}
227 \LWR@mathjax@addLetter{#1}{#2}{#3}{beta}{1D6A9}
228 \LWR@mathjax@addLetter{#1}{#2}{#3}{gamma}{1D6AA}
229 \LWR@mathjax@addLetter*{#1}{#2}{#3}{digamma}{03DC}
230 \LWR@mathjax@addLetter{#1}{#2}{#3}{delta}{1D6AB}
231 \LWR@mathjax@addLetter{#1}{#2}{#3}{epsilon}{1D6AC}
232 \LWR@mathjax@addLetter{#1}{#2}{#3}{zeta}{1D6AD}
233 \LWR@mathjax@addLetter{#1}{#2}{#3}{eta}{1D6AE}
234 \LWR@mathjax@addLetter{#1}{#2}{#3}{theta}{1D6AF}
235 \LWR@mathjax@addLetter{#1}{#2}{#3}{vartheta}{1D6B9}
236 \LWR@mathjax@addLetter{#1}{#2}{#3}{iota}{1D6B0}
237 \LWR@mathjax@addLetter{#1}{#2}{#3}{kappa}{1D6B1}
238 \LWR@mathjax@addLetter{#1}{#2}{#3}{lambda}{1D6B2}
239 \LWR@mathjax@addLetter{#1}{#2}{#3}{mu}{1D6B3}
240 \LWR@mathjax@addLetter{#1}{#2}{#3}{nu}{1D6B4}
241 \LWR@mathjax@addLetter{#1}{#2}{#3}{xi}{1D6B5}
242 \LWR@mathjax@addLetter{#1}{#2}{#3}{omicron}{1D6B6}

```

```

243 \LWR@mathjax@addLetter{#1}{#2}{#3}{pi}{1D6B7}
244 \LWR@mathjax@addLetter{#1}{#2}{#3}{rho}{1D6B8}
245 \LWR@mathjax@addLetter{#1}{#2}{#3}{sigma}{1D6BA}
246 \LWR@mathjax@addLetter{#1}{#2}{#3}{tau}{1D6BB}
247 \LWR@mathjax@addLetter{#1}{#2}{#3}{upsilon}{1D6BC}
248 \LWR@mathjax@addLetter{#1}{#2}{#3}{phi}{1D6BD}
249 \LWR@mathjax@addLetter{#1}{#2}{#3}{chi}{1D6BE}
250 \LWR@mathjax@addLetter{#1}{#2}{#3}{psi}{1D6BF}
251 \LWR@mathjax@addLetter{#1}{#2}{#3}{omega}{1D6C0}
252 }

```

*{<prefix>}*

`\LWR@mathjax@addLatin@u@bfit`

Adds `\CustomizeMathjax` expressions to define a set of macros for bold-face italic Latin letters, uppercase and lowercase.

```

253 \NewDocumentCommand{\LWR@mathjax@addLatin@u@bfit}{m}{
254 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{A}{1D468}
255 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{B}{1D469}
256 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{C}{1D46A}
257 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{D}{1D46B}
258 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{E}{1D46C}
259 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{F}{1D46D}
260 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{G}{1D46E}
261 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{H}{1D46F}
262 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{I}{1D470}
263 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{J}{1D471}
264 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{K}{1D472}
265 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{L}{1D473}
266 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{M}{1D474}
267 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{N}{1D475}
268 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{O}{1D476}
269 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{P}{1D477}
270 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{Q}{1D478}
271 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{R}{1D479}
272 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{S}{1D47A}
273 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{T}{1D47B}
274 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{U}{1D47C}
275 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{V}{1D47D}
276 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{W}{1D47E}
277 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{X}{1D47F}
278 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{Y}{1D480}
279 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{Z}{1D481}
280 }

```

*{<prefix>}*

`\LWR@mathjax@addLatin@l@bfit`

Adds `\CustomizeMathjax` expressions to define a set of macros for bold-face italic Latin letters, uppercase and lowercase.

```

281 \NewDocumentCommand{\LWR@mathjax@addLatin@l@bfit}{m}{
282 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{a}{1D482}
283 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{b}{1D483}
284 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{c}{1D484}
285 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{d}{1D485}
286 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{e}{1D486}

```



```

287 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{f}{1D487}
288 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{g}{1D488}
289 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{h}{1D489}
290 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{i}{1D48A}
291 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{j}{1D48B}
292 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{k}{1D48C}
293 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{l}{1D48D}
294 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{m}{1D48E}
295 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{n}{1D48F}
296 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{o}{1D490}
297 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{p}{1D491}
298 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{q}{1D492}
299 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{r}{1D493}
300 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{s}{1D494}
301 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{t}{1D495}
302 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{u}{1D496}
303 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{v}{1D497}
304 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{w}{1D498}
305 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{x}{1D499}
306 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{y}{1D49A}
307 \LWR@mathjax@addLetter{\BooleanFalse}{#1}{z}{1D49B}
308 }

309 \end{warpMathJax}

```

---

File 551 **lwarp-common-mathjax-newpctxmath.sty**

§ 657 Package **common-mathjax-newpctxmath**

*(Emulates or patches code by MICHAEL SHARPE.)*

Pkg Common code used by newpctxmath, newtxmath, and newtxsf for MATHJAX.

lwarp-common-mathjax-newpctxmath

**for HTML output:** 1 \ProvidesPackage{lwarp-common-mathjax-newpctxmath}[2020/09/20]

For MATHJAX:

```

2 \LWR@origRequirePackage{lwarp-common-mathjax-nonunicode}
3 \LWR@origRequirePackage{lwarp-common-mathjax-overlaysymbols}
4
5 \begin{warpMathJax}
6 \CustomizeMathJax{\newcommand{\fAlt}{f}}
7 \CustomizeMathJax{\newcommand{\rhoAlt}{\rho}}
8
9 \CustomizeMathJax{\newcommand{\imathscr}{\mathord{\mathscr{i}}}}
10 \CustomizeMathJax{\newcommand{\jmathscr}{\mathord{\mathscr{j}}}}

```

lwarp\_mathjax.txt adds \left/\right support for delimiters.

```

11 \CustomizeMathJax{\let\llbracket\lBrack}
12 \CustomizeMathJax{\let\rrbracket\rBrack}
13

```

```

14 \CustomizeMathJax{\let\smlbrace\{ }
15 \CustomizeMathJax{\let\smrbrace\}}
16 \CustomizeMathJax{\newcommand{\Perp}{\mathrel{\unicode{x02AEB}}}}
17 \CustomizeMathJax{\newcommand{\nPerp}{\mathrel{\not{\!\unicode{x02AEB}}}}}
18 \CustomizeMathJax{\newcommand{\Zbar}{\mathord{\unicode{x01B5}}}}
19 \CustomizeMathJax{\newcommand{\Angstrom}{\mathord{\unicode{x212B}}}}
20 \CustomizeMathJax{\newcommand{\Euler}{\mathord{\unicode{x2107}}}}
21 \CustomizeMathJax{\newcommand{\transp}{\mathord{\unicode{xFF34}}}}
22 \CustomizeMathJax{\newcommand{\hermtransp}{\mathord{\unicode{xFF28}}}}
23 \CustomizeMathJax{\let\htransp=\hermtransp}
24 \CustomizeMathJax{\newcommand{\circledplus}{\mathbin{\unicode{x2295}}}}
25 \CustomizeMathJax{\newcommand{\circledminus}{\mathbin{\unicode{x2296}}}}
26 \CustomizeMathJax{\newcommand{\circledtimes}{\mathbin{\unicode{x2297}}}}

27 \CustomizeMathJax{\newcommand{\circledslash}{\mathbin{\unicode{x2298}}}}
28 %
29 \CustomizeMathJax{\newcommand{\circleddot}{\mathbin{\unicode{x2299}}}}
30 \CustomizeMathJax{\let\overgroup\overparen}
31 \CustomizeMathJax{\let\overgrouppra\overrightarrow}
32 \CustomizeMathJax{\let\undergroup\underparen}
33 \CustomizeMathJax{\let\undergrouppla\underleftarrow}
34 \CustomizeMathJax{\newcommand{\widering}[1]{\stackrel{\unicode{x2218}}{\overgroup{#1}}}}
35 \CustomizeMathJax{\let\widearc\overparen}
36 \CustomizeMathJax{\let\wideOarc\overrightarrow}
37 \CustomizeMathJax{\newcommand{\LWRvstar}[2]{\overrightarrow{#1}_{#2}}}
38 \CustomizeMathJax{\newcommand{\vv}{\ifstar\LWRvstar\overrightarrow}}
39 %
40 \CustomizeMathJax{\let\smallintsl\smallint}
41 \CustomizeMathJax{\newcommand{\smalliintsl}{\mathop{\unicode{x222C}}\limits}}
42 \CustomizeMathJax{\newcommand{\smalliiintsl}{\mathop{\unicode{x222D}}\limits}}
43 \CustomizeMathJax{\newcommand{\smalliiintsl}{\mathop{\unicode{x2A0C}}\limits}}
44 \CustomizeMathJax{\newcommand{\smalllointsl}{\mathop{\unicode{x222E}}\limits}}
45 \CustomizeMathJax{\newcommand{\smalllointsl}{\mathop{\unicode{x222F}}\limits}}
46 \CustomizeMathJax{\newcommand{\smallloiiintsl}{\mathop{\unicode{x2230}}\limits}}
47 \CustomizeMathJax{\newcommand{\smallvarointclockwisel}{\mathop{\unicode{x2232}}\limits}}
48 \CustomizeMathJax{\newcommand{\smalllointctrlockwisel}{\mathop{\unicode{x2233}}\limits}}
49 \CustomizeMathJax{\newcommand{\smallsumintsl}{\mathop{\unicode{x2A0B}}\limits}}
50 \CustomizeMathJax{\newcommand{\smallfintsl}{\mathop{\unicode{x2A0F}}\limits}}
51 \CustomizeMathJax{\newcommand{\smallsqintsl}{\mathop{\unicode{x2A16}}\limits}}
52 %
53 \CustomizeMathJax{\let\smallintup\smallint}
54 \CustomizeMathJax{\newcommand{\smalliintup}{\mathop{\unicode{x222C}}\limits}}
55 \CustomizeMathJax{\newcommand{\smalliiintup}{\mathop{\unicode{x222D}}\limits}}
56 \CustomizeMathJax{\newcommand{\smalliiintup}{\mathop{\unicode{x2A0C}}\limits}}
57 \CustomizeMathJax{\newcommand{\smalllointup}{\mathop{\unicode{x222E}}\limits}}
58 \CustomizeMathJax{\newcommand{\smalllointup}{\mathop{\unicode{x222F}}\limits}}
59 \CustomizeMathJax{\newcommand{\smallloiiintup}{\mathop{\unicode{x2230}}\limits}}
60 \CustomizeMathJax{\newcommand{\smallvarointclockwiseup}{\mathop{\unicode{x2232}}\limits}}
61 \CustomizeMathJax{\newcommand{\smalllointctrlockwiseup}{\mathop{\unicode{x2233}}\limits}}
62 \CustomizeMathJax{\newcommand{\smallsumintup}{\mathop{\unicode{x2A0B}}\limits}}
63 \CustomizeMathJax{\newcommand{\smallfintup}{\mathop{\unicode{x2A0F}}\limits}}
64 \CustomizeMathJax{\newcommand{\smallsqintup}{\mathop{\unicode{x2A16}}\limits}}
65 %
66 \CustomizeMathJax{\newcommand{\iint}{\mathop{\unicode{x222C}}\limits}}
67 \CustomizeMathJax{\newcommand{\iiint}{\mathop{\unicode{x222D}}\limits}}

```

