



# The **lwarp** package

## L<sup>A</sup>T<sub>E</sub>X to HTML

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### Abstract

The **lwarp** package allows L<sup>A</sup>T<sub>E</sub>X to directly produce HTML5 output, using external utility programs only for the final conversion of text and images. Math may be represented by SVG files or MATHJAX.

Documents may be produced by pdfL<sup>A</sup>T<sub>E</sub>X, LuaL<sup>A</sup>T<sub>E</sub>X, or XeL<sup>A</sup>T<sub>E</sub>X. A *texlua* script removes the need for system utilities such as *make* and *gawk*, and also supports *xindy* and *latexmk*. Configuration is automatic at the first manual compile.

Print and HTML versions of each document may coexist, each with its own set of auxiliary files. Support files are self-generated on request. Assistance is provided for import into EPUB conversion software and word processors.

A modular package-loading system uses the **lwarp** version of a package for HTML when available. More than 300 L<sup>A</sup>T<sub>E</sub>X packages are supported with these high-level source-compatibility replacements, and many others work as-is.

A tutorial is provided to quickly introduce the user to the major components of the package.

To update existing projects, see [section 2: Updates](#).

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

**Note that this is still a “beta” version of **lwarp**, and some things may change in response to user feedback and further project development.**

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# 1 Supporting T<sub>E</sub>X development

T<sub>E</sub>X 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<sub>E</sub>X 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<sub>E</sub>XLive, the major T<sub>E</sub>X distribution.

Donations may be directed towards individual projects:

**TUG Bursary Fund:** Assistance for attending annual TUG meetings.

**CTAN:** The Comprehensive T<sub>E</sub>X Archive Network — Central storage for T<sub>E</sub>X.

**TeX Development Fund:** Support for specific projects.

**EduTeX:** Teaching and using T<sub>E</sub>X in schools and universities.

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

**LaTeX Project:** Modernizing the L<sup>A</sup>T<sub>E</sub>X core.

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

**LuaTeX:** Combining the pdfT<sub>E</sub>X engine and the Lua language.

**MetaPost:** Postscript graphics.

**MacTeX:** T<sub>E</sub>X for Mac.

**PDF Accessibility:** Modern PDF standards.

**Other:** Additional projects may be specified.

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For country-specific T<sub>E</sub>X users groups: <http://tug.org/usergroups.html>

For users of MiK<sub>T</sub>E<sub>X</sub>: <https://miktex.org/donations.html>

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## 2 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 1046.

### v0.63: mdframed, Chinese, Japanese, Korean

|               |   |
|---------------|---|
| localization  | <ul style="list-style-type: none"> <li>Added <code>\linkhomename</code>: A user-definable name for the <b>Home</b> link.</li> <li>Documented <code>\sidetocname</code>: A user-definable name for the sideroc.</li> </ul>   |
| fixes         | <ul style="list-style-type: none"> <li>Fix: <code>\LinkHome</code> for print output.</li> </ul>   |
| optimizations | <ul style="list-style-type: none"> <li>Moved package load checks to the lwarp core to reduce the number of <code>lwarp-*</code> files.</li> </ul>   |
| packages      | <ul style="list-style-type: none"> <li>mdframed: Fix with amsthm, improved titles and font control. Improved rule widths.</li> </ul>  |
| Chinese       | <ul style="list-style-type: none"> <li>Fixes for xeCJK.</li> <li>Added xpinyin, zhlineskip.</li> <li>Verified to work with cjkpunct, upzhkinsoku, zhspacing.</li> </ul>   |
| Japanese      | <ul style="list-style-type: none"> <li>Verified to work with zxjatype, luatexja, luatexja-fontspec.</li> <li>Added bxjsarticle and related classes.</li> <li>Added ltjsarticle and related classes.</li> <li>Added p<math>\LaTeX</math>, up<math>\LaTeX</math>, uarticle and related classes.</li> <li>Prevented utarticle and related classes.</li> <li>Prevented bxcjkatype.</li> </ul> |
| Korean        | <ul style="list-style-type: none"> <li>Verified to work with kotex, xetexko, luatexko.</li> </ul>   |

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

|              |  |
|--------------|--|
| docs         | <ul style="list-style-type: none"> <li>Docs: Setting a UTF-8 locale. See section 10.8.</li> </ul>  |
| MiKTeX       | <ul style="list-style-type: none"> <li>MiKTeX: Docs for <i>MiKTeX Console</i> and miktex-poppler-bin.</li> </ul>   |
| HTML <title> | <ul style="list-style-type: none"> <li>HTML subpage titles: Added <code>\HTMLTitleBeforeSection</code> and <code>\HTMLTitleAfterSection</code> to select whether the HTML &lt;title&gt; displays the website name before or after the section name. See section 8.4.</li> </ul>                                  |
| fixes        | <ul style="list-style-type: none"> <li>Fix for package options handling.</li> <li>Fixes for horizontal white space between fminipage, fcolorminipage, colorboxBlock, fcolorboxBlock.</li> <li>Logos: Fix for X<math>\TeX</math> logo, improved css, made robust, improved search-engine optimization.</li> </ul> |

Chinese  
packages

- `\[$1]`: Additional HTML `<br>` if  $\$1 > 0$  pt.
- Fixes for `\includgraphics` filename, and with `FormatWP`.
- Fix: css for `\textup`.
- Fix: Added `\slshape`.
- Added `ctex` package and related classes, `xeCJK`.
- Prevented `CJK`, `CJKutf8` unless `xeCJK`, `ctex` are used.
- `chemfig`: Docs for new macro `\polymerdelim`.
- `asymptote`: Docs for compilation.
- `chnpage`: Fix to load `lwarp-change page`.
- `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  
  
custom compiling

- Split index into multiple indexes. See page 1076.
- Improved documentation regarding font selection. See section 8.2.
- Added documentation regarding debugging options. See section 35.
- Added documentation regarding HTML entities inside program listings. See section 9.2.1.
- 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  $\text{\LaTeX}$  engine, `--shell-escape`, and `lwarp` options. See section 10.
- Changed macro names to match `\displaymathother`, `\displaymathnormal`:

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

⚠ changed names

fixes

- Fix: Paragraph tags in a tabular.

- Fix: supertabular and xtab captions.
  - Fix: DVI  $\LaTeX$  `\includegraphics` EPS images.
  - Fix: newfloat lists.
  - Fix: css footnotes text align, minipage tabular and footnote margins.
  - 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.
- 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.
- v0.59:** DVI *latex*, MATHJAX, asymptote, pdftricks and pstricks, epstopdf, brqen.
- 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.
  - 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 9.7.
  - Added support for DVI *latex*. See section 8.3.
  - 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`.
  - Fix for `\includegraphics` filename expansion.



Reset the configuration

*lwarpmk*

DVI *latex*

*latexmk*

math

images

- `\includegraphics` now works with `.pdf` and `.eps` filename extensions.
- 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`.
- Added information about setting up a development version of `lwarp`.

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



Reset the configuration

*lwarpmk*  
glossaries

index and glossary

misc. fixes

- 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 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*.
- Docs: Extra indexing options. See section 9.5.11.
- 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 8.3.
- Added `lwarp` options `makeindex` and `xindy` to set `PrintIndexCmd`, `HTMLIndexCmd`, and `LatexmkIndexCmd` to sensible values for a typical single index. See section 8.3.
- Added `lwarp` option `makeindexStyle` to tell *lwarpmk* to use a custom style instead of `lwarp.ist`. See section 9.5.17.
- 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 9.6.6.
- 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 9.6.7.
- 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 `\mathimagenam`, which defaults to “math image”. For packages, the alt tag is set using the package name followed by `\packagediagramname`, which defaults to “diagram”. Ex:

`(-xy- diagram)`

See section 8.4.

## misc. fixes

## packages

- Fix: Improved print/HTML macro selection.
- Fix: `\href` text catcodes.
- Fix: `\subref` text.
- Fixes: Colored `\rule` and `\boxframe`.
- float, `rofloat`: 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*
  - Added
    - `lwarpmk pdftosvg <list-of-PDF-files>`
    - to quickly convert a document's PDF images to SVG, for use with HTML. See section 9.7.
- tabular*
  - Added support for `--shell-escape`. See section 8.1.
  - 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`.
- misc. fixes*
  - Fix: `\thinspace`.
  - Fix: `paralist compact` environments.
- packages*
  - Added `parnotes`, `quoting`, `lua-check-hyphen`, `tocenter`, `underscore`.
  - Tested to work as-is with `babelbib`, `bibunits`, `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 `\etalchar`. See section 9.5.9.
- polyglossia*
  - Added documentation regarding *polyglossia*. See section 9.13.4.

- macros in section names
- document encoding
- ⚠

New and revised encoding options
- Added documentation regarding the use of macros in section names. See section 9.1.
- Renamed and added package options:
- | Old Package Option | New Package Option |
|--------------------|--------------------|
| xdyFilename        | xindyStyle         |
| IndexLanguage      | xindyLanguage      |
| --                 | xindyCodepage      |
| --                 | pdftotextEnc       |
- Use these options along with inputenc or inputenx to process documents in an encoding other than UTF-8. See section 8.2.
- 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<sup>A</sup>T<sub>E</sub>X 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, tlenc, and wasysym.
- v0.53:

Improved image checks.
- lwarpmk
- 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.
- documentation
- Improved install instructions regarding lwarp\_baseline\_marker.png.
- Added documentation regarding footnotes in section headings, and footnotes with \VerbatimFootnotes from fancybox, fancyvrb. See section 9.4.4.

- Added documentation regarding font selection when using X<sub>Y</sub>LaTeX or LuaLaTeX with fontspec and traditional font packages. See section 8.2.
  - Fix: Limit the number of background tasks when generating lateximages.
  - Added user-adjustable svg math font scaling. See section 79.3.
  - 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 9.6.
  - 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.
- Docs: Added **Things to avoid**.
  - Docs: Added to **Converting an existing document**.
  - Docs: Multiple authors and affiliations with custom classes. See section 9.5.1.
  - Docs: tikz with matrices. See section 9.7.1.
  - 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 9.6.8.
  - Fix: \addcontentsline inside svg math.

- Fix: SVG math containing an embedded `lateximage`.
  - 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.
  - Added `mhchem`, `chemfig`, `chemformula`, `chemmacros`, `chemnum`, `chemgreek`, `epstopdf-base`, `grid`, `ltxgrid`.
- v0.50:** Improved `svg math`.
- `svg math` and other `lateximages` now are converted to `svg` using parallel background tasks, utilizing all available CPU cores.
  - Inline `svg math` image file names now are MD5 hashes made from their source  $\text{\LaTeX}$  code. Identical inline math expressions, such as multiple instance of  $\$x\$$ , now share a single image file. This reduces the number of images to store, transmit, process, and display. Each image file is only converted to `svg` a single time, and reused if it already exists. Display math and other forms of `svg image` such as `picture` and `Tikz` still use individual image files which are recreated each time `lwarpmk images` is run.
  - Fixes: SVG math and/or `\underline` in a sectioning file name.
  - Improved `svg display math` and tags.
  - Improved `svg math` and `siunitx alt` tags.
  - Improved `siunitx` units.
  - Fix: `\ensuremath` with MathJax now creates a `lateximage`.
  - Fix: `\centering`, etc. in `svg math`, `lateximage`, `Tikz`.
  - Fix: Made various macros robust, additionally fixing `authblk`.
  - Fix: `ntheorem` if neither `standard` nor `amsthm` selected.
  - Fix: `listings`: Improved column alignment.
  - Fix: Load `fontspec` if necessary.
  - Added `xy`, `epstopdf`, `diagbox`, `pbox`, `bytefield`, `axodraw2`, `phfqit`, `schemata`, `dblfloatfix`, `nonfloat`, `morefloats`.

**v0.49:**

- tabular**
  - Added xcolor \rowcolors.
  - Fix: \noalign inside a tabular.
- math**
  - Fix: \eqref in a caption.
- misc fixes**
  - Fix: Incorrect PDF font size changes caused occasional HTML corruption.
  - Fix: printlen changes are now grouped for HTML output.
- packages**
  - Added vwcol, vertbars, hyphenat, lineno, fnlineno, figsize, hypdestopt, pagegrid, pdfrender, luacolor, resizegather.

**v0.48:**

- documentation**
  - Added some documentation regarding converting an existing document. See section 7.
- cleveref**
  - Updated compatibility for new cleveref v0.21.
- tabular**
  - Fix: Ignores optional tabular column arguments.
- minor updates**
  - Added \leftline, \centerline, \rightline.
  - Lists have improved font control via \makelabel.
  - Print-mode lateximage now boxed to the natural width of its multiline contents.
  - abstract now allows an optional name, as required by some classes.
- math**
  - Fix: Improved spacing, \mbox, and font sizes with svg math, Tikz.
  - siunitx: Improved svg math, fraction compatibility, color output.
- misc. fixes**
  - Fix: LOF/LOT links.
  - Fix: Virtual page size grouping caused excessive PDF page breaks.
  - Fix: Parsing similar package names in a single \usepackage.
  - Fix: Adapts to classes without \part.
  - Fix: \newline in \title was causing <br> in window title.
  - Fix: \maketitle with \cr, \crr, \noalign, for IEEEtran class.
  - Fix: xfrac neutralized BlockClass and others.
  - Fix: todonotes and luatodonotes: Improved \todotoc.
- packages**
  - Added colortbl, chapterbib, acro, acronym, hypernat, hypcap, stfloats, vmargin, fancyheadings.
  - fancyref: Now directly supported.

**v0.47:**

- math**
  - Improved svg math baseline and sizing.
  - Fixes: svgmath in captions, subcaptions, \nameref.
  - Fixes: Line wrap at hyphen in HTML output.
- packages**
  - Added endheads, multitoc, sectionbreak, blowup, xurl.

**v0.46:**

name change

misc. fixes

- `\PrintStack` changed to `\LWRPrintStack`.
- Fix: Empty lines between tabular rows.
- Fix: Stack unnesting.
- Fix: SVG math and `lateximages` in numerous situations.
- Fix: Spaces in `\usepackage`.
- Fix: Now allows MATHJAX inside `verse`.

**v0.45:**

documentation

memoir

cross-references

math

bibliography

misc. fixes

packages

- Improved *MikTeX* install instructions.
- Improved graphics and `epstopdf` instructions.
- Updates to the **Introduction**.
- Added memoir, memhfixc. See section 9.12.
- Fix: Now allows underscores in labels.
- Fix: `\_` and `\<blank>` in section/file names.
- Fix: Now allows MATHJAX inside `tabbing`.
- Fix: Bibliography `\em` names.
- Added cite, natbib, backref. (Also works as-is with biblatex.)
- Fix: Empty lines between tabular rows.
- Fix: “Improper `\prevdepth`” with minipages, lists.
- Fix: Incorrect svg math and `lateximages` with subfig.
- Fix: `Lateximages` from incorrect pages with Mathjax.
- Fix: Missing `sidetoc` if using listings.
- Fix: Added an array emulation package.
- Added subfigure, prettyref, hanging, midpage, flafter, fltrace, changebar, endfloat, continue, fwlw, turnthepage, footnpag, pagesel, textfit, titleref.

**v0.44:**

koma-script

HTML title and author

encodings

- Added koma-script classes (except `scrlettr2`, `scrjura`).
- Added `scrxextend`, `scrlayer`, `scrlayer-notecolumn`, `scrlayer-scrpage`, `scrhack`, `tocstyle`, `tocbasic`.
- Added `\HTMLTitle`. Fixed web page title if `\HTMLTitle` empty and no `\title` given and not using titling package.
- Fixed web page author if `\HTMLauthor` is empty and `\author` is not given.
- If using *pdflatex*, automatically loads T1 and UTF-8 encodings. (Additional fontenc encodings may be loaded after lwarp.)

- lists
    - Added list and trivlist environments, hang.
  - tabular
    - Fix: \multicolumn alignment if formatting for a word processor.
    - Added ltxtable.
  - math
    - Fix: MATHJAX combined with lateximages.
    - algorithmicx: Improved comment symbol and floating.
  - packages
    - Completed todonotes and luatodonotes.
    - Added todo, easy-todo, fixmetodonotes, fixme.
    - Added soulutf8, soulpos, cancel.
    - Added section, fancyref, ifoddpage.
    - Added preview, atbegshi, watermark.
    - Improved tocloft \newlistof and \newlistentry.
- v0.43:**
- Docs: Reorganized HTML customization, added an HTML settings table. See section 8.4.
  - footnotes
    - Added FootnoteDepth to control the placement of pending footnotes before section breaks. By default, pending footnotes are printed before each \subparagraph or higher.
  - sectioning
    - Fix: Expansion in section name.
  - tabular
    - Fix: Ignore spaces in tabular column specification.
    - Fix: Tabular rules at bottom or when finishing incomplete rows.
    - Fix: \multicolumn at/bang/before/after specifications, trim, and vertical rules.
    - Fix: supertabular and xtab column misalignment.
  - math
    - Fix: equation\*.
    - Fix: svg math in a section name.
    - Fix: \ref and \eqref in svg math.
  - packages
    - Added todonotes and luatodonotes (but only disabled).
    - Added breakurl.
    - hyperref: Fix: Several macros were made robust, \Gauge added.

**v0.42:**

- Support T<sub>E</sub>X!
    - Added T<sub>E</sub>X development support page, [Supporting T<sub>E</sub>X development](#).
  - word-processor conversion
    - Improved assistance for word-processor conversions when boolean FormatWP is set true. See section 12.
      - The boolean `FormatWordProcessor` has been renamed `FormatWP`.
      - The boolean `HTMLMarkFloats` has been renamed `WPMarkFloats`.
- ⚠ name change
- ⚠ name change

- New booleans control whether to place additional marks around mini-pages, at the table of contents, at the LOF and LOT, and whether to print math as L<sup>A</sup>T<sub>E</sub>X source for copy/paste into the *LibreOffice Writer TeXMaths* extension.
- Improved formatting for numerous objects. See section 12.

tabbing

- Add: tabbing environment.

overpic

- Add: overpic package. See section 306.

math

- Fix: Text copy/paste of  $\mathcal{AMS}$  math environment numbers and names.
- Improved `\ensuremath`.
- MATHJAX with siunitx: Updated script and documentation.

symbols

- textcomp: Improved `\interrobangdown`.
- realscripts: Fix for subscripts in a lateximage.

load order

- morewrites: Enforces loading before lwarp.

#### v0.41:

tabular

- Added tabular vertical rules, subject to some limitations. See the rules section of section 9.9.

 new syntax

- Improved booktabs: Width and trim are honored.
- Added `\mcolrowcell` for empty cells inside a `\multicolumnrow`. Use `\mcolrowcell` instead of `\mrowcell` for two-dimensional cells created by `\multicolumnrow`. Continue to use `\mrowcell` for empty cells in a `\multirow`. See section 290.2 on page 826.
- Fix: Unfinished tabular rows are automatically filled.
- Fix for tabular column specifiers while using babel-french. (`\NoAutoSpacing` is activated then nullified inside the tabular, due to a conflict with the tabular column parsing code.)

#### v0.40:

graphics, graphicx

- graphics and graphicx have been moved from the lwarp core, and are only loaded if requested with `\usepackage`.

`\includegraphics path`

 image file extensions

- Improved graphics `\graphicspath` support. Multiple image directories may now be used. Refer to `.pdf files without a file extension` to allow the HTML version to use a `.svg`, `.png`, `.jpg`, or `.gif` version instead. See section 9.7.

- grffile is now directly supported instead of emulated.

bigdelim

- Fix for bigdelim, and improved documentation. See section 132.

symbols

- Improved L<sup>A</sup>T<sub>E</sub>X and textcomp symbols.

fixes

- Fix for L<sup>A</sup>T<sub>E</sub>X logos and `\InlineClass`, etc. inside a lateximage.
- Fix for xltextra with X<sub>3</sub>L<sup>A</sup>T<sub>E</sub>X.

- Fixes for tocibind with `\simplechapter`, etc.
- Fixes for `\multicolumnrow` and `\nullfonts` with older versions of `multirow` and `xparse`.
- Added `\underline`.
- Added `adjmulticol`.
- Added `cuted`, `midfloat`.
- Added `pfnote`, `fnpos`, `dblfnote`.
- Added `stabular`, `tabls`.
- Added `sectsty`, `anonchap`, `quotchap`.

margins  
columns  
footnotes  
tabular  
sectioning

#### v0.39:

- Improved the titlepage HTML code, `\thanks` notes, and `\maketitle`. titling is no longer required, but is still supported. The `\published` and `\subtitle` fields are no longer provided, but `\AddSubtitlePublished` replicates them using titling. See section 65.8. `authblk` is added, and should be loaded before titling. See section 65.
- `\multirow` now supports the new optional `vpos` argument.
- Added `\multicolumnrow` for combined `\multicolumn` and `\multirow`. See section 290.2.
- Tabular special cases:
  - Added `\TabularMacro` to mark custom macros inside tabular data cells, avoiding row corruption. See section 9.9.
  - Added `\ResumeTabular` for use when a tabular environment is defined inside another environment. See section 9.9.
- Added `supertabular`, `xtab`, `bigstrut`, `bigdelim`.
- Added `fullwidth`.
- Added `addlines`, `anysize`, `a4`, `a4wide`, `a5comb`, `textarea`, `zwpagelayout`, `typearea`, `ebook`.

title pages  
⚠ `\published` and  
    `\subtitle`  
⚠ load order  
    tabular  
multi column/row cell

⚠ macros inside tabular  
⚠ tabular defined inside  
    another environment  
    tabular  
    margins  
page layout

#### v0.38:

- Added `lwarpmk print1` and `lwarpmk html1` actions to force a compile of the project a single time. Useful when multiple passes are not needed, or changes were not detected.
- Added `\ForceHTMLPage` and `\ForceHTMLTOC` to force a starred sectional unit onto its own HTML page and with its own TOC entry. See section 9.5.2.
- Modified the tutorial to use the new `\ForceHTMLPage` and `\ForceHTMLTOC` macros.
- Added `appendix`, `tocbibind`, `fncychap`, `fix2col`.
- Added `relsize`, `scalefnt`.

forced single-pass compile  
  
starred sections  
  
updated tutorial  
  
packages  
font size

page numbering  
front & back matter

- Added realscripts, metalogo, xltextra.
- Added grffile, romanbar.
- Added arabicfront, chappg, nonumonpart, nopageno, romanbarpagenumber.
- Docs: Improved description of the use of front/back matter. See section 9.5.
- Fix: color requests xcolor.
- Fix: \part for article class.

#### v0.37:

\include for HTML  
latexmk

accents and symbols  
babel-french

- \include now maintains independent .aux files for HTML versions.
- comment, used by lwarp, now maintains independent cut files for print and HTML versions, helping latexmk to better know whether to recompile.
- Improved support for L<sup>A</sup>T<sub>E</sub>X accents, textcomp, siunitx symbols.
- Improved babel-french handling for load order and ~ tilde.

#### v0.36:

boxes and frames

babel-french

footnotes

siunitx

- Recorganized the documentation section regarding special cases and limitations. (Section 9)
- Improved source formatting.
- \fbox and related now use \fboxsep and \fboxrule.
- \makebox and \framebox now use width and position.
- \fcolorbox and related now work inside a lateximage.
- babel-french: Improvements for French variants, load order, footnotes, ellipses.
- Improved footnote numbering. lateximage footnotes now appear as regular footnotes to match the numbering of the print version. Also fixed a regression with MATHJAX.
- Improved siunitx units.
- Fix for filenames while using MATHJAX.
- Fix for \rule when xcolor is not loaded.
- Added transparent, upref.

**v0.35:** Fix: \textbf and related.

#### v0.34:

⚠ Optional arguments

- BlockClass's optional argument has been moved in front of the mandatory argument:

BlockClass[style]{class} (NEW)

instead of:

BlockClass{class}[style] (OLD)

This change makes it more consistent with L<sup>A</sup>T<sub>E</sub>X standards, and avoids problems with space between arguments.

## ⚠ Optional arguments

- Likewise, `\InlineClass`'s optional argument now comes before the mandatory arguments:

```
\InlineClass[style]{class}{text}
```

### spans with minipages

### framing minipages

- Improved compatibility between spans, minipages, lists, frames, and math. Handles minipages and lists inside an HTML span, such as an `\fbox` containing a minipage, although with minimal HTML formatting. See section 9.3.3. `\fboxBlock` is added to frame minipages, tables, and lists with full HTML formatting but no longer inline, and behaves as `\fbox` for print output. The `fminipage` environment is added for framed minipages, as an environment with full HTML formatting, and draws a framed minipage in print output. See section 9.3.5. `\fbox` and minipages now often work in SVG math and `lateximages`. MATHJAX supports `\fbox`, but not `\fboxBlock` nor `fminipage`.

### lateximage, SVG math, tabular

- Improved compatibility between `lateximage` and `minipage`, `\parbox`, `\makebox`, `\fbox`, `\framebox`, `\raisebox`, `\scalebox`, `\reflectbox`, `tabular`, `booktabs`.

### eqnarray

- Improved font control for `lateximages` and SVG math.

### verbatim packages

- Added the `eqnarray` environments.
- `fancyvrb` is no longer required (preloaded), but is still supported.
- Added `verbatim` and `moreverb`.

### framing packages

### list packages

- Added `fancybox`, `boxedminipage2e` and `shadow`.
- `enumitem` is no longer required, but is still supported.
- Added `enumerate` and `paralist`.
- `titleps` is no longer required, but is still supported.
- Added `crop`.
- Added `rotfloat`, `marginfit`, and several minor packages; see the change log.
- Adds fixed-width HTML spaces around punctuation when using `babel-french`. LuaTeX does not yet use the extra punctuation spacing.

### babel-french

## v0.33:

- `Tabular @` and `!` columns now have their own HTML columns.
- `&` catcode changes are localized, perhaps causing errors about the tab alignment character `&`, so any definitions of macros or environments which themselves contain `tabular` and `&` must be enclosed within `\StartDefiningTabulars` and `\StopDefiningTabulars` (previously called `\EndDefiningTabulars`). See section 43. This change is not required for the routine use of tables, but only when a table is defined inside another macro or environment, and while also using the `&` character inside the definition. This may include the use inside conditional expressions.

- Several math environments were incorrectly placed inline. Also, for amsmath with svg math, the fleqn option has been removed, resulting in improved spacing for aligned equations.
- Bug fixes; see the changelog.

**v0.32:** Bug fixes; no source changes needed:

- *lwarpmk* has been adjusted to work with the latest *luatex*.
- Spaces in the `\usepackage` and `\RequirePackage` package lists are now accepted and ignored.
- Fix for the glossaries package and `\glo@name`.

**v0.31:** Bug fix; no source changes needed:

- Improved compatibility with keyfloat, including the new keywrap environment.

**v0.30:**

#### **lwarp-newproject**

- *lwarp-newproject* has been removed, and its functions have been combined with *lwarp*.

To modify existing documents, remove from the document source:

```
\usepackage{lwarp-newproject}
```

The *lwarp* package now produces the configuration files during print output, and also accepts the option *lwarpmk* if desired.

#### **HTML setup changes.**

- A number of macros related to HTML settings have been converted to options, and other macros and options have been renamed to create a consistent syntax:

| Old Macro                      | New Package Option            |
|--------------------------------|-------------------------------|
| <code>\HomeHTMLFileName</code> | <code>HomeHTMLFilename</code> |
| <code>\HTMLFileName</code>     | <code>HTMLFilename</code>     |
| <code>\useLatexmk</code>       | <code>latexmk</code>          |
| <code>\warpOSwindows</code>    | <code>OSWindows</code>        |

| Old Package Option                | New Package Option                                    |
|-----------------------------------|---|
| <code>lwarpmklang</code><br>(new) | <code>xindyLanguage</code><br><code>xindyStyle</code> |

| Old Macro                        | New Macro                      |
|----------------------------------|--------------------------------|
| <code>\MetaLanguage</code>       | <code>\HTMLLanguage</code>     |
| <code>\HTMLauthor</code>         | <code>\HTMLAuthor</code>       |
| <code>\NewHTMLdescription</code> | <code>\HTMLDescription</code>  |
| <code>\SetFirstPageTop</code>    | <code>\HTMLFirstPageTop</code> |
| <code>\SetPageTop</code>         | <code>\HTMLPageTop</code>      |
| <code>\SetPageBottom</code>      | <code>\HTMLPageBottom</code>   |
| <code>\NewCSS</code>             | <code>\CSSFilename</code>      |

- Per the above changes, in existing documents, modify the package load of lwarp, such as:

```
\usepackage[
  HomeHTMLFilename=index,
  HTMLFilename={},
  xindyLanguage=english
]{lwarp}
```

- The file `lwarp_html.xdy` has been renamed `lwarp.xdy`. To update each document's project:
  1. Make the changes shown above.
  2. Recompile the document in print mode. This updates the project's configuration files, and also generates the new file `lwarp.xdy`.
  3. The old file `lwarp_html.xdy` may be deleted.
- The new lwarp package option `xindyStyle` may be used to tell *lwarpmk* to use a custom `.xdy` file instead of `lwarp.xdy`. See section 9.5.18.
- Improvements in index processing:
  - *xindy*'s language is now used for index processing as well as glossary.
  - Print mode without *latexmk* now uses *xindy* instead of *makeindex*.
  - *texindy*/*xindy* usage depends on *pdflatex* vs *xelatex*, *lualatex*.
  - For *pdflatex* and *texindy*, the `-C utf8` option is used. This is supported in modern distributions, but a customized `lwarpmk.lua` may need to be created for use with older distributions.

**v0.29:**

- Add: `lwarpmklang` option for `lwarp-newproject` and `lwarp`. Sets the language to use while processing the glossary. (As of v0.30, this has been changed to the `IndexLanguage` option.) (As of v0.54, this has been changed to the `xindyLanguage` option.)
- Fix: `\includegraphics` when no optional arguments.

**v0.28:**

- `\HTMLAuthor {<name>}` assigns HTML meta author if non-empty. Defaults to `\theauthor`.
- Boolean `HTMLDebugComments` controls whether HTML comments are added for closing `<div>`s, opening and closing sections, etc.
- Boolean `FormatEPUB` changes HTML output for easy EPUB conversion via an external program. Removes per-file headers, footers, and nav. Adds footnotes per chapter/section.
- Boolean `FormatWordProcessor` 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. Name changed to `FormatWP` as of v0.42.
- Boolean `HTMLMarkFloats` adds text marks around floats only if the boolean `FormatWordProcessor` is true. These make it easier to identify float boundaries, which are to be manually converted to word-processor frames. Name changed to `WPMarkFloats` as of v0.42.
- Updated for the new MATHJAX CDN repository.
- Adds tabulary.
- Supports the options syntax for graphics.
- Improved index references, now pointing exactly to their target.
- Adds glossaries. `lwarpmk` is modified to add `printglossary` and `htmlglossary` actions.

### 3 Introduction

The lwarp project aims to allow a rich  $\text{\LaTeX}$  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  $\text{\LaTeX}$  to provide for every HTML-related possibility, and HTML cannot exactly render every possible  $\text{\LaTeX}$  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  $\text{\LaTeX}$  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  $\text{\LaTeX}$ , lwarp has some advantages over other methods of HTML conversion.  $\text{\TeX}$  itself is still used, allowing a wider range of  $\text{\TeX}$  trickery to be understood. Lua expressions are still available with Lua $\text{\TeX}$ . Entire categories of  $\text{\LaTeX}$  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.<sup>1</sup>

---

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.

---

<sup>1</sup>An amazing number of decades-old packages are still in use today.

*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.

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-ridden<sup>2</sup> 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.<sup>3</sup> 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.<sup>4</sup> *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.

---

<sup>2</sup>FIREFOX has had an on-again/off-again bug for quite some time regarding printing SVGs at high resolution.

<sup>3</sup>There 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!

<sup>4</sup>One 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%.

### 3.1 Typesetting conventions

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

Table 1: Typesetting conventions

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

### 3.2 Supported packages and features

Table 2 lists some of the various L<sup>A</sup>T<sub>E</sub>X features and packages which may be used. Many are tested to work as-is, some are patches for the original packages, and some are emulations written for source-level compatibility. Many are nullified as being irrelevant to HTML output.

Table 2: L<sup>A</sup>T<sub>E</sub>X–HTML generation — lwarp package — Supported features

| Category     | Status and supported features.  |
|--------------|---|
| Engines:     | DVI L <sup>A</sup> T <sub>E</sub> X, pdfL <sup>A</sup> T <sub>E</sub> X, X <sub>Y</sub> L <sup>A</sup> T <sub>E</sub> X, LuaL <sup>A</sup> T <sub>E</sub> X, pL <sup>A</sup> T <sub>E</sub> X, upL <sup>A</sup> T <sub>E</sub> X  |
| Compiling:   | latexmk, perltex, pythontex, <i>make</i> , etc.   |
| Classes:     | article, book, report, scrartcl, scrbook, scrreprt, memoir, C <sub>T</sub> E <sub>X</sub> -related, bxjsarticle and related, ltjsarticle and related, uarticle and related.   |
| Koma-script: | scrextend, scrhack, sclayer. Others as listed below.  |
| Memoir:      | memhfixc  |
| Languages:   | babel, polyglossia. cjkpunct, xeCJK.  |
| Chinese:     | C <sub>T</sub> E <sub>X</sub> , ctex, upzhkinsoku, xpinyin, zhlineskip, zhspacing.  |
| Japanese:    | pL <sup>A</sup> T <sub>E</sub> X, upL <sup>A</sup> T <sub>E</sub> X, bxjsarticle and related, ltjsarticle and related, luatexja, luatexja-fontspec, uarticle and related, zxjatype.   |
| Korean:      | kotex, luatexko, xetexko.   |
| Page layout: | 2in1, 2up, a4, a4wide, a5comb, addlines, anysize, atbegshi, blowup, booklet, bophook, bxpapersize, canoniclayout, clrdblpg, continue, draftcopy, draftfigure, draftwatermark, ebook, everyshi, fancyhdr, fancytabs, flippdf, fullminipage, fullpage, fwlw, geometry, grid, grid-system, gridset, layaureo, leading, ltxgrid, nccfancyhdr, notespages, pagegrid, pdfprivacy, pagesel, preview, sclayer-scrpage, textarea, threadcol, thumb, thumbs, titleps, tocenter, turnthepage, twoup, typearea, vmargin, watermark, zwpagelayout. Tested to work as-is: underlin. |

## lwarp Supported Functions — continued

| Category                            | Status  |
|-------------------------------------|---|
| Sectioning:                         | Adds <code>FileDepth</code> 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. <code>anonchap</code> , <code>fncychap</code> , <code>quotchap</code> , <code>section</code> , <code>sectionbreak</code> , <code>sectsty</code> , <code>titlesec</code> .                                   |
| Table of contents, figures, tables: | Supported, with hyperlinks. <code>multitoc</code> , <code>shorttoc</code> , <code>titletoc</code> , <code>tocbasic</code> , <code>tocbibind</code> , <code>tocloft</code> , <code>tocstyle</code> .   |
| Title page:                         | <code>\maketitle</code> , <code>titlepage</code> , <code>authblk</code> , <code>titling</code> .  |
| Front & back matter:                | <code>abstract</code> , <code>appendix</code> .   |
| Indexing:                           | <code>makeindex</code> and <code>xindy</code> are supported, with hyperlinks.<br><code>idxlayout</code> , <code>imakeidx</code> , <code>index</code> , <code>makeidx</code> , <code>repeatindex</code> , <code>splitidx</code> .<br>Tested to work as-is: <code>hvinde</code> , <code>sepfootnotes</code> .   |
| Glossary:                           | <code>glossaries</code> and <code>xindy</code> are used.  |
| Bibliography:                       | <code>babelbib</code> , <code>backref</code> , <code>biblatex</code> , <code>bibunits</code> , <code>chapterbib</code> , <code>cite</code> , <code>hypernat</code> , <code>natbib</code> .<br>Tested to work as-is: <code>notes2bib</code> .  |
| Cross-references:                   | <code>bookmark</code> , <code>breakurl</code> , <code>cleveref</code> , <code>fancyref</code> , <code>hypdestopt</code> , <code>hyperref</code> , <code>prettyref</code> , <code>titleref</code> , <code>url</code> , <code>varioref</code> , <code>xurl</code> .   |
| Margin notes:                       | <code>marginfit</code> , <code>marginfix</code> , <code>scrlayer-notecolumn</code> .  |
| Footnotes:                          | Adds <code>FootnoteDepth</code> to print footnotes at section breaks. <code>dblfnote</code> , <code>endheads</code> , <code>endnotes</code> , <code>fnbreak</code> , <code>fnpos</code> , <code>footmisc</code> , <code>footnote</code> , <code>footnpag</code> , <code>marginnote</code> , <code>nccfoots</code> , <code>pagenote</code> , <code>parnotes</code> , <code>pfnote</code> , <code>sidenote</code> . |
| Math:                               | Converted to SVG images with HTML <code>&lt;alt&gt;</code> tags containing the $\LaTeX$ source for the math expression. <code>MATHJAX</code> supported as an alternative. <code>amsmath</code> : $\mathcal{AMS}$ environments are supported. User-defined macros are available during conversion, due to native $\LaTeX$ processing.  |
| Theorems:                           | Native $\LaTeX$ theorems, <code>amsthm</code> , <code>ntheorem</code> , <code>theorem</code> .  |

## lwarp Supported Functions — continued

| Category   | Status   |
|--|--|
| Additional math:   | Math fonts via svg images, breqn, cases, resizgather, xy.<br>Tested to work as-is: amscd, bm, braket, delarray, guass, nicematrix, pb-diagram, tikz-cd, etc.   |
| Display math with <code>\displaymath</code> or <code>\other</code> : | Complicated math objects in display math, such as tikz-cd, etc.  |
| Units and fractions:   | nicefrac, Slunits, siunitx, units, unitsdef, xfrac.<br>Tested to work as-is: Slunits.  |
| Floats:  | Appear where declared. capt-of, caption, cutwin, dblfloatfix, endfloat, fix2col, flafter, float, floatflt, floatrow, fltrace, hypcap, keyfloat, morefloats, newfloat, nonfloat, placeins, rotfloat, stfloats, subcaption, subfig, subfigure, subfloat, trivfloat, wrapfig.   |
| Tabular:   | tabular environment, array, arydshln, bigdelim, booktabs, colortbl, diagbox, longtable, ltablex, ltxtable, multirow, supertabular, tabularx, tabulary, threeparttable, xltabular, xtab.  |
| Graphics:  | graphics and graphicx. <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. rotating is emulated but all objects are unrotated. picture, tikz, and xy are converted to an svg image.<br>asymptote, epsfig, epstopdf, figsize, grffile, overpic, psfrag, psfragx, pst-eps, pstool, pstricks, rviewport.<br>Tested to work as-is: eepic, tikz-3dplot. |
| xcolor:  | Full package color names, any color models, and mixing. <code>\textcolor</code> , <code>\colorbox</code> , <code>\fcolorbox</code> .<br>Enhanced for HTML compatibility.   |
| Lists:   | Standard L <sup>A</sup> T <sub>E</sub> X environments, enumerate, enumitem, hang, paralist.  |
| Environments:  | Standard L <sup>A</sup> T <sub>E</sub> X environments.   |

## lwarp Supported Functions — continued

| Category                  | Status   |
|---------------------------|--|
| minipage, \parbox:        | Some HTML5-imposed limitations. Nested minipages are supported. pbox.  |
| Quotations:               | copyrightbox, csquotes, epigraph, quoting, verse.  |
| Verbatim:                 | fancyvrb, moreverb, shortvrb, verbatim.  |
| Frames:                   | boxedminipage2e, fancybox, framed, mdframed, shadow, vertbars.   |
| Multi-columns:            | adjmulticol, multicol, vwcol.  |
| Margins:                  | fullwidth, hanging, midpage.   |
| Line numbering:           | fnlineno, lineno.  |
| Direct formatting:        | \emph, \textsuperscript, \textbf, etc are supported. \bfseries, etc. are only supported in some cases. cancel, ellipsis, hyphenat, lettrine, lips, lua-check-hyphen, luacolor, magaz, nowidow, pdfrender, realscripts, relsize, scalefnt, soul, soulpos, soulutf8, textfit, thinsp, trimclip, ulem, underscore, uspace, widows-and-orphans, xellipsis. |
| Acronyms:                 | acro, acronym.   |
| Ordinals:                 | engord, fmtcount, nth.   |
| 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 thin-unbreakable, unbreakable, \enskip, \quad, \qqquad, \hspace.   |
| Rules:                    | \rule with width, height, raise, text color.   |
| HTML reserved characters: | \&, \textless, and \textgreater are converted to HTML entities.  |
| Fonts:                    | Used as-is. Appear in svg math expressions or embedded image environments.   |

## lwarp Supported Functions — continued

| Category                 | Status   |
|--------------------------|--|
| Symbols:                 | Native L <sup>A</sup> T <sub>E</sub> X diacriticals, chemgreek, textalpha, textcomp, textgreek, xunicode.<br>Tested to work as-is: gensymb.  |
| Files:                   | attachfile, attachfile2, hyperxmp, intopdf, pdfpages, pdfx, xmpincl.   |
| Science and engineering: | algorithm2e, algorithmicx, axodraw2, bitpattern, bytefield, chemfig, chemformula, chemgreek, chemmacros, chemnum, listings, mhchem, phfqit, register.<br>Tested to work as-is: blochsphere, bodegraph, bohr, circuitikz, elements, engtlc, fast-diagram, hepnicensnames, heppennames, linop, pgfgantt, physics, simpler-wick, slashed, structmech, tikzcodeblocks. |
| Arts and humanities:     | forest, musicography, octave, schemata, semantic-markup, vowel, xpiano.<br>Tested to work as-is: phonrule, piano, tikz-dependency.   |
| Editorial:               | changebar, easy-todo, errata, fixme, fixmetodonotes, pdfcomment, pdfmarginpar, todo, todonotes, tram, xexchangebar.  |
| Accessibility:           | accsupp, axessibility.   |
| Debug:                   | chkfloat, cmdtrack, dprogress, lua-visual-debug, refcheck, srcltx, srctex, vpe, xbmks.   |
| Working as-is:           | Various utility, calculation, file, and text-only packages, such as calc, fileerr, somedefs, trace, xspace. Also, most math-only packages, including specialized typesetting for various fields of science and engineering.  |

## 4 Alternatives

Summarized below are several other ways to convert a  $\text{\LaTeX}$  or other document to HTML. Where an existing  $\text{\LaTeX}$  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.