```

68 \CustomizeMathJax{\newcommand{\iiiint}{\mathop{\unicode{x2A0C}}\limits}}
69 \CustomizeMathJax{\newcommand{\oiint}{\mathop{\unicode{x222F}}\limits}}
70 \CustomizeMathJax{\newcommand{\oiiint}{\mathop{\unicode{x2230}}\limits}}
71 \CustomizeMathJax{\newcommand{\varointclockwise}{\mathop{\unicode{x2232}}\limits}}
72 \CustomizeMathJax{\newcommand{\ointctrlockwise}{\mathop{\unicode{x2233}}\limits}}
73 \CustomizeMathJax{\newcommand{\sumint}{\mathop{\unicode{x2A0B}}\limits}}
74 \CustomizeMathJax{\newcommand{\fint}{\mathop{\unicode{x2A0F}}\limits}}
75 \CustomizeMathJax{\newcommand{\sqint}{\mathop{\unicode{x2A16}}\limits}}
76 %
77 \CustomizeMathJax{\let\intsl\int}
78 \CustomizeMathJax{\newcommand{\iintsl}{\mathop{\unicode{x222C}}\limits}}
79 \CustomizeMathJax{\newcommand{\iiintsl}{\mathop{\unicode{x222D}}\limits}}
80 \CustomizeMathJax{\newcommand{\iiiintsl}{\mathop{\unicode{x2A0C}}\limits}}
81 \CustomizeMathJax{\let\ointsl\oint}
82 \CustomizeMathJax{\newcommand{\oiintsl}{\mathop{\unicode{x222F}}\limits}}
83 \CustomizeMathJax{\newcommand{\oiiintsl}{\mathop{\unicode{x2230}}\limits}}
84 \CustomizeMathJax{\newcommand{\varointclockwisel}{\mathop{\unicode{x2232}}\limits}}
85 \CustomizeMathJax{\newcommand{\ointctrlockwisel}{\mathop{\unicode{x2233}}\limits}}
86 \CustomizeMathJax{\newcommand{\sumintsl}{\mathop{\unicode{x2A0B}}\limits}}
87 \CustomizeMathJax{\newcommand{\fintsl}{\mathop{\unicode{x2A0F}}\limits}}
88 \CustomizeMathJax{\newcommand{\sqintsl}{\mathop{\unicode{x2A16}}\limits}}
89 %
90 \CustomizeMathJax{\let\intup\int}
91 \CustomizeMathJax{\newcommand{\iintup}{\mathop{\unicode{x222C}}\limits}}
92 \CustomizeMathJax{\newcommand{\iiintup}{\mathop{\unicode{x222D}}\limits}}
93 \CustomizeMathJax{\newcommand{\iiiintup}{\mathop{\unicode{x2A0C}}\limits}}
94 \CustomizeMathJax{\let\ointup\oint}
95 \CustomizeMathJax{\newcommand{\oiintup}{\mathop{\unicode{x222F}}\limits}}
96 \CustomizeMathJax{\newcommand{\oiiintup}{\mathop{\unicode{x2230}}\limits}}
97 \CustomizeMathJax{\newcommand{\varointclockwiseup}{\mathop{\unicode{x2232}}\limits}}
98 \CustomizeMathJax{\newcommand{\ointctrlockwiseup}{\mathop{\unicode{x2233}}\limits}}
99 \CustomizeMathJax{\newcommand{\sumintup}{\mathop{\unicode{x2A0B}}\limits}}
100 \CustomizeMathJax{\newcommand{\fintup}{\mathop{\unicode{x2A0F}}\limits}}
101 \CustomizeMathJax{\newcommand{\sqintup}{\mathop{\unicode{x2A16}}\limits}}
102 %
103 \CustomizeMathJax{\newcommand{\bigcupdot}{\mathop{\unicode{x2A03}}}}
104 \CustomizeMathJax{\newcommand{\bigcupplus}{\mathop{\unicode{x2A04}}}}
105 \CustomizeMathJax{\newcommand{\bigsqcap}{\mathop{\unicode{x2A05}}}}
106 %
107 %
108 \CustomizeMathJax{\newcommand{\bigtimes}{\mathop{\unicode{x2A09}}}}
109 \CustomizeMathJax{\let\varprod\bigtimes}
110 %
111 \CustomizeMathJax{\newcommand{\mappedfrom}{\mathrel{\unicode{x021A4}}}}
112 \CustomizeMathJax{\let\mappedfromchar\mappedfrom}
113 \CustomizeMathJax{\newcommand{\mapsfrom}{\mathrel{\unicode{x021A4}}}}
114 \CustomizeMathJax{\newcommand{\longmappedfrom}{\mathrel{\unicode{x027FB}}}}
115 %
116 \CustomizeMathJax{\newcommand{\Mapsto}{\mathrel{\unicode{x02907}}}}
117 \CustomizeMathJax{\let\Mapstochar\Mapsto}
118 \CustomizeMathJax{\newcommand{\Longmapsto}{\mathrel{\unicode{x027FE}}}}
119 \CustomizeMathJax{\newcommand{\Mappedfrom}{\mathrel{\unicode{x02906}}}}

```

```

120 \CustomizeMathJax{\let\Mappedfromchar\Mappedfrom}
121 \CustomizeMathJax{\newcommand{\Mapsfrom}{\mathrel{\unicode{x02906}}}}
122 \CustomizeMathJax{\newcommand{\Longmappedfrom}{\mathrel{\unicode{x27FD}}}}
123 %

124 \CustomizeMathJax{\newcommand{\medcirc}{\mathbin{\unicode{x025CB}}}}
125 \CustomizeMathJax{\newcommand{\medbullet}{\mathbin{\unicode{x025CF}}}}
126 \CustomizeMathJax{\newcommand{\varparallel}{\mathrel{\unicode{x02AFD}}}}
127 \CustomizeMathJax{\newcommand{\varparallelinv}{\mathrel{\unicode{x244A}}}}
128 \CustomizeMathJax{\newcommand{\nvarparallel}{\mathrel{\LWROverlaysymbols{-}{\unicode{x02AFD}}}}}
129 \CustomizeMathJax{\newcommand{\nvarparallelinv}{\mathrel{\LWROverlaysymbols{-}{\unicode{x244A}}}}}
130 %

131 \CustomizeMathJax{\newcommand{\coloneq}{\mathrel{\unicode{x02254}}}}
132 \CustomizeMathJax{\newcommand{\eqcolon}{\mathrel{\unicode{x02255}}}}
133 %
134 \CustomizeMathJax{\newcommand{\VDash}{\mathrel{\unicode{x22AB}}}}

135 %
136 \CustomizeMathJax{\newcommand{\preceq}{\mathrel{\unicode{x02AB3}}}}
137 \CustomizeMathJax{\newcommand{\succeq}{\mathrel{\unicode{x02AB4}}}}
138 %
139
140 \CustomizeMathJax{\newcommand{\nprec}{\mathrel{\LWROverlaysymbols{/}{\unicode{x0227E}}}}}
141 \CustomizeMathJax{\newcommand{\nsucc}{\mathrel{\LWROverlaysymbols{/}{\unicode{x0227F}}}}}
142 \CustomizeMathJax{\newcommand{\nless}{\mathrel{\unicode{x02274}}}}
143 \CustomizeMathJax{\newcommand{\ngtr}{\mathrel{\unicode{x02275}}}}
144 %

145 \CustomizeMathJax{\newcommand{\nsubset}{\mathrel{\unicode{x02284}}}}
146 \CustomizeMathJax{\newcommand{\nsupset}{\mathrel{\unicode{x02285}}}}
147 \CustomizeMathJax{\newcommand{\notni}{\mathrel{\unicode{x220C}}}}
148 \CustomizeMathJax{\let\notowns\notni}
149 %
150 \CustomizeMathJax{\newcommand{\nlessapprox}{\mathrel{\LWROverlaysymbols{/}{\unicode{x02A85}}}}}
151 \CustomizeMathJax{\newcommand{\ngtrapprox}{\mathrel{\LWROverlaysymbols{/}{\unicode{x02A86}}}}}
152 %
153 \CustomizeMathJax{\newcommand{\npreccurlyeq}{\mathrel{\LWROverlaysymbols{/}{\unicode{x0227C}}}}}
154 \CustomizeMathJax{\newcommand{\nsucccurlyeq}{\mathrel{\LWROverlaysymbols{/}{\unicode{x0227D}}}}}
155 \CustomizeMathJax{\newcommand{\ngtrless}{\mathrel{\unicode{x02279}}}}
156 \CustomizeMathJax{\newcommand{\nlessgtr}{\mathrel{\unicode{x2278}}}}
157 \CustomizeMathJax{\newcommand{\nbump}{\mathrel{\LWROverlaysymbols{/}{\unicode{x0224F}}}}}
158 \CustomizeMathJax{\newcommand{\nBump}{\mathrel{\LWROverlaysymbols{/}{\unicode{x0224E}}}}}
159 %
160 \CustomizeMathJax{\newcommand{\nbacksim}{\mathrel{\LWROverlaysymbols{/}{\unicode{x0223D}}}}}
161 \CustomizeMathJax{\newcommand{\nbacksimeq}{\mathrel{\LWROverlaysymbols{/}{\unicode{x022CD}}}}}
162 \CustomizeMathJax{\newcommand{\nasymp}{\mathrel{\unicode{x226D}}}}
163 \CustomizeMathJax{\newcommand{\nequiv}{\mathrel{\unicode{x2262}}}}
164 \CustomizeMathJax{\newcommand{\napprox}{\mathrel{\unicode{x2249}}}}
165 %
166 \CustomizeMathJax{\newcommand{\nll}{\mathrel{\LWROverlaysymbols{/}{\unicode{x0226A}}}}}
167 \CustomizeMathJax{\newcommand{\ngg}{\mathrel{\LWROverlaysymbols{/}{\unicode{x0226B}}}}}
168 \CustomizeMathJax{\newcommand{\nthickapprox}{\%

```

```

169 \mathrel{\LWOverlaysymbols{/}{\mathbf{\unicode{x02248}}}}%
170 }}
171 \CustomizeMathJax{\newcommand{\napproxq}{\mathrel{\LWOverlaysymbols{/}{\unicode{x0224A}}}}
172 \CustomizeMathJax{\newcommand{\nprecapprox}{\mathrel{\LWOverlaysymbols{/}{\unicode{x02AB7}}}}
173 \CustomizeMathJax{\newcommand{\nsuccapprox}{\mathrel{\LWOverlaysymbols{/}{\unicode{x02AB8}}}}
174 \CustomizeMathJax{\newcommand{\npreceqq}{\mathrel{\LWOverlaysymbols{/}{\unicode{x02AB3}}}}
175 \CustomizeMathJax{\newcommand{\nsucceqq}{\mathrel{\LWOverlaysymbols{/}{\unicode{x02AB4}}}}
176 \CustomizeMathJax{\newcommand{\nsimeq}{\mathrel{\unicode{x02244}}}}
177 %
178 \CustomizeMathJax{\newcommand{\nSubset}{\mathrel{\LWOverlaysymbols{/}{\unicode{x022D0}}}}
179 \CustomizeMathJax{\newcommand{\nSupset}{\mathrel{\LWOverlaysymbols{/}{\unicode{x022D1}}}}
180 \CustomizeMathJax{\newcommand{\nsqsubseteq}{\mathrel{\unicode{x022E2}}}}
181 \CustomizeMathJax{\newcommand{\nsqsupseteq}{\mathrel{\unicode{x022E3}}}}
182 %
183 \CustomizeMathJax{\newcommand{\coloneqq}{\mathrel{\unicode{x02254}}}}
184 \CustomizeMathJax{\newcommand{\eqqcolon}{\mathrel{\unicode{x02255}}}}
185 \CustomizeMathJax{\newcommand{\Coloneqq}{\mathrel{\unicode{x02A74}}}}
186 \CustomizeMathJax{\newcommand{\Coloneq}{\mathrel{\unicode{x2237}-}}}
187 \CustomizeMathJax{\newcommand{\Eqqcolon}{\mathrel{-\unicode{x2237}}}}
188 %
189 \CustomizeMathJax{\newcommand{\lvec}[1]{\mathord{\overset{\unicode{x02190}}{\#1}}}}
190 \CustomizeMathJax{\newcommand{\lrvect}[1]{\mathord{\overset{\unicode{x2194}}{\#1}}}}
191 \CustomizeMathJax{\newcommand{\harpoonacc}[1]{\mathord{\overset{\unicode{x021C0}}{\#1}}}}
192 \CustomizeMathJax{\newcommand{\lharpoonacc}[1]{\mathord{\overset{\unicode{x021BC}}{\#1}}}}
193 \CustomizeMathJax{\newcommand{\lrrharpoonacc}[1]{\mathord{\overset{\unicode{x0294E}}{\#1}}}}
194 \CustomizeMathJax{\newcommand{\barbar}[1]{\mathord{\overset{=}{\#1}}}}
195 \CustomizeMathJax{\newcommand{\bartilde}[1]{\mathord{\overset{\simeq}{\#1}}}}
196 \CustomizeMathJax{\newcommand{\barhat}[1]{\mathord{\hat{\bar{\#1}}}}}
197 \CustomizeMathJax{\newcommand{\tildebar}[1]{\mathord{\overset{\eqsim}{\#1}}}}
198 \CustomizeMathJax{\newcommand{\tildetilde}[1]{\mathord{\overset{\approx}{\#1}}}}
199 \CustomizeMathJax{\newcommand{\tildehat}[1]{\mathord{\hat{\tilde{\#1}}}}}
200 \CustomizeMathJax{\newcommand{\hatbar}[1]{\mathord{\bar{\hat{\#1}}}}}
201 \CustomizeMathJax{\newcommand{\hattilde}[1]{\mathord{\tilde{\hat{\#1}}}}}
202 \CustomizeMathJax{\newcommand{\hathat}[1]{\mathord{\hat{\hat{\#1}}}}}
203
204 \CustomizeMathJax{\newcommand{\cdotB}{\mathord{\boldsymbol{\cdot}}}}
205 \CustomizeMathJax{\newcommand{\cdotBB}{\mathord{\unicode{x2022}}}}
206 \CustomizeMathJax{\newcommand{\circS}{\boldsymbol{\circ}}}
207 \CustomizeMathJax{\newcommand{\bulletSSS}{\bullet}}
208 \CustomizeMathJax{\newcommand{\bulletSS}{\mathord{\unicode{x025CF}}}}
209 \CustomizeMathJax{\newcommand{\bulletS}{\mathord{\unicode{x02B24}}}}
210 \CustomizeMathJax{\newcommand{\primeS}{\prime}}
211
212 \CustomizeMathJax{\newcommand{\invamp}{\mathbin{\unicode{x0214B}}}}

```

lwarp\_mathjax.txt adds \left/\right support for delimiters.

```

213 \CustomizeMathJax{\newcommand{\Lbag}{\mathopen{\Large\unicode{x027C5}}}}
214 \CustomizeMathJax{\newcommand{\Rbag}{\mathclose{\Large\unicode{x027C6}}}}
215 \CustomizeMathJax{\newcommand{\circledless}{\mathrel{\unicode{x029C0}}}}
216 \CustomizeMathJax{\newcommand{\circledgtr}{\mathrel{\unicode{x029C1}}}}
217 \CustomizeMathJax{\newcommand{\circledbslash}{\mathbin{\unicode{x029B8}}}}

218 \CustomizeMathJax{\newcommand{\lJoin}{\mathrel{\unicode{x22C9}}}}
219 \CustomizeMathJax{\newcommand{\rJoin}{\mathrel{\unicode{x22CA}}}}

```

```

220 \CustomizeMathJax{\newcommand{\lrJoin}{\mathrel{\unicode{x2A1D}}}}
221
222 \CustomizeMathJax{\newcommand{\lRtimes}{\mathrel{\unicode{x2A1D}}}}
223 \CustomizeMathJax{\newcommand{\Diamondblack}{\mathord{\unicode{x025C6}}}}
224 \CustomizeMathJax{\newcommand{\npplus}{\mathrel{\LWOverlaysymbols{+}{\unicode{x02229}}}}}
225 \CustomizeMathJax{\newcommand{\nsqsubset}{\mathrel{\LWOverlaysymbols{/}{\unicode{x0228F}}}}}
226 \CustomizeMathJax{\newcommand{\nsqsupset}{\mathrel{\LWOverlaysymbols{/}{\unicode{x02290}}}}}
227 \CustomizeMathJax{\newcommand{\dasharrow}{\mathrel{\unicode{x021E2}}}}
228 \CustomizeMathJax{\newcommand{\leftsquigarrow}{\mathrel{\unicode{x021DC}}}}
229 \CustomizeMathJax{\newcommand{\ntwoheadrightarrow}{\mathrel{\unicode{x02900}}}}
230 \CustomizeMathJax{\newcommand{\ntwoheadleftarrow}{\mathrel{\unicode{x02B34}}}}
231 \CustomizeMathJax{\newcommand{\boxast}{\mathbin{\unicode{x029C6}}}}
232 \CustomizeMathJax{\newcommand{\boxslash}{\mathbin{\unicode{x29C5}}}}
233 \CustomizeMathJax{\newcommand{\boxbar}{\mathbin{\unicode{x025EB}}}}
234 \CustomizeMathJax{\newcommand{\boxslash}{\mathbin{\unicode{x029C4}}}}
235
236 \CustomizeMathJax{\newcommand{\varclubsuit}{\mathord{\unicode{x02667}}}}
237 \CustomizeMathJax{\newcommand{\vardiamondsuit}{\mathord{\unicode{x02666}}}}
238 \CustomizeMathJax{\newcommand{\varheartsuit}{\mathord{\unicode{x02665}}}}
239 \CustomizeMathJax{\newcommand{\varspadesuit}{\mathord{\unicode{x02664}}}}
240
241 \CustomizeMathJax{\newcommand{\Nearrow}{\mathrel{\unicode{x021D7}}}}
242 \CustomizeMathJax{\newcommand{\Searrow}{\mathrel{\unicode{x021D8}}}}
243 \CustomizeMathJax{\newcommand{\Nwarrow}{\mathrel{\unicode{x021D6}}}}
244 \CustomizeMathJax{\newcommand{\Swarrow}{\mathrel{\unicode{x021D9}}}}
245 \CustomizeMathJax{\newcommand{\Top}{\mathord{\unicode{x02AEA}}}}
246 \CustomizeMathJax{\newcommand{\Bot}{\mathord{\unicode{x02AEB}}}}
247
248 \CustomizeMathJax{\newcommand{\leadstoext}{\mathrel{\unicode{xFF5E}}}}
249
250 \CustomizeMathJax{\newcommand{\sqcupplus}{\mathbin{\LWOverlaysymbols{+}{\unicode{x02294}}}}}
251 \CustomizeMathJax{\newcommand{\sqcapplus}{\mathbin{\LWOverlaysymbols{+}{\unicode{x02293}}}}}
252
253 \CustomizeMathJax{\newcommand{\dlb}{\mathopen{\unicode{x027E6}}}}
254 \CustomizeMathJax{\newcommand{\drb}{\mathopen{\unicode{x027E7}}}}
255
256 \CustomizeMathJax{\newcommand{\varg}{g}}
257 \CustomizeMathJax{\newcommand{\vary}{y}}
258 \CustomizeMathJax{\newcommand{\varv}{v}}
259 \CustomizeMathJax{\newcommand{\varw}{w}}
260
261 \CustomizeMathJax{\newcommand{\nexistsAlt}{\mathord{\unicode{x02204}}}}
262 \CustomizeMathJax{\newcommand{\existsAlt}{\mathord{\unicode{x02203}}}}
263 \CustomizeMathJax{\newcommand{\forallAlt}{\mathord{\unicode{x02200}}}}
264 \CustomizeMathJax{\newcommand{\emptysetAlt}{\mathord{\unicode{x02205}}}}
265
266 \CustomizeMathJax{\newcommand{\uppartial}{\mathord{\unicode{x02202}}}}% not upright
267
268 \CustomizeMathJax{\let\varmathbb\mathbb}
269 \CustomizeMathJax{\let\vmathbb\mathbb}
270 \CustomizeMathJax{\let\vmathbb\mathbb}
271
272 \CustomizeMathJax{\let\smallprod\prod}
273 \CustomizeMathJax{\let\smallsum\sum}
274 \CustomizeMathJax{\let\smallcoprod\coprod}

```