### 4.1 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>

### 4.2 $\text{\TeX}$ 4 $\text{\HT}$

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

Prog `htlatex` This system uses native  $\text{\LaTeX}$  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.

### 4.3 Translators

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

Prog `Hevea` **H<sup>E</sup>v<sup>E</sup>a**: <http://hevea.inria.fr/> (not on CTAN)

Prog `TtH` **T<sub>T</sub>H**: <http://hutchinson.belmont.ma.us/tth/>

Prog `GELLMU` **GELLMU**: <http://www.albany.edu/~hammond/gellmu/>

Prog `LaTeXML`  **$\text{\LaTeX}$ XML**: <http://dlmf.nist.gov/LaTeXML/>

Prog `Plastex` **PlasTeX**: <https://github.com/tiarno/plastex>

Prog `LaTeX2HTML`  **$\text{\LaTeX}$ 2HTML**: <http://www.latex2html.org/>  
and <http://ctan.org/pkg/latex2html>.

Prog `TeX2page` **TeX2page**: <http://ds26gte.github.io/tex2page/index.html>

Finally, `GladTeX` may be used to directly insert  $\text{\LaTeX}$  math into HTML:

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

## 4.4 ASCII DOC and ASCII DOCTOR

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<sup>A</sup>T<sub>E</sub>X and HTML.

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

### 4.4.1 ASCII DOCTOR-L<sup>A</sup>T<sub>E</sub>X

The Asciidoctor-LaTeX project is developing additional L<sup>A</sup>T<sub>E</sub>X-related features.

**Asciidoctor-Latex:**

Prog Asciidoctor-LaTeX <http://www.noteshare.io/book/asciidoctor-latex-manual>  
<https://github.com/asciidoctor/asciidoctor-latex>

## 4.5 PANDOC

Prog Pandoc A markup system which also reads and writes L<sup>A</sup>T<sub>E</sub>X and HTML.

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

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

## 4.6 Word processors

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

## 4.7 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<sup>®</sup>  
 Prog InDesign *FrameMaker*<sup>®</sup>, ADOBE *InDesign*<sup>®</sup>, and MADCAP *Flare*<sup>™</sup>.

Prog Flare  
 Prog Madcap

## 4.8 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, L<sup>A</sup>T<sub>E</sub>X 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 L<sup>A</sup>T<sub>E</sub>X is comparably easy to learn, while L<sup>A</sup>T<sub>E</sub>X 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  $\text{\LaTeX}$  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  $\text{\LaTeX}$  back end, yielding high-quality results especially when the  $\text{\LaTeX}$  template is adjusted, but they lose the ability to use  $\text{\LaTeX}$  macros and other  $\text{\LaTeX}$  source-document features.

The effort required to customize the output of each markup system varies. For print output,  $\text{\LaTeX}$  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  $\text{\LaTeX}$  optional macro parameters, but further customization may require patching  $\text{\LaTeX}$  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.

## 5 Installation

Table 3 shows the tools which are used for the  $\text{\LaTeX}$  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<sup>A</sup>T<sub>E</sub>X distribution:**

From T<sub>E</sub>XLive: <http://tug.org/texlive/>.

**L<sup>A</sup>T<sub>E</sub>X:** *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<sub>T</sub>E<sub>X</sub> 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<sup>A</sup>T<sub>E</sub>X code. On a MiK<sub>T</sub>E<sub>X</sub> system, *Perl* may need to be installed first.

**pdfcrop:** Used to pull images out of the L<sup>A</sup>T<sub>E</sub>X PDF.

**POPPLER PDF utilities:**

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

**pdfseparate:** Used to pull images out of the L<sup>A</sup>T<sub>E</sub>X PDF.

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

These might be provided by your operating-system package manager, and MiK<sub>T</sub>E<sub>X</sub> provides *miktex-poppler-bin-\** packages.

From POPPLER: [poppler.freedesktop.org](http://poppler.freedesktop.org).

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

```
Enter ⇒ brew install poppler
```

For WINDOWS, see MiK<sub>T</sub>E<sub>X</sub> *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](http://strawberryperl.com) (recommended), [perl.org](http://perl.org)

**Automatically downloaded from the internet as required:**

**MATHJAX:** Optionally used to display math. From: [mathjax.org](http://mathjax.org)

## 5.1 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.

**T<sub>E</sub>X Live:** If using a T<sub>E</sub>X Live distribution, try installing via *tlmgr*:

```
Enter ⇒ tlmgr install lwarp
```

**MiK<sub>T</sub>E<sub>X</sub>:**

1. For newer versions of MiK<sub>T</sub>E<sub>X</sub>, install or update lwarp using the *MiK<sub>T</sub>E<sub>X</sub> Console* program.
2. For older versions of MiK<sub>T</sub>E<sub>X</sub>, to install lwarp the first time, use the *MiK<sub>T</sub>E<sub>X</sub> Package Manager (Admin)*. To update lwarp, use *MiK<sub>T</sub>E<sub>X</sub> 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 T<sub>E</sub>X-related packages.

**CTAN TDS archive:** lwarp may be downloaded from the Comprehensive T<sub>E</sub>X Archive:

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

**T<sub>E</sub>X Live:**

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

**MiK<sub>T</sub>E<sub>X</sub>:**

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  $\Rightarrow$  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  $\Rightarrow$  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 TeX 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  $\Rightarrow$  mktexlsr

— or —

Enter  $\Rightarrow$  texhash

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

11. See section 5.2.1 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 5.2.

**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.

Just testing!

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.

## 5.2 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 5.2.1.)

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 5.2.1.
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 TeX 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 5.2.1.)

4. Create *lwarpmk*:

**Unix:** Create a symbolic link and make it executable:

- (a) Locate the TeX 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 <pathtolwarpmk.lua> lwarpmk
```

- (c) Make the link executable:

```
Enter ⇒ chmod 0755 lwarpmk
```

**WINDOWS TeX Live:** Create a new `lwarpmk.exe` file:

- (a) Locate the T<sub>E</sub>X 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 M<sub>I</sub>K<sub>T</sub>E<sub>X</sub>:** Create a new `lwarpmk.bat` file:

- (a) Locate the M<sub>I</sub>K<sub>T</sub>E<sub>X</sub> 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.

### 5.2.1 Using a local copy of *lwarpmk*

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

1. When compiling the tutorial in section 6, use the `lwarpmk` option for the `lwarp` package:

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

2. When the tutorial is compiled with *pdf<sub>l</sub>at<sub>e</sub>x*, 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.

```

### 5.3 Installing additional utilities

#### To test for the existence of the additional utilities:

Enter the following in a command line. If each programs' version is displayed, then that utility is already installed. See table 3 on page 85.

```

Enter ⇒ luatex --version
Enter ⇒ xindy --version
Enter ⇒ latexmk --version
Enter ⇒ perl --version
Enter ⇒ pdfcrop --version
Enter ⇒ pdftotext -v
Enter ⇒ pdfseparate --version
Enter ⇒ pdftocairo -v

```

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

The T<sub>E</sub>X 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/pdftocrop

```

```

Prog  pdftotext
Prog  pdfseparate
Prog  pdftocairo

```

#### 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/>:  
Enter ⇒ `/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 MikTeX, install a miktex-poppler-bin-\* package. Otherwise:

1. See table 3 on page 85.

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\<myname>\Desktop\Poppler\poppler-0.5\_x86\poppler-0.5\bin  
Be sure to include \bin.
9. Click **Ok** when done.

Prog perl **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.**

## 6 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. The [Index of Objects](#) contains automated entries for each package, macro, environment, counter, boolean, and other objects; individually and also sorted by category. A [Troubleshooting](#) section is also available.

### 6.1 Starting a new project

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

This should be in the `doc/latex/lwarp/` directory along with this PDF documentation. Copy `lwarp_tutorial.txt` 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<sup>A</sup>T<sub>E</sub>X 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: Files created along with the print version

|                              |  |
|------------------------------|--|
| <b>tutorial.pdf:</b>         | The PDF output from L <sup>A</sup> T <sub>E</sub> X. The print version of the document.  |
| <b>tutorial_html.tex:</b>    | 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. |
| <b>Auxiliary files:</b>      | The usual L <sup>A</sup> T <sub>E</sub> X 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.                                     |
| <b>lwarpmk.conf:</b>         | A configuration file for <i>lwarpmk</i> , which is used to automate the compilation of PDF or HTML versions of the document.   |
| <b>tutorial.lwarpmkconf:</b> | Another configuration file used by <i>lwarpmk</i> , which is only useful if you wish to have several projects residing in the same directory.  |
| <b>.css files:</b>           | lwarp.css, lwarp_formal.css, lwarp_sagebrush.css These files are standard for lwarp, and are not meant to be modified by the user.   |
| <b>sample_project.css:</b>   | An example of a user-customized css file, which may be used for project-specific changes to the lwarp defaults.  |
| <b>lwarp.ist:</b>            | Used by lwarp while creating an index using <i>makeindex</i> . This file should not be modified by the user. A custom file may be used instead, if necessary.  |
| <b>lwarp.xdy:</b>            | Used by lwarp while creating an index using <i>xindy</i> . This file should not be modified by the user. A custom file may be used instead, if necessary.  |
| <b>lwarp_one_limage.txt:</b> | For WINDOWS only. Used to process svg images in the background. Copied to lwarp_one_limage.cmd when images are generated.  |
| <b>lwarp_mathjax.txt:</b>    | Inserted into the HTML files when MATHJAX is used to display math. This file should not be modified by the user.   |
| <b>comment.cut:</b>          | A temporary file used by lwarp to conditionally process blocks of text. This file 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.

## 6.2 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  $\Rightarrow$  `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  $\Rightarrow$  `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  $\Rightarrow$  `lwarpmk again`

Enter  $\Rightarrow$  `lwarpmk print`

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

5. Process the index.<sup>6 7</sup>

Enter  $\Rightarrow$  `lwarpmk printindex`

6. Recompile again to include the index.

Enter  $\Rightarrow$  `lwarpmk print`

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

Enter  $\Rightarrow$  `lwarpmk print1`

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

---

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

<sup>6</sup>The command *lwarpmk printglossary* is also available to process a glossary produced with the glossaries package. See section 9.5.10.

<sup>7</sup>Also see section 9.5.12 for index options.

### 6.3 Compiling the HTML version with *lwarpmk*

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

1. Compile the HTML version:

Enter  $\Rightarrow$  `lwarpmk html`

- (a) *lwarpmk* uses  $\LaTeX$  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`<sup>8</sup>, `Some-math.html`, and the document's index in `_Index.html`.<sup>9</sup>

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  $\LaTeX$  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 6.4 and 6.5.

3. Force a recompile:

Enter  $\Rightarrow$  `lwarpmk again`

Enter  $\Rightarrow$  `lwarpmk html`

Enter  $\Rightarrow$  `lwarpmk print`

4. Process the HTML index and recompile:<sup>1011</sup>

Enter  $\Rightarrow$  `lwarpmk htmlindex`

Enter  $\Rightarrow$  `lwarpmk html`

`_Index.html` is updated for the new  $\LaTeX$  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  $\Rightarrow$  `lwarpmk html1`

<sup>8</sup>`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`.

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

<sup>10</sup>The command *lwarpmk htmlglossary* is also available to process a glossary produced with the glossaries package. See section 9.5.10.

<sup>11</sup>Also see section 9.5.12 for index options.

## 6.4 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 ⇒ lwarpmk images
```


```
Enter ⇒ 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 images` to maintain the proper image-file associations. Inline svg math may be hashed and thus not need to be re-created, but display math and objects such as `Tikz` may move to new image numbers when the document is changed.


Before attempting to create the svg image files, `lwarpmk` verifies that the HTML version of the document exists and has correct internal image references.<sup>12</sup> If it is necessary to recompile the document's HTML version, `lwarpmk` will inform so with an error message.

 **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. `lwarpmk` attempts to detect this situation and print a warning.

 **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

<sup>12</sup>This becomes important when dealing with a document containing thousands of images.

---

*Tikz* require one image file each. For a document with a large amount of math, see section 6.5 to use `MATHJAX` instead.

## 6.5 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  $\text{\LaTeX}$  source.

While using MATHJAX has many advantages, it may not be able to represent complex expressions or spacing adjustments as well as  $\text{\LaTeX}$ , and it may not support some math-related packages.

## 6.6 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 8.5 for more information about modifying the css styling of the document.

## 6.7 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 8.4 for more information.

## 6.8 Using *latexmk*

*latexmk* is a L<sup>A</sup>T<sub>E</sub>X 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

## 6.9 Using Xe<sub>Λ</sub>TeX or Lua<sub>Λ</sub>TeX

Xe<sub>Λ</sub>TeX or Lua<sub>Λ</sub>TeX may be used instead of <sub>Λ</sub>TeX.

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<sub>Λ</sub>TeX or Lua<sub>Λ</sub>TeX 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
```

## 6.10 Using DVI <sub>Λ</sub>TeX


Traditional DVI <sub>Λ</sub>TeX 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 8.2 regarding font selection to avoid the use of bitmapped fonts.

## 6.11 Using a glossary

lwarp supports the glossaries package, although this tutorial does not supply an example.

To process the glossary for the print version:

```
Enter ⇒ lwarpmk printglossary
```



(If *makeglossaries* is not found, see section 9.5.10.)

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 9.5.10 to set options for processing glossaries.

## 6.12 Cleaning auxiliary files

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

```
Enter ⇒ lwarpmk clean
```

## 6.13 Cleaning auxiliary and output files

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

```
Enter ⇒ lwarpmk cleanall
```

## 6.14 Cleaning the images from the lateximages directory

The `lateximage` directory contains SVG images automatically generated for inline and display `math`, `tikz`, etc. To remove all the images from the `lateximages` directory:

```
Enter ⇒ lwarpmk cleanimages
```

## 6.15 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.

## 6.16 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]
```

## 6.17 Processing multiple projects in the same directory

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 html -p project_b
```

## 6.18 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.

## 7 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`, and/or `fontspec`.
  - (d) Load lwarp.
  - (e) Load remaining packages.
2. Modify the document:
  - (a) Avoid the `scale` option. Change:
 

```
\includegraphics[scale=<xx>]
```

 to:
 

```
\includegraphics[width=<yy>\linewidth]
```
  - (b) Possible changes to tabular environments include `* columns`, `multirow`, `longtable`, `supertabular`, `xtab`, `bigdelim`. See section 9.9.
  - (c) Possible option clashes with `memoir`. See section 9.12.
  - (d) If using indexes, see section 9.5.12.
  - (e) If using many indexes, glossaries, `.aux` files, etc., see section 9.5.12 regarding `morewrites`. If `morewrites` is already used, be sure to add the setup with `allocate=10`.
  - (f) Other changes as per [Special cases and limitations](#), section 9.
3. Convert any PDF images to SVG. See section 9.7.
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. The [Index of Objects](#) contains automated entries for each package, macro, environment, counter, boolean, and other objects; individually and also sorted by category. A [Troubleshooting](#) section is also available.

---

## 8 Additional details

### 8.1 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*.

### 8.2 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 8.3.

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.

Computer Modern

⚠ *pdflatex*

⚠ DVI *latex*

Pkg *cm-super*

Pkg *lmodern*

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

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* and *lualatex* Xe<sub>Λ</sub>TeX and Lua<sub>Λ</sub>TeX 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<sub>Y</sub>LaTeX or LuaLaTeX:

Pkg fontspec  
ligatures

- fontspec and font choices

lwarp sets the following to turn off TeX 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 pdf<sub>l</sub>atex:

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 package
  - iii. \pdfgentounicode=1
- (f) Another option to assist with the PDF-HTML conversion:
  - \usepackage{cmap}
- (g) \usepackage{textcomp}

3. \usepackage{lwarp} (section 8.3) goes after any of the above, followed by:
4. \usepackage{newtxmath} or other math-related font packages. Many of these load amsmath, which must be loaded after lwarp, so they must also be loaded after lwarp.
5. \setmonofont{TeX Gyre Cursor} or similar may be required if using X<sub>Y</sub>LaTeX or LuaLaTeX 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.
6. ... the rest of the preamble and the main document.

### ⚠ fontspec with traditional font packages

### ⚠ UTF-8 locale

In some cases, an external program may require a UTF-8 “locale”. See section 10.8.

### 8.2.1 Indexes, glossaries, and encoding

lwarp uses the *xindy* program to process indexes. *xelatex* and *lualatex* use *xindy* and *pdflatex* uses *texindy*.

The lwarp option `xindyLanguage` may be used to set the language option for *xindy*, and the `xindyCodepage` option may be used to set the codepage option for *xindy*. These are used for index generation.

### 8.3 lwarp package loading and options

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

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

|                      |   |
|----------------------|---|
| Opt mathsvg          | <b>mathsvg, mathjax:</b> For math display, select mathsvg (default) or mathjax. For more information about the math options, see section 9.6.   |
| Opt mathjax          |   |
| Opt latexmk          | <b>latexmk:</b> Tells <i>lwarpmk</i> to use <i>latexmk</i> to recompile the document several times if necessary. Otherwise, <i>lwarpmk</i> attempts to determine for itself whether to recompile. See section 8.4.  |
| Default: false       |   |
| Opt dvips            | <b>dvips:</b> Tells <i>lwarpmk</i> to use <i>dvips</i> and <i>ps2pdf</i> to convert DVI output to PDF.  |
| Default: false       |   |
| Opt dvipdfm          | <b>dvipdfm:</b> Tells <i>lwarpmk</i> to use <i>dvipdfm</i> to convert DVI output to PDF.  |
| Default: false       |   |
| Opt dvipdfmx         | <b>dvipdfmx:</b> Tells <i>lwarpmk</i> to use <i>dvipdfmx</i> to convert DVI output to PDF.  |
| Default: false       |   |
| Opt HomeHTMLFilename | <b>HomeHTMLFilename:</b> See section 8.4.   |
| Default: {}          |   |
| Opt HTMLFilename     | <b>PrintLatexCmd:</b> Sets the shell commands executed by <i>lwarpmk print</i> . If not specified, will automatically be set according to the detected L <sup>A</sup> T <sub>E</sub> X engine and the use of <code>--shell-escape</code> .  |
| Default: {}          |   |
| Opt PrintLatexCmd    |   |
| Default: <automatic> |   |
| Opt HTMLLatexCmd     | <b>HTMLLatexCmd:</b> Sets the shell commands executed by <i>lwarpmk html</i> . If not specified, will automatically be set according to the detected L <sup>A</sup> T <sub>E</sub> X engine and the use of <code>--shell-escape</code> .  |
| Default: <automatic> |   |
| Opt makeindex        | <b>makeindex:</b> Sets <code>PrintIndexCmd</code> , <code>HTMLIndexCmd</code> , and <code>LatexmkImageCmd</code> to use <i>makeindex</i> when generating indexes with <i>lwarpmk printindex</i> , <i>lwarpmk htmlindex</i> , or <i>latexmk</i> . If neither <i>makeindex</i> nor <i>xindy</i> is used, <i>makeindex</i> is assumed. |
| Default: makeindex   |   |
| Opt xindy            | <b>xindy:</b> Sets <code>PrintIndexCmd</code> , <code>HTMLIndexCmd</code> , and <code>LatexmkImageCmd</code> to use <i>xindy</i> when generating indexes with <i>lwarpmk printindex</i> , <i>lwarpmk htmlindex</i> , or <i>latexmk</i> .  |
| Default: makeindex   |   |
| Opt makeindexStyle   | <b>makeindexStyle:</b> If you wish to use a custom .ist file for index generation, see section 28.  |
| Default: lwarp.ist   |   |
| Opt xindyStyle       | <b>xindyStyle:</b> If you wish to use a custom .xdy file for index generation, see section 28.  |
| Default: lwarp.xdy   |   |

Table 5: lwarp package options

| Option   | Description   |
|--|---|
| <code>mathsvg</code>   | Show math using SVG images.   |
| <code>mathjax</code>   | Show math using MATHJAX.  |
| <code>latexmk</code>   | Use <i>latexmk</i> for compiling documents.   |
| <code>dvips</code>   | Use <i>dvips</i> and <i>ps2pdf</i> to convert DVI documents.  |
| <code>dvipdfm</code>   | Use <i>dvipdfm</i> to convert DVI documents.  |
| <code>dvipdfmx</code>  | Use <i>dvipdfmx</i> to convert DVI documents.   |
| <code>HomeHTMLFilename</code>                                  | The filename of the home page.  |
| <code>HTMLFilename</code>                                      | A prefix for the filenames of the remaining web pages.  |
| <code>PrintLatexCmd</code>                                     | The shell commands for <i>lwarpmk print</i> .   |
| <code>HTMLLatexCmd</code>                                      | The shell commands for <i>lwarpmk html</i> .  |
| For indexing (section 9.5.12) and glossaries (section 9.5.10): |   |
| <code>makeindex</code>   | Use <i>makeindex</i> to generate indices.   |
| <code>xindy</code>   | Use <i>xindy</i> to generate indices.   |
| <code>makeindexStyle</code>                                    | Set a custom style for <i>makeindex</i> .   |
| <code>xindyStyle</code>  | Set a custom style for <i>xindy</i> .   |
| <code>xindyLanguage</code>                                     | The <i>xindy</i> language option used for index generation.   |
| <code>xindyCodepage</code>                                     | The <i>xindy</i> codepage option used for index generation.   |
| <code>PrintIndexCmd</code>                                     | Shell commands executed by <i>lwarpmk printindex</i> .  |
| <code>HTMLIndexCmd</code>                                      | Shell commands executed by <i>lwarpmk htmlindex</i> .   |
| <code>LatexmkIndexCmd</code>                                   | Shell commands executed by <i>latexmk</i> .   |
| <code>GlossaryCmd</code>                                       | Shell command executed by <i>lwarpmk printglossary</i> and <i>lwarpmk htmlglossary</i> .                              |
| Seldom necessary:  |   |
| <code>OSWindows</code>   | Force compatibility with MS-WINDOWS.  |
| <code>pdftotextEnc</code>                                      | Set the encoding for <i>pdftotext</i> .   |
| <code>lwarpmk</code>   | Generate a local copy of <code>lwarpmk.lua</code> .   |
| Used internally by lwarp:                                      |   |
| <code>warpprint</code>   | Generate print output, and also generate configuration files.   |
| <code>warpHTML</code>  | Generate HTML output.   |
| <code>BaseJobname</code>                                       | The <code>\jobname</code> to use. Set to the <code>\jobname</code> of the printed version even while generating HTML. |

- 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 `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 9.5.12.  
     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  $\text{\TeX}$ , written to a file, read from the file by  $\text{\LaTeX}$ , 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` **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 9.5.12.  
     Default: `<automatic>`

⚠ 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` **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 9.5.12.

Default: `<automatic>`

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 shown 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 `GlossaryCmd` **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 9.5.10.

Default: `makeglossaries`

Opt `OSWindows` **OSWindows:** *lwarp* attempts to automatically sense WINDOWS, but it may be forced with this option. See section 8.6.

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

Default: `UTF-8`

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` **warpprint and warpHTML:** Usually controlled by *lwarpmk*, and not set in the document. 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 `warpHTML`

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

Default: `\jobname`

## 8.4 Customizing the HTML output

### ⚠ Placement!

Table 6 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  $\Rightarrow$  `lwarpmk clearall`

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

Enter  $\Rightarrow$  `lwarpmk print`

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

Enter  $\Rightarrow$  `lwarpmk html`

### Options for the lwarp package:

Use the following as options for `\usepackage[<options>]{lwarp}`:

Opt HomeHTMLFilename  
Default: `\BaseJobname`

**HomeHTMLFilename:** 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:

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

See section 8.4.1 for examples of naming and numbering HTML files.

filename underscores

Opt HTMLFilename  
Default: `<empty>`

**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 8.4.1 for examples of naming and numbering HTML files.

Opt latexmk  
Default: `false`

**latexmk:** Controls whether *lwarp* uses *latexmk* to compile the document. This setting is written to *lwarpmk*'s configuration files.

Opt mathsvg  
Default: `true`

**mathsvg:** Selects SVG display for math output. (The default.)

Opt mathjax  
Default: `false`

**mathjax:** Selects MATHJAX for math output.

Opt makeindex  
Default: `makeindex`

**makeindex:** Selects *makeindex* for index generation by *lwarpmk*.

Opt xindy  
Default: `makeindex`

**xindy:** Selects *xindy* for index generation by *lwarpmk*.

Table 6: HTML settings

| Macro / Cntr / Bool                  | Description  |
|--------------------------------------|--|
| <code>\linkhomename</code>           | Name of the link to the homepage.  |
| <code>SideTOCDepth</code>            | Sectioning depth of the sideroc.   |
| <code>\sidetocname</code>            | Name of the sideroc.   |
| <code>FileDepth</code>               | Sectioning depth of the file splits.   |
| <code>CombineHigherDepths</code>     | Combine higher section levels.   |
| <code>FileSectionNames</code>        | Use section names for file names, else use numbers.                                  |
| <code>FootnoteDepth</code>           | Sectioning depth of footnotes.   |
| <code>\abstractname</code>           | The name of the abstract.  |
| <code>\mathimagenam</code>           | The svg math image <code>lateximage</code> alt tag.                                  |
| <code>\packagediagramname</code>     | The suffix for a package's <code>lateximage</code> alt tags.                         |
| <code>\CSSFilename</code>            | The css for the following files.   |
| <code>\HTMLLanguage</code>           | The HTML lang tag.   |
| <code>\HTMLTitle</code>              | The homepage's <code>&lt;title&gt;</code> , overriding <code>\title</code> .         |
| <code>\HTMLTitleBeforeSection</code> | Set subpage <code>&lt;title&gt;</code> s to<br><code>\HTMLTitle - sectionname</code> |
| <code>\HTMLTitleAfterSection</code>  | Set subpage <code>&lt;title&gt;</code> s to<br><code>sectionname - \HTMLTitle</code> |
| <code>\HTMLAuthor</code>             | The HTML author meta tag, overriding <code>\author</code> .                          |
| <code>\HTMLDescription</code>        | The HTML description meta tag.   |
| <code>\HTMLFirstPageTop</code>       | Heading for the home page.   |
| <code>\HTMLPageTop</code>            | Heading for the other pages.   |
| <code>\HTMLPageBottom</code>         | Footing for all pages.   |
| <code>HTMLDebugComments</code>       | Boolean to generate HTML comments.   |

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

|   |   |
|---|---|
| <code>\linkhomename</code><br>Default: Home                         | <code>\linkhomename</code> : Name of the link to the home page. Paragraphs are allowed.   |
| Ctr <code>tocdepth</code>   | <code>tocdepth</code> : Sectioning depth of the table of contents. See section 17 for a list of L <sup>A</sup> T <sub>E</sub> X stack depths. |
| Ctr <code>SideTOCDepth</code><br>Default: 1<br><code>sideroc</code> | <code>SideTOCDepth</code> : 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 `SideTOCDepth`. This sideroc is only shown if the web page 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 and a link back to **Home** at the bottom.

It is recommended to set:

`SideTOCDepth = FileDepth`

or

`SideTOCDepth = FileDepth+1`

 **inaccessible pages**

If `SideTOCDepth < FileDepth`, web pages will be inaccessible via the sideroc.

`\sidetocname`  
Default: Contents  
Ctr `FileDepth`  
Default: -5

`\sidetocname`: Name of the sideroc. Paragraphs are allowed.

`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.

### ⚠ Inaccessible pages!

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`.

### ⚠ 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 renavigate 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 8.4.1 for examples of naming and numbering HTML files. The user must ensure that filenames are unique after begin 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!

Ctr `FootnoteDepth`  
Default: `3`

**FootnoteDepth:** Determines where to place pending footnotes. 3 places footnotes 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 `HTMLDebugComments`  
Default: `false`

**HTMLDebugComments:** Set true to generate HTML comments, such as which section or `<div>` is being opened or closed.

`\abstractname`  
Default: `Abstract`

**\abstractname:** The name of the abstract. This may also be over-written by the babel package. Defaults to “Abstract”.

**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<sup>A</sup>T<sub>E</sub>X 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.

`\HTMLLanguage`  
Default: `en-US`

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

|  |  |
|--|--|
| <code>\HTMLTitle</code><br>Default: <code>\thetitle</code>                               | <b>\HTMLTitle:</b> <code>{\langle title \rangle}</code> Overrides <code>\title</code> for the HTML header's meta title. Defaults to <code>\thetitle</code> , which is set by <code>\title</code> , or empty otherwise. Unlike the author, <code>\thetitle</code> is set by <code>\title</code> even if not using the titling package.  |
| <code>\HTMLTitleBeforeSection</code><br>Default:<br><code>\HTMLTitleBeforeSection</code> | <b>\HTMLTitleBeforeSection:</b> Sets subpage <code>&lt;title&gt;</code> tags to show the website title followed by the section name.   |
| <code>\HTMLTitleAfterSection</code>  | <b>\HTMLTitleAfterSection:</b> Sets subpage <code>&lt;title&gt;</code> tags to show the section name followed by the website title.  |
| <code>custom &lt;title&gt;</code>  | To customize subpage <code>&lt;title&gt;</code> s, redefine <code>\theHTMLTitleSection</code> , which defaults to:<br><pre>\def\theHTMLTitleSection{%   \theHTMLTitle\theHTMLTitleSeparator\theHTMLSection% }</pre>  |
| <code>\HTMLAuthor</code><br>Default: <code>\theauthor</code>                             | <b>\HTMLAuthor:</b> <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 titling 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><br>Default: <code>&lt;empty&gt;</code>                     | <b>\HTMLDescription:</b> <code>{\langle description \rangle}</code> Sets the HTML description tag for the following files. May be changed before each sectioning command which would cause a file split.   |
| <code>\HTMLFirstPageTop</code><br>Default: <code>&lt;empty&gt;</code>                    | <b>\HTMLFirstPageTop:</b> <code>{\langle contents \rangle}</code> A user-definable custom action applied to the top of the home page. Useful for logos, etc. Defaults empty. Ignored in print output.  |
| <code>\HTMLPageTop</code><br>Default: <code>&lt;empty&gt;</code>                         | <b>\HTMLPageTop:</b> <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. Ignored in print output.   |
| <code>\HTMLPageBottom</code><br>Default: <code>&lt;empty&gt;</code>                      | <b>\HTMLPageBottom:</b> <code>{\langle contents \rangle}</code> A user-definable custom action applied to the bottom of each web 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. Ignored in print output.  |

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

|   |  |
|---|--|
|  <code>\tableofcontents</code><br>TOC on the homepage! | <b>\tableofcontents:</b> 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 `tocdepth`.

**Placed in the document wherever necessary:**

`\mathimagenam`  
Default: `math image`

**\mathimagenam:** When creating an svg math image, its 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 `\mathimagenam`, and the image is not reused.

This 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.

`\packagediagramname`  
Default: `diagram`

**\packagediagramname:** For many packages, the output is placed inside a `lateximage` with an HTML alt tag set to the package name followed by `\packagediagramname`. 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 `lateximages`.

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.



*Do not place anything else on the same line as `\end{warpprint}`.*

Env `warpHTML`

**warpHTML:** An environment which is only used while generating HTML output. This is useful for website logos and other items which have no purpose in printed output.



*Do not place anything else on the same line as `\end{warpHTML}`.*

`\warpprintonly`

**\warpprintonly:** `{\contents}` A macro version of the `warpprint` environment.

`\warpHTMLonly`

**\warpHTMLonly:** `{\contents}` A macro version of the `warpHTML` environment.

### 8.4.1 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`.<sup>13</sup>

---

```
\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}
```

---

## 8.5 Customizing the css

`\CSSFilename`  
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:

<sup>13</sup>See `\SetHTMLFileNumber` to number in groups by chapter, for example.

```

...
\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<sup>A</sup>T<sub>E</sub>X 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.

## 8.6 Selecting the operating system

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

## 8.7 Selecting actions for print or HTML output

The following environments and macros are used to select actions which only apply to either traditional L<sup>A</sup>T<sub>E</sub>X print-formatted PDF generation, or to HTML generation.

For most of built-in L<sup>A</sup>T<sub>E</sub>X 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 | <code>warpHTML</code> | Anything which is to be done only for HTML5 output is surrounded by a <code>warpHTML</code> 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.


|     |                        |  |
|-----|------------------------|--|
| Env | <code>warpprint</code> | Anything which is to be done only for print output is surrounded by a <code>warpprint</code> |
|-----|------------------------|--|

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}`.

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

---

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

---

As above, do not place anything else on the line with `\end{warppall}`.

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

`\warpprintonly` `{<actions>}`

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

`\warppHTMLonly` `{<actions>}`

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

## 8.8 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 14: [Troubleshooting](#).

## 8.9 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 65.8.

- |                              |  |
|------------------------------|--|
| <code>\maketitle</code>      | Use <code>\maketitle</code> just after the <code>\begin{document}</code> , as this will establish the title of the homepage. Optionally, use a <code>titlepage</code> environment instead.   |
| Env <code>titlepage</code>   | The <code>titlepage</code> environment may be used to hold a custom title page. The <code>titlepage</code> will be set in a <code>&lt;div&gt;</code> class <code>titlepage</code> , and <code>\printtitle</code> , etc. may be used inside this environment. |
| Env <code>titlingpage</code> | Another form of custom title page, where <code>\maketitle</code> is allowed, and additional information may be included as well.   |

`\title`    `{\langle title \rangle}`

-  **newlines**    Avoid newlines in the `\title`; these will interfere with the file break and CSS detection. Use a `\subtitle` command instead (section 65.8). 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` `{\text{}}`

`\thanks` are allowed in the titlepage fields, and will be rendered as HTML notes at the bottom of the title page.

## 8.10 HTML page meta descriptions

`\HTMLDescription` `{\text{A description of the web page.}}` The default is no description.

**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{}
```

## 8.11 HTML homepage meta title

`\HTMLTitle` `{\text{title}}` Sets the contents of the web page `<meta name="title">` element. Defaults to `\HTMLtitle{\thetitle}`. May be set empty to cancel the meta title tag.