```

275
276 \CustomizeMathJax{\newcommand{\openbox}{\mathord{\unicode{x25FD}}}}
277 \CustomizeMathJax{\let\textsquare\openbox}

278 \CustomizeMathJax{\let\varempyset\emptyset}
279 %
280 % for newpixmap:
281 \CustomizeMathJax{\newcommand{\mathsterling}{\mathord{\unicode{x000A3}}}}
282 \CustomizeMathJax{\newcommand{\mathcent}{\mathord{\unicode{x000A2}}}}
283
284 \end{warpMathJax}

```

---

File 552 **lwarp-common-mathjax-nonunicode.sty**

§ 658 Package **common-mathjax-nonunicode**

*(Emulates or patches code by DANIEL FLIPO, MICHAEL SHARPE.)*

Pkg Common code used by newpixmap, newtxmath, newtxsf, kpfonts-otf for MATHJAX.

lwarp-common-mathjax-nonunicode These are symbols not found in UNICODE.

Factored from lwarp-common-mathjax-newpixmap.

**for HTML output:** 1 \ProvidesPackage{lwarp-common-mathjax-nonunicode}[2020/09/20]

For MATHJAX:

```

2 \LWROrigRequirePackage{lwarp-common-mathjax-overlaysymbols}
3
4 \begin{warpMathJax}
5 \CustomizeMathJax{\newcommand{\mmapsto}{\mathrel{\unicode{x021A6}}}}
6 \CustomizeMathJax{\let\mmapstochar\mmapsto}
7 \CustomizeMathJax{\newcommand{\longmmapsto}{\mathrel{\unicode{x021A6}}}}
8 \CustomizeMathJax{\newcommand{\mmappedfrom}{\mathrel{\unicode{x021A4}}}}
9 \CustomizeMathJax{\let\mmappedfromchar\mmappedfrom}
10 \CustomizeMathJax{\newcommand{\longmmappedfrom}{\mathrel{\unicode{x021A4}}}}
11 \CustomizeMathJax{\let\mmapsfrom\mmappedfrom}% from kpfonts-otf
12 \CustomizeMathJax{\let\longmmapsfrom\longmmappedfrom}% from kpfonts-otf
13
14 \CustomizeMathJax{\newcommand{\Mmapsto}{\mathrel{\unicode{x02907}}}}
15 \CustomizeMathJax{\let\Mmapstochar\Mmapsto}
16 \CustomizeMathJax{\newcommand{\Longmmapsto}{\mathrel{\unicode{x027FE}}}}
17 \CustomizeMathJax{\newcommand{\Mmappedfrom}{\mathrel{\unicode{x02906}}}}
18 \CustomizeMathJax{\let\Mmappedfromchar\Mmappedfrom}
19 \CustomizeMathJax{\newcommand{\Longmmappedfrom}{\mathrel{\unicode{x027FD}}}}
20 \CustomizeMathJax{\let\Mmapsfrom\Mmappedfrom}% from kpfonts-otf
21 \CustomizeMathJax{\let\Longmmapsfrom\Longmmappedfrom}% from kpfonts-otf
22 %
23 \CustomizeMathJax{\newcommand{\boxright}{\mathrel{\unicode{x025A1}}\!\!\unicode{x02192}}}}
24 \CustomizeMathJax{\newcommand{\boxleft}{\mathrel{\unicode{x02190}}\!\!\unicode{x025A1}}}}
25 \CustomizeMathJax{\newcommand{\boxdotright}{\mathrel{\unicode{x022A1}}\!\!\unicode{x02192}}}}
26 \CustomizeMathJax{\newcommand{\boxdotleft}{\mathrel{\unicode{x02190}}\!\!\unicode{x022A1}}}}

```

```

27
28 \CustomizeMathJax{\newcommand{\Diamondright}{\mathrel{\unicode{x025C7}\!\!\unicode{x02192}}}}
29 \CustomizeMathJax{\newcommand{\Diamondleft}{\mathrel{\unicode{x02190}\!\!\unicode{x025C7}}}}
30 \CustomizeMathJax{\newcommand{\Diamonddotright}{\mathrel{\unicode{x027D0}\!\!\unicode{x02192}}}}
31 \CustomizeMathJax{\newcommand{\Diamonddotleft}{\mathrel{\unicode{x02190}\!\!\unicode{x027D0}}}}
32
33 \CustomizeMathJax{\newcommand{\boxRight}{\mathrel{\unicode{x025A1}\!\!\unicode{x021D2}}}}
34 \CustomizeMathJax{\newcommand{\boxLeft}{\mathrel{\unicode{x021D0}\!\!\unicode{x025A1}}}}
35 \CustomizeMathJax{\newcommand{\boxdotRight}{\mathrel{\unicode{x022A1}\!\!\unicode{x021D2}}}}
36 \CustomizeMathJax{\newcommand{\boxdotLeft}{\mathrel{\unicode{x021D0}\!\!\unicode{x022A1}}}}
37
38 \CustomizeMathJax{\newcommand{\DiamondRight}{\mathrel{\unicode{x025C7}\!\!\unicode{x021D2}}}}
39 \CustomizeMathJax{\newcommand{\DiamondLeft}{\mathrel{\unicode{x021D0}\!\!\unicode{x025C7}}}}
40 \CustomizeMathJax{\newcommand{\DiamonddotRight}{\mathrel{\unicode{x027D0}\!\!\unicode{x021D2}}}}
41 \CustomizeMathJax{\newcommand{\DiamonddotLeft}{\mathrel{\unicode{x021D0}\!\!\unicode{x027D0}}}}
42 \CustomizeMathJax{\newcommand{\Diamonddot}{\mathrel{\unicode{x027D0}}}}
43
44 \CustomizeMathJax{\newcommand{\circleright}{\mathrel{\unicode{x025CB}\!\!\unicode{x02192}}}}
45 \CustomizeMathJax{\newcommand{\circleleft}{\mathrel{\unicode{x02190}\!\!\unicode{x025CB}}}}
46 \CustomizeMathJax{\newcommand{\circledotright}{\mathrel{\unicode{x02299}\!\!\unicode{x02192}}}}
47 \CustomizeMathJax{\newcommand{\circledotleft}{\mathrel{\unicode{x02190}\!\!\unicode{x02299}}}}
48 \CustomizeMathJax{\let\circleddotright\circledotright}
49 \CustomizeMathJax{\let\circleddotleft\circledotleft}
50
51 \CustomizeMathJax{\newcommand{\multimapinv}{\mathrel{\unicode{x027DC}}}}
52 \CustomizeMathJax{\newcommand{\multimapboth}{\mathrel{\unicode{x029DF}}}}
53 \CustomizeMathJax{\newcommand{\multimapdot}{\mathrel{-\!\bullet}}}
54 \CustomizeMathJax{\newcommand{\multimapdotinv}{\mathrel{\bullet\!-\!}}}
55 \CustomizeMathJax{\newcommand{\multimapdotboth}{\mathrel{\{\bullet\!-\!\!-\!\bullet\}}}}
56 \CustomizeMathJax{\newcommand{\multimapdotbothA}{\mathrel{\unicode{x022B6}}}}
57 \CustomizeMathJax{\newcommand{\multimapdotbothB}{\mathrel{\unicode{x22B7}}}}
58
59 \CustomizeMathJax{\newcommand{\multimapbothvert}{%
60 \mathrel{\overset{\unicode{x025CB}}{\underset{\unicode{x025CB}}{\!|}}}}%
61 }}
62 \CustomizeMathJax{\newcommand{\multimapdotbothvert}{%
63 \mathrel{\overset{\unicode{x025CF}}{\underset{\unicode{x025CF}}{\!|}}}}%
64 }}
65 \CustomizeMathJax{\newcommand{\multimapdotbothBvert}{% bug in kpfonts-otf
66 \mathrel{\overset{\unicode{x025CF}}{\underset{\unicode{x025CB}}{\!|}}}}%
67 }}
68 \CustomizeMathJax{\newcommand{\multimapdotbothAvert}{% bug in kpfonts-otf
69 \mathrel{\overset{\unicode{x025CB}}{\underset{\unicode{x025CF}}{\!|}}}}%
70 }}
71
72 \CustomizeMathJax{\newcommand{\bignplus}{%
73 \mathop{\LWOverlaysymbols{\unicode{xFF0B}}{\unicode{x22C2}}}}%
74 }}
75 \CustomizeMathJax{\let\bigcapplus\bignplus}
76 \CustomizeMathJax{\let\capplus\bignplus}% from kpfonts-otf
77
78 \CustomizeMathJax{\newcommand{\bigsqcapplus}{%
79 \mathop{\LWOverlaysymbols{\unicode{xFF0B}}{\unicode{x2A05}}}}
80 }}
81 \CustomizeMathJax{\let\sqcapplus\bigsqcapplus}% from kpfonts-otf

```



```

82
83 \CustomizeMathJax{\newcommand{\bigscupplus}{%
84 \mathop{\LWROverlaysymbols{\unicode{xFF0B}}{\unicode{x2A06}}}
85 }}
86 \CustomizeMathJax{\let\scupplus\bigscupplus}% from kpfonts-otf
87
88 \CustomizeMathJax{\newcommand{\parallelslant}{\mathrel{\unicode{x02AFD}}}}
89 \CustomizeMathJax{\newcommand{\parallelbackslant}{%
90 \mathrel{\unicode{x0005C}}\!\!\unicode{x0005C}}%
91 }}
92
93 \CustomizeMathJax{\newcommand{\Eqqcolon}{\mathrel{=\!\unicode{x2237}}}}
94 \CustomizeMathJax{\let\eqqColon\Eqqcolon}% for kpfonts-otf
95 \CustomizeMathJax{\newcommand{\dashColon}{\mathrel{-\unicode{x2237}}}}
96 \CustomizeMathJax{\newcommand{\Colondash}{\mathrel{\unicode{x2237}-}}}
97
98 \CustomizeMathJax{\newcommand{\colonapprox}{\mathrel{: \approx}}}}
99 \CustomizeMathJax{\newcommand{\colonsim}{\mathrel{: \sim}}}}
100 \CustomizeMathJax{\newcommand{\Colonapprox}{\mathrel{\unicode{x2237}!\approx}}}
101 \CustomizeMathJax{\newcommand{\Colonsim}{\mathrel{\unicode{x2237}!\sim}}}
102
103 \CustomizeMathJax{\newcommand{\strictif}{\mathrel{\unicode{x0297D}}}}% right fish tail
104 \CustomizeMathJax{\newcommand{\strictfi}{\mathrel{\unicode{x0297C}}}}% left fish tail
105 \CustomizeMathJax{\newcommand{\strictiff}{%
106 \mathrel{\unicode{x0297C}}\!\!\unicode{x0297D}}%
107 }}% left/right fish tails
108
109 \CustomizeMathJax{\newcommand{\circledwedge}{%
110 \mathbin{\LWROverlaysymbols{\unicode{x025EF}}{\unicode{x02227}}}%
111 }}
112 \CustomizeMathJax{\newcommand{\circledvee}{%
113 \mathbin{\LWROverlaysymbols{\unicode{x025EF}}{\unicode{x02228}}}%
114 }}
115 \CustomizeMathJax{\newcommand{\circledbar}{\mathbin{\unicode{x029B6}}}}
116
117 \CustomizeMathJax{\newcommand{\openJoin}{\mathrel{\unicode{x2AA4}}}}% overlapping ><
118 \CustomizeMathJax{\newcommand{\opentimes}{\mathrel{\unicode{x2AA4}}}}% overlapping ><
119
120 \CustomizeMathJax{\newcommand{\VvDash}{\mathrel{\unicode{x22AA}}}}
121
122 \CustomizeMathJax{\newcommand{\lambdabar}{%
123 \mathord{\LWROverlaysymbols{\raise{.5ex}{-}}{\lambda}}%
124 }}
125
126 \CustomizeMathJax{\newcommand{\lambdaslash}{\mathord{\unicode{x019B}}}}
127
128 \CustomizeMathJax{\newcommand{\Wr}{\mathbin{\unicode{x02240}}\!\!\unicode{x02240}}}
129
130 \CustomizeMathJax{\newcommand{\dashleftrightharrow}{%
131 \mathrel{\unicode{x021E0}}\!\!\unicode{x021E2}}%
132 }}
133 \CustomizeMathJax{\let\leftrightdasharrow\dashleftrightharrow}% for kpfonts-otf
134
135 \end{warpMathJax}

```

---

File 553 **lwarp-common-mathjax-overlaysymbols.sty**

§ 659 Package **common-mathjax-overlaysymbols**

Pkg Common code used by a number of packages to overlay two symbols for MATHJAX.

lwarp-common-mathjax-overlaysymbols

**for HTML output:** 1 \ProvidesPackage{lwarp-common-mathjax-overlaysymbols}[2020/08/17]

\LWRoverlaysymbols  $\langle symbol \rangle \langle symbol \rangle$

Overlays one symbol over another.