See section 8.4 for `\HTMLTitleBeforeSection` and `\HTMLTitleAfterSection`, used to set the title for HTML subpages.

## 8.12 HTML page meta author

`\HTMLAuthor` `{\text{author}}` Sets the contents of the web page `<meta name="author">` element. Defaults to `\HTMLAuthor{\theauthor}`. 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.

## 9 Special cases and limitations

Some commonly-used  $\text{\LaTeX}$  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. The [Index of Objects](#) contains automated entries for each package, macro, environment, counter, boolean, and other objects; individually and also sorted by category. A [Troubleshooting](#) section is also available.

### 9.1 Things to avoid

In the document, avoid the following:

**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}}
```

## 9.2 Formatting

### 9.2.1 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.

### 9.2.2 Horizontal space

- `\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`.
- `\,`, `\~` and `\,` are converted to HTML entities.
- `\kern` `\kern` and `\hskip` are entered into the HTML PDF output as-is, then interpreted by `pdftotext`, and thus usually appear as a single space.
- `\hskip`

### 9.2.3 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}
...
```

### 9.2.4 Accents

Native L<sup>A</sup>T<sub>E</sub>X accents such as \" will work, but many more kinds of accents are available when using Unicode-aware X<sub>E</sub>L<sup>A</sup>T<sub>E</sub>X and LuaL<sup>A</sup>T<sub>E</sub>X.

### 9.2.5 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 fonts. In the css try referencing fonts which are more complete, but expect to see gaps in coverage.

### 9.2.6 Superscripts and other non-math uses of math mode

Use \textsuperscript{x} instead of  $\text{\textasciix}$

### 9.2.7 Empty \item followed by a new line of text or a nested list:

lists Use a trailing backslash: \item[label] \

### 9.2.8 Filenames and URLs in lists or footnotes

filename underscore Escape underscores in the filenames:


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

### 9.2.9 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.

## 9.3 Boxes and minipages


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


### 9.3.2 Save Boxes

TeX boxes are placed inline and do not allow line breaks, so boxes with long contents may overflow the line during HTML conversion. This is mostly a problem when the boxes contain objects which themselves hold large HTML tags, such as rotation commands with long contents. When this object overflows the line, some HTML code will be lost and the page will be corrupted.

### 9.3.3 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.
- in a span** There is limited support for minipages inside an HTML `<span>`. An HTML `<div>` cannot appear inside a `<span>`. While in a `<span>`, 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.
- size** When using `\linewidth`, `\textwidth`, and `\textheight`, widths and heights are scaled proportionally to a 6×9 inch text area.
- no-width minipages** A minipage of width exactly `\linewidth` is automatically given no HTML width.

**full-width minipages** A new macro `\minipagefullwidth` requests that the next minipage be generated without an HTML width attribute, allowing it to be the full width of the display rather than the fixed width given.

 **text alignment** Nested minipages adopt their parent's text alignment in HTML, whereas in regular  $\text{\LaTeX}$  PDF output they do not. Use a `flushleft` or similar environment in the child minipage to force a text alignment.

### 9.3.4 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.

### 9.3.5 Framed minipages and other environments

`\fbox` can only be used around inline `<span>` items during HTML output, but HTML cannot place a block element such as a `<div>` for a minipage or a list inside of a `<span>`. 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 `<span>` 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  $\text{\LaTeX}$  code, the result in HTML is problematic since a table is a `<div>` not a `<span>`, 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 84 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 431 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 198 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}
```

---

### 9.3.6 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 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 loses 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.

### 9.3.7 mdframed package

**Pkg mdframed 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.

## 9.4 Cross-references

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

 **label characters** `\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.

### 9.4.1 Page references

 **L<sup>A</sup>T<sub>E</sub>X 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 489.

#### 9.4.2 `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 `\cpageref` and `\cpagerefrange`.  
 Pkg `varioref` This phrase includes `\cpagerefFor`, which defaults to “for”.

⚠ `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 567 to redefine the message which is printed for page number references.

#### 9.4.3 Hyperlinks, `hyperref`, and `url`

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

⚠ 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 `url` create hyperlinks during print output.

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

#### 9.4.4 Footnotes and page notes

lwarp uses native L<sup>A</sup>T<sub>E</sub>X footnote code, although with its own `\box` to avoid the L<sup>A</sup>T<sub>E</sub>X output routine. The usual functions mostly work as-is.

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

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

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

- ⚠ **\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+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.

- ⚠ **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`.

## 9.5 Front and back matter

### 9.5.1 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}
```

### 9.5.2 Starred chapters and sections

The following describes `\ForceHTMLPage` and `\ForceHTMLTOC`, which may be used for endnotes, glossaries, tocbibind, 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


 inaccessible HTML page

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.

### 9.5.3 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.


 **missing TOC**

### 9.5.4 titling and authblk

`Pkg titling` lwarp supports the native  $\LaTeX$  titling commands, and also supports the packages `authblk` and `titling`. If both are used, `authblk` should be loaded before `titling`.

`Pkg authblk`

**package support**

 **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 65.8.

### 9.5.5 tocloft package

`Opt tocloft titles` If using `tocloft` with `tocbibind`, `anonchp`, `fncychap`, or other packages which change chapter title formatting, load `tocloft` with its `titles` option, which tells `tocloft` to use standard  $\LaTeX$  commands to create the titles, allowing other packages to work with it.


`Pkg tocloft`

`Pkg tocloft`

 **tocloft & other packages**

### 9.5.6 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**

### 9.5.7 pagenote package

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

### 9.5.8 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
```

### 9.5.9 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}}"}

```

### 9.5.10 glossaries package

Pkg glossaries *lwarpmk* has the commands `lwarpmk printglossary` and `lwarpmk htmlglossary`,  
[processing glossaries](#) which process the glossaries created by the glossaries package using that package's  
 Opt GlossaryCmd *makeglossaries* command.

Default: *makeglossaries*  
 Opt lwarpmk printglossary The shell command to execute is set by the lwarp option GlossaryCmd, which de-  
 Opt lwarpmk htmlglossary faults 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.

### 9.5.11 Indexing overview

There are many ways to process indexes for a  $\text{\LaTeX}$  document, including native  $\text{\LaTeX}$  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 9.5.17 and 9.5.18.

**source code** See section 75 for lwarp's core index and glossary code, section 252 for index, section 371 for splitidx, section 250 for imakeidx, section 400 for tocbibind, and section 448.17 for memoir's indexing patches.

### 9.5.12 Indexing with basic L<sup>A</sup>T<sub>E</sub>X and makeidx

**lwarpmk processing** The following allow the user to process indexes automatically, or using *lwarpmk*'s commands:

```
Enter ⇒ lwarpmk printindex
```

```
Enter ⇒ lwarpmk htmlindex
```

#### 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.

**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.

**9.5.13 Indexing with 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.

#### 9.5.14 Indexing with 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 448.17 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.

### 9.5.15 Indexing with 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 9.5.17 and 9.5.18. 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.

### 9.5.16 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,
  xindyCodepage=utf8,
  latexmk
]{lwarp}
...
\xindyindex
\makeindex
\makeindex[secondname]
```

<optional>  
<optional>

*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  $\Rightarrow$  `lwarpmk htmlindex`  
to compile the indexes.

### 9.5.17 Using a custom *makeindex* style file

Prog `makeindex` When using *makeindex*, *lwarpmk* uses the file `lwarp.ist` to process the index. This  
File `lwarp.ist` file is over-written by *lwarp* 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.

Opt `makeindexStyle` 3. In the document source use the `makeindexStyle` option for *lwarp*:

```
\usepackage[
... other options ...
\textred{makeindexStyle=projectname.ist},
]{lwarp}
```

Likewise, refer to the custom style file if using `\PrintIndexCmd`, `\HTMLIndexCmd`, or `\LatexmkIndexCmd`.

4. 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`.

### 9.5.18 Using a custom *xindy* style file

Prog `xindy` When using *xindy*, *lwarpmk* uses the file `lwarp.xdy` to process the index. This file is  
File `lwarp.xdy` 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`.

Opt `xindyStyle` 3. In the document source use the `xindyStyle` option for `lwarp`:

```
\usepackage[
... other options ...
\textred{xindyStyle=projectname.xdy},
]{lwarp}
```

Likewise, refer to the custom style file if using `\PrintIndexCmd`, `\HTMLIndexCmd`, or `\LatexmkIndexCmd`.

4. 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`.

### 9.5.19 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.

### 9.5.20 Index positions, `toc`, `tocbibind`

[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  $\text{\LaTeX}$  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.

 **tocloft & other packages** Pkg tocloft If using tocloft with tocbibind, anonchop, 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.

## 9.6 Math

### 9.6.1 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<sup>A</sup>T<sub>E</sub>X-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 11 regarding EPUB output with MATHJAX.

### 9.6.2 SVG option

**SVG math option** For SVG math, math is rendered as usual by L<sup>A</sup>T<sub>E</sub>X into the initial PDF file using the current font<sup>14</sup>, 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<sup>A</sup>T<sub>E</sub>X 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<sup>A</sup>T<sub>E</sub>X code which generated the math, allowing copy/paste of the L<sup>A</sup>T<sub>E</sub>X math expression into other documents.

<sup>14</sup>See section 435 regarding fonts and fractions.


**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  $\LaTeX$  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  $\LaTeX$  math expression.

 **SVG math in  $\TeX$  boxes** SVG math does not work inside  $\TeX$  boxes, since a `\newpage` is required before and after each image.

### 9.6.3 MATHJAX option

**MATHJAX math option** The popular MATHJAX alternative ([mathjax.org](http://mathjax.org)) may be used to display math.

Prog MathJax

When MATHJAX is enabled, math is rendered twice:

1. As regular  $\LaTeX$  PDF output placed inside an HTML comment, allowing equation numbering and cross referencing to be almost entirely under the control of  $\LaTeX$ , and
2. As detokenized printed  $\LaTeX$  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  $\LaTeX$  values, and the MATHJAX cross-referencing system is ignored in favor of the  $\LaTeX$  internal system, seamlessly integrating with the rest of the  $\LaTeX$  code.

### 9.6.4 Customizing MATHJAX

MATHJAX does not have preexisting support every possible math function. Additional MATHJAX function definitions may be defined. These will be declared at the start of each HTML page, and thus will have a global effect.

Examples:

```

\CustomizeMathJax{
  \newcommand{\expval}[1]{\langle#1\rangle}
  \newcommand{\abs}[1]{\lvert#1\rvert}
}
\CustomizeMathJax{\newcommand{\arsinh}{\text{arsinh}}}
\CustomizeMathJax{\newcommand{\arcosh}{\text{arcosh}}}
\CustomizeMathJax{\newcommand{\NN}{\mathbb{N}}}

```

### 9.6.5 MATHJAX limitations

#### MATHJAX limitations

Limitations when using MATHJAX include:

Prog MathJax

subequations

- MATHJAX itself does not support subequations. This may be improved by parsing the L<sup>A</sup>T<sub>E</sub>X math expression to manually insert tags, but this has not yet been done.

footnotes in math

- Footnotes inside equations are not yet supported while using MATHJAX.

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

- Usage of siunitx inside a math equation is supported via a third-party MATHJAX extension. While inside a math expression, do not use \SI or \si inside \text, where it will be rendered as normal text.

⚠ siunitx inside an equation

<https://github.com/burnpanck/MathJax-siunitx>

Also see section 9.6.10.

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.

⚠ other macros and packages

- Other math-related macros and packages are not supported by MATHJAX, including \ensuremath and bigdelim, along with occasionally-used macros such as \relax. lwarp emulates footnotes, units, and nicefrac for MathJax.

### 9.6.6 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.

### 9.6.7 Complicated inline math objects

`\inlinemathnormal`  
`\inlinemathother`

changing contents  
complicated alt tag

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. Another problem is complicated contents which do not expand well in an alt tag. The macro `\inlinemathother` may be used before a dynamic math expression, and `\inlinemathnormal` after. Doing so tells lwarp to use an unhashed svg math image, even if MathJax is in use. See section 44.

### 9.6.8 Complicated display math objects

`\displaymathnormal`

By default, or when selecting `\displaymathnormal`, MATHJAX math display environments print their contents as text into HTML, 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`  
MathJax unsupported  
complicated alt tag

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.

### 9.6.9 ntheorem package

Pkg ntheorem

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.

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.

### 9.6.10 siunitx package

Pkg `siunitx` Due to *pdftotext* limitations, fraction output is replaced by symbol output for per-mode and quotient-mode.  
 Pkg `fractions`

⚠ **math mode required** Some units will require that the expression be placed inside math mode.

**NOTE:** As of this writing, the `siunitx` extension for MATHJAX is not currently hosted at any public CDN, thus `siunitx` is not usable with MATHJAX unless a local copy of this extension is created first.

⚠ **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`.

### 9.6.11 units and nicefrac packages

Pkg `units` units and nicefrac work with lwarp, but MATHJAX does not have an extension for  
 Pkg `nicefrac` units or nicefrac. These packages do work with lwarp's option `svgmath`.

### 9.6.12 newtxmath package

Pkg `newtxmath` The proper load order is:

⚠ **loading sequence**

```

...
\usepackage{lwarp}
...
\usepackage{amsthm}
\usepackage{newtxmath}
...
```

## 9.7 Graphics

Pkg `graphics` For `\includegraphics` with .pdf or .eps files, the user must provide a .pdf or  
 Pkg `graphicx` .eps image file for use in print mode, and also a .svg, .png, or .jpg version of the  
`\includegraphics file` same image for use in HTML.  
`formats`

```
\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  $\Rightarrow$  `pdftocairo -svg filename.pdf`

Prog `lwarpmk pdftosvg` For a large number of images, use *lwarpmk*:

Enter  $\Rightarrow$  `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  $\Rightarrow$  `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  $\Rightarrow$  `lwarpmk epstopdf *.eps` (or a list of filenames)

Enter  $\Rightarrow$  `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 a new class key.

**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.

**`\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<sup>A</sup>T<sub>E</sub>X, so expect some ugly results for scaling and rotating.


### 9.7.1 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 `\&`.

### 9.7.2 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.

### 9.7.3 color package

Pkg color `color` is superceded by `xcolor`, and lwarp requires several of the features of `xcolor`. When `color` is requested, `xcolor` is loaded as well.

### 9.7.4 xcolor package

Pkg xcolor **`\colorboxBlock` and `\fcolorboxBlock`** `\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 `\colorboxBlocks` 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** `\fcolorbox` 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.

### 9.7.5 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.

### 9.7.6 pstricks package

**Pkg pstricks** All pstricks content should be contained inside a `pspicture` environment.



**use pspicture**

### 9.7.7 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
```

### 9.7.8 psfrag package

**Pkg psfrag** The psfrags environment is modified to use `lateximage` to encapsulate the image.



**use psfrags**

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.

### 9.7.9 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
```

.

### 9.7.10 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
```


### 9.7.11 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

## 9.8 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.

## 9.9 Tabular

`Tabular` mostly works as expected, but pay special attention to the following, especially if working with environments, macros inside `tabulars`, `multirows`, `* column` specifiers, `siunitx S` columns, or the packages `multirow`, `longtable`, `supertabular`, or `xtable`.

**Defining 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 cat-code 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 % because & is used in a
definition
\newenvironment{outerenvironment}
{
\tabular{cc}
left & right \\
}
{
\TabularMacro\ResumeTabular
left & right \\
\endtabular
}
\StopDefiningTabulars
```

**Cell contents:**

⚠ \multirow

- 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.

```
... & \multirow{2}{.5in}{text} & ...
... & \mrowcell & ...
```

vposn

Note that recent versions of multirow include a new optional vposn argument.

- 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.

⚠ `\multicolumn &`  
`\multirow`

- See section 290.2 for `\multicolumnrow`.  
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}[Opt]{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:

⚠ empty cells

```
... & \multicolumnrow{2}{c}[c]{3}[0]{1in}[Opt]{Text} & ...
... & \mcolrowcell & \mcolrowcell & ...
... & \mcolrowcell & \mcolrowcell & ...
```

vposn

Note that recent versions of `\multirow` include a new optional `vposn` argument.

⚠ 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:

⚠ \* column specification

- \* in a column specification is not used (so far). Repeat the column type the correct number of times.

@ 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.

full-width rules

- `\toprule`, `\midrule`, `\bottomrule`, and `\hline` 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.

- 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.

⚠ `\warpprintonly`  
⚠ Misplaced `\noalign`

**colortbl:**

⚠ row/cell color

Only use `\rowcolor` and `\cellcolor` at the start of a row, in that order.

`colortbl` ignores the overhang arguments.

**Other:**

- `tabularx` ignores the width, but X columns do produce paragraph columns or multicolumns.

**longtable headings**

⚠ S columns

- 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 \\\}
```

**9.9.1 longtable package**

Pkg `longtable`

⚠ Misplaced `\noalign`

`Longtable \endhead`, `\endfoot`, and `\endlastfoot` rows are not used for HTML, and these rows should be disabled. Use

```
\warpprintonly{row contents}
```

instead of

```
\begin{warpprint} ... \end{warpprint}
```

Doing so helps avoid “Misplaced \noalign.” when using \begin{warpprint}.

Keep the \endfirsthead row, which is still relevant to HTML output.

⚠ **\kill** \kill is ignored, place a \kill line inside

```
\begin{warpprint} ... \end{warpprint}
```

or place it inside \warpingprintonly.

⚠ **lateximage** longtable is not supported inside a lateximage.

### 9.9.2 supertabular and xtab packages

Pkg supertabular For \tablefirsthead, etc., enclose them as follows:

```
Pkg xtab      \StartDefiningTabulars
               \tablefirsthead
               ...
               \StopDefiningTabulars
```

⚠ **Misplaced alignment**  
tab character &

See section 9.9.

⚠ **lateximage** supertabular and xtab are not supported inside a lateximage.

### 9.9.3 bigdelim package


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{\{ }{2}{.25in}[left ] & c & d \\
\mrowcell & e & f \\
<empty> & g & h \\
\end{tabular}
```

```
<>      a   b
left {   c   d
      e   f
<>      g   h
```

## 9.10 Floats

### 9.10.1 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}
...
```

### 9.10.2 float, trivfloat, and/or algorithmicx together

`Pkg float` If using `\newfloat`, `trivfloat`, and/or `algorithmicx` together, see section 409.1.

`Pkg trivfloat`

`Pkg algorithmx`

 **package conflicts**

### 9.10.3 caption and subcaption packages


`Pkg caption`

To pass options to `caption`, select the options before loading `lwarp`:

`Pkg subcaption`

 **options**

```
\documentclass{article}
...
\PassOptionsToPackage{options_list}{caption}
...
\usepackage{lwarp}
...
\usepackage{caption}
```


 **numbering** To ensure proper float numbering, set caption positions such as:

```
\captionsetup[table]{position=top}
\captionsetup[figure]{position=bottom}
```

Similarly for `subtable`, `subfigure`, and `longtable`.

### 9.10.4 subfig package

`Pkg subfig`

 **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.

In the document source, use `\hfill` and `\hspace*{subfig>inline}` 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.

### 9.10.5 floatrow package

|     |  |  |
|-----|--|--|
| Pkg | floatrow   | Use <code>\StartDefiningTabulars</code> and <code>\StopDefiningTabulars</code> before and after defining macros using <code>\ttabbox</code> with a tabular inside. See section 9.9.  |
| ⚠   | Misplaced alignment tab character & subfig package | When combined with the subfig package, while inside a subfloatrow <code>\ffigbox</code> and <code>\ttabbox</code> must have the caption in the first of the two of the mandatory arguments.  |
| ⚠   | <code>\FBwidth</code> , <code>\FBheight</code>     | The emulation of floatrow does not support <code>\FBwidth</code> or <code>\FBheight</code> . These values are pre-set to <code>.3\linewidth</code> and <code>2in</code> . Possible solutions include: <ul style="list-style-type: none"> <li>• Use fixed lengths. lwarp will scale the HTML lengths appropriately.</li> <li>• Use <code>warpprint</code> and <code>warpHTML</code> environments to select appropriate values for each case.</li> <li>• Inside a <code>warpHTML</code> environment, manually change <code>\FBwidth</code> or <code>\FBheight</code> before the <code>\ffigbox</code> or <code>\ttabbox</code>. Use <code>\FBwidth</code> or <code>\FBheight</code> 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.</li> </ul> |


### 9.10.6 keyfloat package

|     |          |   |
|-----|----------|---|
| Pkg | keyfloat | If placing a <code>\keyfig[H]</code> inside a <code>keywrap</code> , use an absolute width for <code>\keyfig</code> , instead of <code>lw</code> -proportional widths. (The <code>[H]</code> option forces the use of a minipage, which internally adjusts for a virtual 6-inch wide minipage, which then corrupts the <code>lw</code> option.) |
| ⚠   | keywrap  |   |

## 9.11 KOMA-SCRIPT classes

|     |                   |   |
|-----|-------------------|---|
| Cls | komascript        | Many features are ignored during the HTML conversion. The goal is source-level compatibility.<br><br><code>\titlehead</code> , <code>\subject</code> , <code>\captionformat</code> , <code>\figureformat</code> , and <code>\tableformat</code> are not yet emulated. |
| ⚠   | Not fully tested! | <a href="#">Please send bug reports!</a><br><br>Some features have not yet been tested. Please contact the author with any bug reports.   |

## 9.12 MEMOIR class

 **options clash** While emulating memoir, lwarp pre-loads a number of packages (section 448.1). 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}
```

`\verbfootnote` is not supported.

`\newfootnoteseries`, etc. are not supported.

lwarp loads pagenote to perform memoir's pagenote functions, but there are minor differences in `\pagenotesubhead` and related macros.

Poem numbering is not supported.

The verbatim environment does not yet support the memoir enhancements. It is currently recommended to load and use `fancyvrb` instead.

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.

## 9.13 Miscellaneous packages

### 9.13.1 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<br>Len    \vleftmargini<br>Len    \HTMLvleftskip<br>Len    \HTMLleftmargini | 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. |
|---|---|

 **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.

### 9.13.2 newclude package

|   |  |
|---|--|
| Pkg    newclude<br> <b>loading</b> | newclude modifies \label in a non-adaptive way, so newclude must be loaded before lwarp is loaded: |
|---|--|

---

```


\documentclass{article}
...<font setup>
\usepackage{newclude}
\usepackage[warpHTML]{lwarp}
...

```

---

### 9.13.3 babel package

Pkg    babel

 **\CaptionSeparator** When French is used, the caption separator is changed to a dash. The following may be used to restore it to a colon:

```
\renewcommand*{\CaptionSeparator}{:~}
```

**punctuation spaces** Also when French is used, lwarp creates fixed-width space around punctuation by patching \FBcolonspace, \FBthinspace, \FBguillspace, \FBmedkern, \FBthickkern,

### customized spacing

\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.

#### 9.13.4 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.

#### 9.13.5 todonotes and luatodonotes packages

Pkg todonotes The documentation for todonotes and luatodonotes have an example with a todo  
 Pkg luatodonotes inside a caption. If this example does not work it will be necessary to move the todo  
 outside of the caption.

#### 9.13.6 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}
```

### 9.13.7 chemfig package

If using `\polymerdelim` to add delimiters to a `\chemfig`, wrap both inside a single `lateximage`:

```
\begin{lateximage}[(-chemfig--\packagediagramname)]
\chemfig{...}
\polymerdelim[...]{...}
\end{lateximage}
```

### 9.13.8 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.

### 9.13.9 mhchem package

See section 282.

### 9.13.10 xparse

Pkg `xparse` To remove from the log any warnings about redeclaring objects, place the following before `lwarp` is loaded:

```
\usepackage[log-declarations=false]{xparse}
```

## 10 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<sub>E</sub>X 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.

### 10.1 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`.

### 10.2 Literal character macros

The lwarp package options are parsed by T<sub>E</sub>X, and so some characters require the use of a special macro to represent them. See table 7. `\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 7: 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 \lwarpsetup must be used to set PrintLatexCmd and HTMLLatexCmd:

---

```

\usepackage[...]{lwarp}
\lwarpsetup{
  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
  }
}

```

---

### 10.3 *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*.

### 10.4 *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 9.6.8.

### 10.5 *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
  - ⚠ HTML look-alike
- 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 inside a `lateximage` environment to prevent `<`, `>` and similar from being interpreted by the browser as HTML entities.

## 10.6 Other packages

|  |   |
|--|---|
| Pkg <code>sympytex</code><br>Pkg <code>rterface</code> | Other packages such as <code>sympytex</code> and <code>rterface</code> would be set up similar to <code>pythontex</code> , and the same warnings would apply. |
|--|---|

## 10.7 make program

|                        |  |
|------------------------|--|
| Prog <code>make</code> | To use <code>lwarp</code> with the <i>make</i> program, have the makefile take <code>project.tex</code> and generate the print version <code>project.pdf</code> , as normal. <code>\usepackage{lwarp}</code> must be used, and it generates <code>lwarpmk.conf</code> 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`.

## 10.8 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<sup>L</sup>A<sup>T</sup>E<sup>X</sup> and ditaa. To use Lua<sup>L</sup>A<sup>T</sup>E<sup>X</sup> instead, the locale change would have to be made inside the ditaa package where it calls the *ditaa* program.

## 11 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:

| <i>FormatEPUB</i>  |                |
|--|----------------|
| 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 9. 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.

---

## 12 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.

### 12.1 Activating word-processor conversion

A special boolean is provided to simplify the process of converting lwarp HTML output to EPUB:

| Bool           | FormatWP  |
|----------------|---|
| Default: false | <hr/> <i>FormatWP</i><br><hr/> 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 <code>WPMarkFloats</code> , <code>WPMarkMinipages</code> , <code>WPMarkTOC</code> , and <code>WPMarkLOFT</code> .<br><hr/> |

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 `LATEX` and `TEX` 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 `LATEX` 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.

## 12.2 Additional modifications

---

### *WPMarkFloats*

---

Adds

```
=== begin table ===
...
=== end ===
```

or

```
=== begin figure ===
...
=== end ===
```

Bool WPMarkFloats  
Default: false

around floats while formatting for word processors. This helps identify boundaries of floats to be manually converted to word-processor frames and captions.

---



---

### *WPMarkMinipages*

---

Adds

```
=== begin minipage ===
...
=== end minipage ===
```

Bool WPMarkMinipages  
Default: false

around minipages while formatting for word processors. This helps identify boundaries of minipages to be manually converted to word-processor frames.

---



---

### *WPMarkTOC*

---

While formatting for word processors, adds

```
=== table of contents ===
```

Bool WPMarkTOC  
Default: true

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*

---

While formatting for word processors, adds

```
=== list of figures ===    and/or
=== list of tables ===
```

Bool WPMarkLOFT

Default: false

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*

---

While formatting for word processors, prints math as L<sup>A</sup>T<sub>E</sub>X code instead of creating svg images or MATHJAX. This is useful for cut/paste into the LibreOffice Writer TeXMaths extension.

Bool WPMarkMath

Default: false

Prog TeXMaths

siunitx

When using the siunitx package, enter

```
\usepackage{siunitx}
```

in the TeXMaths preamble. Equation numbering is problematic for  $\mathcal{AMS}$  math environments.

---



---

*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**.

Bool WPTitleHeading

Default: false

section headings

See table 8 on page 186.

---

## 12.3 Recommendations

TOC, LOF, 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.

Table 8: Section HTML headings for word-processor conversion

| Section       | HTML headings* |       |                  |       |
|---------------|----------------|-------|------------------|-------|
|               | With \chapter  |       | Without \chapter |       |
|               | WPTitleHeading |       | WPTitleHeading   |       |
|               | true           | false | true             | false |
| Title         | <h1>           | plain | <h1>             | plain |
| \part         | <h2>           | <h1>  | <h2>             | <h1>  |
| \chapter      | <h3>           | <h2>  | —                | —     |
| \section      | <h4>           | <h3>  | <h3>             | <h2>  |
| \subsection   | <h5>           | <h4>  | <h4>             | <h3>  |
| \paragraph    | <h6>           | <h5>  | <h5>             | <h4>  |
| \subparagraph | span           | <h6>  | <h6>             | <h5>  |

\* For default depths when not FormatWP, see table 9 on page 200.

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.

## 12.4 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  $\text{\LaTeX}$  and HTML versions.

Equation numbering is not automatic, but the equation numbers in svg math will match the  $\text{\LaTeX}$  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.

## 13 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 T<sub>E</sub>X output** An environment may be converted to a `lateximage` then displayed with an image of the resulting L<sup>A</sup>T<sub>E</sub>X output. See section 87 for an example of the `picture` environment.

**css classes** To create a custom HTML block or inline CSS class, see section 52.8.

**print/HTML macros** To create print and HTML versions of the same macro or environment, see section 36.

 **T<sub>E</sub>X boxes** Any T<sub>E</sub>X boxes must be undone, as `svg math` or `lateximages` require `\newpage`, which will not work in a T<sub>E</sub>X box.

**index recreation** To recreate the index for the lwarp documentation:

---

```
makeindex -s gglo.ist -o lwarp.gls lwarp.glo
splitindex lwarp.idx -- -s gind.ist
```

---

### 13.1 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 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:

---

```
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 ⇒ `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}
```

---

## 13.2 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 L<sup>A</sup>T<sub>E</sub>X 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-<packagename>.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 T<sub>E</sub>X can see it, then the user's new package will be seen by any documents using lwarp. (Remember `mktexlsr` or `texhash`.)

An `lwarp-<packagename>.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 304 ([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.

### 13.2.1 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 21.1. 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.

## 13.3 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 L<sup>A</sup>T<sub>E</sub>X classes, load any required fonts, then load `lwarp`, then finally load and adjust any other required packages.

## 13.4 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.

### 13.5 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`.

## 14 Troubleshooting

### 14.1 Using the lwarp.sty package

Also see:

Section 8.8: [Commands to be placed into the warpprint environment](#)

Section 9: [Special cases and limitations](#)

#### Text is not converting correctly / corrupted HTML tags:

- Font-related UTF-8 information must be embedded in the PDF file. See section 8.2 regarding bitmapped vs. vector fonts.
- See section 9.2.1 regarding HTML entities and the characters &, <, and >.

#### Undefined HTML settings:

- See the warning regarding the placement of the HTML settings at section 8.4.

**Tabular problems:** See section 9.9.

#### Obscure error messages:

**Print first:** Be sure that a print version of the document compiles and that your document's L<sup>A</sup>T<sub>E</sub>X code is correct, before attempting to generate an HTML version.

`\end{warpHTML}`, `\end{warpprint}`, `\end{warpall}`: Each of these must be without any other characters on the same line.

**Options clash:** If using memoir, see section 9.12.

**“No room for a new \write.”:** Before `\usepackage{lwarp}`, add:

```
\usepackage{morewrites}
\morewritessetup{allocate=10}
```

**“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
```

**“Leaders not followed by proper glue”:** This can be caused by a missing `l@<floattype>` 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.

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 9.5.9.

**“! Undefined control sequence. ... `\@begindocumenthook`”:** See section 9.13.4 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 36 regarding `\LWR@expandableformatted`.

**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 9.6.8.

**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 9.6.8.

**Missing sections:** See section 8.4 regarding the `FileDepth` and `SideTOCDepth` counters, and the use of `\tableofcontents` in the home page.

**Misnumbered footnotes from section headings:** See section 9.4.4.

⚠ macros in  
section,table,figure names

⚠ BibTeX

⚠ polyglossia

⚠ custom macros for  
environments

⚠ `\LWR@formatted`

⚠ “impure” math objects

**Missing HTML files:**

- See the warning regarding changes to the HTML settings at section 8.4.
- Ensure that the filenames are unique after math and short words are removed. See `FileSectionNames` at section 8.4.

**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”.

Ex:

```
\cpageref{tab:first,tab:second}
```

in HTML becomes:

“pages **for** table 4.1 and **for** table 4.2”

See `\cpagerefFor` at page 567 to redefine the message which is printed for page number references.

**BibTeX errors with `\etalchar`:** See section 9.5.9.

**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 `XLaTeX` or `LuaLaTeX`.

**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 images` to refresh the `lateximage` images.

labels

⚠ label characters

`\nameref`

⚠ empty link

⚠ cleveref page numbers

**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 images* 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.

Before attempting to create the svg image files, *lwarpmk* verifies that the HTML version of the document exists and has correct internal image references.<sup>15</sup> If it is necessary to recompile the document's HTML version, *lwarpmk* will inform so with an error message.

 **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. *lwarpmk* attempts to detect this situation and print a warning.

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

 **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 L<sup>A</sup>T<sub>E</sub>X 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 L<sup>A</sup>T<sub>E</sub>X 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 6.5 to use MATHJAX instead.

**Plain-looking document:**

- The document's css stylesheet may not be available, or may be linked incorrectly. Verify any \CSSFilename statements point to a valid css file.

**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 8.4.
- Verify that the proper css is actually being used.

<sup>15</sup>This becomes important when dealing with a document containing thousands of images.

- 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.

#### 14.1.1 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.

## 14.2 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}`

## 15 Trademarks

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File 1 **lwarp.sty**

## 16 Implementation

This package is perhaps best described as a large collection of smaller individual technical challenges, in many cases solved through a number of ~~crude 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 9: Section depths and HTML headings

| Section                     | $\text{\LaTeX}$<br>depth | HTML headings *                                  |
|-----------------------------|--------------------------|--|
| title of the entire website |                          | <code>&lt;h1&gt;</code>                          |
| none                        | -5                       | new for this package                             |
| book                        | -2                       | <b>not yet used</b>                              |
| part                        | -1                       | <code>&lt;h2&gt;</code>                          |
| chapter                     | 0                        | <code>&lt;h3&gt;</code>                          |
| section                     | 1                        | <code>&lt;h4&gt;</code>                          |
| subsection                  | 2                        | <code>&lt;h5&gt;</code>                          |
| subsubsection               | 3                        | <code>&lt;h6&gt;</code>                          |
| paragraph                   | 4                        | <code>&lt;span class = "paragraph"&gt;</code>    |
| subparagraph                | 5                        | <code>&lt;span class = "subparagraph"&gt;</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 8 on page 186.

## 17 Section depths and HTML headings

Stacks are created to track depth inside the  $\text{\LaTeX}$  document structure. This depth is translated to HTML headings as shown in table 9. “Depth” here is not depth in the traditional computer-science stack-usage sense, but rather a representation of the nesting depth inside the  $\text{\LaTeX}$  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.

## 18 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  
**for PRINT output:** the generation of HTML, print, or both forms of output.  
**for HTML & PRINT:**

## 19 Detecting the T<sub>E</sub>X Engine — *pdf<sub>l</sub>atex*, *lua<sub>l</sub>atex*, *xel<sub>l</sub>atex*

See: <http://tex.stackexchange.com/a/47579>.

Detects X<sub>E</sub>T<sub>E</sub>X and Lua<sub>A</sub>T<sub>E</sub>X:

```

1 \RequirePackage{iftex}
2 \newif\ifxetexorluatex
3 \ifXeTeX
4   \xetexorluatextrue
5 \else
6   \ifLuaTeX
7     \xetexorluatextrue
8   \else
9     \xetexorluatexfalse
10  \fi
11 \fi
12
13 \ifLuaTeX
14 \RequirePackage{luatex85}% until the geometry package is updated
15 \fi
16
17 \RequirePackage{ifpdf}

18 \RequirePackage{ifptex}

```

## 20 Early package requirements

Pkg `etoolbox` Provides `\ifbool` and other functions.