```

2 \begin{warpMathJax}
3
4 \CustomizeMathJax{\newcommand{\LWRoverlaysymbols}[2]{%
5 \mathord{%
6 \smash{%
7 \mathop{\#2\strut}%
8 \limits^{\smash{\lower3ex{\#1}}}%
9 }%
10 \strut%
11 }%
12 }}
13
14 \end{warpMathJax}

```

# Change History

## § 660 Chg Hist

For the most recent changes, see page 1320.

|       |                                                                |                                                                                    |
|-------|----------------------------------------------------------------|------------------------------------------------------------------------------------|
| v0.10 | General: 2016/03/08 Initial version . . . 1                    | Test Suite: Assigned cleveref name for Test Float. . . . . 1                       |
| v0.11 | General: 2016/03/11 . . . . . 1                                | Test Suite: Floatrow . . . . . 1                                                   |
|       | Added section: Operating-System portability. . . . . 228       |                                                                                    |
|       | Added section: Selecting the operating system. . . . . 118     |                                                                                    |
|       | Test Suite: MS-WINDOWS in README.txt . . . . . 1               |                                                                                    |
|       | Test Suite: limages and index in README.txt . . . . . 1        |                                                                                    |
| v0.12 | \LWR@newhtmlfile: Bugfix: toc with numbered files. . . . . 392 |                                                                                    |
|       | General: 2016/03/14 . . . . . 1                                |                                                                                    |
|       | Global: Uses \p@(type) in float captions. . . . . 1            |                                                                                    |
|       | Test Suite: Sub-figures . . . . . 1                            |                                                                                    |
| v0.13 | \CaptionSeparator: Fix for newer babel package. . . . . 520    |                                                                                    |
|       | \LWR@LwarpStart: \up and \fup . . . 412                        |                                                                                    |
|       | General: 2016/03/24 . . . . . 1                                |                                                                                    |
|       | Fix dollar-redefined bug for newer package. . . . . 1154       |                                                                                    |
|       | Removed package: subfig . . . . . 1                            |                                                                                    |
|       | Test Suite: Ordinals, Subcaption . . . 1                       |                                                                                    |
| v0.14 | \LWR@htmlsectionfilename: Fix: Links to home page. . . . . 345 |                                                                                    |
|       | General: 2016/03/31 . . . . . 1                                |                                                                                    |
|       | floatrow: Added. . . . . 806                                   |                                                                                    |
|       | Docs: Commands for a successful HTML conversion. . . . . 123   |                                                                                    |
|       | Docs: Commands into a warpprint environment. . . . . 120       |                                                                                    |
|       | Docs: Newclude limitations. . . . 176                          |                                                                                    |
|       | Docs: Table: Cross-referencing data structures. . . . . 503    |                                                                                    |
|       | Docs: Table: Float data structures. 516                        |                                                                                    |
|       | Docs: Trademarks section. . . . . 202                          |                                                                                    |
|       | Docs: Troubleshooting cross-references. . . . . 197            |                                                                                    |
|       |                                                                | v0.15                                                                              |
|       |                                                                | General: 2016/04/06 . . . . . 1                                                    |
|       |                                                                | Added. . . . . 811                                                                 |
|       |                                                                | Ampersand (&): Fixed handling when passed as an argument. . . 449                  |
|       |                                                                | Docs: Added warning icons for items needing special attention. 205                 |
|       |                                                                | Docs: Clarify print/HTML output. 119                                               |
|       |                                                                | Docs: Moved the supported features table to the introduction. 66                   |
|       |                                                                | Files: lwarp_formal.css added. . . . 1                                             |
|       |                                                                | Fix: steps counter . . . . . 811                                                   |
|       |                                                                | Fixed & handling. . . . . 809                                                      |
|       |                                                                | Test Suite: test_suite_formal.css file added. . . . . 1                            |
|       |                                                                | v0.16                                                                              |
|       |                                                                | General: 2016/04/11 . . . . . 1                                                    |
|       |                                                                | \titlingpage: Improved print-output spacing. . . . . 421                           |
|       |                                                                | xfrac: Adjusted for the use of any font: . . . . . 1219                            |
|       |                                                                | Added XeLaTeX, LuaLaTeX support. . . . . 206                                       |
|       |                                                                | Docs: Font and UTF-8 support. . 101                                                |
|       |                                                                | Docs: Moved location of \usepackage{lwarp}. . . . . 104                            |
|       |                                                                | Docs: Text not converting. . . . . 197                                             |
|       |                                                                | Lwarp no longer selects fonts. 101, 239                                            |
|       |                                                                | Removed package: suffix . . . . . 1                                                |
|       |                                                                | Test Suite: Improved titlingpage. 421                                              |
|       |                                                                | Test Suite: Lwarp no longer selects fonts. . . . . 1                               |
|       |                                                                | Test Suite: Supports XeLaTeX, LuaLaTeX. . . . . 1                                  |
|       |                                                                | v0.17                                                                              |
|       |                                                                | \LWR@htmlsectionfilename: Fix: Links when entire doc is one HTML page. . . . . 345 |
|       |                                                                | General: 2016/04/14 . . . . . 1                                                    |
|       |                                                                | mdframed: Added. . . . . 939                                                       |
|       |                                                                | Test Suite: Fix: Print-version front-matter page numbers. . . . 1                  |

|                                                                       |      |                                                                          |          |
|-----------------------------------------------------------------------|------|--------------------------------------------------------------------------|----------|
| Test Suite: Mdfamed                                                   | 1    | \LWR@minipagestartpars: Suppresses paragraph tags between minipages.     | 619      |
| v0.18                                                                 |      | \LWR@subsingledollar: MATHJAX support.                                   | 557      |
| \LWR@myshorttoc: Reorganize \HomeHTMLfilename logic.                  | 525  | \LateximageFontSizeName: Add: User-adjustable math/lateximage font size. | 575      |
| \LWR@newhtmlfile: sideroc after title, improving responsive design.   | 392  | \hspace: Fix: \hspace length computations.                               | 620      |
| \LWR@requesttoc: Reorganize \HomeHTMLfilename logic.                  | 414  | \minipagefullwidth: Added: No width tag for the next minipage in HTML.   | 597      |
| \LWR@subhyperref: Improved HTML output linebreaks.                    | 513  | \warpHTMLonly: Added.                                                    | 237      |
| \LWR@subhyperrefclass: Improved HTML output linebreaks.               | 513  | \warpprintonly: Replaces \rowprintedonly.                                | 237      |
| \LWR@subinlineimage: Suppress extra space.                            | 514  | \xfracHTMLfontsize: Added.                                               | 1218     |
| \hspace: \hspace supported.                                           | 620  | General: 2016/06/08                                                      | 1        |
| General: 2016/05/19                                                   | 1    | css for table note item.                                                 | 1151     |
| graphics: Add: svgz file extension.                                   | 843  | MATHJAX support added.                                                   | 562, 570 |
| graphics: Fix: \linewidth, \textwidth, \textheight inside a minipage. | 843  | multirow: Added optional args.                                           | 971      |
| graphics: Improved HTML output linebreaks.                            | 843  | xcolor: Supports colored \rule.                                          | 1209     |
| graphics: em, ex, %, px dimensions preserved.                         | 843  | Adapts to tikz version.                                                  | 1154     |
| File: lwarp.css: Improved toc outline display.                        | 1    | Avoids MATHJAX.                                                          | 550      |
| Files: lwarp.css and lwarp_formal.css: Improved responsive design.    | 1    | cleveref: Loaded \AtEndPreamble.                                         | 594      |
| Microtype disabled during HTML generation                             | 239  | Docs: Math options.                                                      | 104      |
| PDF Unicode input characters.                                         | 222  | Docs: Table: Cross-referencing data structures, updated.                 | 503      |
| Test Suite: Verse package                                             | 1    | File: lwarp.css: tnoteitemheader added.                                  | 1        |
| lateximage: pdfcrop: --hires added.                                   | 578  | File: lwarp_mathjax.txt added.                                           | 1        |
| Reorganize \HomeHTMLfilename logic.                                   | 578  | Introduction: MATHJAX support mentioned.                                 | 63       |
| Suppress extra space.                                                 | 578  | Options: mathsvg and mathjax                                             | 231      |