Pkg `xpatch` Patches macros with optional arguments.

```

19 \RequirePackage{etoolbox}[2011/01/03]% v2.6 for \BeforeBeginEnvironment, etc.
20 \RequirePackage{xpatch}

```

Pkg `ifplatform` Provides `\ifwindows` to try to automatically detect WINDOWS OS.

```

21 \RequirePackage{ifplatform}% sense op-system platform

```

Pkg `letltxmacro`

```

22 \RequirePackage{letltxmacro}

```

## 21 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.

### 21.1 Tests of package load order

\LWR@loadafter  $\{\langle package name \rangle\}$  Error if this package was loaded before lwarp.

```

23 \newcommand*\LWR@loadafter}[1]{%
24 \@ifpackageloaded{#1}
25 {
26 \PackageError{lwarp}
27 {Package #1, or one which uses #1, must be loaded after lwarp}
28 {Move \detokenize{\usepackage}{#1} after \detokenize{\usepackage}{lwarp}.
29 Package #1 may also be loaded by something else, which must also be moved
30 after lwarp.}
31 }
32 {}
33 }
```

\LWR@notmemoirloadafter  $\{\langle package name \rangle\}$  Error if not memoir class and this package was loaded before lwarp.

memoir emulates many packages, and pretends that they have already been loaded.

```

34 \@ifclassloaded{memoir}
35 {\newcommand*\LWR@notmemoirloadafter}[1]{}}
36 {\LetLtxMacro\LWR@notmemoirloadafter\LWR@loadafter}
```

\LWR@notbxjsloadafter  $\{\langle package name \rangle\}$  Error if not a bxjs\* class and this package was loaded before lwarp.

```

37 \LetLtxMacro\LWR@notbxjsloadafter\LWR@loadafter
38
39 \@ifclassloaded{bxjsarticle}{\renewcommand*\LWR@notbxjsloadafter}[1]{}{}}
40 \@ifclassloaded{bxjsbook}{\renewcommand*\LWR@notbxjsloadafter}[1]{}{}}
41 \@ifclassloaded{bxjsreport}{\renewcommand*\LWR@notbxjsloadafter}[1]{}{}}
42 \@ifclassloaded{bxjsslide}{\renewcommand*\LWR@notbxjsloadafter}[1]{}{}}

```

`\LWR@notltjsloadafter`  $\{\langle package name \rangle\}$  Error if not a ltjs\* class and this package was loaded before lwarp.

```

43 \LetLtxMacro\LWR@notltjsloadafter\LWR@loadafter
44
45 \@ifclassloaded{ltjsarticle}{\renewcommand*\LWR@notltjsloadafter}[1]{}{}}
46 \@ifclassloaded{ltjsbook}{\renewcommand*\LWR@notltjsloadafter}[1]{}{}}
47 \@ifclassloaded{ltjsreport}{\renewcommand*\LWR@notltjsloadafter}[1]{}{}}
48 \@ifclassloaded{ltjsspf}{\renewcommand*\LWR@notltjsloadafter}[1]{}{}}
49 \@ifclassloaded{ltjsiyou}{\renewcommand*\LWR@notltjsloadafter}[1]{}{}}

```

`\LWR@loadbefore`  $\{\langle package name \rangle\}$  Error if this package is loaded after lwarp.

```

50 \newcommand*\LWR@loadbefore}[1]{%
51 \ifpackageloaded{#1}
52 {}
53 {
54 \PackageError{lwarp}
55 {Package #1 must be loaded before lwarp}
56 {Move \detokenize{\usepackage}{#1} before \detokenize{\usepackage}{lwarp}.}
57 }
58 }

```

`\LWR@checkloadbefore`  $\{\langle this package name \rangle\} \{\langle package name \rangle\}$

If package names match, error if it is loaded after lwarp.

```

59 \newcommand*\LWR@checkloadbefore}[2]{%
60 \edef\LWR@tempone{#1}%
61 \ifdefstring{\LWR@tempone}{#2}{%
62 \LWR@loadbefore{#1}%
63 }{}%
64 }

```

`\LWR@loadnever`  $\{\langle bad package name \rangle\} \{\langle replacement pkg names \rangle\}$

The first packages is not supported, so tell the user to use the second instead.

```

65 \newcommand*\LWR@loadnever}[2]{%

```

```

66 \PackageError{lwarp}
67 {Package #1 is not supported by lwarp's HTML conversion.
68 Package(s) #2 may be useful instead}
69 {Package #1 might conflict with lwarp in some way,
70 or is superceded by another package.
71 For a possible alternative, see package(s) #2.}
72 }

```

`\LWR@checkloadnever`  $\{\langle thispackagename \rangle\} \{\langle badpackagename \rangle\} \{\langle replacementpkgnames \rangle\}$

If this package name is the bad packagename, suggest the replacements instead.

```

73 \newcommand*\LWR@checkloadnever[3]{%
74   \edef\LWR@tempone{#1}%
75   \ifdefstring{\LWR@tempone}{#2}{%
76     \LWR@loadnever{#2}{#3}%
77   }{}%
78 }

```

`\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.

```

79 \newcommand*\LWR@earlyloadnever[2]{%
80 \@@ifpackageloaded{#1}{%
81 \PackageError{lwarp}
82 {Package #1 is not supported by lwarp's HTML conversion.
83 Package(s) #2 may be useful instead}
84 {Package #1 might conflict with lwarp in some way,
85 or is superceded by another package.
86 For a possible alternative, see package(s) #2.}
87 }{}%
88 }

```

`\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.

```

89 \newcommand*\LWR@earlyclassloadnever[2]{%
90 \@@ifclassloaded{#1}{%
91 \PackageError{lwarp}
92 {Class #1 is not supported by lwarp's HTML conversion.
93 Class(es) #2 may be useful instead}
94 {Class #1 might conflict with lwarp in some way,
95 or is superceded by another class.

```

```

96 For a possible alternative, see class(es) #2.}
97 }{}%
98 }

```

## 21.2 Error for disallowed packages and classes loaded before lwarp

ujarticle and related are supported by lwarp, but utarticle and related use vertical Japanese text, which is not read correctly by *pdftotext*. These may be supported in the future if a way is found to undo the changes used for vertical text.

```

99 \LWR@earlyclassloadnever{utarticle}{ujarticle}
100 \LWR@earlyclassloadnever{utbook}{ujbook}
101 \LWR@earlyclassloadnever{utreport}{ujreport}

102 \LWR@earlyloadnever{ae}{cm-super, lmodern}
103 \LWR@earlyloadnever{aecompl}{cm-super, lmodern}
104 \LWR@earlyloadnever{aecc}{cm-super, lmodern}
105 \LWR@earlyloadnever{boxedminipage}{boxedminipage2e}
106 \LWR@earlyloadnever{caption2}{caption}
107 % \LWR@earlyloadnever{ccaption}{caption}% might be preloaded by memoir

```

The older CJK and CJKutf8 only work with xeCJK:

```

108 \@ifpackageloaded{xeCJK}{%}{%
109   \LWR@earlyloadnever{CJK}{ctex, xeCJK}
110   \LWR@earlyloadnever{CJKutf8}{ctex, xeCJK}
111 }

```

bxckjatype is based on CJK:

```

112 \LWR@earlyloadnever{bxckjatype}{pLaTeX, upLaTeX, bxjsarticle, ujarticle}

```

hangul is not in TeXLive, and is not tested:

```

113 \LWR@earlyloadnever{hangul}{kotex, xetexko, luatexko}

```

Others:

```

114 \LWR@earlyloadnever{fancyheadings}{fancyhdr}
115 \LWR@earlyloadnever{glossary}{glossaries}
116 \LWR@earlyloadnever{t1enc}{fontenc, inputenc, inputenx}
117 \LWR@earlyloadnever{wasysym}{textcomp, amssymb, amsfonts, mnsymbol, fdsymbol}

```

### 21.3 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:

```

118 \LWR@loadafter{2in1}
119 \LWR@loadafter{2up}
120 \LWR@loadafter{a4}
121 \LWR@loadafter{a4wide}
122 \LWR@loadafter{a5comb}
123 \LWR@notmemoirloadafter{abstract}
124 \LWR@loadafter{accsupp}
125 \LWR@loadafter{acro}
126 \LWR@loadafter{acronym}
127 \LWR@loadafter{adjmulticol}
128 \LWR@loadafter{addlines}
129 \LWR@loadafter{ae}
130 \LWR@loadafter{aecc}
131 \LWR@loadafter{afterpage}
132 \LWR@loadafter{algorithm2e}
133 \LWR@loadafter{algorithmicx}
134 \LWR@loadafter{alltt}
135 \LWR@loadafter{amsmath}
136 \LWR@loadafter{amsthm}
137 \LWR@loadafter{anonchap}
138 \LWR@loadafter{anysize}
139 \LWR@notmemoirloadafter{appendix}
140 \LWR@loadafter{arabicfront}
141 \LWR@notmemoirloadafter{array}
142 \LWR@loadafter{arydshln}
143 \LWR@loadafter{asymptote}
144 % \LWR@loadafter{atbegshi}% used by morewrites
145 \LWR@loadafter{attachfile}
146 \LWR@loadafter{attachfile2}
147 \LWR@loadafter{authblk}
148 \LWR@loadafter{axessibility}
149 \LWR@loadafter{axodraw2}
150 \LWR@loadafter{backref}
151 \LWR@loadafter{balance}
152 \LWR@loadafter{bigdelim}
153 \LWR@loadafter{bigstrut}
154 \LWR@loadafter{bitpattern}
155 \LWR@loadafter{blowup}
156 \LWR@loadafter{booklet}
157 \LWR@loadafter{bookmark}
158 \LWR@notmemoirloadafter{booktabs}
159 \LWR@loadafter{bophook}

```

```
160 \LWR@loadafter{boxedminipage}
161 \LWR@loadafter{boxedminipage2e}
162 \LWR@loadafter{breakurl}
163 \LWR@loadafter{breqn}
164 \LWR@loadafter{bypapersize}
165 \LWR@loadafter{bytefield}
166 \LWR@loadafter{cancel}
167 \LWR@loadafter{canoniclayout}
168 \LWR@loadafter{caption}
169 \LWR@loadafter{caption2}
170 \LWR@loadafter{cases}
171 % \LWR@loadafter{ccaption}% may be preloaded by memoir
172 \LWR@loadafter{changebar}
173 \LWR@notmemoirloadafter{changepage}
174 \LWR@notmemoirloadafter{chnpage}
175 \LWR@loadafter{chappg}
176 \LWR@loadafter{chapterbib}
177 \LWR@loadafter{chemfig}
178 \LWR@loadafter{chemformula}
179 \LWR@loadafter{chemgreek}
180 \LWR@loadafter{chemmacros}
181 \LWR@loadafter{chemnum}
182 \LWR@loadafter{chkfloat}
183 \LWR@loadafter{cite}
184 \LWR@loadafter{cmdtrack}
185 \LWR@loadafter{color}
186 \LWR@loadafter{colortbl}
187 \LWR@loadafter{continue}
188 \LWR@loadafter{copyrightbox}
189 \LWR@notmemoirloadafter{crop}
190 % ctex must be loaded before lwarp
191 \LWR@loadafter{cuted}
192 \LWR@loadafter{cutwin}
193 \LWR@loadafter{dblfloatfix}
194 \LWR@loadafter{dblfnote}
195 \LWR@notmemoirloadafter{dcolumn}
196 \LWR@loadafter{diagbox}
197 \LWR@loadafter{dprogress}
198 \LWR@loadafter{draftcopy}
199 \LWR@loadafter{draftfigure}
200 \LWR@loadafter{draftwatermark}
201 \LWR@loadafter{easy-todo}
202 \LWR@loadafter{ebook}
203 \LWR@loadafter{ellipsis}
204 \LWR@loadafter{emptypage}
205 \LWR@loadafter{endfloat}
206 \LWR@loadafter{endheads}
207 \LWR@loadafter{endnotes}
208 \LWR@notmemoirloadafter{enumerate}
209 \LWR@loadafter{enumitem}
```

```
210 \LWR@notmemoirloadafter{epigraph}  
211 \LWR@loadafter{epsfig}  
212 \LWR@loadafter{epstopdf}  
213 \LWR@loadafter{epstopdf-base}  
214 \LWR@loadafter{errata}  
215 \LWR@loadafter{eso-pic}  
216 \LWR@loadafter{everypage}  
217 \LWR@loadafter{everyshi}  
218 \LWR@loadafter{extramarks}  
219 \LWR@loadafter{fancybox}  
220 \LWR@loadafter{fancyhdr}  
221 \LWR@loadafter{fancyheadings}  
222 \LWR@loadafter{fancyref}  
223 \LWR@loadafter{fancytabs}  
224 \LWR@loadafter{fancyvrb}  
225 \LWR@loadafter{figcaps}  
226 \LWR@loadafter{figsize}  
227 \LWR@loadafter{fix2col}  
228 \LWR@loadafter{fixme}  
229 \LWR@loadafter{fixmetodonotes}  
230 \LWR@loadafter{flafter}  
231 \LWR@loadafter{flippdf}  
232 \LWR@loadafter{float}  
233 \LWR@loadafter{floatflt}  
234 \LWR@loadafter{floatpag}  
235 \LWR@loadafter{floatrow}  
236 \LWR@loadafter{fltrace}  
237 \LWR@loadafter{flushend}  
238 \LWR@loadafter{fnbreak}  
239 \LWR@loadafter{fncychap}  
240 \LWR@loadafter{fnlineno}  
241 \LWR@loadafter{fnpos}  
242 % fontenc must be loaded before lwarp  
243 % fontspec must be loaded before lwarp  
244 \LWR@loadafter{footmisc}  
245 \LWR@loadafter{footnote}  
246 \LWR@loadafter{footnotehyper}  
247 \LWR@loadafter{footnpag}  
248 \LWR@loadafter{forest}  
249 \LWR@loadafter{framed}  
250 \LWR@loadafter{ftnright}  
251 \LWR@loadafter{fullminipage}  
252 \LWR@loadafter{fullpage}  
253 \LWR@loadafter{fullwidth}  
254 \LWR@loadafter{fwlw}  
255 \LWR@notbxjsloadafter{geometry}  
256 \LWR@loadafter{glossaries}  
257 % \LWR@loadafter{graphics}% pre-loaded by xunicode  
258 % \LWR@loadafter{graphicx}% pre-loaded by xunicode  
259 \LWR@loadafter{glossary}
```

```
260 \LWR@loadafter{grffile}
261 \LWR@loadafter{grid}
262 \LWR@loadafter{grid-system}
263 \LWR@loadafter{gridset}
264 \LWR@loadafter{hang}
265 \LWR@loadafter{hanging}
266 \LWR@loadafter{hypcap}
267 \LWR@loadafter{hypdestopt}
268 \LWR@loadafter{hypernat}
269 \LWR@loadafter{hyperref}
270 \LWR@loadafter{hyperxmp}
271 \LWR@loadafter{hyphenat}
272 \LWR@loadafter{idxlayout}
273 \LWR@loadafter{ifoddpages}
274 \LWR@loadafter{imakeidx}
275 \LWR@loadafter{indentfirst}
276 \LWR@notmemoirloadafter{index}
277 % inputenc must be loaded before lwarp
278 % inputenx must be loaded before lwarp
279 \LWR@loadafter{intopdf}
280 \LWR@loadafter{keyfloat}
281 \LWR@loadafter{layaureo}
282 \LWR@loadafter{layout}
283 \LWR@loadafter{leading}
284 \LWR@loadafter{letterspace}
285 \LWR@loadafter{letrine}
286 \LWR@loadafter{lineno}
287 \LWR@loadafter{lips}
288 \LWR@loadafter{listings}
289 \LWR@loadafter{longtable}
290 \LWR@loadafter{lscap}
291 \LWR@loadafter{ltabx}
292 \LWR@loadafter{ltcaption}
293 \LWR@loadafter{ltxgrid}
294 \LWR@loadafter{ltxtab}
295 \LWR@loadafter{lua-check-hyphen}
296 \LWR@loadafter{lua-visual-debug}
297 \LWR@loadafter{luacolor}
298 \LWR@loadafter{luatodonotes}
299 \LWR@loadafter{magaz}
300 \LWR@notmemoirloadafter{makeidx}
301 \LWR@loadafter{marginfit}
302 \LWR@loadafter{marginfix}
303 \LWR@loadafter{marginnote}
304 \LWR@loadafter{mcaption}
305 \LWR@loadafter{mdframed}
306 \LWR@loadafter{memhfixc}
307 \LWR@loadafter{metalogo}
308 \LWR@loadafter{mhchem}
309 \LWR@loadafter{microtype}
```

```
310 \LWR@loadafter{midfloat}
311 \LWR@loadafter{midpage}
312 \LWR@loadafter{morefloats}
313 \LWR@notmemoirloadafter{moreverb}
314 % morewrites must be loaded before lwarp
315 \LWR@notmemoirloadafter{mparhack}
316 %\LWR@loadafter{multicol}% loaded by ltxdoc
317 \LWR@loadafter{multirow}
318 \LWR@loadafter{multitoc}
319 \LWR@loadafter{musicography}
320 \LWR@loadafter{nameref}
321 \LWR@loadafter{natbib}
322 \LWR@notmemoirloadafter{nccfancyhdr}
323 \LWR@notmemoirloadafter{needspace}
324 % newclude must be loaded before lwarp
325 \LWR@loadafter{newtxmath}
326 % newunicodechar must be loaded before lwarp
327 \LWR@notmemoirloadafter{nextpage}
328 \LWR@loadafter{nicefrac}
329 \LWR@loadafter{nonfloat}
330 \LWR@loadafter{nonumonpart}
331 \LWR@loadafter{nopageno}
332 \LWR@loadafter{notespages}
333 \LWR@loadafter{nowidow}
334 \LWR@loadafter{nththeorem}
335 \LWR@loadafter{octave}
336 \LWR@loadafter{overpic}
337 \LWR@loadafter{pagegrid}
338 \LWR@notmemoirloadafter{pagenote}
339 \LWR@loadafter{pagesel}
340 \LWR@loadafter{paralist}
341 \LWR@loadafter{parnotes}
342 \LWR@notmemoirloadafter{parskip}
343 \LWR@loadafter{pbox}
344 \LWR@loadafter{pdfcomment}
345 \LWR@loadafter{pdfscape}
346 \LWR@loadafter{pdfmarginpar}
347 \LWR@loadafter{pdfpages}
348 \LWR@loadafter{pdfprivacy}
349 \LWR@loadafter{pdfrender}
350 \LWR@loadafter{pdfsync}
351 \LWR@loadafter{pdftricks}
352 \LWR@loadafter{pdfx}
353 \LWR@loadafter{pfnote}
354 \LWR@loadafter{phfqit}
355 \LWR@loadafter{placeins}
356 \LWR@loadafter{prelim2e}
357 \LWR@loadafter{prettyref}
358 \LWR@loadafter{preview}
359 \LWR@loadafter{psfrag}
```

```
360 \LWR@loadafter{psfragx}
361 \LWR@loadafter{pst-eps}
362 \LWR@loadafter{pstool}
363 \LWR@loadafter{pstricks}
364 \LWR@loadafter{quotchap}
365 \LWR@loadafter{quoting}
366 \LWR@loadafter{ragged2e}
367 \LWR@loadafter{realscripts}
368 \LWR@loadafter{refcheck}
369 \LWR@loadafter{register}
370 \LWR@loadafter{relsize}
371 \LWR@loadafter{repeatindex}
372 \LWR@loadafter{resizgather}
373 \LWR@loadafter{romanbar}
374 \LWR@loadafter{romanbarpagenumber}
375 \LWR@loadafter{rotating}
376 \LWR@loadafter{rotfloat}
377 \LWR@loadafter{rviewport}
378 \LWR@loadafter{savetrees}
379 % \LWR@loadafter{scalefnt}% loaded by babel-french
380 \LWR@loadafter{schemata}
381 \LWR@loadafter{scrextend}
382 \LWR@loadafter{scrhack}
383 \LWR@loadafter{sclayer}
384 \LWR@loadafter{sclayer-notecolumn}
385 \LWR@loadafter{sclayer-scrpage}
386 \LWR@loadafter{section}
387 \LWR@loadafter{sectionbreak}
388 \LWR@loadafter{sectsty}
389 \LWR@loadafter{semantic-markup}
390 \LWR@notmemoirloadafter{setspace}
391 \LWR@loadafter{shadow}
392 \LWR@notmemoirloadafter{showidx}
393 \LWR@loadafter{showkeys}
394 \LWR@loadafter{sidecap}
395 \LWR@loadafter{sidenotes}
396 \LWR@loadafter{SIunits}
397 \LWR@loadafter{siunitx}
398 \LWR@loadafter{soul}
399 \LWR@loadafter{soulpos}
400 \LWR@loadafter{soulutf8}
401 \LWR@loadafter{splitidx}
402 \LWR@loadafter{srcltx}
403 \LWR@loadafter{srctex}
404 \LWR@loadafter{stabular}
405 \LWR@notltjsloadafter{stfloats}
406 \LWR@loadafter{subfig}
407 \LWR@loadafter{subfigure}
408 \LWR@loadafter{supertabular}
409 \LWR@loadafter{t1inc}
```

```
410 \LWR@loadafter{tabls}
411 \LWR@notmemoirloadafter{tabularx}
412 \LWR@loadafter{tabulary}
413 \LWR@loadafter{textarea}
414 % \LWR@loadafter{textcomp}% maybe before lwarp with font packages
415 \LWR@loadafter{textfit}
416 \LWR@loadafter{textpos}
417 \LWR@loadafter{theorem}
418 \LWR@loadafter{thinsp}
419 \LWR@loadafter{threadcol}
420 \LWR@loadafter{threeparttable}
421 \LWR@loadafter{thumb}
422 \LWR@loadafter{thumbs}
423 \LWR@loadafter{tikz}
424 \LWR@loadafter{titleps}
425 \LWR@loadafter{titlesec}
426 \LWR@loadafter{titletoc}
427 \LWR@notmemoirloadafter{titling}
428 % \LWR@loadafter{tocbasic}% preloaded by koma-script classes
429 \LWR@notmemoirloadafter{tocbibind}
430 \LWR@loadafter{toccenter}
431 \LWR@notmemoirloadafter{tocloft}
432 \LWR@loadafter{tocstyle}
433 \LWR@loadafter{todo}
434 \LWR@loadafter{todonotes}
435 \LWR@loadafter{tram}
436 \LWR@loadafter{transparent}
437 \LWR@loadafter{trimclip}
438 \LWR@loadafter{trivfloat}
439 \LWR@loadafter{turnthepage}
440 \LWR@loadafter{twoup}

441 % \LWR@loadafter{typearea}% preloaded by koma-script classes
442 % \LWR@loadafter{ulem}% preloaded by ctexart and related classes
443 \LWR@loadafter{underscore}
444 \LWR@loadafter{units}
445 \LWR@loadafter{unitsdef}
446 \LWR@loadafter{upref}
447 \LWR@loadafter{url}
448 \LWR@loadafter{uspace}
449 \LWR@loadafter{varioref}% no lwarp package provided
450 \LWR@notmemoirloadafter{verse}
451 \LWR@loadafter{vertbars}
452 \LWR@loadafter{vmargin}
453 \LWR@loadafter{vowel}
454 \LWR@loadafter{vpe}
455 \LWR@loadafter{vwcol}
456 \LWR@loadafter{wallpaper}
457 \LWR@loadafter{wasysym}
```

---

```

458 \LWR@loadafter{watermark}
459 \LWR@loadafter{widows-and-orphans}
460 \LWR@loadafter{wrapfig}
461 \LWR@loadafter{xbmks}
462 \LWR@loadafter{xcolor}
463 \LWR@loadafter{xexchangebar}
464 \LWR@loadafter{xellipsis}
465 % xetexko-vertical must be loaded before lwarp
466 \LWR@loadafter{xfrac}
467 \LWR@loadafter{xltabular}
468 \LWR@loadafter{xltextra}
469 \LWR@loadafter{xmpincl}
470 \LWR@loadafter{xpiano}
471 \LWR@loadafter{xpinyin}
472 \LWR@loadafter{xtab}
473 % xunicode must be loaded before lwarp
474 \LWR@loadafter{xurl}
475 \LWR@loadafter{xy}
476 \LWR@loadafter{zwpagelayout}

```

## 22 MD5 hashing

The MD5 hash is used for lateximage filenames for svg math.

```

477 \newcommand{\LWR@mdfive}[1]{%
478 \PackageError{lwarp}
479 {No MD5 macro was found.}
480 {Lwarp must find the macros pdfmdfivesum or mdfivesum.}
481 }

```

The default for pdf $\LaTeX$ , dvi $\LaTeX$ , up $\LaTeX$ , etc:

```

482 \let\LWR@mdfive\pdfmdfivesum

```

For Lua $\LaTeX$ :

```

483 \ifLuaTeX
484 \RequirePackage{pdftexcmds}
485 \let\LWR@mdfive\pdfmdfivesum
486 \fi

```

For Xe $\LaTeX$ :

```

487 \ifXeTeX
488 \@ifundefined{pdfmdfivesum}{}

```

```

489     {\let\LWR@mdfive\pdfmdfivesum}
490 \@ifundefined{mdfivesum}{}
491     {\let\LWR@mdfive\mdfivesum}
492 \fi

```

## 23 pdf $\LaTeX$ T1 and UTF-8 encoding

When using pdf $\LaTeX$ , lwarp requires T1 encoding, and recommends UTF-8 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.

```

493 \newcommand*{\LWR@pdfencoding}{%
494     \RequirePackage[T1]{fontenc}
495
496     \@ifpackageloaded{inputenc}{%{
497         \@ifpackageloaded{inputenx}{%{
498             \RequirePackage[utf8]{inputenc}
499         }
500     }
501 }

502 \ifPDFTeX% pdflatex or dvi latex
503     \LWR@pdfencoding
504 \fi
505
506 \ifTeX
507     \LWR@pdfencoding
508 \fi

```

## 24 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.

```

509 \ifpTeX
510 \else
511 \RequirePackage{newunicodechar}
512
513 \newunicodechar{×}{\texttimes}
514
515 \ifPDFTeX% pdflatex or dvi latex
516 \newunicodechar{ff}{ff}% the first arguments are ligatures
517 \newunicodechar{fi}{fi}
518 \newunicodechar{fl}{fl}
519 \newunicodechar{ffi}{ffi}
520 \newunicodechar{ffl}{ffl}
521 \newunicodechar{--}{--}
522 \newunicodechar{-}{-}
523 \fi
524
525 \fi

```

## 25 Upright quotes

In PDF<sub>TEX</sub>, preserve upright quotes in verbatim text. `upquote` also loads `textcomp`.

```

526 \ifPDFTeX
527 \RequirePackage{upquote}
528 \fi
529
530 \ifpTeX
531 \RequirePackage{upquote}
532 \fi

```

## 26 Miscellaneous tools

`\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.

```

533 \newcommand*\LWR@providelength[1]{%
534 \ifdeflength{#1}{\newlength{#1}}%
535 }

```

Prints a length in the given units, without printing the unit itself.

`\LWR@convertto`  $\{\langle dest\ unit\rangle\}\{\langle length\rangle\}$

```
536 \newcommand*\LWR@convertto[2]{\strip@pt\dimexpr #2*65536/\number\dimexpr 1#1}
```

`\LWR@patcherror`  $\{\langle packagename\rangle\}\{\langle macroname\rangle\}$

Prints an error if could not patch a macro.

```
537 \newcommand*\LWR@patcherror[2]{%
538 \PackageError{lwarp}
539 {Unable to patch package #1, macro #2}
540 {Please contact the author of the lwarp package.}
541 }
```

`\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.

```
542 \newcommand\LWR@isolate[1]{#1}%
543
544 \@ifpackageloaded{ctexpatch}{
545   \renewcommand\LWR@isolate[1]{\null#1\null}%
546 }{}
547
548 \@ifpackageloaded{xCJK}{
549   \renewcommand\LWR@isolate[1]{\null#1\null}%
550 }{}
```

## 27 Operating-System portability

|      |            |   |
|------|------------|---|
| Prog | Unix       | lwarp tries to detect which operating system is being used. UNIX / MAC OS / LINUX       |
| Prog | Mac OS     | is the default (collectively referred to as “UNIX” in the configuration files), and MS- |
| Prog | Linux      | WINDOWS is supported as well.   |
| 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        |
| Opt  | OSWindows  | modified, and the boolean usingOSWindows is set true. This boolean may be tested        |
|      |            | by the user for later use.  |

## 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:

```
551 \let\LWRpercent\@percentchar
```

The literal `$` character:

```
552 \catcode'\$=12
553 \def\LWRdollar{$}
554 \catcode'\$=3
```

The literal `&` character:

```
555 \catcode'\&=12
556 \def\LWRamp{&}
557 \catcode'\&=4
```

The literal `\` character. The ampersand is temporarily set to the escape character during the definition of the backslash macro.

```
558 \catcode'\&=0
559 &\catcode'\&=12
560 &\def&\LWRbackslash{\}
561 &\catcode'\&=0
562 \catcode'\&=4
```

The literal `#` character:

```
563 \catcode'\#=12
564 \def\LWRhash{#}
565 \catcode'\#=6
```

`\LWRopquote` The operating system's quote mark, UNIX default. For WINDOWS, see `\LWR@setOSWindows`, below.

```
566 \def\LWRopquote{'}
```

`\LWRopseq` The operating system's sequential execution command, UNIX default. For WINDOWS, see `\LWR@setOSWindows`, below.

```
567 \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.

```
568 \newbool{usingOSWindows}
569 \boolfalse{usingOSWindows}
```

## 27.3 UNIX, LINUX, and MAC OS

\OSPathSymbol    Symbol used to separate directories in a path.

```
570 \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.

```
571 \newcommand*{\LWR@setOSWindows}
572 {
573   \booltrue{usingOSWindows}
574   \renewcommand*{\OSPathSymbol}{\@backslashchar}
575   \def\LWR@opquote{"}
576   \def\LWR@opseq{\space\LWR@amp\space\space}
577 }
```

Test for windows during compile. The user may also specify OSWindows package option in case this test fails.

```
578 \ifwindows
579 \LWR@setOSWindows
580 \fi
```

## 28 Package options

Pkg    kvoptions    Allows key/value package options.

```
581 \RequirePackage{kvoptions}
582 \SetupKeyvalOptions{family=LWR,prefix=LWR@}
```

`\lwarpsetup` A user interface to set the keys:

```
583 \newcommand{\lwarpsetup}[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`.

```
584 \newbool{warpingprint}
585 \newbool{warpingHTML}
586 \newbool{mathjax}
587 \newbool{LWR@origmathjax}
```

**defaults** The default is print output, and svg math if the user chose HTML output.

```
588 \booltrue{warpingprint}%
589 \boolfalse{warpingHTML}%
590 \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.

```
591 \DeclareVoidOption{warpprint}{%
592 \PackageInfo{lwarp}{Using option 'warpprint'}
593 \booltrue{warpingprint}%
594 \boolfalse{warpingHTML}%
595 }
```

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.

```
596 \DeclareVoidOption{warpHTML}{%
597 \PackageInfo{lwarp}{Using option 'warpHTML'}
598 \booltrue{warpingHTML}%
599 \boolfalse{warpingprint}%
600 }
```

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.

```
601 \DeclareVoidOption{mathsvg}{%
602 \PackageInfo{lwarp}{Using option 'mathsvg'}
603 \boolfalse{mathjax}%
604 \boolfalse{LWR@origmathjax}%
605 }
```

Opt `mathjax` Option `mathjax` selects MATHJAX math display: If the `mathjax` option is given, boolean `mathjax` is true, may be used for `\ifbool` tests.

```
606 \DeclareVoidOption{mathjax}{%
607 \PackageInfo{lwarp}{Using option 'mathjax'}
608 \booltrue{mathjax}%
609 \booltrue{LWR@origmathjax}%
610 }
```

Opt `BaseJobname` Option `BaseJobname` sets the `\BaseJobname` for this document.

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.

```
611 \DeclareStringOption[\jobname]{BaseJobname}
```

Opt `makeindexStyle` Selects a custom `.ist` file. The default is `lwarp.ist`. A customized file should be based on `lwarp.ist`, and must retain the lines related to `\hyperindexref`.

```
612 \DeclareStringOption[lwarp.ist]{makeindexStyle}
```

Opt `xindyStyle` Selects a custom `.xdy` file. The default is `lwarp.xdy`. A customized file should be based on `lwarp.xdy`, and must retain the line

```
(markup-locref :open "\hyperindexref{" :close "}")
```

```
613 \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.

```
614 \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.
- ```
615 \DeclareStringOption[utf8]{xindyCodepage}
```
- 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
- ```
616 \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`:
- ```
617 \newbool{LWR@creatinglwarpmk}
618 \boolfalse{LWR@creatinglwarpmk}
619
620 \DeclareVoidOption{lwarpmk}{
621 \PackageInfo{lwarp}{Using option 'lwarpmk'}
622 \booltrue{LWR@creatinglwarpmk}
623 }
```
- 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.
- ```
624 \DeclareVoidOption{OSWindows}{
625 \PackageInfo{lwarp}{Using option 'OSWindows'}
626 \LWR@setOSWindows
627 }
```
- 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.
- Default: `\lwarp`
- ```
628 \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.
- Default: `<empty>`
- ```
629 \DeclareStringOption[] {HTMLFilename}
```

- Opt `PrintLatexCmd` The shell commands to use to compile the print document.  
 Default: `<automatic>`  
 630 `\DeclareStringOption[] {PrintLatexCmd}`
- Opt `HTMLLatexCmd` The shell commands to use to compile the HTML document.  
 Default: `<automatic>`  
 631 `\DeclareStringOption[] {HTMLLatexCmd}`
- Opt `PrintIndexCmd` The shell commands to use to compile the print indexes.  
 Default: `<empty>`  
 632 `\DeclareStringOption[] {PrintIndexCmd}`
- Opt `HTMLIndexCmd` The shell commands to use to compile the HTML indexes.  
 Default: `<empty>`  
 633 `\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*.  
 Default: `<empty>`  
 634 `\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.  
 635 `\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.  
 636 `\DeclareBoolOption[false] {xindy}`
- 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`  
 637 `\DeclareStringOption[makeglossaries] {GlossaryCmd}`
- Opt `latexmk` Option `latexmk` tells *lwarpmk* to use *latexmk* when compiling documents.  
 638 `\DeclareBoolOption[false] {latexmk}`
- Opt `dvips` Option `dvips` tells *lwarpmk* to use *dvips* when compiling DVI *latex* documents.  
 639 `\DeclareBoolOption[false] {dvips}`

Opt dvipdfm Option dvipdfm tells *lwarpmk* to use *dvipdfm* when compiling DVI *latex* documents.

```
640 \DeclareBoolOption[false]{dvipdfm}
```

Opt dvipdfmx Option dvipdfmx tells *lwarpmk* to use *dvipdfmx* when compiling DVI *latex* documents.

```
641 \DeclareBoolOption[false]{dvipdfmx}
```

**Execute options** Execute the package options, with the defaults which have been set just above:

```
642 \ProcessKeyvalOptions*\relax
```

Assign the `\BaseJobname` if the user hasn't provided one:

```
643 \providecommand*\BaseJobname{\LWR@BaseJobname}
```

Defaults unless already over-ridden by the user:

```
644 \ifcsemtyp{\LWR@HomeHTMLFilename}{
645 \newcommand*\HomeHTMLFilename{\BaseJobname}
646 }{
647 \csedef\HomeHTMLFilename{\LWR@HomeHTMLFilename}
648 }
649
650 \csedef\HTMLFilename{\LWR@HTMLFilename}
```

`\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.

```
651 \ifdefempty{\LWR@PrintIndexCmd}{
652   \renewcommand{\LWR@PrintIndexCmd}{%
653     makeindex -s \LWR@makeindexStyle \space \jobname.idx%
654   }
655   \ifbool{\LWR@xindy}{
656     \renewcommand{\LWR@PrintIndexCmd}{%
657       xindy
658       -M \LWR@xindyStyle \space
659       -L \LWR@xindyLanguage \space
660       -C \LWR@xindyCodepage \space
661       \jobname.idx%
662     }
663   }{}
664 }{}
665
666 \ifdefempty{\LWR@HTMLIndexCmd}{
```

```

667 \renewcommand{\LWR@HTMLIndexCmd}{%
668     makeindex -s \LWR@makeindexStyle \space \jobname_html.idx%
669 }
670 \ifbool{LWR@xindy}{
671     \renewcommand{\LWR@HTMLIndexCmd}{%
672         xindy
673         -M \LWR@xindyStyle \space
674         -L \LWR@xindyLanguage \space
675         -C \LWR@xindyCodepage \space
676         \jobname_html.idx%
677     }
678 }{}
679 }{}
680
681 \ifdefempty{\LWR@LatexmkIndexCmd}{
682     \renewcommand{\LWR@LatexmkIndexCmd}{%
683         makeindex -s \LWR@makeindexStyle%
684     }
685     \ifbool{LWR@xindy}{
686         \renewcommand{\LWR@LatexmkIndexCmd}{%
687             xindy
688             -M \LWR@xindyStyle \space
689             -L \LWR@xindyLanguage \space
690             -C \LWR@xindyCodepage%
691         }
692     }{}
693 }{}

```

## 28.1 Conditional compilation

`\warpprintonly` `{\<contents>}`

Only process the contents if producing printed output.

```
694 \newcommand{\warpprintonly}[1]{\ifbool{warpingprint}{#1}{}}
```

`\warphTMLonly` `{\<contents>}`

Only process the contents if producing HTML output.

```
695 \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.

```
696 \RequirePackage{comment}
```

Use `comment_print.cut` for print mode, and `comment_html.cut` for HTML mode. This helps *latexmk* to more reliably know whether to recompile.

```
697 \ifbool{warpingHTML}{
698 \def\DefaultCutFileName{\def\CommentCutFile{comment_html.cut}}
699 }{}
700
701 \ifbool{warpingprint}{
702 \def\DefaultCutFileName{\def\CommentCutFile{comment_print.cut}}
703 }{}
```

Env `warpall` Anything in the `warpall` environment will be generated for print or HTML outputs.

```
704 \includecomment{warpall}
```

Env `warpprint` Anything in the `warpprint` environment will be generated for print output only.

Env `warpHTML`

For HTML output:

```
705 \ifbool{warpingHTML}
706 {\includecomment{warpHTML}}
707 {\excludecomment{warpHTML}}%

708 \ifbool{warpingprint}
709 {\includecomment{warpprint}}
710 {\excludecomment{warpprint}}
```

Optionally generate a local copy of *lwarpmk*. Default to no.

```
711 \ifbool{LWR@creatinglwarpmk}
712 {\includecomment{LWR@createlwarpmk}}
713 {\excludecomment{LWR@createlwarpmk}}
```

## 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: 714 \begin{warpHTML}

Load fontspec if necessary:

```
715 \ifxetexorluatex
716 \@ifpackageloaded{fontspec}{-}{-}{
717     \usepackage[no-math]{fontspec}
718 }
```

The monospaced font is used for HTML tags, so turn off its TeX ligatures and common ligatures:

```
719 \defaultfontfeatures[\rmfamily]{Ligatures={NoCommon,TeX}}
720 \defaultfontfeatures[\sffamily]{Ligatures={NoCommon,TeX}}
721 \defaultfontfeatures[\ttfamily]{Ligatures=NoCommon}
722 \else
```

*pdf<sub>l</sub>atex* only: Only pre-loaded if *pdf<sub>l</sub>atex* is being used.

Pkg microtype

**ligatures** Older browsers don't display ligatures. Turn off letter ligatures, keeping L<sup>A</sup>T<sub>E</sub>X dash and quote ligatures, which may fail on older browsers but at least won't corrupt written words.

```
723 \RequirePackage {microtype}
724
725 \microtypesetup{
726     protrusion=false,
727     expansion=false,
728     tracking=false,
729     kerning=false,
730     spacing=false}
731
732 \DisableLigatures[f,q,t,T,Q]{encoding = *,family = *}
733 \fi
734 \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:** 735 \begin{warpHTML}  
736 \RequirePackage{geometry}

Avoid option conflict by changing settings after package load:

```
737 \geometry{
738     paperheight=190in,%
739     paperwidth=20in,%
740     left=2in,right=6in,%
741     top=1in,bottom=1in,%
742 }
743
744 \@twosidefalse
745 \@mparswitchfalse
746 \end{warpHTML}
```

**for HTML & PRINT:** 747 \begin{warppall}

Pkg xparse

L<sup>A</sup>T<sub>E</sub>X3 command argument parsing

```
748 \RequirePackage{xparse}
```

Pkg calc

```
749 \RequirePackage{calc}
```

```
750 \end{warppall}
```

**for HTML output:** 751 \begin{warpHTML}

Pkg expl3

L<sup>A</sup>T<sub>E</sub>X3 programming

```
752 \RequirePackage{expl3}
```

Pkg gettitlestring

Used to emulate \nameref.

```
753 \RequirePackage{gettitlestring}
```

Pkg everyhook

everyhook is used to patch paragraph handling.

```
754 \@ifundefined{bxjs@everypar}{\let\everypar\bxjs@everypar}
755
756 \RequirePackage{everyhook}
757 \end{warpHTML}
```

**for HTML & PRINT:** 758 \begin{warpall}

Pkg filecontents

Used to write helper files, done in print mode.

Patched 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>

```
759 \RequirePackage{filecontents}
760
761 \@ifpackagelater{filecontents}{2011/10/09}%
762 {}
763 {
764 \newwrite\fcwrite
765 \let\LWR@origfilec@ntents\filec@ntents
766 \def\filec@ntents{\def\chardef##1\write{\let\reserved@c\fcwrite}\LWR@origfilec@ntents}
767 }

768 \end{warpall}
```

**for HTML output:** 769 \begin{warpHTML}

Pkg xifthen

```
770 \RequirePackage{xifthen}
```

Pkg verbatim

```
771 \RequirePackage{verbatim}
```

Pkg refcount

Provides \setcounterref, \setcounterpageref, etc.

```
772 \RequirePackage{refcount}
```

Pkg newfloat

```
773 \RequirePackage{newfloat}
```

```
774 \end{warpHTML}
```

for HTML & PRINT: 775 \begin{warpall}

Pkg xstring

```
776 \RequirePackage{xstring}
```

Pkg environ Used to encapsulate math environments for re-use in HTML <alt> text.

```
777 \RequirePackage{environ}
```

```
778 \end{warpall}
```

for HTML output: 779 \begin{warpHTML}

Pkg zref Used for cross-references.

```
780 \RequirePackage{zref}
```

Pkg printlen Used to convert lengths for image width/height options.

```
781 \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.

```
782 \newrobustcmd*\LWR@printlength}[1]{%
```

```
783 \begingroup%
```

```
784 \uselengthunit{PT}%
```

```
785 \renewcommand*\unitspace{}%
```

```
786 \ifdimless{#1}{10pt}{%
```

```
787   \printlength{#1}%
```

```
788 }{%
```

```
789   \rndprintlength{#1}%
```

```
790 }%
```

```
791 \endgroup%
```

```
792 }
```

```
793 \end{warpHTML}
```

**for PRINT output:** 794 `\begin{warpprint}`

Pkg varwidth Used for print-mode lateximage:

795 `\RequirePackage{varwidth}`

796 `\end{warpprint}`

## 30 Loading packages

**for HTML output:** 797 `\begin{warpHTML}`

Remember the original `\RequirePackage`:

798 `\LetLtxMacro\LWR@origRequirePackage\RequirePackage`

`\LWR@requirepackagenames` Stores the list of required package names.

799 `\newcommand*{\LWR@requirepackagenames}{}`

`\LWR@parsedrequirepackagenames` Stores the parsed list of required package names after spaces are removed and `lwarp-` is prepended.

800 `\newcommand*{\LWR@parsedrequirepackagenames}{}`

`\LWR@checkloadfilename` `{\filename}` Checks if this filename should be loaded after `lwarp`, or never at all.

```
801 \newcommand*{\LWR@checkloadfilename}[1]{%
802 \LWR@checkloadnever{#1}{ae}{latinmodern}
803 \LWR@checkloadnever{#1}{aecc}{latinmodern}
804 \LWR@checkloadnever{#1}{boxedminipage}{boxedminipage2e}
805 \LWR@checkloadnever{#1}{caption2}{caption}
806 \LWR@checkloadnever{#1}{ccaption}{caption}
807 \LWR@checkloadnever{#1}{fancyheadings}{fancyhdr}
808 \LWR@checkloadnever{#1}{glossary}{glossaries}
809 \LWR@checkloadnever{#1}{t1enc}{fontenc, inputenc, inputenx}
810 \LWR@checkloadnever{#1}{wasysym}{textcomp, amssymb, amsfonts, mnsymbol, fdsymbol}
811 %
812 \LWR@checkloadbefore{#1}{ctex}
813 \LWR@checkloadbefore{#1}{fontspec}
814 \LWR@checkloadbefore{#1}{inputenc}
815 \LWR@checkloadbefore{#1}{inputenx}
816 \LWR@checkloadbefore{#1}{kotex}
```

```

817 \LWR@checkloadbefore{#1}{luatexja}
818 \LWR@checkloadbefore{#1}{luatexja-fontspec}
819 \LWR@checkloadbefore{#1}{luatexko}
820 \LWR@checkloadbefore{#1}{morewrites}
821 \LWR@checkloadbefore{#1}{newclude}
822 \LWR@checkloadbefore{#1}{newunicodechar}
823 \LWR@checkloadbefore{#1}{xeCJK}
824 \LWR@checkloadbefore{#1}{xetexko}
825 \LWR@checkloadbefore{#1}{zxjatype}
826 }

```

`\LWR@findword` [*⟨1: separator⟩*] {*⟨2: list⟩*} {*⟨3: index⟩*} [*⟨4: destination⟩*]

Note that argument 4 is passed directly to `\StrBetween`.

```

827 \newcommand*\LWR@findword[3][,]{%
828     \StrBetween[#3,\numexpr#3+1]{#1#2#1}{#1}{#1}%
829 }

```

`\LWR@lookforpackagename` {*⟨index⟩*}

If this is an lwarp-supported package name, re-direct it to the lwarp version by re-naming 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.

```

830 \newcommand*\LWR@lookforpackagename[1]{%

```

Find the index'th package name from the list:

```

831 \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`.

```

832 \StrSubstitute[100]{\LWR@strresult}{ }{}[\LWR@strresulttwo]%

```

See if the package name was found:

```

833 \IfStrEq{\LWR@strresulttwo}{}%
834 {}% no filename
835 {% yes filename was found

```

Check if the package should be loaded before lwarp, or never at all:

```

836 \LWR@checkloadfilename{\LWR@strresulttwo}%

```

If found, and if an lwarp-equivalent name exists, use lwarp-\* instead.

```

837 \IfFileExists{lwarp-\LWR@strresulttwo.sty}%
838 {% lwarp-* file found
839 \ifdefvoid{\LWR@parsedrequirepackagenames}{%
840 \edef\LWR@parsedrequirepackagenames{lwarp-\LWR@strresulttwo}%
841 }{%
842 \edef\LWR@parsedrequirepackagenames{%
843 \LWR@parsedrequirepackagenames,lwarp-\LWR@strresulttwo%
844 }%
845 }%
846 }%
847 {%

848 \ifdefvoid{\LWR@parsedrequirepackagenames}{%
849 \edef\LWR@parsedrequirepackagenames{\LWR@strresulttwo}%
850 }{%
851 \edef\LWR@parsedrequirepackagenames{%
852 \LWR@parsedrequirepackagenames,\LWR@strresulttwo%
853 }%
854 }%
855 }% no lwarp-* file
856 }% yes filename
857 }

```

`\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<sup>A</sup>T<sub>E</sub>X version.

```

858 \RenewDocumentCommand{\RequirePackage}{o m o}{%

```

Redirect up to twenty names:<sup>16</sup>

```

859 \renewcommand*{\LWR@requirepackagenames}{#2}%
860 \renewcommand*{\LWR@parsedrequirepackagenames}{}%
861 \LWR@lookforpackagename{1}%
862 \LWR@lookforpackagename{2}%
863 \LWR@lookforpackagename{3}%
864 \LWR@lookforpackagename{4}%
865 \LWR@lookforpackagename{5}%
866 \LWR@lookforpackagename{6}%
867 \LWR@lookforpackagename{7}%
868 \LWR@lookforpackagename{8}%
869 \LWR@lookforpackagename{9}%
870 \LWR@lookforpackagename{10}%

```

<sup>16</sup>This was originally nine names, but then I came across a package which used twelve...

```

871 \LWR@lookforpackagename{11}%
872 \LWR@lookforpackagename{12}%
873 \LWR@lookforpackagename{13}%
874 \LWR@lookforpackagename{14}%
875 \LWR@lookforpackagename{15}%
876 \LWR@lookforpackagename{16}%
877 \LWR@lookforpackagename{17}%
878 \LWR@lookforpackagename{18}%
879 \LWR@lookforpackagename{19}%
880 \LWR@lookforpackagename{20}%

```

\RequirePackage depending on the options and version:

```

881 \IfValueTF{#1}%
882 {% options given
883   \IfValueTF{#3}% version given?
884   {\LWR@origRequirePackage[#1]{\LWR@parsedrequirepackagenames}[#3]}%
885   {\LWR@origRequirePackage[#1]{\LWR@parsedrequirepackagenames}}%
886 }%
887 {% no options given
888   \IfValueTF{#3}% version given?
889   {\LWR@origRequirePackage{\LWR@parsedrequirepackagenames}[#3]}%
890   {\LWR@origRequirePackage{\LWR@parsedrequirepackagenames}}%
891 }%
892 }
893 \LetLtxMacro\usepackage\RequirePackage

```

\LWR@ProvidesPackagePass *{\pkgname}* [*\version*]

Uses the original package, including options.

```

894 \NewDocumentCommand{\LWR@ProvidesPackagePass}{m o}{
895 \PackageInfo{lwarp}{Using package ‘#1’ and adding lwarp modifications, including options,}%
896 \IfValueTF{#2}
897 {\ProvidesPackage{lwarp-#1}[#2]}
898 {\ProvidesPackage{lwarp-#1}}
899 \DeclareOption*{\PassOptionsToPackage{\CurrentOption}{#1}}
900 \ProcessOptions\relax
901 \IfValueTF{#2}
902 {\LWR@origRequirePackage{#1}[#2]}
903 {\LWR@origRequirePackage{#1}}

```

In some cases, the following seems to be required to avoid an “unknown option” error, such as when loading xcolor with options.

```

904 \DeclareOption*{}%
905 \ProcessOptions\relax
906 }

```

`\LWR@ProvidesPackageDrop`  $\{\langle pkgname \rangle\} [\langle version \rangle]$

Ignores the original package and uses lwarp's version instead. Drops/discards all options.

```
907 \NewDocumentCommand{\LWR@ProvidesPackageDrop}{m o}{
908 \PackageInfo{lwarp}{Replacing package '#1' with the lwarp version, discarding options,}%
909 \IfValueTF{#2}
910 {\ProvidesPackage{lwarp-#1}[#2]}
911 {\ProvidesPackage{lwarp-#1}}}
```

Ignore all options.

```
912 \DeclareOption*{}
```

Nullifies then processes the options. Seems to be required when options contain curly braces, which were causing “Missing `\begin{document}`”.

```
913 % \ProcessOptions\relax% original LaTeX code
914 \let\ds@{}% from the original \ProcessOptions
915 \edef\@curroptions{}% lwarp modification to \ProcessOptions
916 \@processOptions\relax% from the original \ProcessOptions
917 }
```

```
918 \end{warpHTML}
```

## 31 Additional required packages

**for HTML output:** `919 \begin{warpHTML}`

`Pkg caption`

```
920 \RequirePackage{caption}%
```

```
921 \end{warpHTML}
```

## 32 File handles

Defines file handles for writes.

**for HTML & PRINT:** `922 \begin{warppall}`

`\LWR@quickfile` For quick temporary use only. This is reused in several places.

```
923 \newwrite\LWR@quickfile%
```

```
924 \end{warpall}
```

**for HTML output:** `925 \begin{warpHTML}`

`\LWR@lateximagesfile` For lateximages.txt.

```
926 \newwrite\LWR@lateximagesfile
```

```
927 \end{warpHTML}
```

### 33 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<sup>A</sup>T<sub>E</sub>X.

**for HTML output:** `928 \begin{warpHTML}`

```
\include {<filename>}
```

`\@include {<filename>}` Modified to load `_html_inc` files.

```
929 \def\@include#1 {%
930 \immediate\openout\LWR@quickfile #1_html_inc.tex% lwarp
931 \immediate\write\LWR@quickfile{\string\input{#1.tex}}% lwarp
932 \immediate\closeout\LWR@quickfile% lwarp
933 \LWR@origclearpage% \changed
934 \if@filesw
935     \immediate\write\@mainaux{\string\@input{#1_html_inc.aux}}% changed
936 \fi
937 \@tempswatrue
938 \if@partsw
939     \@tempswafalse
```

```

940 \edef\reserved@b{#1}%
941 \@for\reserved@a:=\@partlist\do
942 {\ifx\reserved@a\reserved@b\@tempswatrue\fi}%
943 \fi
944 \if@tempswa
945 \let\@auxout\@partaux
946 \if@files
947 \immediate\openout\@partaux #1_html_inc.aux % changed
948 \immediate\write\@partaux{\relax}%
949 \fi
950 \@input{#1_html_inc.tex}% changed
951 \LWR@origclearpage% changed
952 \@writeckpt{#1}%
953 \if@files
954 \immediate\closeout\@partaux
955 \fi
956 \else
957 \deadcycles\z@
958 \@nameuse{cp@#1}%
959 \fi
960 \let\@auxout\@mainaux%
961 }

962 \end{warpHTML}

```

## 34 Copying a file

**for HTML output:** 963 \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.

```

964 \newwrite\LWR@copyoutfile % open the file to write to
965 \newread\LWR@copyinfile % open the file to read from
966
967 \newcommand*{\LWR@copyfile}[2]{%
968 \LWR@traceinfo{\LWR@copyfile: copying #1 to #2}
969
970 \immediate\openout\LWR@copyoutfile=#2
971 \openin\LWR@copyinfile=#1
972 \begingroup\endlinechar=-1
973 \makeatletter
974
975 \LWR@traceinfo{\LWR@copyfile: about to loop}

```

```

976
977 \loop\unless\ifeof\LWR@copyinfile
978   \LWR@traceinfo{LWR@copyfile: one line}
979   \read\LWR@copyinfile to\LWR@fileline % Read one line and store it into \LWR@fileline
980 %   \LWR@fileline\par % print the content into the pdf
981 % print the content:
982   \immediate\write\LWR@copyoutfile{\unexpanded\expandafter{\LWR@fileline}}%
983 \repeat
984 \immediate\closeout\LWR@copyoutfile
985 \LWR@traceinfo{LWR@copyfile: done}
986 \endgroup
987 }

988 \end{warpHTML}

```

## 35 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:** 989 \begin{warpall}

Bool LWR@tracinglwarp True if tracing is turned on.

```
990 \newbool{LWR@tracinglwarp}
```

\tracinglwarp Turns on the debug tracing messages.

```
991 \newcommand{\tracinglwarp}{\booltrue{LWR@tracinglwarp}}
```

\LWR@traceinfo {<text>} If tracing is turned on, writes the text to the .log file.

```

992 \newcommand{\LWR@traceinfo}[1]{%
993   \ifbool{LWR@tracinglwarp}%
994   {%
995     \typeout{*** lwarp: #1}%
996   }%
997   {}%
998 }

```

Bool HTMLDebugComments Add comments in HTML about closing <div>s, sections, etc.

Default: false

```
999 \newbool{HTMLDebugComments}
1000 \boolfalse{HTMLDebugComments}
```

If `\tracinglwarp`, show where preamble hooks occur:

```
1001 \AfterEndPreamble{
1002 \LWR@traceinfo{AfterEndPreamble}
1003 }
1004
1005 \AtBeginDocument{
1006 \LWR@traceinfo{AtBeginDocument}
1007 }

1008 \end{warpall}
```

## 36 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 copies of the print versions may also be used by the HTML versions, such as when the HTML version merely encloses the print version inside HTML tags.

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`.

**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.

**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.

⚠ Misplaced `\omit` error

```
\LWR@expandableformatted
\LWR@expandableformattedenv
```

(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: 1009 `\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”.

```
1010 \newcommand*{\LWR@formatting}{HTML}
```

`\LWR@formatted` `{\<macroname>}` 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.

```
1011 \newcommand*{\LWR@formatted}[1]{%
1012   \ifcsundef{\LWR@print@#1}{%
1013     \expandafter\LetLtxMacro\csname LWR@print@#1\expandafter\endcsname%
1014     \csname#1\endcsname%
1015   }{%
1016     \ifcsundef{#1}{%
1017       \expandafter\newrobustcmd\csname #1\endcsname{%
1018         \@nameuse{\LWR@\LWR@formatting @#1}%
1019       }%
1020     }{%
1021       \expandafter\renewrobustcmd\csname #1\endcsname{%
1022         \@nameuse{\LWR@\LWR@formatting @#1}%
1023       }%
1024     }%
1025 }
```

`\LWR@expandableformatted`  $\{\langle\textit{macroname}\rangle\}$  No backslash in the macro name.

An expandable version of `\LWR@formatted`.

```

1026 \newcommand*{\LWR@expandableformatted}[1]{%
1027     \ifcsundef\LWR@print@#1}{%
1028         \expandafter\LetLtxMacro\csname LWR@print@#1\expandafter\endcsname%
1029         \csname#1\endcsname%
1030     }{}%
1031     \ifcsundef#1}{%
1032         \expandafter\newcommand\csname #1\endcsname{%
1033             \@nameuse{LWR@\LWR@formatting @#1}%
1034         }%
1035     }{%
1036         \expandafter\renewcommand\csname #1\endcsname{%
1037             \@nameuse{LWR@\LWR@formatting @#1}%
1038         }%
1039     }%
1040 }
```

`\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`.

```

1041 \newcommand*{\LWR@formattedenv}[1]{%
1042     \ifcsundef\LWR@print@#1}{%
1043         \expandafter\LetLtxMacro\csname LWR@print@#1\expandafter\endcsname%
1044         \csname#1\endcsname%
1045         \csletcs{endLWR@print@#1}{end#1}%
1046     }{}%
1047     \DeclareDocumentEnvironment{#1}{}%
1048     {\@nameuse{LWR@\LWR@formatting @#1}}%
1049     {\@nameuse{endLWR@\LWR@formatting @#1}}%
1050 }
```

`\LWR@expandableformattedenv`  $\{\langle\textit{environmentname}\rangle\}$

An expandable version of `LWR@formattedenv`.

```

1051 \newcommand*{\LWR@expandableformattedenv}[1]{%
1052     \ifcsundef\LWR@print@#1}{%
1053         \expandafter\LetLtxMacro\csname LWR@print@#1\expandafter\endcsname%
1054         \csname#1\endcsname%
1055         \csletcs{endLWR@print@#1}{end#1}%
1056     }{}%
```

```

1057 \DeclareExpandableDocumentEnvironment{#1}{-}{%
1058 {\@nameuse{LWR@LWR@formatting @#1}}%
1059 {\@nameuse{endLWR@LWR@formatting @#1}}%
1060 }

1061 \end{warpHTML}

```

## 37 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:** 1062 \begin{warpall}

### 37.1 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

```

1063 \newbool{FormatEPUB}
1064 \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

```

1065 \newbool{FormatWP}
1066 \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.<sup>17</sup>

```
1067 \newbool{WPMarkFloats}
1068 \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.

```
1069 \newbool{WPMarkMinipages}
1070 \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.*

```
1071 \newbool{WPMarkTOC}
1072 \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.*

```
1073 \newbool{WPMarkLOFT}
1074 \boolfalse{WPMarkLOFT}
```

Bool WPMarkMath While formatting for word processors, prints math as L<sup>A</sup>T<sub>E</sub>X code instead of creating  
 Default: false

---

<sup>17</sup>Perhaps some day word processors will have HTML import options for identifying <figure> and <figcaption> tags for figures and tables.

SVG images or MATHJAX. This is useful for cut/paste into the *LibreOffice Writer TeXMaths* extension.

```
1075 \newbool{WPMarkMath}
1076 \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 8 on page 186.

```
1077 \newbool{WPTitleHeading}
1078 \boolfalse{WPTitleHeading}
```

```
1079 \end{warpall}
```

## 37.2 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: 1080 \begin{warpHTML}

```
1081 \AtBeginDocument{
1082 \ifbool{FormatWP}{
1083 \@ifundefined{chapter}{
1084 \ifbool{WPTitleHeading}{% part and section starting at h2
1085 \renewcommand*{\LWR@tagtitle}{h1}
1086 \renewcommand*{\LWR@tagtitleend}{/h1}
1087 \renewcommand*{\LWR@tagpart}{h2}
1088 \renewcommand*{\LWR@tagpartend}{/h2}
1089 \renewcommand*{\LWR@tagsection}{h3}
1090 \renewcommand*{\LWR@tagsectionend}{/h3}
1091 \renewcommand*{\LWR@tagsubsection}{h4}
1092 \renewcommand*{\LWR@tagsubsectionend}{/h4}
1093 \renewcommand*{\LWR@tagsubsubsection}{h5}
1094 \renewcommand*{\LWR@tagsubsubsectionend}{/h5}
1095 \renewcommand*{\LWR@tagparagraph}{h6}
1096 \renewcommand*{\LWR@tagparagraphend}{/h6}
1097 \renewcommand*{\LWR@tagsubparagraph}{span class="subparagraph"}
1098 \renewcommand*{\LWR@tagsubparagraphend}{/span}
1099 }% WPTitleHeading
```

```

1100 {% not WPTitleHeading, part and section starting at h1
1101 \renewcommand*{\LWR@tagtitle}{div class="title"}
1102 \renewcommand*{\LWR@tagtitleend}{/div}
1103 \renewcommand*{\LWR@tagpart}{h1}
1104 \renewcommand*{\LWR@tagpartend}{/h1}
1105 \renewcommand*{\LWR@tagsection}{h2}
1106 \renewcommand*{\LWR@tagsectionend}{/h2}
1107 \renewcommand*{\LWR@tagsubsection}{h3}
1108 \renewcommand*{\LWR@tagsubsectionend}{/h3}
1109 \renewcommand*{\LWR@tagsubsubsection}{h4}
1110 \renewcommand*{\LWR@tagsubsubsectionend}{/h4}
1111 \renewcommand*{\LWR@tagparagraph}{h5}
1112 \renewcommand*{\LWR@tagparagraphend}{/h5}
1113 \renewcommand*{\LWR@tagsubparagraph}{h6}
1114 \renewcommand*{\LWR@tagsubparagraphend}{/h6}
1115 }% not WPTitleHeading
1116 }% chapter undefined
1117 {% chapter defined
1118 \ifbool{WPTitleHeading}{
1119 {% not WPTitleHeading, part and chapter starting at h1
1120 \renewcommand*{\LWR@tagtitle}{div class="title"}
1121 \renewcommand*{\LWR@tagtitleend}{/div}
1122 \renewcommand*{\LWR@tagpart}{h1}
1123 \renewcommand*{\LWR@tagpartend}{/h1}
1124 \renewcommand*{\LWR@tagchapter}{h2}
1125 \renewcommand*{\LWR@tagchapterend}{/h2}
1126 \renewcommand*{\LWR@tagsection}{h3}
1127 \renewcommand*{\LWR@tagsectionend}{/h3}
1128 \renewcommand*{\LWR@tagsubsection}{h4}
1129 \renewcommand*{\LWR@tagsubsectionend}{/h4}
1130 \renewcommand*{\LWR@tagsubsubsection}{h5}
1131 \renewcommand*{\LWR@tagsubsubsectionend}{/h5}
1132 \renewcommand*{\LWR@tagparagraph}{h6}
1133 \renewcommand*{\LWR@tagparagraphend}{/h6}
1134 \renewcommand*{\LWR@tagsubparagraph}{span class="subparagraph"}
1135 \renewcommand*{\LWR@tagsubparagraphend}{/span}
1136 }% not WPTitleHeading
1137 }% chapter defined
1138 }{}% FormatWP
1139 }% AtBeginDocument

1140 \end{warpHTML}

```

## 38 Remembering original formatting macros

for HTML output: 1141 \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.

```

1142 \chardef\LWR@origpound='#
1143 \let\LWR@origcomma\,
1144 \let\LWR@origthinspace\thinspace
1145 \let\LWR@orignegthinspace\negthinspace
1146 \let\LWR@origtilde~
1147 \let\LWR@origenskip\enskip
1148 \let\LWR@origquad\quad
1149 \let\LWR@origqqquad\qqquad
1150 \let\LWR@orighfil\hfil
1151 \let\LWR@orighss\hss
1152 \let\LWR@origllap\llap
1153 \let\LWR@origrlap\rlap
1154 \let\LWR@orighfilneg\hfilneg
1155
1156 \let\LWR@origmedskip\medskip
1157 \let\LWR@origbigskip\bigskip
1158
1159 \let\LWR@origtextellipsis\textellipsis
1160
1161 \LetLtxMacro\LWR@origrmfamily\rmfamily
1162 \LetLtxMacro\LWR@origsffamily\sffamily
1163 \LetLtxMacro\LWR@origttfamily\ttfamily
1164 \LetLtxMacro\LWR@origbfseries\bfseries
1165 \LetLtxMacro\LWR@origmdseries\mdseries
1166 \LetLtxMacro\LWR@origupshape\upshape
1167 \LetLtxMacro\LWR@origslshape\slshape
1168 \LetLtxMacro\LWR@origscshape\scshape
1169 \LetLtxMacro\LWR@origitshape\itshape
1170 \LetLtxMacro\LWR@origem\em
1171 \LetLtxMacro\LWR@orignormalfont\normalfont
1172
1173 \let\LWR@origonecolumn\onecolumn
1174
1175 \let\LWR@origsp\sp
1176 \let\LWR@origsb\sb
1177 \LetLtxMacro\LWR@origtextsuperscript\textsuperscript
1178 \LetLtxMacro\LWR@orig@textsuperscript\@textsuperscript
1179
1180 \AtBeginDocument{
1181 \LetLtxMacro\LWR@origtextsubscript\textsubscript
1182 \LetLtxMacro\LWR@orig@textsubscript\@textsubscript

```

```
1183 }
1184
1185 \LetLtxMacro\LWR@origunderline\underline

1186 \let\LWR@orignewpage\newpage
1187
1188 \let\LWR@origpagestyle\pagestyle
1189 \let\LWR@origthispagestyle\thispagestyle
1190 \LetLtxMacro\LWR@origpagenumbering\pagenumbering
1191
1192 \let\LWR@orignewline\newline
1193
1194
1195 \AtBeginDocument{% in case packages change definition
1196 \let\LWR@orig@trivlist\@trivlist
1197 \let\LWR@origtrivlist\trivlist
1198 \let\LWR@origendtrivlist\endtrivlist
1199 \LetLtxMacro\LWR@origitem\item
1200 \LetLtxMacro\LWR@origitemize\itemize
1201 \LetLtxMacro\LWR@endorigitemize\enditemize
1202 \LetLtxMacro\LWR@origenumerate\enumerate
1203 \LetLtxMacro\LWR@endorigenumerate\endenumerate
1204 \LetLtxMacro\LWR@origdescription\description
1205 \LetLtxMacro\LWR@endorigdescription\enddescription
1206 \let\LWR@orig@mklab\@mklab
1207 \let\LWR@origmakelabel\makelabel
1208 \let\LWR@orig@donoparitem\@donoparitem
1209 \LetLtxMacro\LWR@orig@item\@item
1210 \let\LWR@orig@nbitem\@nbitem
1211 }
1212
1213 \let\LWR@origpar\par
1214
1215 \LetLtxMacro\LWR@origfootnote\footnote
1216 \let\LWR@orig@mpfootnotetext\@mpfootnotetext
1217
1218 \let\LWR@origclearpage\clearpage
1219
1220
1221 \AtBeginDocument{% in case packages change definition
1222 \LetLtxMacro\LWR@orighline\hline%
1223 \LetLtxMacro\LWR@origcline\cline%
1224 }

1225 \end{warpHTML}
```

## 39 Accents

Native L<sup>A</sup>T<sub>E</sub>X accents such as `\"` will work, but many more kinds of accents are available when using Unicode-aware X<sub>Y</sub>L<sup>A</sup>T<sub>E</sub>X and LuaL<sup>A</sup>T<sub>E</sub>X.

**for HTML output:** 1226 `\begin{warpHTML}`

Without `\AtBeginDocument`, `\t` was being re-defined somewhere.

1227 `\AtBeginDocument{`

The following are restored for print when inside a `lateximage`.

For Unicode engines, only `\t` needs to be redefined:

1228 `\LetLtxMacro\LWR@origt\t`

For pdfL<sup>A</sup>T<sub>E</sub>X, additional work is required:

```
1229 \ifPDFTeX% pdflatex or dvi latex
1230 \LetLtxMacro\LWR@origequalaccent\=
1231 \LetLtxMacro\LWR@origdotaccent\.
1232 \LetLtxMacro\LWR@origu\u
1233 \LetLtxMacro\LWR@origv\v
1234 \LetLtxMacro\LWR@origc\c
1235 \LetLtxMacro\LWR@origd\d
1236 \LetLtxMacro\LWR@origb\b
```

The HTML redefinitions follow.

For pdfL<sup>A</sup>T<sub>E</sub>X, Unicode diacritical marks are used:

```
1237 \renewcommand*{\=}[1]{\#1\HTMLUnicode{0305}}
1238 \renewcommand*{\.}[1]{\#1\HTMLUnicode{0307}}
1239 \renewcommand*{\u}[1]{\#1\HTMLUnicode{0306}}
1240 \renewcommand*{\v}[1]{\#1\HTMLUnicode{030C}}
1241 \renewcommand*{\c}[1]{\#1\HTMLUnicode{0327}}
1242 \renewcommand*{\d}[1]{\#1\HTMLUnicode{0323}}
1243 \renewcommand*{\b}[1]{\#1\HTMLUnicode{0331}}
1244 \fi
```

For all engines, a Unicode diacritical tie is used:

```
1245 \def\LWR@t#1#2{\#1\HTMLUnicode{0361}\#2}
1246 \renewcommand*{\t}[1]{\LWR@t#1}
```

`\LWR@restoreorigaccents` Called from `\restoreoriginalformatting` when a lateximage is begun.

```

1247 \ifPDFTeX% pdflatex or dvi latex
1248 \newcommand*{\LWR@restoreorigaccents}{%
1249 \LetLtxMacro\=\LWR@origequalaccent%
1250 \LetLtxMacro\.\LWR@origdotaccent%
1251 \LetLtxMacro\u\LWR@origu%
1252 \LetLtxMacro\v\LWR@origv%
1253 \LetLtxMacro\t\LWR@origt%
1254 \LetLtxMacro\c\LWR@origc%
1255 \LetLtxMacro\d\LWR@origd%
1256 \LetLtxMacro\b\LWR@origb%
1257 }%
1258 \else% XeLaTeX, LuaLaTeX:
1259 \newcommand*{\LWR@restoreorigaccents}{%
1260 \LetLtxMacro\t\LWR@origt%
1261 }%
1262 \fi%
1263 }% AtBeginDocument

1264 \end{warpHTML}

```

## 40 Configuration Files

### 40.1 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:

```

1265 \excludecomment{LWRwriteconf}

```

Generate configuration files if print mode and not `-pstool`:

```

for PRINT output: 1266 \begin{warpprint}
1267 \fullexpandarg%
1268 \IfSubStr*{\jobname}{-pstool}
1269   {
1270     \typeout{lwarp: jobname with -pstool is found,}%
1271     \typeout{lwarp: \space\space not generating configuration files.}%
1272   }
1273   {

```

```

1274      \typeout{lwarp: generating configuration files}
1275      \includecomment{LWRwriteconf}
1276  }
1277 \end{warpprint}

```

## 40.2 project\_html.tex

File `project_html.tex` Used to allow an HTML version of the document to exist alongside the print version.

**Config file:**

```

1278 \begin{LWRwriteconf}
1279 \immediate\openout\LWR@quickfile=\jobname_html.tex
1280 \immediate\write\LWR@quickfile{%
1281 \detokenize{\PassOptionsToPackage}%
1282 {warpHTML,BaseJobname=\jobname}{lwarp}%
1283 }
1284 \immediate\write\LWR@quickfile{%
1285 \detokenize{\input}\string{\jobname.tex\string }%
1286 }
1287 \immediate\closeout\LWR@quickfile
1288 \end{LWRwriteconf}

```

## 40.3 lwarpmk configuration files

**Config file:**

```

1289 \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.)

```

1290 \newcommand*{\LWR@lwarpcnfversion}{1}% also in lwarpmk.lua

```

### 40.3.1 Helper macros

`\LWR@shellescapecmd` The LaTeX compile option for shell escape, if used.

```

1291 \ifshellescape
1292   \def\LWR@shellescapecmd{--shell-escape }
1293 \else
1294   \def\LWR@shellescapecmd{}
1295 \fi

```

`\LWR@compilecmd`  $\{\langle engine \rangle\} \{\langle suffix \rangle\}$

Used to form the basic compilation command for a document, adding the optional shell escape.

Engine is *pdf<sub>l</sub>atex*, etc. Suffix is empty or *\_html*

```
1296 \newcommand*{\LWR@compilecmd}[2]{%
1297     #1 \LWR@shellescapecmd \jobname#2%
1298 }
```

`\LWR@addcompilecmd`    `{\langle cmd \rangle} {\langle suffix \rangle}`

Adds to the compilation command.

Cmd is *dvipdfmx*, etc. Suffix is empty or *\_html*

```
1299 \newcommand*{\LWR@addcompilecmd}[2]{%
1300     \LWRopseq
1301     #1 \jobname#2%
1302 }
```

`\LWR@unknownengine`    Error message if not sure which L<sup>A</sup>T<sub>E</sub>X engine is being used.

```
1303 \newcommand*{\LWR@unknownengine}{%
1304     \PackageError{lwarp}
1305     {Unknown LaTeX engine.}
1306     {\Lwarp only knows about pdflatex, dvi latex, xelatex, and lualatex.}
1307 }
```

`\LWR@latexmkvar`    `{\langle varname \rangle} {\langle value \rangle}`

Adds a *latexmk* variable assignment.

```
1308 \newcommand*{\LWR@latexmkvar}[2]{%
1309     -e
1310     \LWRopquote%
1311     \LWRdollar #1=q/#2/%
1312     \LWRopquote
1313 }
```

`\LWR@latexmkcmd`    `{\langle latexmk options \rangle}`

Sets a call to *latexmk* with the given options, possibly adding `--shell-escape`, and also adding the indexing program.

```
1314 \newcommand*{\LWR@latexmkcmd}[1]{%
1315     latexmk \space \LWR@shellescapecmd \space #1 \space
1316     -recorder \space
```

```

1317 \LWR@latexmkvar{makeindex}{\LWR@LatexmkIndexCmd}
1318 }

```

`\LWR@latexmkdvipdfm` `{\dvipdfm or dvipdfmx}`

Adds the options settings for *dvipdfm* or *dvipdfmx*.

```

1319 \newcommand*\LWR@latexmkdvipdfm[1]{%
1320   -pdftvi \space
1321   \LWR@latexmkvar{dvipdf}{%
1322     #1
1323     \@percentchar O
1324     -o \@percentchar D
1325     \@percentchar S%
1326   }
1327 }

```

`\LWR@compileuplatex` Sets compile options for upL<sup>A</sup>T<sub>E</sub>X with uarticle or related classes.

```

1328 \newcommand*\LWR@compileuplatex{%
1329   \def\LWR@tempprintlatexcmd{%
1330     \LWR@compilecmd{uplatex}{}
1331     \LWR@addcompilecmd{dvipdfmx}{}
1332   }
1333   \def\LWR@tempHTMLlatexcmd{%
1334     \LWR@compilecmd{uplatex}{_html}
1335     \LWR@addcompilecmd{dvipdfmx}{_html}
1336   }
1337 }

```

`\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 '$dvipdf=q/dvipdfmx %0 -o %D %S/'
  -recorder
  -e '$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.