| verse: Supports verse, memoir packages.                               | 1196 | titles: null \pagestyle and \thispagestyle for HTML.                     | 1155     |
| minipage: Fix: \linewidth, \textwidth, \textheight inside a minipage. | 598  | v0.20                                                                    |          |
| v0.19                                                                 |      | \BlockClassSingle: Renamed from "LWR@htmldivclassline".                  | 360      |
| \HTMLfilename: Docs: Escape filename underscores.                     | 344  | \HTMLDescription: Added \NewHTMLdescription. (Renamed in v0.30.)         | 372      |
| \HomeHTMLfilename: Docs: Escape filename underscores.                 | 344  | \HTMLfilename: No longer escape underscores.                             | 344      |
| \LWR@LwarpStart: Enabled \ equal to \newline.                         | 411  | \HomeHTMLfilename: No longer escape underscores.                         | 344      |
| \LWR@doequation: MATHJAX support.                                     | 565  | \InlineClass: Renamed from "inlineclass".                                | 361      |
| \LWR@doubledollar: MATHJAX support.                                   | 558  | \LWR@closeparagraph: \unskip extra spaces.                               | 365      |
| \LWR@filestart: lwarp_mathjax.txt loaded.                             | 408  | No break tags in the start/end of a tabular.                             | 365      |
|                                                                       |      | \LWR@endofline: Fix: \                                                   | 618      |
|                                                                       |      | \LWR@filestart: Adds meta description.                                   | 408      |

|                                                                                                                  |     |                                                                                           |      |
|------------------------------------------------------------------------------------------------------------------|-----|-------------------------------------------------------------------------------------------|------|
| <code>\LWR@htmldivclass</code> : Added optional style. . . . .                                                   | 359 | <code>lrcaption</code> : Added. . . . .                                                   | 912  |
| <code>\LWR@htmlclass</code> : Added optional style. . . . .                                                      | 359 | <code>lwarp-newproject</code> : Added. . . . .                                            | 266  |
| <code>\LWR@htmlsectionfilename</code> : HTMLFilename: removed additional trailing '-', and may be empty. . . . . | 345 | <code>microtype</code> : User-interface emulated. . . . .                                 | 955  |
| Sections called "Index" or "index" have an underscore prepended to their filenames if no prefix. . . . .         | 345 | <code>needspace</code> : Added. . . . .                                                   | 982  |
| <code>\LWR@hyperindexrefsbtwo</code> : Print mode provided in case hyperref not used. . . . .                    | 540 | <code>nowidow</code> : Added. . . . .                                                     | 998  |
| <code>\LWR@longtabledatacaptiontag</code> : Fix: Pars in captions. . . . .                                       | 486 | <code>placeins</code> : Added. . . . .                                                    | 1034 |
| <code>\LWR@section</code> : Combined higher-level sections together into files. . . . .                          | 399 | <code>ragged2e</code> : Added. . . . .                                                    | 1043 |
| <code>\LWR@setOSWindows</code> : Auto-detects operating system. . . . .                                          | 229 | <code>setspace</code> : Improved support. . . . .                                         | 1068 |
| <code>\LWR@subhtmlclass</code> : Factored code. . . . .                                                          | 358 | <code>textpos</code> : Added. . . . .                                                     | 1143 |
| <code>\SetHTMLFileNumber</code> : Add: Control file numbers. . . . .                                             | 344 | <code>titles</code> : Added. . . . .                                                      | 1155 |
| <code>\cpgereffor</code> : User-redefinable word for page references. . . . .                                    | 741 | <code>titlesec</code> : Added. . . . .                                                    | 1158 |
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| <code>\LWR@setup</code>                                    | 925           | <code>\LWR@columnHTMLcolor</code>                   | 8763         |
| <code>\LWR@footnotetext</code>                             | 6456          | <code>\LWR@columnspeclookahead</code>               | 8474         |
|                                                            |               | <code>\LWR@compilecmd</code>                        | 1908         |
|                                                            |               | <code>\LWR@compileuplatex</code>                    | 1943         |
|                                                            |               | <code>\LWR@convertto</code>                         | 793          |



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| LWR@copiedsidetoc (boolean) . . . . .     | <u>526</u>   | \LWR@footnotetext . . . . .                     | <u>6486</u>  |
| \LWR@copyfile . . . . .                   | <u>1535</u>  | \LWR@forceemptyline . . . . .                   | <u>820</u>   |
| \LWR@createautosec . . . . .              | <u>7100</u>  | LWR@forceminipagefullwidth (boolean) <i>597</i> |              |
| \LWR@createfooter . . . . .               | <u>6952</u>  | \LWR@forceminwidth . . . . .                    | <u>12416</u> |
| LWR@currentautosec (counter) . . . . .    | <i>399</i>   | \LWR@forcenewautoidanchor . . . . .             | <u>10226</u> |
| \LWR@currentcss . . . . .                 | <u>6394</u>  | \LWR@forcenewpage . . . . .                     | <u>5851</u>  |
| \LWR@currenttextcolor . . . . .           | <u>12834</u> | \LWR@forceSVGmessage . . . . .                  | <u>13403</u> |
| \LWR@customizedMathJax . . . . .          | <u>6840</u>  | \LWR@formatted . . . . .                        | <u>1600</u>  |
| \LWR@customizeMathJax . . . . .           | <u>6929</u>  | \LWR@formatted@checkendname . . . . .           | <u>1591</u>  |
| \LWR@descitem . . . . .                   | <u>8191</u>  | \LWR@formatted@checkname . . . . .              | <u>1582</u>  |
| \LWR@disablepinyin . . . . .              | <u>819</u>   | \LWR@formattedenv . . . . .                     | <u>1632</u>  |
| LWR@displaymathnormal (environment)       |              | \LWR@formatting . . . . .                       | <u>1581</u>  |
| . . . . .                                 | <u>11434</u> | LWR@foundmrowcell (boolean) . . . . .           | <i>444</i>   |
| LWR@displaymathother (environment)        | <u>11437</u> | \LWR@fourthoffour . . . . .                     | <u>824</u>   |
| \LWR@docdashline . . . . .                | <u>8970</u>  | LWR@freezethisautoid (boolean) . . . . .        | <i>519</i>   |
| \LWR@docmidrule . . . . .                 | <u>8954</u>  | \LWR@futurenonspacelot . . . . .                | <u>8269</u>  |
| \LWR@doequation . . . . .                 | <u>11548</u> | \LWR@FVstyle . . . . .                          | <u>54</u>    |
| \LWR@doindexentry . . . . .               | <u>10773</u> | \LWR@getexparray . . . . .                      | <u>5618</u>  |
| \LWR@doindexentrysub . . . . .            | <u>10771</u> | \LWR@getmynexttoken . . . . .                   | <u>8279</u>  |
| \LWR@doindexentrysubsub . . . . .         | <u>10760</u> | LWR@glrbox (environment) . . . . .              | <u>851</u>   |
| LWR@doingapar (boolean) . . . . .         | <i>363</i>   | \LWR@gsavebox . . . . .                         | <u>837</u>   |
| LWR@doingcmidrule (boolean) . . . . .     | <i>444</i>   | LWR@hdashedlines (counter) . . . . .            | <i>444</i>   |
| LWR@doingstartpars (boolean) . . . . .    | <i>363</i>   | \LWR@heavyrulewidth (length) . . . . .          | <i>471</i>   |
| LWR@doingtbrule (boolean) . . . . .       | <i>444</i>   | \LWR@hidelatexequation . . . . .                | <u>11514</u> |
| \LWR@domulticolumn . . . . .              | <u>9342</u>  | LWR@hlines (counter) . . . . .                  | <i>444</i>   |
| \LWR@doubledollar . . . . .               | <u>11337</u> | \LWR@href . . . . .                             | <u>10099</u> |
| LWR@dynamimath (boolean) . . . . .        | <i>343</i>   | \LWR@HTML@caption@begin . . . . .               | <u>10307</u> |
| \LWR@earlyclassloadnever . . . . .        | <u>99</u>    | \LWR@HTML@caption@end . . . . .                 | <u>10318</u> |
| \LWR@earlyloadnever . . . . .             | <u>94</u>    | \LWR@HTML@ref . . . . .                         | <u>10026</u> |
| LWR@emptyatbang (boolean) . . . . .       | <i>444</i>   | \LWR@htmlblockcomment . . . . .                 | <u>6078</u>  |
| \LWR@endfloatalignment . . . . .          | <u>10261</u> | \LWR@htmlblocktag . . . . .                     | <u>6080</u>  |
| \LWR@endhideamsmath . . . . .             | <u>11679</u> | \LWR@HTMLcline . . . . .                        | <u>9694</u>  |
| \LWR@endofline . . . . .                  | <u>12925</u> | \LWR@htmlclosecomment . . . . .                 | <u>6045</u>  |
| \LWR@ensuredoingapar . . . . .            | <u>6246</u>  | \LWR@htmlcomment . . . . .                      | <u>6066</u>  |
| LWR@equationother (environment) . . . . . | <u>11451</u> | \LWR@htmldivclass . . . . .                     | <u>6117</u>  |
| \LWR@equationtag . . . . .                | <u>11779</u> | \LWR@htmldivclassend . . . . .                  | <u>6120</u>  |
| \LWR@excludacomment . . . . .             | <u>1097</u>  | \LWR@html element . . . . .                     | <u>6131</u>  |
| LWR@exitingtabular (boolean) . . . . .    | <i>445</i>   | \LWR@html elementclass . . . . .                | <u>6103</u>  |
| \LWR@expandableformatted . . . . .        | <u>1616</u>  | \LWR@html elementclassend . . . . .             | <u>6109</u>  |
| \LWR@expandableformattedenv . . . . .     | <u>1648</u>  | \LWR@html elementclassline . . . . .            | <u>6123</u>  |
| \LWR@expcolspec . . . . .                 | <u>8642</u>  | \LWR@html elementend . . . . .                  | <u>6134</u>  |
| LWR@externalfilecnt (counter) . . . . .   | <i>549</i>   | LWR@htmlfilenumber (counter) . . . . .          | <i>345</i>   |
| \LWR@fboxstyle . . . . .                  | <u>12427</u> | \LWR@htmlfileref . . . . .                      | <u>9888</u>  |
| LWR@figcaption (environment) . . . . .    | <u>10297</u> | \LWR@HTMLhline . . . . .                        | <u>9675</u>  |
| \LWR@filenameno blanks . . . . .          | <u>6644</u>  | \LWR@HTMLLatexCmd . . . . .                     | <u>1953</u>  |
| \LWR@filestart . . . . .                  | <u>7397</u>  | \LWR@htmlmulticolumn . . . . .                  | <u>9408</u>  |
| \LWR@findcurrenttextcolor . . . . .       | <u>12837</u> | \LWR@htmlopencomment . . . . .                  | <u>6045</u>  |
| \LWR@findword . . . . .                   | <u>1315</u>  | \LWR@htmlrefsectionfilename . . . . .           | <u>5730</u>  |
| \LWR@firstoffour . . . . .                | <u>824</u>   | \LWR@HTMLsanitize . . . . .                     | <u>6810</u>  |
| \LWR@floatalignment . . . . .             | <u>10247</u> | \LWR@HTMLsanitizeexpand . . . . .               | <u>6818</u>  |
| \LWR@floatalignmentname . . . . .         | <u>10246</u> | \LWR@htmlsectionfilename . . . . .              | <u>5690</u>  |
| \LWR@floatbegin . . . . .                 | <u>10158</u> | LWR@htmlseqfilenumber (counter) . . . . .       | <i>345</i>   |
| \LWR@floatend . . . . .                   | <u>10203</u> | \LWR@htmlspan . . . . .                         | <u>6022</u>  |
| \LWR@floatstyle . . . . .                 | <u>2</u>     | \LWR@htmlspanclass . . . . .                    | <u>6030</u>  |
| \LWR@footnotebox . . . . .                | <u>6451</u>  | \LWR@htmltag . . . . .                          | <u>6040</u>  |

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| <code>\LWR@htmltagc</code>                    | 5952        | <code>\LWR@maketitlesetup</code>                | 34, 7750 |
| <code>\LWR@hyperindexref@comma</code>         | 10803       | <code>LWR@MathJax@silentquotes (boolean)</code> | 386      |
| <code>\LWR@hyperindexref@comma</code>         | 10796       | <code>\LWR@mathjaxfilename</code>               | 6405     |
| <code>\LWR@hyperindexref@range</code>         | 10808       | <code>\LWR@mathjaxwarn</code>                   | 13362    |
| <code>\LWR@hyperindexrefnullified</code>      | 10777       | <code>LWR@mathmacro (boolean)</code>            | 342      |
| <code>\LWR@hyperindexrefsub</code>            | 10811       | <code>\LWR@maybe@orignewpage</code>             | 830      |
| <code>\LWR@hyperindexrefsubtwo</code>         | 10818       | <code>\LWR@maybe@newtablerow</code>             | 8772     |