```
1338 \ifbool{LWR@latexmk}{
```

For *latexmk* with *pdflatex* or *lualatex*:

```
1339   \ifpdf
```

For *latexmk* with *pdflatex*:

```
1340       \ifPDFTeX
1341       \def\LWR@latexcmd{\LWR@latexmkcmd{-pdf -dvi- -ps-}}
1342       \else
```

For *latexmk* with *lualatex*:

```
1343       \ifLuaTeX
1344       \def\LWR@latexcmd{\LWR@latexmkcmd{-lualatex}}
1345       \else
1346       \LWR@unknownengine
1347       \fi
1348   \fi
1349   \else% \ifpdf
```

For *latexmk* with *xelatex* or DVI *latex*:

```
1350       \ifXeTeX
```

For *latexmk* with *xelatex*:

```
1351       \def\LWR@latexcmd{\LWR@latexmkcmd{-xelatex}}
1352       \else% \ifXeTeX
```

For *latexmk* with DVI *latex*:

```
1353       \ifbool{LWR@dvipdfm}{
1354       \def\LWR@latexcmd{%
1355       \LWR@latexmkcmd{%
1356       \LWR@latexmkdvipdfm{dvipdfm}%
1357       }
1358       }
1359       }{
```

```

1360         \ifbool{LWR@dvipdfmx}{
1361             \def\LWR@latexcmd{%
1362                 \LWR@latexmkcmd{%
1363                     \LWR@latexmkdvipdfm{dvipdfmx}%
1364                 }
1365             }
1366         }{
1367             \def\LWR@latexcmd{\LWR@latexmkcmd{-pdfps}}
1368         }
1369     }
1370     \fi
1371     \fi% \ifpdf

```

The final assignment if *latexmk*:

```

1372     \def\LWR@tempprintlatexcmd{\LWR@latexcmd \space \jobname}
1373     \def\LWR@tempHTMLlatexcmd{\LWR@latexcmd \space \jobname_html}
1374 }% latexmk

```

Without *latexmk*, the compiling command is simply the compiler name and the optional shell escape:

```

1375 {% not latexmk
1376     \ifpdf

```

For *pdflatex* or *lualatex*:

```

1377         \ifPDFTeX

```

For *pdflatex*:

```

1378         \def\LWR@tempprintlatexcmd{\LWR@compilecmd{pdflatex}{}}
1379         \def\LWR@tempHTMLlatexcmd{\LWR@compilecmd{pdflatex}{_html}}
1380     \else
1381         \ifLuaTeX

```

For *lualatex*:

```

1382         \def\LWR@tempprintlatexcmd{\LWR@compilecmd{lualatex}{}}
1383         \def\LWR@tempHTMLlatexcmd{\LWR@compilecmd{lualatex}{_html}}
1384     \else
1385         \LWR@unknownengine
1386     \fi
1387 \fi
1388 \else% \ifpdf

```

For DVI *latex* or *xelatex*:

```

1389         \ifXeTeX

```

For *xelatex*:

```

1390         \def\LWR@tempprintlatexcmd{\LWR@compilecmd{xelatex}{}}
1391         \def\LWR@tempHTMLlatexcmd{\LWR@compilecmd{xelatex}{_html}}
1392     \else

```

For DVI *latex*. Default to *dvips*, unless told to use *dvipdfm* or *dvipdfmx*:

```

1393         \ifbool{LWR@dvipdfm}{

```

For DVI *latex* with *dvipdfm*:

```

1394         \def\LWR@tempprintlatexcmd{%
1395             \LWR@compilecmd{latex}{}
1396             \LWR@addcompilecmd{dvipdfm}{}
1397         }
1398         \def\LWR@tempHTMLlatexcmd{%
1399             \LWR@compilecmd{latex}{_html}
1400             \LWR@addcompilecmd{dvipdfm}{_html}
1401         }
1402     }{
1403         \ifbool{LWR@dvipdfmx}{

```

For DVI *latex* with *dvipdfmx*:

```

1404         \def\LWR@tempprintlatexcmd{%
1405             \LWR@compilecmd{latex}{}
1406             \LWR@addcompilecmd{dvipdfmx}{}
1407         }
1408         \def\LWR@tempHTMLlatexcmd{%
1409             \LWR@compilecmd{latex}{_html}
1410             \LWR@addcompilecmd{dvipdfmx}{_html}
1411         }
1412     }{% dvips

```

For DVI *latex* with *dvips* and *ps2pdf*:

```

1413         \def\LWR@tempprintlatexcmd{%
1414             \LWR@compilecmd{latex}{}
1415             \LWR@addcompilecmd{dvips}{}
1416             \LWR@addcompilecmd{ps2pdf}{}.ps
1417         }
1418         \def\LWR@tempHTMLlatexcmd{%
1419             \LWR@compilecmd{latex}{_html}
1420             \LWR@addcompilecmd{dvips}{_html}
1421             \LWR@addcompilecmd{ps2pdf}{_html}.ps
1422         }
1423     }
1424 }

```

```

1425      \fi% \ifXeTeX
1426      \fi% \ifpdf
1427 }% latexmk

```

For `ujarticle` and related, using `upLATEX` and `dvipdfmx`:

```

1428 \@ifclassloaded{ujarticle}{\LWR@compileuplatex}{}
1429 \@ifclassloaded{ujbook}{\LWR@compileuplatex}{}
1430 \@ifclassloaded{ujreport}{\LWR@compileuplatex}{}

```

Only make the setting permanent if the original was empty:

```

1431 \ifdefempty{\LWR@PrintLatexCmd}{
1432     \def\LWR@PrintLatexCmd{\LWR@tempprintlatexcmd}
1433 }{}
1434 \ifdefempty{\LWR@HTMLLatexCmd}{
1435     \def\LWR@HTMLLatexCmd{\LWR@tempHTMLlatexcmd}
1436 }{}

```

`\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.

```

1437 \newcommand{\LWR@writeconf}[1]{
1438 \ifcsdef{LWR@quickfile}{}{\newwrite{\LWR@quickfile}}
1439 \immediate\openout\LWR@quickfile=#1
1440 \immediate\write\LWR@quickfile{confversion = [[\LWR@lwarpconfversion]]}
1441 \ifbool{usingOSWindows}{
1442     \immediate\write\LWR@quickfile{opsystem = [[Windows]]}
1443 }{
1444     \immediate\write\LWR@quickfile{opsystem = [[Unix]]}
1445 }
1446 \immediate\write\LWR@quickfile{sourcename = [[\jobname]]}
1447 \immediate\write\LWR@quickfile{homehtmlfilename = [[\HomeHTMLFilename]]}
1448 \immediate\write\LWR@quickfile{htmlfilename = [[\HTMLFilename]]}
1449 \immediate\write\LWR@quickfile{latexmk = [[\ifbool{LWR@latexmk}{true}{false}]]}
1450 \immediate\write\LWR@quickfile{printlatexcmd = [[\LWR@PrintLatexCmd]]}
1451 \immediate\write\LWR@quickfile{HTMLlatexcmd = [[\LWR@HTMLLatexCmd]]}
1452 \immediate\write\LWR@quickfile{printindexcmd = [[\LWR@PrintIndexCmd]]}
1453 \immediate\write\LWR@quickfile{HTMLindexcmd = [[\LWR@HTMLIndexCmd]]}
1454 \immediate\write\LWR@quickfile{latexmkindexcmd = [[\LWR@LatexmkIndexCmd]]}
1455 \immediate\write\LWR@quickfile{glossarycmd = [[\LWR@GlossaryCmd]]}
1456 \immediate\write\LWR@quickfile{pdftotextenc = [[\LWR@pdftotextEnc]]}
1457 \immediate\closeout\LWR@quickfile
1458 }
1459

```

```
1460 \end{LWRwriteconf}
```

### 40.3.2 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:**

```
1461 \begin{LWRwriteconf}
1462
1463 \AtBeginDocument{\LWR@writeconf{lwarpmk.conf}}
1464
1465 \end{LWRwriteconf}
```

### 40.3.3 <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:**

```
1466 \begin{LWRwriteconf}
1467
1468 \AtBeginDocument{\LWR@writeconf{jobname.lwarpmkconf}}
1469
1470 \end{LWRwriteconf}
```

## 40.4 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:**

```
1471 \begin{LWRwriteconf}
1472 \begin{filecontents*}{lwarp.css}
1473 /*
1474 CSS stylesheet for the LaTeX lwarp package
1475 Copyright 2016-2018 Brian Dunn -- BD Tech Concepts LLC
1476 */
1477
1478
1479 /* a fix for older browsers: */
```

```

1480 header, section, footer, aside, nav, main,
1481     article, figure { display: block; }
1482
1483
1484 A:link {color:#000080 ; text-decoration: none ; }
1485 A:visited {color:#800000 ; }
1486 A:hover {color:#000080 ; text-decoration: underline ;}
1487 A:active {color:#800000 ; }
1488
1489 a.tocpart {display: inline-block ; margin-left: 0em ;
1490     font-weight: bold ;}
1491 a.tocchapter {display: inline-block ; margin-left: 0em ;
1492     font-weight: bold ;}
1493 a.tocsection {display: inline-block ; margin-left: 1em ;
1494     text-indent: -.5em ; font-weight: bold ; }
1495 a.tocsubsection {display: inline-block ; margin-left: 2em ;
1496     text-indent: -.5em ; }
1497 a.tocsubsubsection {display: inline-block ; margin-left: 3em ;
1498     text-indent: -.5em ; }
1499 a.tocparagraph {display: inline-block ; margin-left: 4em ;
1500     text-indent: -.5em ; }
1501 a.tocsubparagraph {display: inline-block ; margin-left: 5em ;
1502     text-indent: -.5em ; }
1503 a.tocfigure {margin-left: 0em}
1504 a.tocsubfigure {margin-left: 2em}
1505 a.toctable {margin-left: 0em}
1506 a.tocsubtable {margin-left: 2em}
1507 a.toctheorem {margin-left: 0em}
1508 a.toclstlisting {margin-left: 0em}
1509
1510 body {
1511     font-family: "DejaVu Serif", "Bitstream Vera Serif",
1512         "Lucida Bright", Georgia, serif;
1513     background: #FAF7F4 ;
1514     color: black ;
1515     margin: 0em ;
1516     padding: 0em ;
1517     font-size: 100% ;
1518     line-height: 1.2 ;
1519 }
1520
1521 p {margin: 1.5ex 0em 1.5ex 0em ;}
1522 table p {margin: .5ex 0em .5ex 0em ;}
1523
1524 /* Holds a section number to add space between it and the name */
1525 span.sectionnumber { margin-right: 0em }
1526
1527 /* Inserted in front of index lines */
1528 span.indexitem {margin-left: 0em}
1529 span.indexsubitem {margin-left: 2em}

```

```
1530 span.indexsubsubitem {margin-left: 4em}
1531
1532 div.hidden, span.hidden { display: none ; }
1533
1534 kbd, span.texttt {
1535     font-family: "DejaVu Mono", "Bitstream Vera Mono", "Lucida Console",
1536         "Nimbus Mono L", "Liberation Mono", "FreeMono", "Andale Mono",
1537         "Courier New", monospace;
1538     font-size: 100% ;
1539 }
1540
1541 pre { padding: 3pt ; }
1542
1543 span.strong, span.textbf, div.strong, div.textbf { font-weight: bold; }
1544
1545 span.textit, div.textit { font-style: italic; }
1546
1547 span.textmd, div.textmd { font-weight: normal; }
1548
1549 span.textsc, div.textsc {
1550     font-variant: small-caps;
1551     font-variant-numeric: oldstyle-nums ;
1552 }
1553
1554 span.textsl, div.textsl { font-style: oblique; }
1555
1556 span.textup, div.textup {
1557     font-style: normal;
1558     font-variant: normal;
1559     font-variant-numeric: normal ;
1560 }
1561
1562 span.textrm, div.textrm {
1563     font-family: "DejaVu Serif", "Bitstream Vera Serif",
1564         "Lucida Bright", Georgia, serif;
1565 }
1566
1567 span.textsf, div.textsf {
1568     font-family: "DejaVu Sans", "Bitstream Vera Sans",
1569         Geneva, Verdana, sans-serif ;
1570 }
1571
1572 span.textcircled { border: 1px solid black ; border-radius: 1ex ; }
1573
1574 span.underline {
1575     text-decoration: underline ;
1576     text-decoration-skip: auto ;
1577 }
1578
1579 span.overline {
```

```
1580     text-decoration: overline ;
1581     text-decoration-skip: auto ;
1582 }
1583
1584
1585 /* for vertical text: */
1586 div.verticalrl { writing-mode: vertical-rl }
1587 div.horizontaltb { writing-mode: horizontal-tb }
1588
1589
1590 /* for diagbox */
1591 div.diagboxtitleN { border-bottom: 1px solid gray }
1592 div.diagboxtitleS { border-top: 1px solid gray }
1593
1594 div.diagboxE {
1595     padding-left: 2em ;
1596     text-align: right ;
1597 }
1598
1599 div.diagboxW {
1600     padding-right: 2em ;
1601     text-align: left ;
1602 }
1603
1604
1605
1606 /* For realscripts */
1607 .supsubscript {
1608     display: inline-block;
1609     text-align:left ;
1610 }
1611
1612 .supsubscript sup,
1613 .supsubscript sub {
1614     position: relative;
1615     display: block;
1616     font-size: .5em;
1617     line-height: 1;
1618 }
1619
1620 .supsubscript sup {
1621     top: .5em;
1622 }
1623
1624 .supsubscript sub {
1625     top: .5em;
1626 }
1627
1628 div.attribution p {
1629     text-align: right ;
```

```
1630     font-size: 80%
1631 }
1632
1633 span.poemtitle {
1634     font-size: 120% ; font-weight: bold;
1635 }
1636
1637 pre.tabbing {
1638     font-family: "Linux Libertine Mono O", "Lucida Console",
1639         "Droid Sans Mono", "DejaVu Mono", "Bitstream Vera Mono",
1640         "Liberation Mono", "FreeMono", "Andale Mono",
1641         "Nimbus Mono L", "Courier New", monospace;
1642 }
1643
1644 blockquote {
1645     margin-left: 0px ;
1646     margin-right: 0px ;
1647 }
1648
1649 /* quotchap is for the quotchap package */
1650 div.quotchap {
1651     font-style: oblique ;
1652     overflow-x: auto ;
1653     margin-left: 2em ;
1654     margin-right: 2em ;
1655 }
1656
1657 blockquote p, div.quotchap p {
1658     line-height: 1.5;
1659     text-align: left ;
1660     font-size: .85em ;
1661     margin-left: 3em ;
1662     margin-right: 3em ;
1663 }
1664
1665 /* qauthor is for the quotchap package */
1666 div.qauthor {
1667     display: block ;
1668     text-align: right ;
1669     margin-left: auto ;
1670     margin-right: 2em ;
1671     font-size: 80% ;
1672     font-variant: small-caps;
1673 }
1674
1675 div.qauthor p {
1676     text-align: right ;
1677 }
1678
1679 blockquotation {
```

```
1680     margin-left: 0px ;
1681     margin-right: 0px ;
1682 }
1683
1684 blockquotation p {
1685     line-height: 1.5;
1686     text-align: left ;
1687     font-size: .85em ;
1688     margin-left: 3em ;
1689     margin-right: 3em ;
1690 }
1691
1692 div.epigraph, div.dictum {
1693     line-height: 1.2;
1694     text-align: left ;
1695     padding: 3ex 1em 0ex 1em ;
1696     /* margin: 3ex auto 3ex auto ; */ /* Epigraph centered */
1697     margin: 3ex 1em 3ex auto ; /* Epigraph to the right */
1698     /* margin: 3ex 1em 3ex 1em ; */ /* Epigraph to the left */
1699     font-size: .85em ;
1700     max-width: 27em ;
1701 }
1702
1703 div.epigraphsource, div.dictumauthor {
1704     text-align:right ;
1705     margin-left:auto ;
1706     /* max-width: 50% ; */
1707     border-top: 1px solid #A0A0A0 ;
1708     padding-bottom: 3ex ;
1709     line-height: 1.2;
1710 }
1711
1712 div.epigraph p, div.dictum p { padding: .5ex ; margin: 0ex ;}
1713 div.epigraphsource p, div.dictumauthor p { padding: .5ex 0ex 0ex 0ex ; margin: 0ex ;}
1714 div.dictumauthor { font-style:italic }
1715
1716
1717 /* copyrightbox package */
1718 div.copyrightbox { margin: .5ex .5em }
1719 div.copyrightbox p {margin: 0px .5em ; padding: 0px}
1720 div.copyrightboxnote {text-align: left ; font-size: 60%}
1721
1722
1723 /* lettrine package: */
1724 span.lettrine { font-size: 4ex ; float: left ; }
1725 span.lettrinetext { font-variant: small-caps ; }
1726
1727 /* ulem and soul packages: */
1728 span.uline {
1729     text-decoration: underline ;
```

```
1730     text-decoration-skip: auto ;
1731 }
1732
1733 span.uuline {
1734     text-decoration: underline ;
1735     text-decoration-skip: auto ;
1736     text-decoration-style: double ;
1737 }
1738
1739 span.uwave {
1740     text-decoration: underline ;
1741     text-decoration-skip: auto ;
1742     text-decoration-style: wavy ;
1743 }
1744
1745 span.sout {
1746     text-decoration: line-through ;
1747 }
1748
1749 span.xout {
1750     text-decoration: line-through ;
1751 }
1752
1753 span.dashuline {
1754     text-decoration: underline ;
1755     text-decoration-skip: auto ;
1756     text-decoration-style: dashed ;
1757 }
1758
1759 span.dotuline {
1760     text-decoration: underline ;
1761     text-decoration-skip: auto ;
1762     text-decoration-style: dotted ;
1763 }
1764
1765 span.letterspacing { letter-spacing: .2ex ; }
1766
1767 span.capsspacing {
1768     font-variant: small-caps ;
1769     letter-spacing: .1ex ;
1770 }
1771
1772 span.highlight { background: #F8E800 ; }
1773
1774
1775
1776
1777 html body {
1778     margin: 0 ;
1779     line-height: 1.2;
```

```
1780 }
1781
1782
1783 body div {
1784     margin: 0ex;
1785 }
1786
1787
1788 h1, h2, h3, h4, h5, h6, span.paragraph, span.subparagraph
1789 {
1790     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
1791                 "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
1792                 "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
1793                 "Times New Roman", serif;
1794     font-style: normal ;
1795     font-weight: bold ;
1796     text-align: left ;
1797 }
1798
1799 h1 { /* title of the entire website, used on each page */
1800     text-align: center ;
1801     font-size: 2.5em ;
1802     padding: .4ex 0em 0ex 0em ;
1803 }
1804 h2 { font-size: 2.25em }
1805 h3 { font-size: 2em }
1806 h4 { font-size: 1.75em }
1807 h5 { font-size: 1.5em }
1808 h6 { font-size: 1.25em }
1809 span.paragraph {font-size: 1em ; font-variant: normal ;
1810     margin-right: 1em ; }
1811 span.subparagraph {font-size: 1em ; font-variant: normal ;
1812     margin-right: 1em ; }
1813
1814 div.minisec {
1815     font-family: "DejaVu Sans", "Bitstream Vera Sans",
1816                 Geneva, Verdana, sans-serif ;
1817     font-style: normal ;
1818     font-weight: bold ;
1819     text-align: left ;
1820 }
1821
1822 /* Title of the file */
1823 h1 {
1824     margin: 0ex 0em 0ex 0em ;
1825     line-height: 1.3;
1826     text-align: center ;
1827 }
1828
1829 /* Part */
```

```
1830 h2 {
1831     margin: 1ex 0em 1ex 0em ;
1832     line-height: 1.3;
1833     text-align: center ;
1834 }
1835
1836 /* Chapter */
1837 h3 {
1838     margin: 3ex 0em 1ex 0em ;
1839     line-height: 1.3;
1840 }
1841
1842 /* Section */
1843 h4 {
1844     margin: 3ex 0em 1ex 0em ;
1845     line-height: 1.3;
1846 }
1847
1848 /* Sub-Section */
1849 h5 {
1850     margin: 3ex 0em 1ex 0em ;
1851     line-height: 1.3;
1852 }
1853
1854 /* Sub-Sub-Section */
1855 h6 {
1856     margin: 3ex 0em 1ex 0em ;
1857     line-height: 1.3;
1858 }
1859
1860
1861 div.titlepage {
1862     text-align: center ;
1863 }
1864
1865 .footnotes {
1866     text-align: left ;
1867     font-size: .85em ;
1868     margin: 3ex 2em 0ex 2em ;
1869     border-top: 1px solid silver ;
1870 }
1871
1872 .marginpar, .marginparblock {
1873     max-width: 50%;
1874     float: right;
1875     text-align: left;
1876     margin: 1ex 0.5em 1ex 1em ;
1877     padding: 1ex 0.5em 1ex 0.5em ;
1878     font-size: 85% ;
1879     border-top: 1px solid silver ;
```

```
1880     border-bottom: 1px solid silver ;
1881     overflow-x: auto;
1882 }
1883
1884 .marginpar br { margin-bottom: 2ex ; }
1885
1886 div.marginblock, div.marginparblock {
1887     max-width:50%;
1888     float:right;
1889     text-align:left;
1890     margin: 1ex 0.5em 1ex 1em ;
1891     padding: 1ex 0.5em 1ex 0.5em ;
1892     overflow-x: auto;
1893 }
1894
1895 div.marginblock div.minipage,
1896 div.marginparblock div.minipage {
1897     display: block ;
1898     margin: 0pt auto 0pt auto ;
1899 }
1900
1901 div.marginblock div.minipage p ,
1902 div.marginparblock div.minipage p
1903     { font-size: 85%}
1904
1905 div.marginblock br ,
1906 div.marginparblock br
1907     { margin-bottom: 2ex ; }
1908
1909
1910 section.textbody div.footnotes{
1911     margin: 3ex 2em 0ex 2em ;
1912     border-bottom: 2px solid silver ;
1913 }
1914
1915 .footnoteheader {
1916     border-top: 2px solid silver ;
1917     margin-top: 3ex ;
1918     padding-top: 1ex ;
1919     font-weight: bold ;
1920 }
1921
1922 .mpfootnotes {
1923     text-align: left ;
1924     font-size: .85em ;
1925     margin-left: 1em ;
1926     border-top: 1px solid silver ;
1927 }
1928
1929 /* Remove footnote top border in the title page. */
```

```
1930 div.titlepage div.mpfootnotes {
1931     border-top: none ;
1932 }
1933
1934
1935
1936 ol {
1937     margin: 1ex 1em 1ex 0em;
1938     line-height: 1.2;
1939 }
1940
1941 ul, body dir, body menu {
1942     margin: 3ex 1em 3ex 0em;
1943     line-height: 1.2;
1944 }
1945
1946 li { margin: 0ex 0em 1ex 0em; }
1947
1948 html {
1949     margin: 0;
1950     padding: 0;
1951 }
1952
1953 .programlisting {
1954     font-family: "DejaVu Mono", "Bitstream Vera Mono", "Lucida Console",
1955                 "Nimbus Mono L", "Liberation Mono", "FreeMono", "Andale Mono",
1956                 "Courier New", monospace;
1957     margin: 1ex 0ex 1ex 0ex ;
1958     padding: .5ex 0pt .5ex 0pt ;
1959     overflow-x: auto;
1960 }
1961
1962 section.textbody>pre.programlisting {
1963 border-top: 1px solid silver ;
1964 border-bottom: 1px solid silver ;
1965 }
1966
1967
1968 div.displaymath {
1969     text-align: center ;
1970 }
1971
1972 div.displaymathnumbered {
1973     text-align: right ;
1974     margin-left: 5% ;
1975     margin-right: 5% ;
1976     min-width: 2.5in ;
1977 }
1978
1979 @media all and (min-width: 400px) {
```

```
1980     div.displaymathnumbered {
1981         margin-left: 10% ;
1982         margin-right: 10% ;
1983     }
1984 }
1985
1986 @media all and (min-width: 800px) {
1987     div.displaymathnumbered {
1988         margin-right: 20% ;
1989     }
1990 }
1991
1992 @media all and (min-width: 1200px) {
1993     div.displaymathnumbered {
1994         margin-right: 30% ;
1995     }
1996 }
1997
1998
1999 .inlineprogramlisting {
2000     font-family: "DejaVu Mono", "Bitstream Vera Mono", "Lucida Console",
2001         "Nimbus Mono L", "Liberation Mono", "FreeMono", "Andale Mono",
2002         "Courier New", monospace;
2003     overflow-x: auto;
2004 }
2005
2006 span.listinglabel {
2007     display: inline-block ;
2008     font-size: 70% ;
2009     width: 4em ;
2010     text-align: right ;
2011     margin-right: 2em ;
2012 }
2013
2014 div.abstract {
2015     margin: 2em 5% 2em 5% ;
2016     padding: 1ex 1em 1ex 1em ;
2017 /* font-weight: bold ; */
2018     font-size: 90% ;
2019     text-align: left ;
2020 }
2021
2022 div.abstract dl {line-height:1.5;}
2023 div.abstract dt {color:#304070;}
2024
2025 div.abstracttitle{
2026     font-family: "URW Classico", Optima, "Linux Biolinum O",
2027         "Linux Libertine O", "Liberation Serif", "Nimbus Roman No 9 L",
2028         "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
2029     font-weight:bold;
```

```
2030     font-size:1.25em;
2031     text-align: center ;
2032 }
2033
2034 span.abstractrunintitle{
2035     font-family: "URW Classico", Optima, "Linux Biolinum O",
2036         "Linux Libertine O", "Liberation Serif", "Nimbus Roman No 9 L",
2037         "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
2038     font-weight:bold;
2039 }
2040
2041
2042 .verbatim {
2043     overflow-x: auto ;
2044 }
2045
2046 .alltt {
2047     overflow-x: auto ;
2048 }
2049
2050
2051 .bverbatim {
2052     margin: 1ex Opt 1ex Opt ;
2053     padding: .5ex Opt .5ex Opt ;
2054     overflow-x: auto ;
2055 }
2056
2057 .lverbatim {
2058     margin: 1ex Opt 1ex Opt ;
2059     padding: .5ex Opt .5ex Opt ;
2060     overflow-x: auto ;
2061 }
2062
2063 .fancyvrb {
2064     font-size:.85em ;
2065     margin: 3ex Opt 3ex Opt
2066 }
2067
2068 .fancyvrblabel {
2069     font-weight:bold;
2070     text-align: center ;
2071 }
2072
2073
2074 .verse {
2075     font-family: "Linux Libertine Mono O", "Lucida Console",
2076         "Droid Sans Mono", "DejaVu Mono", "Bitstream Vera Mono",
2077         "Liberation Mono", "FreeMono", "Andale Mono",
2078         "Nimbus Mono L", "Courier New", monospace;
2079     margin-left: 1em ;
```

```
2080 }
2081
2082
2083 div.singlespace { line-height: 1.2 ; }
2084 div.onehalfspace { line-height: 1.5 ; }
2085 div.doublespace { line-height: 2 ; }
2086
2087
2088 /* Word processor format output: */
2089 div.wpfigure { border: 1px solid red ; margin: .5ex ; padding: .5ex ; }
2090 div.wptable { border: 1px solid blue ; margin: .5ex ; padding: .5ex ; }
2091 div.wpminipage { border: 1px solid green ; margin: .5ex ; padding: .5ex ;}
2092
2093
2094
2095
2096 /* Minipage environments, vertically aligned to top, center, bottom: */
2097 .minipage, .fminipage, .fcolorminipage {
2098     /* display: inline-block ; */
2099     /* Mini pages which follow each other will be tiled. */
2100     margin: .25em .25em .25em .25em;
2101     padding: .25em .25em .25em .25em;
2102     display: inline-flex;
2103     flex-direction: column ;
2104     overflow: auto;
2105 }
2106
2107 /* Paragraphs in the flexbox did not collapse their margins. */
2108 /* Have not yet researched this. */
2109 .minipage p {margin: .75ex 0em .75ex 0em ;}
2110
2111 .fbboxBlock .minipage, .colorbox .minipage, .colorboxBlock .minipage,
2112 .fcolorbox .minipage, .fcolorboxBlock .minipage
2113     {border: none ; background: none;}
2114
2115 .fbbox, .fbboxBlock { border: 1px solid black ; }
2116
2117 .fbbox, .fbboxBlock, .fcolorbox, .fcolorboxBlock, .colorbox, .colorboxBlock,
2118 .fminipage, .fcolorminipage
2119     {display: inline-block}
2120
2121 .shadowbox, .shabox {
2122     border: 1px solid black;
2123     box-shadow: 3px 3px 3px #808080 ;
2124     border-radius: 0px ;
2125     padding: .4ex .3em .4ex .3em ;
2126     margin: 0pt .3ex 0pt .3ex ;
2127     display: inline-block ;
2128 }
2129
```

```
2130 .doublebox {
2131     border: 3px double black;
2132     border-radius: 0px ;
2133     padding: .4ex .3em .4ex .3em ;
2134     margin: 0pt .3ex 0pt .3ex ;
2135     display: inline-block ;
2136 }
2137
2138 .ovalbox, .Ovalbox {
2139     border: 1px solid black;
2140     border-radius: 1ex ;
2141     padding: .4ex .3em .4ex .3em ;
2142     margin: 0pt .3ex 0pt .3ex ;
2143     display: inline-block ;
2144 }
2145
2146 .Ovalbox { border-width: 2px ; }
2147
2148 .framebox {
2149     border: 1px solid black;
2150     border-radius: 0px ;
2151     padding: .3ex .2em 0ex .2em ;
2152     margin: 0pt .1ex 0pt .1ex ;
2153     display: inline-block ;
2154 }
2155
2156
2157 .mdframed {
2158     padding: 0ex ;
2159     margin: 2ex 0em 2ex 0em ;
2160 }
2161
2162 .mdframed p { padding: 0ex .5em 0ex .5em ; }
2163
2164 .mdframed dl { padding: 0ex .5em 0ex .5em ; }
2165
2166 .mdframedtitle {
2167     padding: .5ex 0pt 0pt 0pt ;
2168     border-radius: 10pt 10pt 0pt 0pt ;
2169     display: block ;
2170     margin-bottom: 1ex ;
2171 }
2172
2173 .mdframedsubtitle {
2174     display: block ;
2175 }
2176
2177 .mdframedsubsubtitle {
2178     display: block ;
2179 }
```

```
2180
2181 .mdtheorem {
2182     padding: 0ex .5em 0ex .5em ;
2183     margin: 3ex 5% 3ex 5% ;
2184 }
2185
2186
2187 /* framed package */
2188 .framed, pre.boxedverbatim, fcolorbox {
2189     margin: 3ex 0em 3ex 0em ;
2190     border: 1px solid black;
2191     border-radius: 0px ;
2192     padding: .3ex 1em 0ex 1em ;
2193     display: block ;
2194 }
2195
2196 .shaded {
2197     margin: 3ex 0em 3ex 0em ;
2198     padding: .3ex 1em .3ex 1em ;
2199     display: block ;
2200 }
2201
2202 .snugframed {
2203     margin: 3ex 0em 3ex 0em ;
2204     border: 1px solid black;
2205     border-radius: 0px ;
2206     display: block ;
2207 }
2208
2209 .framedleftbar {
2210     margin: 3ex 0em 3ex 0em ;
2211     border-left: 3pt solid black;
2212     border-radius: 0px ;
2213     padding: .3ex .2em .3ex 1em ;
2214     display: block ;
2215 }
2216
2217 .framedtitle {
2218     margin: 0em ;
2219     padding: 0em ;
2220     font-size: 130%
2221 }
2222
2223 .framedtitle p { padding: .3em }
2224
2225
2226
2227 dl {
2228     margin: 1ex 2em 1ex 0em;
2229     line-height: 1.3;
```

```
2230 }
2231
2232 dl dt {
2233     margin-top: 1ex;
2234     margin-left: 1em ;
2235     font-weight: bold;
2236 }
2237
2238 dl dd p { margin-top: 0em; }
2239
2240
2241 nav {
2242     font-family: "URW Classico", Optima, "Linux Biolinum O",
2243         "DejaVu Sans", "Bitstream Vera Sans",
2244         Geneva, Verdana, sans-serif ;
2245     margin-bottom: 4ex ;
2246 }
2247
2248 nav p {
2249     line-height: 1.2 ;
2250     margin-top: .5ex ;
2251     margin-bottom: .5ex;
2252     font-size: .9em ;
2253 }
2254
2255
2256
2257 img, img.hyperimage, img.borderimage {
2258     max-width: 600px;
2259     border: 1px solid silver;
2260     box-shadow: 3px 3px 3px #808080 ;
2261     padding: .5% ;
2262     margin: .5% ;
2263     background: none ;
2264 }
2265
2266 img.inlineimage{
2267     padding: 0px ;
2268     box-shadow: none ;
2269     border: none ;
2270     background: none ;
2271     margin: 0px ;
2272     display: inline-block ;
2273     border-radius: 0px ;
2274 }
2275
2276 img.logoimage{
2277     max-width: 300px ;
2278     box-shadow: 3px 3px 3px #808080 ;
2279     border: 1px solid black ;
```

```
2280     background:none ;
2281     padding:0 ;
2282     margin:.5ex ;
2283     border-radius: 10px ;
2284 }
2285
2286
2287 .section {
2288 /*
2289     To have each section float relative to each other:
2290 */
2291 /*
2292     display: block ;
2293     float: left ;
2294     position: relative ;
2295     background: white ;
2296     border: 1px solid silver ;
2297     padding: .5em ;
2298 */
2299     margin: 0ex .5em 0ex .5em ;
2300     padding: 0 ;
2301 }
2302
2303
2304 figure {
2305     margin: 5ex auto 5ex auto ;
2306     padding: 1ex 1em 1ex 1em ;
2307     overflow-x: auto ;
2308 }
2309
2310
2311 /* To automatically center images in figures: */
2312 /*
2313 figure img.inlineimage {
2314     margin: 0ex auto 0ex auto ;
2315     display: block ;
2316 }
2317 */
2318
2319 /* To automatically center minipages in figures: */
2320 /*
2321 figure div.minipage, figure div.minipage div.minipage {
2322     margin: 1ex auto 1ex auto ;
2323     display: block ;
2324 }
2325 */
2326
2327 figure figure { margin: 0pt }
2328
2329 figure div.minipage p { font-size: 85% ; }
```

```
2330
2331 figure.subfigure, figure.subtable {
2332     display: inline-block ; margin: 3ex 1em 3ex 1em ;
2333 }
2334
2335 figcaption .minipage { margin:0 ; padding: 0 }
2336
2337 div.minipage figure { border: none ; box-shadow: none ; }
2338 div.minipage figure.table { margin: 0ex }
2339 div.minipage div.footnotes { margin: 1ex 2em 0ex 2em }
2340
2341 div.floatrow { text-align: center; }
2342
2343 div.floatrow figure { display: inline-block ; margin: 1ex 2% ; }
2344
2345 div.floatfoot { font-size: .85em ;
2346     border-top: 1px solid silver ; line-height: 1.2 ; }
2347
2348 figcaption , .lstlistingtitle {
2349     font-size: .85em ;
2350     text-align: center ;
2351     font-weight: bold ;
2352     margin-top: 1ex ;
2353     margin-bottom: 1ex ;
2354 }
2355
2356 figure.subfigure figcaption, figure.subtable figcaption {
2357     border-bottom: none ; background: none ;
2358 }
2359
2360 div.nonfloatcaption {
2361     margin: 1ex auto 1ex auto ;
2362     font-size: .85em ;
2363     text-align: center ;
2364     font-weight: bold ;
2365 }
2366
2367 /* For a \RawCaption inside a minipage inside a figure's floatrow: */
2368 figure div.floatrow div.minipage figcaption {
2369     border: none ;
2370     background: none ;
2371 }
2372
2373
2374 /* For packages such as float, rotfloat, and algorithm2e: */
2375
2376 figure.boxed, figure.boxruled {
2377     border: 1px solid black ;
2378 }
2379
```

```

2380 figure.ruled {
2381     border-top: 1px solid black ;
2382     border-bottom: 1px solid black ;
2383     border-left: 0px ;
2384     border-right: 0px ;
2385     border-radius: 0px ;
2386     background: none ;
2387     box-shadow: none ;
2388 }
2389
2390 figure.ruled figcaption, figure.boxruled figcaption {
2391     border-top: 1px solid silver ;
2392     border-bottom: 1px solid silver ;
2393 }
2394
2395
2396 table {
2397     margin: 1ex auto 1ex auto ;
2398     border-collapse: separate ;
2399     border-spacing: 0px ;
2400     line-height: 1.3 ;
2401 }
2402
2403 tr.hline td {border-top: 1px solid #808080 ; margin-top: 0ex ;
2404     margin-bottom: 0ex ; } /* for \hline */
2405
2406 tr.tbrule td {border-top: 1px solid black ; margin-top: 0ex ;
2407     margin-bottom: 0ex ; } /* for \toprule, \bottomrule */
2408
2409 td {padding: .5ex .5em .5ex .5em ;}
2410
2411 table td.tdl { text-align: left ; vertical-align: middle ; }
2412 table td.tdc { text-align: center ; vertical-align: middle ; }
2413 table td.tdat { text-align: center ; vertical-align: middle ; padding: 0px ; margin: 0px ; }
2414 table td.tdbang { text-align: center ; vertical-align: middle ; }
2415 table td.tdr { text-align: right ; vertical-align: middle ; }
2416 table td.tdp { text-align: left ; vertical-align: bottom ; }
2417 table td.tdm { text-align: left ; vertical-align: middle ; }
2418 table td.tdb { text-align: left ; vertical-align: top ; }
2419 table td.tdP { text-align: center ; vertical-align: bottom ; }
2420 table td.tdM { text-align: center ; vertical-align: middle ; }
2421 table td.tdB { text-align: center ; vertical-align: top ; }
2422
2423 table td.tvertbarl { border-left: 1px solid black }
2424 table td.tvertbarldouble { border-left: 4px double black }
2425 table td.tvertbarr { border-right: 1px solid black }
2426 table td.tvertbarrdouble { border-right: 4px double black }
2427
2428 table td.tvertbarldash { border-left: 1px dashed black }
2429 table td.tvertbarldoubledash { border-left: 2px dashed black }

```

```

2430 table td.tvertbarrdash { border-right: 1px dashed black }
2431 table td.tvertbarrdoubledash { border-right: 2px dashed black }
2432
2433
2434 /* for cmidrules: */
2435 table td.tdrule {
2436     border-top: 1px solid #A0A0A0 ;
2437 }
2438
2439 table td.tdrule1 {
2440     border-top-left-radius:.5em ;
2441     border-top: 1px solid #A0A0A0 ;
2442 }
2443
2444 table td.tdruler {
2445     border-top-right-radius:.5em ;
2446     border-top: 1px solid #A0A0A0 ;
2447 }
2448
2449 table td.tdrule1r {
2450     border-top-left-radius:.5em ;
2451     border-top-right-radius:.5em ;
2452     border-top: 1px solid #A0A0A0 ;
2453 }
2454
2455
2456 /* Margins of paragraphs inside table cells: */
2457 td.tdp p , td.tdprule p , td.tdP p , td.tdPrule p { padding-top: 1ex ;
2458     padding-bottom: 1ex ; margin: 0ex ; }
2459 td.tdm p , td.tmbrule p , td.tdM p , td.tdMrule p { padding-top: 1ex ;
2460     padding-bottom: 1ex ; margin: 0ex ; }
2461 td.tdb p , td.tdbrule p , td.tdB p , td.tdBrule p { padding-top: 1ex ;
2462     padding-bottom: 1ex ; margin: 0ex ; }
2463
2464 td.tdp , td.tdprule , td.tdP , td.tdPrule
2465     { padding: 0ex .5em 0ex .5em ; }
2466 td.tdm , td.tdmrule , td.tdM , td.tdMrule
2467     { padding: 0ex .5em 0ex .5em ; }
2468 td.tdb , td.tdbrule , td.tdB , td.tdBrule
2469     { padding: 0ex .5em 0ex .5em ; }
2470
2471
2472 /* table notes: */
2473 .tnotes {
2474     margin: 0ex 5% 1ex 5% ;
2475     padding: 0.5ex 1em 0.5ex 1em;
2476     font-size:.85em;
2477     text-align: left ;
2478 }
2479

```

```
2480 .tnotes dl dt p {margin-bottom:0px;}
2481
2482 .tnoteitemheader {margin-right: 1em;}
2483
2484
2485 /* for colortbl and cell color */
2486 div.cellcolor {
2487     width: 100% ;
2488     padding: .5ex .5em .5ex .5em ;
2489     margin: -.5ex -.5em -.5ex -.5em ;
2490 }
2491
2492
2493 /* for bigdelim */
2494 .ldelim, .rdelim { font-size: 200% }
2495
2496
2497 /* center, flushleft, flushright environments */
2498 div.center{text-align:center;}
2499 div.center table {margin-left:auto;margin-right:auto;}
2500 div.flushleft{text-align:left;}
2501 div.flushleft table {margin-left:0em ; margin-right:auto;}
2502 div.flushright{text-align:right;}
2503 div.flushright table {margin-left:auto ; margin-right: 0em ;}
2504
2505
2506 /* Fancybox */
2507 div.Btrivlist table tr td {
2508     padding: .2ex 0em ;
2509 }
2510
2511
2512 /* program listing callouts: */
2513 span.callout {
2514     font-family: "DejaVu Sans", "Bitstream Vera Sans",
2515         Geneva, Verdana, sans-serif ;
2516     border-radius: .5em;
2517     background-color:black;
2518     color:white;
2519     padding:0px .25em 0px .25em;
2520     margin: 0 ;
2521     font-weight: bold;
2522     font-size:.72em ;
2523 }
2524
2525 div.programlisting pre.verbatim span.callout{
2526     font-size: .85em ;
2527 }
2528
2529 span.verbatim {
```

```
2530     font-family: "DejaVu Mono", "Bitstream Vera Mono", "Lucida Console",
2531         "Nimbus Mono L", "Liberation Mono", "FreeMono", "Andale Mono",
2532         "Courier New", monospace;
2533 }
2534
2535
2536
2537 div.published
2538 {
2539     text-align: center ;
2540     font-variant: normal ;
2541     font-style: italic ;
2542     font-size: 1em ;
2543     margin: 1ex 0em 1ex 0em ;
2544 }
2545
2546 div.subtitle
2547 {
2548     text-align: center ;
2549     font-variant: normal ;
2550     font-style: italic ;
2551     font-size: 1.25em ;
2552     margin: 1ex 0em 1ex 0em ;
2553 }
2554
2555 div.subtitle p { margin: 1ex ; }
2556
2557 div.author
2558 {
2559     font-variant: normal ;
2560     font-style: normal ;
2561     font-size: 1em ;
2562     margin: 1ex 0em 1ex 0em ;
2563 }
2564
2565 div.oneauthor {
2566     display: inline-block ;
2567     margin: 0ex 1em 0ex 1em ;
2568 }
2569
2570 /*
2571 div.author table {
2572     margin: 1ex auto 0ex auto ;
2573     background: none ;
2574 }
2575
2576 div.author table tbody tr td { padding: .25ex ; }
2577 */
2578
2579 span.affiliation {font-size: .85em ; font-variant: small-caps; }
```

```
2580
2581 div.titledate {
2582     text-align: center ;
2583     font-size: .85em ;
2584     font-style: italic;
2585     margin: 1ex 0em 1ex 0em ;
2586 }
2587
2588
2589 nav.topnavigation{
2590     text-align: left ;
2591     padding: 0.5ex 1em 0.5ex 1em ;
2592 /*     margin: 2ex 0em 3ex 0em ; */
2593     margin: 0 ;
2594     border-bottom: 1px solid silver ;
2595     border-top: 1px solid silver ;
2596     clear:right ;
2597 }
2598
2599 nav.botnavigation{
2600     text-align: left ;
2601     padding: 0.5ex 1em 0.5ex 1em ;
2602 /*     margin: 3ex 0em 2ex 0em ; */
2603     margin: 0 ;
2604     border-top: 1px solid silver ;
2605     border-bottom: 1px solid silver ;
2606     clear:right ;
2607 }
2608
2609
2610 header{
2611     line-height: 1.2 ;
2612     font-size: 1em ;
2613 /*     border-bottom: 2px solid silver ; */
2614     margin: 0px ;
2615     padding: 0ex 1em 0ex 1em ;
2616     text-align:center ;
2617 }
2618
2619 header p {margin:0ex;padding:4ex 0em 2ex 0em ;text-align:center;}
2620
2621
2622 footer{
2623     font-size: .85em ;
2624     line-height: 1.2 ;
2625     margin-top: 1ex ;
2626     border-top: 2px solid silver ;
2627     padding: 2ex 1em 2ex 1em ;
2628     clear:right ;
2629     text-align:left ;
```

```
2630 }
2631
2632
2633 a.linkhome { font-weight:bold ; font-size: 1em ;}
2634
2635
2636 div.lateximagesource { padding: 0px ; margin: 0px ; display: none; }
2637
2638 img.lateximage{
2639     padding: 0pt ;
2640     margin: 0pt ;
2641     box-shadow: none ;
2642     border: none ;
2643     background: none ;
2644     max-width: 100% ;
2645     border-radius: 0ex ;
2646     border: none ;
2647 }
2648
2649
2650
2651 nav.sidetoc {
2652     font-family: "DejaVu Serif", "Bitstream Vera Serif",
2653         "Lucida Bright", Georgia, serif;
2654     float:right ;
2655     width: 20%;
2656     border-left: 1px solid silver;
2657     border-top: 1px solid silver;
2658     border-bottom: 1px solid silver;
2659 /*     border-top: 2px solid #808080 ; */
2660     background: #FAF7F4 ;
2661     padding: 2ex 0em 2ex 1em ;
2662     margin: 0ex 0em 2ex 1em ;
2663     font-size:.9em ;
2664     border-radius: 20px 0px 0px 20px ;
2665 }
2666
2667 div.sidetoccontents {
2668 /*     border-top: 1px solid silver ; */
2669     overflow-y: auto ;
2670     width: 100% ;
2671     text-align: left ;
2672 }
2673
2674
2675 nav.sidetoc p {line-height:1.2 ; margin: 1ex .5em 1ex .5em ;
2676     text-indent: 0 ; }
2677
2678 nav.sidetoc p a {color:black ; font-size: .7em ;}
2679
```

```
2680 div.sidetoctitle {font-size: 1.2em; font-weight:bold; text-align:center;
2681     border-bottom: 1px solid silver ;    }
2682
2683 nav.sidetoc a:hover {text-decoration: underline ; }
2684
2685
2686
2687 section.textbody { margin: 0ex 1em 0ex 1em ;}
2688
2689
2690 div.multicolsheading { -webkit-column-span: all;
2691     -moz-column-span: all; column-span: all; }
2692 div.multicols { -webkit-columns: 3 380px ;
2693     -moz-columns: 3 380px ; columns: 3 380px ; }
2694 div.multicols p {margin-top: 0ex}
2695
2696
2697 /* Used for xfrac and nicefrac: */
2698 span.numerator {
2699     font-size: 60% ;
2700     vertical-align: .4em ;
2701 }
2702
2703 span.denominator {
2704     font-size: 60%
2705 }
2706
2707
2708 /* Used for algorithm2e: */
2709 div.alg2evline{
2710     margin-left: 1em ;
2711     padding-left: 1em ;
2712     border-left: 1px solid black ;
2713     border-radius: 0px 0px 0px 1ex ;
2714 }
2715
2716 div.alg2evsline{
2717     margin-left: 1em ;
2718     padding-left: 1em ;
2719     border-left: 1px solid black ;
2720 }
2721
2722 div.alg2enoline{
2723     margin-left: 1em ;
2724     padding-left: 1em ;
2725 }
2726
2727 span.alg2elinenumber{
2728     margin-right: .5em ;
2729     font-size: 50% ;
```

```
2730     color: red ;
2731 }
2732
2733
2734 /* Used for algorithmicx: */
2735 span.floatright { float: right ; }
2736
2737
2738
2739
2740 /* Native LaTeX theorems: */
2741
2742 .theoremcontents { font-style: italic; margin-top: 3ex ; margin-bottom: 3ex ; }
2743 .theoremlabel { font-style: normal; font-weight: bold ; margin-right: .5em ; }
2744
2745
2746 /* theorem, amsthm, and ntheorem packages */
2747
2748 span.theoremheader,
2749 span.theoremheaderplain,
2750 span.theoremheaderdefinition,
2751 span.theoremheaderbreak,
2752 span.theoremheadermarginbreak,
2753 span.theoremheaderchangebreak,
2754 span.theoremheaderchange,
2755 span.theoremheadermargin
2756 {
2757     font-style:normal ; font-weight: bold ; margin-right: 1em ;
2758 }
2759
2760 span.amsthmnameplain,
2761 span.amsthmnamedefinition,
2762 span.amsthmnumberplain,
2763 span.amsthmnumberdefinition
2764 {
2765     font-style:normal ; font-weight: bold ;
2766 }
2767
2768
2769 span.amsthmnameremark,
2770 span.amsthmnumberremark
2771 {font-style:italic ; font-weight: normal ; }
2772
2773
2774 span.amsthmnoteplain,
2775 span.amsthmnotedefinition
2776 {font-style:normal ;}
2777
2778
2779 span.theoremheaderremark,
```

---

```

2780 span.theoremheaderproof,
2781 span.amsthmproofname
2782 {font-style:italic ; font-weight: normal ; margin-right: 1em ; }
2783
2784 span.theoremheadersc
2785 {
2786     font-style:normal ;
2787     font-variant: small-caps ;
2788     font-weight: normal ;
2789     margin-right: 1em ;
2790 }
2791
2792 .theoremdemark {float:right}
2793
2794 div.amsthmbodyplain, div.theorembodyplain, div.theorembodynonumberplain,
2795 div.theorembodybreak, div.theorembodynonumberbreak,
2796 div.theorembodymarginbreak,
2797 div.theorembodychangebreak,
2798 div.theorembodychange,
2799 div.theorembodymargin
2800 {
2801     font-style:italic;
2802     margin-top: 3ex ; margin-bottom: 3ex ;
2803 }
2804
2805 div.theorembodydefinition, div.theorembodyremark, div.theorembodyproof,
2806 div.theorembodyplainupright, nonumberplainuprightsc,
2807 div.amsthmbodydefinition, div.amsthmbodyremark,
2808 div.amsthmproof
2809 {
2810     font-style: normal ;
2811     margin-top: 3ex ; margin-bottom: 3ex ;
2812 }
2813
2814 span.amsthmnoteremark {}
2815
2816
2817 /*
2818 For CSS LaTeX and related logos:
2819 Based on spacing demonstrated by the metafont package.
2820 */
2821
2822 .latexlogofont {
2823     font-family: "Linux Libertine O", "Nimbus Roman No 9 L",
2824         "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
2825     font-variant: normal ;
2826 }
2827
2828 .latexlogo {
2829     font-family: "Linux Libertine O", "Nimbus Roman No 9 L",

```

```
2830         "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
2831     font-size: 1.1em;
2832 }
2833
2834 .latexlogosup {
2835     text-transform: uppercase;
2836     letter-spacing: .03em ;
2837     font-size: 0.7em;
2838     vertical-align: 0.25em;
2839     margin-left: -0.4em;
2840     margin-right: -0.15em;
2841 }
2842
2843 .latexlogosub {
2844     text-transform: uppercase;
2845     vertical-align: -0.27ex;
2846     margin-left: -0.08em;
2847     margin-right: -0.07em;
2848     font-size: 1em;
2849 }
2850
2851 .latexlogotwoe {
2852     text-transform: none ;
2853     font-variant-numeric: oldstyle-nums ;
2854 }
2855
2856 .latexlogotwoesub {
2857     font-style:italic ;
2858     vertical-align: -0.27ex;
2859     margin-left: -0.11em;
2860     margin-right: -0.1em;
2861     font-size: 1em;
2862 }
2863
2864 .xelatexlogo {
2865     font-family: "Linux Libertine O", "Nimbus Roman No 9 L",
2866         "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
2867     letter-spacing: .03em ;
2868     font-size: 1.1em;
2869 }
2870
2871 .xelatexlogosub {
2872     vertical-align: -0.27ex;
2873     margin-left: -0.0667em;
2874     margin-right: -.05em;
2875     font-size: 1em;
2876     letter-spacing: .03em ;
2877 }
2878
2879 .amslogo {
```

```
2880     font-family: "TeXGyreChorus","URW Chancery L",
2881             "Apple Chancery","ITC Zapf Chancery","Monotype Corsiva",
2882             "Linux Libertine O", "Nimbus Roman No 9 L", "FreeSerif",
2883             "Hoefler Text", Times, "Times New Roman", serif ;
2884     font-style: italic ;
2885 }
2886
2887 .lyxlogo {
2888     font-family: "URW Classico", Optima, "Linux Biolinum O",
2889             "DejaVu Sans", "Bitstream Vera Sans", Geneva,
2890             Verdana, sans-serif ;
2891 }
2892
2893
2894 /* Only display top and bottom navigation if a small screen: */
2895 /* Hide the sidetoc if a small screen: */
2896 nav.topnavigation { display:none; }
2897 nav.botnavigation { display:none; }
2898
2899 @media screen and (max-width: 45em) {
2900 /*     nav.sidetoc {display:none;} */
2901     nav.sidetoc {
2902         float: none ;
2903         width: 100% ;
2904         margin: 5ex 0px 5ex 0px ;
2905         padding: 0 ;
2906         border-radius: 0 ;
2907         border-bottom: 1px solid black ;
2908         border-top: 1px solid black ;
2909         box-shadow: none ;
2910     }
2911 /*     nav.topnavigation { display:block } */
2912     nav.botnavigation { display:block }
2913     .marginpar {
2914         max-width: 100%;
2915         float: none;
2916         display:block ;
2917         margin: 1ex 1em 1ex 1em ;
2918     }
2919 }
2920
2921 @media print {
2922     body {
2923         font-family: "Linux Libertine O",
2924             "DejaVu Serif", "Bitstream Vera Serif",
2925             "Liberation Serif", "Nimbus Roman No 9 L",
2926             "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
2927     }
2928     nav.sidetoc { display:none; }
2929     nav.topnavigation { display: none; }
```

```

2930     nav.botnavigation { display: none; }
2931 }
2932
2933 @media handheld {
2934     nav.sidetoc { display:none; }
2935     nav.topnavigation { display:block }
2936     nav.botnavigation { display:block }
2937 }
2938
2939 @media projection {
2940     nav.sidetoc { display:none; }
2941     nav.topnavigation { display:block }
2942     nav.botnavigation { display:block }
2943 }
2944 \end{filecontents*}
2945 % \end{Verbatim}% for syntax highlighting
2946 \end{LWRwriteconf}

```

## 40.5 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:**

```

2947 \begin{LWRwriteconf}
2948 \begin{filecontents*}{lwarp_sagebrush.css}
2949 @import url("lwarp.css") ;
2950
2951
2952 A:link {color:#105030 ; text-decoration: none ; }
2953 A:visited {color:#705030 ; text-shadow:1px 1px 2px #a0a0a0;}
2954 A:hover {color:#006000 ; text-decoration: underline ; text-shadow:0px 0px 2px #a0a0a0;}
2955 A:active {color:#00C000 ; text-shadow:1px 1px 2px #a0a0a0;}
2956
2957
2958
2959 h1, h2, h3, h4, h5, h6, span.paragraph, span.subparagraph
2960 {
2961     font-family: "URW Classico", Optima, "Linux Biolinum O",
2962         "Linux Libertine O", "Liberation Serif",
2963         "Nimbus Roman No 9 L", "FreeSerif",
2964         "Hoefler Text", Times, "Times New Roman", serif;
2965     font-variant: small-caps ;
2966     font-weight: normal ;
2967     color: #304070 ;
2968     text-shadow: 2px 2px 3px #808080;
2969 }

```

```
2970
2971 h1 { /* title of the entire website, used on each page */
2972     font-variant: small-caps ;
2973     color: #304070 ;
2974     text-shadow: 2px 2px 3px #808080;
2975     background-color: #F7F7F0 ;
2976     background-image: linear-gradient(to bottom, #F7F7F0, #C0C0C4);
2977 }
2978
2979 h1 {
2980     border-bottom: 1px solid #304070;
2981     border-top: 2px solid #304070;
2982 }
2983
2984 h2 {
2985     border-bottom: 1px solid #304070;
2986     border-top: 2px solid #304070;
2987     background-color: #F7F7F0 ;
2988     background-image: linear-gradient(to bottom, #F7F7F0, #DAD0C0);
2989 }
2990
2991
2992
2993 div.abstract {
2994     background: #f5f5eb ;
2995     background-image: linear-gradient(to bottom, #f5f5eb, #C8C8B8);
2996
2997     border: 1px solid silver;
2998     border-radius: 1em ;
2999 }
3000
3001 div.abstract dl {line-height:1.5;}
3002 div.abstract dt {color:#304070;}
3003
3004 div.abstracttitle{
3005     font-family: "URW Classico", Optima, "Linux Biolinum O",
3006         "Linux Libertine O", "Liberation Serif", "Nimbus Roman No 9 L",
3007         "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
3008     font-weight:bold;
3009     font-variant: small-caps ;
3010     font-size:1.5em;
3011     border-bottom: 1px solid silver ;
3012     color: #304070 ;
3013     text-align: center ;
3014     text-shadow: 1px 1px 2px #808080;
3015 }
3016
3017 span.abstracrunintitle{
3018     font-family: "URW Classico", Optima, "Linux Biolinum O",
3019         "Linux Libertine O", "Liberation Serif", "Nimbus Roman No 9 L",
```

```
3020         "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
3021     font-weight:bold;
3022 }
3023
3024
3025 div.epigraph, div.dictum {
3026     background: #f5f5eb ;
3027     background-image: linear-gradient(to bottom, #f5f5eb, #C8C8B8);
3028
3029     border: 1px solid silver ;
3030     border-radius: 1ex ;
3031     box-shadow: 3px 3px 3px #808080 ;
3032 }
3033
3034
3035 .example {
3036     background-color: #f5f5eb ;
3037     background-image: linear-gradient(to bottom, #f5f5eb, #C8C8B8);
3038
3039 }
3040
3041 div.exampletitle{
3042     font-family: "URW Classico", Optima, "Linux Biolinum O",
3043         "Linux Libertine O", "Liberation Serif", "Nimbus Roman No 9 L",
3044         "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
3045     font-weight:bold;
3046     font-variant: small-caps ;
3047     border-bottom: 1px solid silver ;
3048     color: #304070 ;
3049     text-align: center ;
3050     text-shadow: 1px 1px 2px #808080;
3051 }
3052
3053
3054 .sidebar {
3055     background-color: #f5f5eb ;
3056     background-image: linear-gradient(to bottom, #f5f5eb, #C8C8B8);
3057
3058 }
3059
3060 div.sidebar{
3061     font-family: "URW Classico", Optima, "Linux Biolinum O",
3062         "Linux Libertine O", "Liberation Serif", "Nimbus Roman No 9 L",
3063         "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
3064     font-weight:bold;
3065     font-variant: small-caps ;
3066     border-bottom: 1px solid silver ;
3067     color: #304070 ;
3068     text-align: center ;
3069     text-shadow: 1px 1px 2px #808080;
```

```
3070 }
3071
3072
3073 .fancyvrblabel {
3074     font-family: "URW Classico", Optima, "Linux Biolinum O",
3075         "Linux Libertine O", "Liberation Serif", "Nimbus Roman No 9 L",
3076         "FreeSerif", "Hoefler Text", Times, "Times New Roman", serif;
3077     font-weight:bold;
3078     font-variant: small-caps ;
3079     font-size: 1.5em ;
3080     color: #304070 ;
3081     text-align: center ;
3082     text-shadow: 1px 1px 2px #808080;
3083 }
3084
3085 div.minipage {
3086     background-color: #eeeeee7 ;
3087     border: 1px solid silver ;
3088     border-radius: 1ex ;
3089 }
3090
3091 table div.minipage { background: none ; border: none ; }
3092
3093 div.framebox div.minipage {border:none ; background:none}
3094
3095 section.textbody > div.minipage {
3096     box-shadow: 3px 3px 3px #808080 ;
3097 }
3098
3099 div.fboxBlock div.minipage { box-shadow: none ; }
3100
3101 .framed .minipage , .framedleftbar .minipage {
3102     border: none ;
3103     background: none ;
3104     padding: 0ex ;
3105     margin: 0ex ;
3106 }
3107
3108 figure.figure .minipage, figcaption .minipage { border: none; }
3109
3110 div.marginblock div.minipage ,
3111 div.marginparblock div.minipage
3112     { border: none; }
3113
3114 figure , div.marginblock {
3115     background-color: #eeeeee7 ;
3116     border: 1px solid silver ;
3117     border-radius: 1ex ;
3118     box-shadow: 3px 3px 3px #808080 ;
3119 }
```

```
3120
3121 figure figure {
3122     border: 1px solid silver ;
3123     margin: 0em ;
3124     box-shadow: none ;
3125 }
3126
3127 /*
3128 figcaption {
3129     border-top: 1px solid silver ;
3130     border-bottom: 1px solid silver ;
3131     background-color: #e8e8e8 ;
3132 }
3133 */
3134
3135
3136 div.table {
3137     box-shadow: 3px 3px 3px #808080 ;
3138 }
3139
3140 /*
3141 .tnotes {
3142     background: #e8e8e8;
3143     border: 1px solid silver;
3144 }
3145 */
3146
3147
3148 nav.topnavigation{
3149     background-color: #b0b8b0 ;
3150     background-image: linear-gradient(to bottom,#e0e0e0,#b0b8b0) ;
3151 }
3152
3153 nav.botnavigation{
3154     background-color: #b0b8b0 ;
3155     background-image: linear-gradient(to top,#e0e0e0,#b0b8b0) ;
3156 }
3157
3158
3159
3160 header{
3161     background-color: #F7F7F0 ;
3162     background-image: linear-gradient(to top, #F7F7F0, #b0b8b0);
3163 }
3164
3165 footer{
3166     background-color: #F7F7F0 ;
3167     background-image: linear-gradient(to bottom, #F7F7F0, #b0b8b0);
3168 }
3169
```

```

3170
3171
3172 nav.sidetoc {
3173     background-color: #F7F7F0 ;
3174     background-image: linear-gradient(to bottom, #F7F7F0, #C0C0C0);
3175     box-shadow: 3px 3px 3px #808080 ;
3176     border-radius: 0px 0px 0px 20px ;
3177 }
3178
3179 div.sidetoc title {color: #304070 ; }
3180
3181 nav.sidetoc a:hover {
3182     color:#006000 ;
3183     text-decoration: none ;
3184     text-shadow:0px 0px 2px #a0a0a0;
3185 }
3186
3187
3188 @media screen and (max-width: 45em) {
3189     nav.sidetoc { border-radius: 0 ; }
3190 }
3191
3192
3193 \end{filecontents*}
3194 % \end{Verbatim}% for syntax highlighting
3195 \end{LWRwriteconf}

```

## 40.6 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:**

```

3196 \begin{LWRwriteconf}
3197 \begin{filecontents*}{lwarp_formal.css}
3198 @import url("lwarp.css") ;
3199
3200
3201
3202 A:link {color:#802020 ; text-decoration:none; }
3203 A:visited {color:#802020 ; text-shadow:none ;}
3204 A:hover {color:#400000 ; text-shadow:none ;}
3205 A:active {color:#C00000 ; text-shadow:none ;}
3206
3207
3208 body {
3209     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",

```

```
3210         "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
3211         "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
3212         "Times New Roman", serif;
3213     background: #fffcf5;
3214 }
3215
3216 span.textrm {
3217     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
3218     "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
3219     "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
3220     "Times New Roman", serif;
3221 }
3222
3223 span.textsf {
3224     font-family: "DejaVu Sans", "Bitstream Vera Sans",
3225     Geneva, Verdana, sans-serif ;
3226 }
3227
3228
3229
3230 h1, h2, h3, h4, h5, h6, span.paragraph, span.subparagraph
3231 {
3232     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
3233     "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
3234     "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
3235     "Times New Roman", serif;
3236     color: #800000 ;
3237     text-shadow: none ;
3238 }
3239
3240 h1, h2 {
3241     background-color: #fffcf5 ;
3242     background-image: none ;
3243     border-bottom: 1px solid #808080;
3244     border-top: 2px solid #808080;
3245 }
3246
3247 div.abstracttitle {
3248     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
3249     "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
3250     "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
3251     "Times New Roman", serif;
3252     color: black ;
3253     text-shadow: none ;
3254 }
3255
3256 span.abstracrunintitle {
3257     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
3258     "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
3259     "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
```

```
3260         "Times New Roman", serif;
3261     color: black ;
3262     text-shadow: none ;
3263 }
3264
3265 div.abstract { font-size: 100% }
3266
3267 .sidebar {
3268     background: #fffcf5;
3269     background-image: none ;
3270     margin: 2em 5% 2em 5%;
3271     padding: 0.5em 1em;
3272     border: none ;
3273     border-top : 1px solid silver;
3274     border-bottom : 1px solid silver;
3275     font-size: 90% ;
3276 }
3277
3278 div.sidebartitle{
3279     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
3280         "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
3281         "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
3282         "Times New Roman", serif;
3283     color: #800000 ;
3284     text-shadow: none ;
3285     border: none ;
3286 }
3287
3288 .example {
3289     background: #fffcf5;
3290     background-image: none ;
3291     margin: 2em 5% 2em 5%;
3292     padding: 0.5em 1em;
3293     border: none ;
3294     border-top : 1px solid silver;
3295     border-bottom : 1px solid silver;
3296 }
3297
3298 div.exampletitle{
3299     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
3300         "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
3301         "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
3302         "Times New Roman", serif;
3303     color: #800000 ;
3304     text-shadow: none ;
3305     border: none ;
3306 }
3307
3308 div.fancyvrlabel{
3309     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
```

```
3310      "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
3311      "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
3312      "Times New Roman", serif;
3313      color: #800000 ;
3314      text-shadow: none ;
3315      border: none ;
3316 }
3317
3318
3319
3320 figure {
3321     margin: 5ex 5% 5ex 5% ;
3322     padding: 1ex 1em 1ex 1em ;
3323     background-color: #ffffcf5 ;
3324     overflow-x: auto ;
3325     border: none ;
3326 /*     border-top: 1px solid silver; */
3327 /*     border-bottom: 1px solid silver; */
3328 }
3329
3330
3331 figcaption , .lstlisting {
3332     border: none ;
3333 /*     border-top: 1px solid silver ; */
3334 /*     border-bottom: 1px solid silver ; */
3335     background-color: #ffffcf5 ;
3336 }
3337
3338 .tnotes {
3339     background: #ffffcf5 ;
3340 }
3341
3342 .theorem {
3343     background: none ;
3344 }
3345
3346 .minipage {
3347     background-color: #ffffcf5 ;
3348     border: none ;
3349 }
3350
3351 div.floatrow figure { border: none ; }
3352
3353 figure figure { border: none ; }
3354
3355
3356 nav.toc, nav.lof, nav.lot, nav.lol {
3357     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
3358     "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
3359     "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
```

```

3360         "Times New Roman", serif;
3361 }
3362
3363 nav.sidetoc {
3364     font-family: "Linux Libertine O", "Hoefler Text", "Garamond",
3365         "Bembo", "Janson", "TeX Gyre Pagella", "Palatino",
3366         "Liberation Serif", "Nimbus Roman No 9 L", "FreeSerif", Times,
3367         "Times New Roman", serif;
3368     background-image: linear-gradient(to bottom, #fffcf5, #COCOCO);
3369     border-radius: 0px 0px 0px 20px ;
3370 }
3371
3372 div.sidetoc{
3373     color: #800000 ;
3374 }
3375
3376 header{
3377     background-color: #e0e0e0 ;
3378     background-image: linear-gradient(to top, #fffcf5, #b0b0b0);
3379     text-align:center ;
3380 }
3381
3382 footer{
3383     background-color: #e0e0e0 ;
3384     background-image: linear-gradient(to bottom, #fffcf5, #b0b0b0);
3385     padding: 2ex 1em 2ex 1em ;
3386     clear:right ;
3387     text-align:left ;
3388 }
3389
3390 nav.botnavigation {
3391     background: #dedcd5 ;
3392     border-top: 1px solid black ;
3393 }
3394 \end{filecontents*}
3395 % \end{Verbatim}% for syntax highlighting
3396 \end{LWRwriteconf}

```

## 40.7 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:** 3397 \begin{LWRwriteconf}  
3398 \begin{filecontents\*}{sample\_project.css}  
3399 /\* ( --- Start of project.css --- ) \*/

```

3400 /* ( --- A sample project-specific CSS file for lwarp --- ) */
3401
3402 /* Uncomment one of the following: */
3403 @import url("lwarp.css") ;
3404 /* @import url("lwarp_formal.css") ; */
3405 /* @import url("lwarp_sagebrush.css") ; */
3406
3407 /* Project-specific CSS setting follow here. */
3408 /* . . . */
3409
3410 /* ( --- End of project.css --- ) */
3411 \end{filecontents*}
3412 % \end{Verbatim}% for syntax highlighting
3413 \end{LWRwriteconf}

```

## 40.8 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:**

```

3414 \begin{LWRwriteconf}
3415 \begin{filecontents*}{lwarp.ist}
3416 preamble
3417 "\begin{theindex}
3418   \providecommand*\lettergroupDefault[1]{}
3419   \providecommand*\lettergroup[1]{%
3420     \par\textbf{#1}\par
3421     \nopagebreak
3422   }
3423 "
3424 headings_flag 1
3425 heading_prefix "
3426 \lettergroup{"
3427 heading_suffix "}"
3428 delim_0 " , \hyperindexref{"
3429 delim_1 " , \hyperindexref{"
3430 delim_2 " , \hyperindexref{"
3431 delim_n "}, \hyperindexref{"
3432 delim_r "} -- \hyperindexref{"
3433 delim_t "}"
3434 page_compositor "."
3435 \end{filecontents*}
3436 % \end{Verbatim}% for syntax highlighting
3437 \end{LWRwriteconf}

```

## 40.9 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:**

```

3438 \begin{LWRwriteconf}
3439 \begin{filecontents*}{lwarp.xdy}
3440 (require "tex/inputenc/latin.xdy")
3441 (merge-rule "\\PS *" "Postscript")
3442 (require "texindy.xdy")
3443 (require "page-ranges.xdy")
3444 (require "book-order.xdy")
3445 (define-location-class "arabic-page-numbers"
3446   ("arabic-numbers") :min-range-length 1)
3447 (require "makeindex.xdy")
3448 (define-attributes (("hyperindexref")))
3449 (markup-locref :open "\hyperindexref{" :close "}")
3450 (markup-locref :open "\hyperindexref{" :close "}" :attr "hyperpage")
3451 (markup-locref :open "\textbf{\hyperindexref{" :close "}}" :attr "textbf")
3452 (markup-locref :open "\textit{\hyperindexref{" :close "}}" :attr "textit")
3453 (define-location-class-order ("roman-page-numbers"
3454   "arabic-page-numbers"
3455   "alpha-page-numbers"
3456   "Roman-page-numbers"
3457   "Alpha-page-numbers"
3458   "see"
3459   "seealso"))
3460 \end{filecontents*}
3461 % \end{Verbatim}% for syntax highlighting
3462 \end{LWRwriteconf}

```

## 40.10 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 `lateximages.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:**

```

3463 \begin{LWRwriteconf}
3464 \begin{filecontents*}{lwarp_one_limage.txt}
3465 @echo off
3466 pdfseparate -f %1 -l %1 %4_html.pdf lateximages\lateximagetemp-%d.pdf
3467 pdfcrop --hires lateximages\lateximagetemp-%1.pdf lateximages\%3.pdf
3468 pdftocairo -svg -noshrink lateximages\%3.pdf lateximages\%3.svg
3469 del lateximages\%3.pdf
3470 del lateximages\lateximagetemp-%1.pdf
3471 exit
3472 \end{filecontents*}
3473 \end{LWRwriteconf}

```

## 40.11 lwarp\_mathjax.txt

File `lwarp_mathjax.txt` Used by *lwarp* when using *MATHJAX*.

This must be present when compiling the project, but does not need to be present when distributing the resulting HTML files.

**Config file:**

```

3474 \begin{LWRwriteconf}
3475 \begin{filecontents*}{lwarp_mathjax.txt}
3476 <!-- https://groups.google.com/forum/#!topic/
3477                               mathjax-users/jUteWUcE2bY -->
3478 <script type="text/x-mathjax-config">
3479 MathJax.Hub.Register.StartupHook("TeX AMSmath Ready",function () {
3480     var seteqsectionDefault = {name: "", num: 0};
3481     var seteqsections = {}, seteqsection = seteqsectionDefault;
3482     var TEX = MathJax.InputJax.TeX, PARSE = TEX.Parse;
3483     var AMS = MathJax.Extension["TeX/AMSmath"];
3484     TEX.Definitions.Add({
3485     macros: {
3486         seteqsection: "mySection",
3487         seteqnumber: "mySetEqNumber"
3488     }
3489     });
3490
3491     PARSE.Augment({
3492     mySection: function (name) {
3493         seteqsection.num = AMS.number;
3494         var n = this.GetArgument(name);
3495         if (n === "") {
3496             seteqsection = seteqsectionDefault;
3497         } else {
3498             if (!seteqsections["_"+n])

```

```

3499         seteqsections["_"+n] = {name:n, num:0};
3500         seteqsection = seteqsections["_"+n];
3501     },
3502     AMS.number = seteqsection.num;
3503 },
3504 mySetEqNumber: function (name) {
3505     var n = this.GetArgument(name);
3506     if (!n || !n.match(/^ *[0-9]+ *$/))
3507         n = "";
3508     else
3509         n = parseInt(n)-1;
3510     <!-- $ syntax highlighting -->
3511     if (n === "" || n < 1)
3512         TEX.Error
3513             ("Argument to "+name+" should be a positive integer");
3514     AMS.number = n;
3515 },
3516 });
3517 MathJax.Hub.Config({
3518     TeX: {
3519         equationNumbers: {
3520             formatTag: function (n) {
3521                 <!-- if not numeric, don't include the chapter -->
3522                 if (!n.match(/^ *[0-9]+ *$/ ))
3523                     <!-- $ syntax highlighting -->
3524                     return "("+n.replace(/\./,"")+")" ;
3525                 else
3526                     return "("+(seteqsection.name+"."+n).replace(/\./,"")+")" ;
3527             },
3528             formatID: function (n) {
3529                 n = (seteqsection.name+'.'+n).replace
3530                     (/[:'<>&]/g,"").replace(/\./,"");
3531                 return 'mjx-eqn-' + n;
3532             }
3533         }
3534     }
3535 });
3536 });
3537 </script>
3538
3539 <!-- http://docs.mathjax.org/en/latest/options/ThirdParty.html -->
3540 <script type="text/x-mathjax-config">
3541     MathJax.Ajax.config.path["Contrib"] =
3542         "https://cdn.mathjax.org/mathjax/contrib";
3543 </script>
3544
3545 <script type="text/x-mathjax-config">
3546 MathJax.Hub.Config({
3547     TeX: {
3548         equationNumbers: {

```

```

3549         autoNumber: "AMS"
3550     }
3551 }
3552 });
3553 </script>
3554
3555 <!-- Alternative CDN provider: -->
3556 <script type="text/javascript" async
3557 src="https://cdnjs.cloudflare.com/ajax/libs/mathjax/2.7.4/MathJax.js?config=TeX-AMS_HTML-full">
3558 </script>
3559
3560 <!-- No longer supported after April 30, 2017: -->
3561 <!--
3562 <script
3563   src="https://cdn.mathjax.org/mathjax/latest/MathJax.js?config=TeX-AMS_HTML-full">
3564 </script>
3565 -->
3566
3567 \end{filecontents*}
3568 % \end{Verbatim}% for syntax highlighting
3569 \end{LWRwriteconf}

```

## 40.12 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.