| <code>\LWR@includedcomment</code>             | 1097        | <code>\LWR@maybe@printpendingfootnotes</code>   | 6542     |
| <code>\LWR@indentHTML</code>                  | 5946        | <code>\LWR@maybe@tocdata</code>                 | 10519    |
| <code>\LWR@indentHTMLtwo</code>               | 5949        | <code>LWR@midrulecounter (counter)</code>       | 447      |
| <code>\LWR@indexitem</code>                   | 10602       | <code>LWR@midrules</code>                       | 470      |
| <code>\LWR@indexnameref</code>                | 10731       | <code>LWR@minipagefullwidth (boolean)</code>    | 597      |
| <code>\LWR@indexnameref@anonref</code>        | 10672       | <code>\LWR@minipageheight (length)</code>       | 596      |
| <code>\LWR@indexnameref@cref</code>           | 10698       | <code>\LWR@minipagestartpars</code>             | 12932    |
| <code>\LWR@indexnameref@crefnameref</code>    | 10715       | <code>\LWR@minipagestoppars</code>              | 12935    |
| <code>\LWR@indexnameref@ref</code>            | 10677       | <code>LWR@minipagethispar (boolean)</code>      | 598      |
| <code>\LWR@indexnameref@refnameref</code>     | 10686       | <code>\LWR@minipagewidth (length)</code>        | 596      |
| <code>\LWR@indexsubitem</code>                | 10606       | <code>\LWR@multicolother</code>                 | 9244     |
| <code>\LWR@indexsubsubitem</code>             | 10610       | <code>\LWR@multicolpartext</code>               | 9238     |
| <code>LWR@indisplaymathimage (boolean)</code> | 549         | <code>\LWR@multicolskip</code>                  | 9250     |
| <code>\LWR@infoprocessingmathjax</code>       | 6875        | <code>\LWR@multirowborder</code>                | 3        |
| <code>LWR@insidemathcomment (boolean)</code>  | 549         | <code>\LWR@mynexttoken</code>                   | 8268     |
| <code>\LWR@instertatbangcols</code>           | 8335        | <code>\LWR@myshorttoc</code>                    | 10387    |
| <code>LWR@intabularmetadata (boolean)</code>  | 445         | <code>\LWR@nameref</code>                       | 9885     |
| <code>\LWR@isolate</code>                     | 810         | <code>LWR@nestspan (environment)</code>         | 5978     |
| <code>LWR@isstartingequation (boolean)</code> | 575         | <code>\LWR@new@label</code>                     | 9963     |
| <code>\LWR@itemizeitem</code>                 | 8172        | <code>\LWR@newautoidanchor</code>               | 10240    |
| <code>\LWR@label@createtag</code>             | 9934        | <code>\LWR@newautopagelabel</code>              | 6761     |
| <code>\LWR@label@inmathcomment</code>         | 9920        | <code>\LWR@newhtmlfile</code>                   | 6971     |
| <code>\LWR@label@subcreatetag</code>          | 9916        | <code>LWR@nextautoid (counter)</code>           | 521      |
| <code>LWR@latestautopage (counter)</code>     | 521         | <code>LWR@nextautopage (counter)</code>         | 521      |
| <code>\LWR@lateximage@oneimage</code>         | 11815       | <code>LWR@nextequation (counter)</code>         | 562      |
| <code>\LWR@lateximage@oneimageb</code>        | 11806       | <code>\LWR@enlinkurl</code>                     | 10111    |
| <code>LWR@lateximagedepth (counter)</code>    | 574         | <code>\LWR@notltjloadafter</code>               | 42       |
| <code>\LWR@lateximagedepthref</code>          | 9891        | <code>\LWR@notmemoirloadafter</code>            | 39       |
| <code>LWR@lateximagenumber (counter)</code>   | 574         | <code>\LWR@nullfonts</code>                     | 10922    |
| <code>\LWR@lateximagenumberref</code>         | 9894        | <code>\LWR@nullifycomment</code>                | 1309     |
| <code>\LWR@lateximagesfile</code>             | 1497        | <code>\LWR@nullifyNoAutoSpacing</code>          | 9700     |
| <code>\LWR@latexmkcmd</code>                  | 1929        | <code>\LWR@nulllistfills</code>                 | 8141     |
| <code>\LWR@latexmkdvipdfm</code>              | 1934        | <code>\LWR@openparagraph</code>                 | 6252     |
| <code>\LWR@latexmkvar</code>                  | 1923        | <code>LWR@opttablecol (boolean)</code>          | 445      |
| <code>\LWR@LetLtxMacros</code>                | 874         | <code>\LWR@orig@setBold</code>                  | 11077    |
| <code>\LWR@lightrulewidth (length)</code>     | 471         | <code>\LWR@orig@unsetBold</code>                | 11078    |
| <code>\LWR@linkcatcodes</code>                | 10058       | <code>\LWR@orig@colspec</code>                  | 8318     |
| <code>\LWR@linkmediacatcodes</code>           | 10066       | <code>LWR@origmathjax (boolean)</code>          | 230      |
| <code>LWR@LPage (counter)</code>              | 574         | <code>\LWR@overline</code>                      | 12829    |
| <code>\LWR@listitem</code>                    | 8134        | <code>\LWR@parseaftercolumn</code>              | 8551     |
| <code>\LWR@loadafter</code>                   | 20          | <code>\LWR@parseatcolumn</code>                 | 8484     |
| <code>\LWR@loadbefore</code>                  | 55          | <code>\LWR@parsebangcolumn</code>               | 8513     |
| <code>\LWR@loadnever</code>                   | 73          | <code>\LWR@parsebarcolumn</code>                | 8563     |
| <code>\LWR@longtabledatacaptiontag</code>     | 9417        | <code>\LWR@parsebeforecolumn</code>             | 8539     |
| <code>\LWR@lookforpackagename</code>          | 1368        | <code>\LWR@parsecoloncolumn</code>              | 8588     |
| <code>\LWR@lwarpcnfversion</code>             | 1902        | <code>\LWR@parseDcolumn</code>                  | 8637     |
| <code>\LWR@LwarpEnd</code>                    | 7574, 13197 | <code>\LWR@parsedrequirepackagename</code>      | 1308     |
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| <code>\LWR@parsepcolumn</code>                   | <u>8625</u>  | <code>\LWR@setOSWindows</code>                 | <u>913</u>   |
| <code>\LWR@parsesemicoloncolumn</code>           | <u>8609</u>  | <code>\LWR@setref</code>                       | <u>9879</u>  |
| <code>\LWR@parsestarcolumn</code>                | <u>8634</u>  | <code>LWR@setseqfilelabel (boolean)</code>     | <u>345</u>   |
| <code>\LWR@parsetablecols</code>                 | <u>8674</u>  | <code>LWR@setvirtualpage (environment)</code>  | <u>12222</u> |
| <code>\LWR@parsewcolumn</code>                   | <u>8629</u>  | <code>\LWR@shellescapecmd</code>               | <u>1903</u>  |
| <code>\LWR@patcherror</code>                     | <u>801</u>   | <code>\LWR@sidetoc</code>                      | <u>10493</u> |
| <code>\LWR@patchlists</code>                     | <u>8216</u>  | <code>\LWR@simplifycustom</code>               | <u>6619</u>  |
| <code>\LWR@pdfencoding</code>                    | <u>719</u>   | <code>\LWR@simplifyname</code>                 | <u>6608</u>  |
| <code>\LWR@phantomsection</code>                 | <u>13059</u> | <code>\LWR@singledollar</code>                 | <u>11364</u> |
| <code>\LWR@popclose</code>                       | <u>5582</u>  | <code>\LWR@singledollarmeasure</code>          | <u>11152</u> |
| <code>\LWR@PreloadedPackage</code>               | <u>12025</u> | <code>LWR@skipatbang (boolean)</code>          | <u>444</u>   |
| <code>LWR@prevFileDepth (counter)</code>         | <u>398</u>   | <code>LWR@skippingmcolrowcell (boolean)</code> | <u>444</u>   |
| <code>LWR@previousautopagelabel (counter)</code> | <u>385</u>   | <code>LWR@skippingmrowcell (boolean)</code>    | <u>444</u>   |
| <code>\LWR@printatbang</code>                    | <u>8815</u>  | <code>LWR@spandepth (counter)</code>           | <u>363</u>   |
| <code>\LWR@printbartag</code>                    | <u>8805</u>  | <code>\LWR@spanwarnformat</code>               | <u>5962</u>  |
| <code>\LWR@printchaptername</code>               | <u>7121</u>  | <code>\LWR@spanwarninvalid</code>              | <u>5970</u>  |
| <code>\LWR@printcloselist</code>                 | <u>8041</u>  | <code>\LWR@splitstarcontents</code>            | <u>8645</u>  |
| <code>\LWR@PrintLatexCmd</code>                  | <u>1953</u>  | <code>LWR@splitstarcopies (counter)</code>     | <u>459</u>   |
| <code>\LWR@printlength</code>                    | <u>1289</u>  | <code>LWR@splitstarindex (counter)</code>      | <u>459</u>   |
| <code>\LWR@printmccoldata</code>                 | <u>9253</u>  | <code>LWR@starcount (counter)</code>           | <u>459</u>   |
| <code>\LWR@printmccoltype</code>                 | <u>9196</u>  | <code>LWR@starredlongtable (boolean)</code>    | <u>447</u>   |
| <code>\LWR@printopenlist</code>                  | <u>8042</u>  | <code>LWR@startedrow (boolean)</code>          | <u>443</u>   |
| <code>\LWR@printpendingfootnotes</code>          | <u>6539</u>  | <code>LWR@startingequation (counter)</code>    | <u>575</u>   |
| <code>\LWR@printpendingmpfootnotes</code>        | <u>6551</u>  | <code>\LWR@startingequationtag</code>          | <u>11778</u> |
| <code>\LWR@printpercentlength</code>             | <u>794</u>   | <code>\LWR@startnewdepth</code>                | <u>7110</u>  |
| <code>\LWR@printthetitle</code>                  | <u>7702</u>  | <code>\LWR@startpars</code>                    | <u>6322</u>  |
| <code>\LWR@providelength</code>                  | <u>790</u>   | <code>\LWR@startref</code>                     | <u>9989</u>  |
| <code>\LWR@ProvidesPackageDrop</code>            | <u>1487</u>  | <code>\LWR@stoppars</code>                     | <u>6343</u>  |
| <code>\LWR@ProvidesPackageDropA</code>           | <u>1472</u>  | <code>\LWR@stripperiod</code>                  | <u>9870</u>  |
| <code>\LWR@ProvidesPackageDropB</code>           | <u>1481</u>  | <code>\LWR@strresult</code>                    | <u>8316</u>  |
| <code>\LWR@ProvidesPackagePass</code>            | <u>1441</u>  | <code>\LWR@subaddcmidruletrim</code>           | <u>8989</u>  |
| <code>\LWR@pushclose</code>                      | <u>5555</u>  | <code>\LWR@subaddtabularcellcolor</code>       | <u>9173</u>  |
| <code>\LWR@pushhoneyclose</code>                 | <u>7106</u>  | <code>\LWR@subcdashline</code>                 | <u>8957</u>  |
| <code>\LWR@quickfile</code>                      | <u>1494</u>  | <code>\LWR@subcmidrule</code>                  | <u>8939</u>  |
| <code>\LWR@remembertag</code>                    | <u>11783</u> | <code>\LWR@subcustomizedmathjax</code>         | <u>6843</u>  |
| <code>\LWR@replacestrings</code>                 | <u>6769</u>  | <code>\LWR@subhtml-elementclass</code>         | <u>6085</u>  |
| <code>\LWR@requesttoc</code>                     | <u>7567</u>  | <code>\LWR@subHTMLsanitize</code>              | <u>6790</u>  |
| <code>\LWR@requirepackagenames</code>            | <u>1307</u>  | <code>\LWR@subhyperref</code>                  | <u>10074</u> |
| <code>\LWR@restoreMathJaxformatting</code>       | <u>10870</u> | <code>\LWR@subhyperrefclass</code>             | <u>10088</u> |
| <code>\LWR@restoreorigaccents</code>             | <u>1851</u>  | <code>\LWR@subhyperref-text</code>             | <u>10083</u> |
| <code>\LWR@restoreorigformatting</code>          | <u>10871</u> | <code>\LWR@subinlineimage</code>               | <u>10137</u> |
| <code>\LWR@restoreoriglists</code>               | <u>8244</u>  | <code>\LWR@subnewref</code>                    | <u>10020</u> |
| <code>\LWR@rowHTMLcolor</code>                   | <u>8764</u>  | <code>\LWR@subsingledollar</code>              | <u>11277</u> |
| <code>\LWR@ruleHTMLcolor</code>                  | <u>8766</u>  | <code>\LWR@subsingledollarsvg</code>           | <u>11198</u> |
| <code>\LWR@sanitize</code>                       | <u>999</u>   | <code>\LWR@subtableofcontents</code>           | <u>10401</u> |
| <code>\LWR@sanitized</code>                      | <u>998</u>   | <code>\LWR@subtabularhtmlcolumns</code>        | <u>9488</u>  |
| <code>\LWR@secondoffour</code>                   | <u>824</u>   | <code>\LWR@syncmathjax</code>                  | <u>11502</u> |
| <code>\LWR@section</code>                        | <u>7126</u>  | <code>\LWR@syncnotenames</code>                | <u>11611</u> |
| <code>\LWR@sectionnumber</code>                  | <u>7097</u>  | <code>\LWR@syncnotenumbers</code>              | <u>11605</u> |
| <code>\LWR@select@html@hspace</code>             | <u>12952</u> | <code>\LWR@syncnotenotename</code>             | <u>11606</u> |
| <code>\LWR@select@html@nohspace</code>           | <u>12983</u> | <code>\LWR@syncnotenotenummer</code>           | <u>11600</u> |
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# General Index

This is an index of instructions and concepts. Look here when wondering how to do something, and check the Troubleshooting Index when something goes wrong.

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# Troubleshooting Index

This index is a sorted reference of problems and solutions. In order to make it easier to locate a solution, the same issue may be addressed by more than one entry.

Entries with higher page numbers are often duplicates of entries with lower page numbers, as the same warning may occur within the user manual and again within the source code for a given package.

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