```

3570 \begin{LWR@createlwarpmk}

3571 \begin{filecontents*}{lwarpmk.lua}
3572 #!/usr/bin/env texlua
3573
3574 -- Copyright 2016-2018 Brian Dunn

```

```
3575
3576
3577 printversion = "v0.63"
3578 requiredconfversion = "1" -- also at *lwarpmk.conf
3579
3580 function printhelp ()
3581 print ("lwarpmk: Use lwarpmk -h or lwarpmk --help for help.") ;
3582 end
3583
3584
3585 function printusage ()
3586 --
3587 -- Print the usage of the lwarpmk command:
3588 --
3589 print ( [[
3590
3591 lwarpmk print [-p project]: Compile the print version if necessary.
3592 lwarpmk print1 [-p project]: Forced single compile of the print version.
3593 lwarpmk printindex [-p project]: Process print indexes.
3594 lwarpmk printglossary [-p project]: Process the glossary for the print version.
3595 lwarpmk html [-p project]: Compile the HTML version if necessary.
3596 lwarpmk html1 [-p project]: Forced single compile of the HTML version.
3597 lwarpmk htmlindex [-p project]: Process HTML indexes.
3598 lwarpmk htmlglossary [-p project]: Process the glossary for the html version.
3599 lwarpmk again [-p project]: Touch the source code to trigger recompiles.
3600 lwarpmk limages [-p project]: Process the "lateximages" created by lwarp.sty.
3601 lwarpmk pdftohtml [-p project]:
3602     For use with latexmk or a Makefile:
3603     Converts project_html.pdf to project_html.html and individual HTML files.
3604     Finishes the HTML conversion even if there was a compile error.
3605 lwarpmk pdftosvg <list of file names>: Converts each PDF file to SVG.
3606 lwarpmk epstopdf <list of file names>: Converts each EPS file to PDF.
3607 lwarpmk clean [-p project]: Remove *.aux, *.toc, *.lof/t,
3608     *.idx, *.ind, *.log, *_html_inc.*, .gl*
3609 lwarpmk cleanall [-p project]: Remove auxiliary files, project.pdf, *.html
3610 lwarpmk cleanlimages: Removes all images from the "lateximages" directory.
3611 lwarpmk -h: Print this help message.
3612 lwarpmk --help: Print this help message.
3613
3614 ]] )
3615 -- printconf ()
3616 end
3617
3618
3619 function splitfile (destfile,sourcefile)
3620 --
3621 -- Split one large sourcefile into a number of files,
3622 -- starting with destfile.
3623 -- The file is split at each occurrence of <!--|Start file|newfilename|*
3624 --
```

```
3625 print ("lwarpmk: Splitting " .. sourcefile .. " into " .. destfile) ;
3626 local sfile = io.open(sourcefile)
3627 io.output(destfile)
3628 for line in sfile:lines() do
3629   i,j,copen,cstart,newfilename = string.find (line,"(.*)|(.*)|(.*)|") ;
3630   if ( (i~= nil) and (copen == "<!--") and (cstart == "Start file")) then
3631     -- split the file
3632     io.output(newfilename) ;
3633   else
3634     -- not a splitpoint
3635     io.write (line .. "\n") ;
3636   end
3637 end -- do
3638 io.close(sfile)
3639 end -- function
3640
3641
3642 function cvalueerror ( line, linenum , cvalue )
3643 --
3644 -- Incorrect value, so print an error and exit.
3645 --
3646   print ("lwarpmk: ===")
3647   print ("lwarpmk: " .. linenum .. " : " .. line ) ;
3648   print (
3649     "lwarpmk: incorrect variable value \"" .. cvalue ..
3650     "\"" in lwarpmk.conf.\n"
3651   ) ;
3652   print ("lwarpmk: ===")
3653 --   printconf () ;
3654   os.exit(1) ;
3655 end
3656
3657
3658 function ignoreconf ()
3659 -- Global argument index
3660 argindex = 2
3661 end
3662
3663 function loadconf ()
3664 --
3665 -- Load settings from the project's "lwarpmk.conf" file:
3666 --
3667 -- Default configuration filename:
3668 local conffile = "lwarpmk.conf"
3669 local confroot = "lwarpmk"
3670 -- Global argument index
3671 argindex = 2
3672 -- Optional configuration filename:
3673 if ( arg[argindex] == "-p" ) then
3674   argindex = argindex + 1
```

```

3675     confroot = arg[argindex]
3676     conffile = confroot.."lwarpmkconf"
3677     argindex = argindex + 1
3678 end
3679 -- Additional defaults:
3680 confversion = "0"
3681 opsystem = "Unix"
3682 latexmk = "false"
3683 printlatexcmd = ""
3684 HTMLlatexcmd = ""
3685 printindexcmd = ""
3686 HTMLindexcmd = ""
3687 latexmkindexcmd = ""
3688 -- to be removed:
3689 -- indexprog = "makeindex"
3690 -- makeindexstyle = "lwarp.ist"
3691 -- xindylanguage = "english"
3692 -- xindycodepage = "utf8"
3693 -- xindystyle = "lwarp.xdy"
3694 -- pdftotextenc = "UTF-8"
3695 glossarycmd = "makeglossaries"
3696 -- Verify the file exists:
3697 if (lfs.attributes(conffile,"mode")==nil) then
3698     -- file not exists
3699     print ("lwarpmk: ===")
3700     print ("lwarpmk: File \" .. conffile ..\" does not exist.")
3701     print ("lwarpmk: Move to the project's source directory,")
3702     print ("lwarpmk: recompile using pdflatex, xelatex, or lualatex,")
3703     print ("lwarpmk: then try using lwarpmk again.")
3704     if ( arg[argindex] ~= nil ) then
3705         print (
3706             "lwarpmk: (\" .. confroot ..
3707             "\" does not appear to be a project name.)"
3708         )
3709     end
3710     print ("lwarpmk: ===")
3711     printhelp () ;
3712     os.exit(1) -- exit the entire lwarpmk script
3713 else -- file exists
3714 -- Read the file:
3715 print ("lwarpmk: Reading \" .. conffile ..")
3716 local cfile = io.open(conffile)
3717 -- Scan each line, parsing each line as: name = [[string]]
3718 local linenum = 0
3719 for line in cfile:lines() do -- scan lines
3720     linenum = linenum + 1
3721     i,j,cvarname,cvalue = string.find (line,"([%w-_*])%s*=%s*%[%[([~%])]*%[%]]") ;
3722 -- Error if incorrect enclosing characters:
3723 if ( i == nil ) then
3724     print ("lwarpmk: ===")

```

```

3725     print ("lwarpmk: " .. linenum .. " : " .. line ) ;
3726     print ("lwarpmk: Incorrect entry in " .. conffile .."\n" ) ;
3727     print ("lwarpmk: ===")
3728 --     printconf ( ) ;
3729     os.exit(1) ;
3730 end -- nil
3731 if ( cvarname == "confversion" ) then
3732     confversion = cvalue
3733 elseif ( cvarname == "opsystem" ) then
3734     -- Verify choice of opsystem:
3735     if ( (cvalue == "Unix") or (cvalue == "Windows") ) then
3736         opsystem = cvalue
3737     else
3738         cvalueerror ( line, linenum , cvalue )
3739     end
3740 elseif ( cvarname == "sourcename" ) then sourcename = cvalue
3741 elseif ( cvarname == "homehtmlfilename" ) then homehtmlfilename = cvalue
3742 elseif ( cvarname == "htmlfilename" ) then htmlfilename = cvalue
3743 elseif ( cvarname == "latexmk" ) then latexmk = cvalue
3744 elseif ( cvarname == "printlatexcmd" ) then printlatexcmd = cvalue
3745 elseif ( cvarname == "HTMLlatexcmd" ) then HTMLlatexcmd = cvalue
3746 elseif ( cvarname == "printindexcmd" ) then printindexcmd = cvalue
3747 elseif ( cvarname == "HTMLindexcmd" ) then HTMLindexcmd = cvalue
3748 elseif ( cvarname == "latexmkindexcmd" ) then latexmkindexcmd = cvalue
3749 elseif ( cvarname == "glossarycmd" ) then glossarycmd = cvalue
3750 elseif ( cvarname == "pdftotextenc" ) then pdftotextenc = cvalue
3751 else
3752     print ("lwarpmk: ===")
3753     print ("lwarpmk: " .. linenum .. " : " .. line ) ;
3754     print (
3755         "lwarpmk: Incorrect variable name \" " .. cvarname .. "\" in " ..
3756         conffile .."\n"
3757     ) ;
3758     print ("lwarpmk: ===")
3759 --     printconf ( ) ;
3760 os.exit(1) ;
3761 end -- cvarname
3762 end -- do scan lines
3763 io.close(cfile)
3764 end -- file exists
3765 -- Error if sourcename is "lwarp".
3766 -- This could happen if a local copy of lwarp has recently been recompiled.
3767 if sourcename=="lwarp" then
3768     print ("lwarpmk: ===")
3769     print ("lwarpmk: lwarp.sty has recently been recompiled in this directory,")
3770     print ("lwarpmk: and \"lwarpmk.conf\" is no longer set for your own project.")
3771     print ("lwarpmk: Recompile your own project using pdf/luaxelatex <projectname>.")
3772     print ("lwarpmk: After a recompile, \"lwarpmk.conf\" will be set for your project,")
3773     print ("lwarpmk: and you may again use lwarpmk.")
3774     print ("lwarpmk: ===")

```

```

3775     os.exit(1)
3776 end -- sourcename of "lwarp"
3777 -- Select some operating-system commands:
3778 if opsystem=="Unix" then -- For Unix / Linux / Mac OS:
3779     rmname = "rm"
3780     mvname = "mv"
3781     cpname = "cp"
3782     touchnamepre = "touch"
3783     touchnamepost = ""
3784     newtouchname = "touch"
3785     dirslash = "/"
3786     opquote= "\'"
3787     cmdgroupopenname = " ( "
3788     cmdgroupclosename = " ) "
3789     seqname = " && "
3790     bgrname = " &"
3791 elseif opsystem=="Windows" then -- For Windows
3792     rmname = "DEL"
3793     mvname = "MOVE"
3794     cpname = "COPY"
3795     touchnamepre = "COPY /b"
3796     touchnamepost = "+,,"
3797     newtouchname = "echo empty >"
3798     dirslash = "\\\"
3799     opquote= "\"\"
3800     cmdgroupopenname = ""
3801     cmdgroupclosename = ""
3802     seqname = " & "
3803     bgrname = ""
3804 else
3805     print ("lwarpmk: ===")
3806     print ("lwarpmk: Select Unix or Windows for opsystem." )
3807     print ("lwarpmk: ===")
3808     os.exit(1)
3809 end --- for Windows
3810 -- Warning if the operating system does not appear to be correct,
3811 -- in case files were transferred to another system.
3812 if ( (package.config:sub(1,1)) ~= dirslash ) then
3813     print ("lwarpmk: ===")
3814     print ("lwarpmk: It appears that lwarpmk.conf is for a different operating system." )
3815     print ("lwarpmk: To adjust lwarpmk.conf for the current operating system," )
3816     print ("lwarpmk: recompile the original document using xe/luatex." )
3817     print ("lwarpmk: ")
3818     print ("lwarpmk: lwarpmk shall attempt to continue...")
3819     print ("lwarpmk: ===")
3820 end
3821 -- Error if the configuration file's version is not current:
3822 if ( confversion ~= requiredconfversion ) then
3823     print ("lwarpmk: ===")
3824     print ("lwarpmk: The configuration files lwarpmk.conf and "..sourcename.."lwarpmkconf" )

```

```
3825     print ("lwarpmk:  must be updated.  To update the configuration files," )
3826     print ("lwarpmk:  recompile "..sourcename..".tex using xe/lua/pdflatex," )
3827     print ("lwarpmk:  then use lwarpmk again.")
3828     print ("lwarpmk: ===")
3829     os.exit(1)
3830 end
3831 end -- loadconf
3832
3833
3834 function executecheckerror ( executecommands , errormessage )
3835 --
3836 -- Execute an operating system call,
3837 -- and maybe exit with an error message.
3838 --
3839 local err
3840 err = os.execute ( executecommands )
3841 if ( err ~= 0 ) then
3842     print ("lwarpmk: ===")
3843     print ("lwarpmk: " .. errormessage )
3844     print ("lwarpmk: ===")
3845     os.exit(1)
3846 end
3847 end -- executecheckerror
3848
3849
3850 function refreshdate ()
3851 os.execute(touchnamepre .. " " .. sourcename .. ".tex " .. touchnamepost)
3852 end
3853
3854
3855
3856 function reruntoget (filesource)
3857 --
3858 -- Scan the LaTeX log file for the phrase "Rerun to get",
3859 -- indicating that the file should be compiled again.
3860 -- Return true if found.
3861 --
3862 local fsource = io.open(filesource)
3863 for line in fsource:lines() do
3864 if ( string.find(line,"Rerun to get") ~= nil ) then
3865     io.close(fsource)
3866     return true
3867 end -- if
3868 end -- do
3869 io.close(fsource)
3870 return false
3871 end
3872
3873
3874
```

```
3875 function onetime (latexcmd, fsuffix)
3876 --
3877 -- Compile one time, return true if should compile again.
3878 -- fsuffix is "" for print, "_html" for HTML output.
3879 --
3880 print("lwarpmk: Compiling with: " .. latexcmd)
3881 executecheckerror (
3882     latexcmd ,
3883     "Compile error."
3884 )
3885 return (reruntoget(sourcename .. fsuffix .. ".log") ) ;
3886 end
3887
3888
3889 function manytimes (latexcmd, fsuffix)
3890 --
3891 -- Compile up to five times.
3892 -- fsuffix is "" for print, "_html" for HTML output
3893 --
3894 if onetime(latexcmd, fsuffix) == true then
3895 if onetime(latexcmd, fsuffix) == true then
3896 if onetime(latexcmd, fsuffix) == true then
3897 if onetime(latexcmd, fsuffix) == true then
3898 if onetime(latexcmd, fsuffix) == true then
3899 end end end end end
3900 end
3901
3902
3903 function verifyfileexists (filename)
3904 --
3905 -- Exit if the given file does not exist.
3906 --
3907 if (lfs.attributes ( filename , "modification" ) == nil ) then
3908     print ("lwarpmk: ===")
3909     print ("lwarpmk: " .. filename .. " not found." ) ;
3910     print ("lwarpmk: ===")
3911     os.exit (1) ;
3912 end
3913 end
3914
3915
3916
3917 function pdftohtml ()
3918 --
3919 -- Convert <project>_html.pdf into HTML files:
3920 --
3921 -- Convert to text:
3922 print ("lwarpmk: Converting " .. sourcename
3923     .. "_html.pdf to " .. sourcename .. "_html.html")
3924 os.execute("pdftotext -enc " .. pdftotextenc .. " -nopgbrk -layout "
```

```

3925     .. sourcename .. "_html.pdf" .. sourcename .. "_html.html")
3926 -- Split the result into individual HTML files:
3927 splitfile (homehtmlfilename .. ".html" , sourcename .. "_html.html")
3928 end
3929
3930
3931 function removeaux ()
3932 --
3933 -- Remove auxiliary files:
3934 -- All .aux files are removed since there may be many bbl*.aux files.
3935 --
3936 os.execute ( rmname .. " *.aux " ..
3937     sourcename .. ".toc" .. sourcename .. "_html.toc" ..
3938     sourcename .. ".lof" .. sourcename .. "_html.lof" ..
3939     sourcename .. ".lot" .. sourcename .. "_html.lot" ..
3940     " *.idx " ..
3941     " *.ind " ..
3942     sourcename .. ".ps" .. sourcename .. "_html.ps" ..
3943     sourcename .. ".log" .. sourcename .. "_html.log" ..
3944     sourcename .. ".gl*" .. sourcename .. "_html.gl*" ..
3945     " *_html_inc.* "
3946 )
3947 end
3948
3949 function checkhtmlpdfexists ()
3950 --
3951 -- Error if the HTML document does not exist.
3952 -- The lateximages are drawn from the HTML PDF version of the document,
3953 -- so "lwarpmk html" must be done before "lwarpmk limages".
3954 --
3955 local htmlpdffile = io.open(sourcename .. "_html.pdf", "r")
3956 if ( htmlpdffile == nil ) then
3957     print ("")
3958     print ("lwarpmk: ===")
3959     print ("lwarpmk: The HTML version of the document does not exist.")
3960     print ("lwarpmk: Enter \"lwarpmk html\" to compile the HTML version.")
3961     print ("lwarpmk: ===")
3962     os.exit(1)
3963 end
3964 io.close (htmlpdffile)
3965 end -- checkhtmlpdfexists
3966
3967
3968 function warnlimages ()
3969 --
3970 -- Warning of a missing lateximages.txt file:
3971 --
3972     print ("lwarpmk: ===")
3973     print ("lwarpmk: \"lateximages.txt\" does not exist.")
3974     print ("lwarpmk: Your project does not use SVG math or other lateximages,")

```

```
3975     print ("lwarpmk: or the file has been deleted somehow.")
3976     print ("lwarpmk: Use \"lwarpmk html\" to recompile your project")
3977     print ("lwarpmk: and recreate \"lateximages.txt\".")
3978     print ("lwarpmk: If your project does not use SVG math or other lateximages,")
3979     print ("lwarpmk: then \"lateximages.txt\" will never exist, and")
3980     print ("lwarpmk: \"lwarpmk limages\" will not be necessary.")
3981     print ("lwarpmk: ===")
3982 end -- warnlimages
3983
3984
3985 function checklimages ()
3986 --
3987 -- Check lateximages.txt to see if need to recompile first.
3988 -- If any entry has a page number of zero, then there were incorrect images.
3989 --
3990 print ("lwarpmk: Checking for a valid lateximages.txt file.")
3991 local limagesfile = io.open("lateximages.txt", "r")
3992 if ( limagesfile == nil ) then
3993     warnlimages ()
3994     os.exit(1)
3995 end
3996 -- Track warning to recompile if find a page 0
3997 local pagezerowarning = false
3998 -- Scan lateximages.txt
3999 for line in limagesfile:lines() do
4000     -- lwimgpage is the page number in the PDF which has the image
4001     -- lwimghash is true if this filename is a hash
4002     -- lwimgname is the lateximage filename root to assign for the image
4003     i,j,lwimgpage,lwimghash,lwimgname = string.find (line,"|(.*)|(.*)|(.*)|")
4004     -- For each entry:
4005     if ( (i~=nil) ) then
4006         -- If the page number is 0, image references are incorrect
4007         -- and must recompile the source document:
4008         if ( lwimgpage == "0" ) then
4009             pagezerowarning = true
4010         end
4011     end -- if i~=nil
4012 end -- do
4013 if ( pagezerowarning ) then
4014     print ("")
4015     print ("lwarpmk: ===")
4016     print ("lwarpmk: The document must be recompiled before creating the lateximages.")
4017     print ("lwarpmk: Enter \"lwarpmk html\" again, then try \"lwarpmk limages\" again.")
4018     print ("lwarpmk: ===")
4019     os.exit(1) ;
4020 end -- pagezerowarning
4021 end -- checklimages
4022
4023
4024 function createuniximage ( lwimgfullname )
```

```

4025 --
4026 -- Create one lateximage for Unix / Linux / Mac OS.
4027 --
4028 executecheckerror (
4029     cmdgroupopenname ..
4030     "pdfseparate -f " .. lwimgpage .. " -l " .. lwimgpage .. " " ..
4031     sourcename .. "_html.pdf" " ..
4032     "lateximages" .. dirslash .. "lateximagetemp-%d" .. ".pdf" ..
4033     seqname ..
4034     -- Crop the image:
4035     "pdfcrop -- hires lateximages" .. dirslash .. "lateximagetemp-" ..
4036     lwimgpage .. ".pdf" " ..
4037     "lateximages" .. dirslash .. lwimgname .. ".pdf" ..
4038     seqname ..
4039     -- Convert the image to svg:
4040     "pdftocairo -svg -noshrink lateximages" .. dirslash .. lwimgname .. ".pdf" " ..
4041     "lateximages" .. dirslash .. lwimgname .. ".svg" ..
4042     seqname ..
4043     -- Remove the temporary files:
4044     rmname .. " lateximages" .. dirslash .. lwimgname .. ".pdf" .. seqname ..
4045     rmname .. " lateximages" .. dirslash .. "lateximagetemp-" .. lwimgpage .. ".pdf" ..
4046     cmdgroupclosename .. " >/dev/null " .. bgnname
4047     ,
4048     "File error trying to convert " .. lwimgfullname
4049 )
4050 -- Every 32 images, wait for completion at below normal priority,
4051 -- allowing other image tasks to catch up.
4052 numimageprocesses = numimageprocesses + 1
4053 if ( numimageprocesses > 32 ) then
4054     numimageprocesses = 0
4055     print ( "lwarpnk: waiting" )
4056     executecheckerror ( "wait" , "File error trying to wait.")
4057 end
4058 end -- createuniximage
4059
4060
4061 function createwindowsimage ( lwimgfullname )
4062 --
4063 -- Create one lateximage for Windows.
4064 --
4065 -- Every 32 images, wait for completion at below normal priority,
4066 -- allowing other image tasks to catch up.
4067 numimageprocesses = numimageprocesses + 1
4068 if ( numimageprocesses > 32 ) then
4069     numimageprocesses = 0
4070     thiswaitcommand = "/WAIT /BELOWNORMAL"
4071     print ( "lwarpnk: waiting" )
4072 else
4073     thiswaitcommand = ""
4074 end

```

```

4075 -- Execute the image generation command
4076 executecheckerror (
4077     "start /B " .. thiswaitcommand .. " \"\" lwarp_one_limage " ..
4078     lwimgpage .. " " ..
4079     lwimghash .. " " ..
4080     lwimgname .. " " ..
4081     sourcename .. " <nul >nul"
4082     ,
4083     "File error trying to create image."
4084 )
4085 end -- createwindowsimage
4086
4087
4088 function createonelateximage ( line )
4089 --
4090 -- Given the next line of lateximages.txt, convert a single image.
4091 --
4092 -- lwimgpage is the page number in the PDF which has the image
4093 -- lwimghash is true if this filename is a hash
4094 -- lwimgname is the lateximage filename root to assign for the image
4095 i,j,lwimgpage,lwimghash,lwimgname = string.find (line,"|(.*)|(.*)|(.*)|")
4096 -- For each entry:
4097 if ( i~=nil ) then
4098     -- Skip if the page number is 0:
4099     if ( lwimgpage == "0" ) then
4100         pagezerowarning = true
4101     else
4102         -- Skip if this image is hashed and already exists:
4103         local lwimgfullname = "lateximages" .. dirsslash .. lwimgname .. ".svg"
4104         if (
4105             (lwimghash ~= "true") or
4106             (lfs.attributes(lwimgfullname,"mode")==nil) -- file not exists
4107         )
4108         then -- not hashed or not exists:
4109             -- Print the name of the file being generated:
4110             print ( "lwarpmk: " .. lwimgname )
4111             -- Touch/create the dest so that only once instance tries to build it:
4112             executecheckerror (
4113                 newtouchname .. " " .. lwimgfullname ,
4114                 "File error trying to touch " .. lwimgfullname
4115             )
4116             -- Separate out the image into its own single-page pdf:
4117             if opsystem=="Unix" then
4118                 createuniximage (lwimgfullname)
4119             elseif opsystem=="Windows" then
4120                 createwindowsimage (lwimgfullname)
4121             end
4122         end -- not hashed or not exists
4123     end -- not page 0
4124 end -- not nil

```

```
4125 end -- createonelateximage
4126
4127
4128 function createlateximages ()
4129 --
4130 -- Create lateximages based on lateximages.txt:
4131 --
4132 -- See if the document must be recompiled first:
4133 checklimages ()
4134 -- See if the print version exists:
4135 checkhtmlpdfexists ()
4136 -- Attempt to create the lateximages:
4137 print ("lwarpmk: Creating lateximages.")
4138 local limagesfile = io.open("lateximages.txt", "r")
4139 if ( limagesfile == nil ) then
4140     warnlateximages ()
4141     os.exit(1)
4142 end
4143 -- Create the lateximages directory, ignore error if already exists
4144 err = os.execute("mkdir lateximages")
4145 -- For Windows, create lwarp_one_limage.cmd from lwarp_one_limage.txt:
4146 if opsystem=="Windows" then
4147     executecheckerror (
4148         cpname .. " lwarp_one_limage.txt lwarp_one_limage.cmd" ,
4149         "File error trying to copy lwarp_one_limage.txt to lwarp_one_limage.cmd"
4150     )
4151 end -- create lwarp_one_limage.cmd
4152 -- Track the number of parallel processes
4153 numimageprocesses = 0
4154 -- Track warning to recompile if find a page 0
4155 pagezerowarning = false
4156 -- Scan lateximages.txt
4157 for line in limagesfile:lines() do
4158     createonelateximage ( line )
4159 end -- do
4160 io.close(limagesfile)
4161 print ( "lwarpmk limages: ===")
4162 print ( "lwarpmk limages: Wait a moment for the images to complete" )
4163 print ( "lwarpmk limages:  before reloading the page." )
4164 print ( "lwarpmk limages: ===")
4165 print ( "lwarpmk limages: Done." )
4166 if ( pagezerowarning == true ) then
4167     print ( "lwarpmk limages: WARNING: Images will be incorrect." )
4168     print ( "lwarpmk limages:  Enter \"lwarpmk cleanlimages\", then" )
4169     print ( "lwarpmk limages:  recompile the document one more time, then" )
4170     print ( "lwarpmk limages:  repeat \"lwarpmk images\" again." )
4171 end -- pagezerowarning
4172 end -- function
4173
4174
```

```
4175 function convertepstopdf ()
4176 --
4177 -- Converts EPS files to PDF files.
4178 -- The filenames are arg[argindex] and up.
4179 -- arg[1] is the command "pdftosvg".
4180 --
4181 ignoreconf ()
4182 for i = argindex , #arg do
4183     if (lfs.attributes(arg[i],"mode")==nil) then
4184         print ("lwarpmk: File \"" .. arg[i] .. "\" does not exist.")
4185     else
4186         print ("lwarpmk: Converting \"" .. arg[i] .. "\"")
4187         os.execute ( "epstopdf " .. arg[i] )
4188     end -- if
4189 end -- do
4190 end --function
4191
4192
4193 function convertpdftosvg ()
4194 --
4195 -- Converts PDF files to SVG files.
4196 -- The filenames are arg[argindex] and up.
4197 -- arg[1] is the command "pdftosvg".
4198 --
4199 ignoreconf ()
4200 for i = argindex , #arg do
4201     if (lfs.attributes(arg[i],"mode")==nil) then
4202         print ("lwarpmk: File \"" .. arg[i] .. "\" does not exist.")
4203     else
4204         print ("lwarpmk: Converting \"" .. arg[i] .. "\"")
4205         os.execute ( "pdftocairo -svg " .. arg[i] )
4206     end -- if
4207 end -- do
4208 end --function
4209
4210
4211 -- Force an update and conclude processing:
4212 function updateanddone ()
4213 print ("lwarpmk: Forcing an update of " .. sourcename .. ".tex.")
4214 refreshdate ()
4215 print ("lwarpmk: " .. sourcename .. ".tex is ready to be recompiled.")
4216 print ("lwarpmk: Done.")
4217 end -- function
4218
4219
4220 -- Start of the main code: --
4221
4222
4223 -- lwarpmk --version :
4224
```

```
4225 if (arg[1] == "--version") then
4226 print ( "lwarpmk: " .. printversion )
4227
4228 else -- not --version
4229
4230
4231 -- print intro:
4232
4233 print ("lwarpmk: " .. printversion .. "   Automated make for the LaTeX lwarp package.")
4234
4235
4236 -- lwarpmk print:
4237
4238 if arg[1] == "print" then
4239 loadconf ()
4240 if ( latexmk == "true" ) then
4241     print ("lwarpmk: Compiling with: " .. printlatexcmd)
4242     executecheckerror (
4243         printlatexcmd ,
4244         "Compile error."
4245     )
4246     print ("lwarpmk: Done.")
4247 else -- not latexmk
4248     verifyfileexists (sourcename .. ".tex") ;
4249     -- See if up to date:
4250     if (
4251         ( lfs.attributes ( sourcename .. ".pdf" , "modification" ) == nil ) or
4252         (
4253             lfs.attributes ( sourcename .. ".tex" , "modification" ) >
4254             lfs.attributes ( sourcename .. ".pdf" , "modification" )
4255         )
4256     ) then
4257         -- Recompile if not yet up to date:
4258         manytimes(printlatexcmd, "")
4259         print ("lwarpmk: Done.") ;
4260     else
4261         print ("lwarpmk: " .. sourcename .. ".pdf is up to date.") ;
4262     end
4263 end -- not latexmk
4264
4265
4266 -- lwarpmk print1:
4267
4268 elseif arg[1] == "print1" then
4269     loadconf ()
4270     verifyfileexists (sourcename .. ".tex") ;
4271     onetime(printlatexcmd, "")
4272     print ("lwarpmk: Done.") ;
4273
4274
```

```
4275 -- lwarpmk printindex:
4276 -- Compile the index then touch the source
4277 -- to trigger a recompile of the document:
4278
4279 elseif arg[1] == "printindex" then
4280 loadconf ()
4281 os.execute ( printindexcmd )
4282 print ("lwarpmk: -----")
4283 updateanddone ()
4284
4285
4286 -- lwarpmk printglossary:
4287 -- Compile the glossary then touch the source
4288 -- to trigger a recompile of the document:
4289
4290 elseif arg[1] == "printglossary" then
4291 loadconf ()
4292 print ("lwarpmk: Processing the glossary.")
4293
4294 os.execute(glossarycmd .. " " .. sourcename)
4295 updateanddone ()
4296
4297
4298 -- lwarpmk html:
4299
4300 elseif arg[1] == "html" then
4301 loadconf ()
4302 if ( latexmk == "true" ) then
4303     print ("lwarpmk: Compiling with: " .. HTMLlatexcmd)
4304     executecheckerror (
4305         HTMLlatexcmd ,
4306         "Compile error."
4307     )
4308     pdftohtml ()
4309     print ("lwarpmk: Done.")
4310 else -- not latexmk
4311     verifyfileexists ( sourcename .. ".tex" ) ;
4312     -- See if exists and is up to date:
4313     if (
4314         ( lfs.attributes ( homehtmlfilename .. ".html" , "modification" ) == nil ) or
4315         (
4316             lfs.attributes ( sourcename .. ".tex" , "modification" ) >
4317             lfs.attributes ( homehtmlfilename .. ".html" , "modification" )
4318         )
4319     ) then
4320         -- Recompile if not yet up to date:
4321         manytimes(HTMLlatexcmd, "_html")
4322         pdftohtml ()
4323         print ("lwarpmk: Done.")
4324     else
```

```
4325         print ("lwarpmk: " .. homehtmlfilename .. ".html is up to date.")
4326     end
4327 end -- not latexmk
4328
4329
4330 -- lwarpmk html1:
4331
4332 elseif arg[1] == "html1" then
4333     loadconf ()
4334     verifyfileexists ( sourcename .. ".tex" ) ;
4335     onetime(HTMLlatexcmd, "_html")
4336     pdftohtml ()
4337     print ("lwarpmk: Done.")
4338
4339
4340 -- lwarpmk pdftohtml:
4341 elseif arg[1] == "pdftohtml" then
4342     loadconf ()
4343     pdftohtml ()
4344
4345
4346 -- lwarpmk htmlindex:
4347 -- Compile the index then touch the source
4348 -- to trigger a recompile of the document:
4349
4350 elseif arg[1] == "htmlindex" then
4351 loadconf ()
4352 os.execute ( HTMLindexcmd )
4353 print ("lwarpmk: -----")
4354 updateanddone ()
4355
4356
4357 -- lwarpmk htmlglossary:
4358 -- Compile the glossary then touch the source
4359 -- to trigger a recompile of the document.
4360 -- The <sourcename>.xdy file is created by the glossaries package.
4361
4362 elseif arg[1] == "htmlglossary" then
4363 loadconf ()
4364 print ("lwarpmk: Processing the glossary.")
4365 os.execute(glossarycmd .. " " .. sourcename .. "_html")
4366 updateanddone ()
4367
4368
4369 -- lwarpmk limages:
4370 -- Scan the lateximages.txt file to create lateximages.
4371
4372 elseif arg[1] == "limages" then
4373 loadconf ()
4374 print ("lwarpmk: Processing images.")
```

```
4375 createlateximages ()
4376 print ("lwarpmk: Done.")
4377
4378
4379 -- lwarpmk again:
4380 -- Touch the source to trigger a recompile.
4381
4382 elseif arg[1] == "again" then
4383 loadconf ()
4384 updateanddone ()
4385
4386
4387 -- lwarpmk clean:
4388 -- Remove project.aux, .toc, .lof, .lot, .log, *.idx, *.ind, *_html_inc.*, .gl*
4389
4390 elseif arg[1] == "clean" then
4391 loadconf ()
4392 removeaux ()
4393 print ("lwarpmk: Done.")
4394
4395
4396 -- lwarpmk cleanall
4397 -- Remove project.aux, .toc, .lof, .lot, .log, *.idx, *.ind, *_html_inc.*, .gl*
4398 -- and also project.pdf, project.dvi, *.html
4399
4400 elseif arg[1] == "cleanall" then
4401 loadconf ()
4402 removeaux ()
4403 os.execute ( rmname .. " " ..
4404     sourcename .. ".pdf " .. sourcename .. "_html.pdf " ..
4405     sourcename .. ".dvi " .. sourcename .. "_html.dvi " ..
4406     "*.html"
4407 )
4408 print ("lwarpmk: Done.")
4409
4410
4411 -- lwarpmk cleanimages
4412 -- Remove images from the lateximages directory.
4413
4414 elseif arg[1] == "cleanimages" then
4415 loadconf ()
4416 os.execute ( rmname .. " lateximages/*" )
4417 print ("lwarpmk: Done.")
4418
4419 -- lwarpmk epstopdf <list of file names>
4420 -- Convert EPS files to PDF using epstopdf
4421 elseif arg[1] == "epstopdf" then
4422 convertepstopdf ()
4423 print ("lwarpmk: Done.")
4424
```

```

4425
4426-- lwarpmk pdftosvg <list of file names>
4427-- Convert PDF files to SVG using pdftocairo
4428elseif arg[1] == "pdftosvg" then
4429convertpdftosvg ()
4430print ("lwarpmk: Done.")
4431
4432
4433-- lwarpmk with no argument :
4434
4435elseif (arg[1] == nil) then
4436printhelp ()
4437
4438
4439-- lwarpmk -h or lwarpmk --help :
4440
4441elseif (arg[1] == "-h" ) or (arg[1] == "--help") then
4442printusage ()
4443
4444
4445-- Unknown command:
4446
4447else
4448printhelp ()
4449print ("\nlwarpmk: ***** Unknown command \"..arg[1]..\". *****\n")
4450end
4451
4452end -- not --version
4453\end{filecontents*}
4454% \end{Verbatim}% for syntax highlighting
4455\end{LWR@createlwarpmk}

```

## 41 Stacks

for HTML output: 4456 \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.

## 41.1 Assigning depths

initial depths for empty stack entries:

```
4457 \newcommand*\LWR@depthnone}{-5}
```

all sectioning depths are deeper than `LWR@depthfinished`:

```
4458 \newcommand*\LWR@depthfinished}{-4}
4459 \newcommand*\LWR@depthpart}{-1}
4460 \newcommand*\LWR@depthchapter}{0}
4461 \newcommand*\LWR@depthsection}{1}
4462 \newcommand*\LWR@depthsubsection}{2}
4463 \newcommand*\LWR@depthsubsubsection}{3}
4464 \newcommand*\LWR@depthparagraph}{4}
4465 \newcommand*\LWR@depthsubparagraph}{5}
```

used by `\itemize`, `\enumerate`, `\description`:

```
4466 \newcommand*\LWR@depthlist}{6}
```

used by `\item`:

```
4467 \newcommand*\LWR@depthlistitem}{7}
```

## 41.2 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.

```
4468 \newcommand*\LWR@closeone}{}% top of the stack
4469 \newcommand*\LWR@closetwo}{%
4470 \newcommand*\LWR@closethree}{%
4471 \newcommand*\LWR@closefour}{%
4472 \newcommand*\LWR@closefive}{%
4473 \newcommand*\LWR@closesix}{%
4474 \newcommand*\LWR@closeseven}{%
4475 \newcommand*\LWR@closeeight}{%
4476 \newcommand*\LWR@closenine}{%
4477 \newcommand*\LWR@closeten}{%
```

```
4478 \newcommand*{\LWR@closeeleven}{\LWR@depthnone}
4479 \newcommand*{\LWR@closetwelve}{\LWR@depthnone}
```

### 41.3 Closing depths

A stack to record the depth of each level:



Note that nested L<sup>A</sup>T<sub>E</sub>X structures may push depths which are non-sequential.

*Ex:*

---

```
\begin{itemize}
  \item{A}
  \begin{description}
    \item{B}
  \end{description}
\end{itemize}
```

---

```
4480 \newcommand*{\LWR@closedepthone}{\LWR@depthnone}% top of the stack
4481 \newcommand*{\LWR@closedepthtwo}{\LWR@depthnone}
4482 \newcommand*{\LWR@closedepththree}{\LWR@depthnone}
4483 \newcommand*{\LWR@closedepthfour}{\LWR@depthnone}
4484 \newcommand*{\LWR@closedepthfive}{\LWR@depthnone}
4485 \newcommand*{\LWR@closedepthsix}{\LWR@depthnone}
4486 \newcommand*{\LWR@closedepthseven}{\LWR@depthnone}
4487 \newcommand*{\LWR@closedeptheight}{\LWR@depthnone}
4488 \newcommand*{\LWR@closedepthnine}{\LWR@depthnone}
4489 \newcommand*{\LWR@closedepthten}{\LWR@depthnone}
4490 \newcommand*{\LWR@closedeptheleven}{\LWR@depthnone}
4491 \newcommand*{\LWR@closedephtwelve}{\LWR@depthnone}
```

### 41.4 Pushing and popping the stack

`\pushclose`     $\{\langle action \rangle\} \{\langle depth \rangle\}$

Pushes one return action and its L<sup>A</sup>T<sub>E</sub>X depth onto the stacks.

```
4492 \NewDocumentCommand{\pushclose}{m m}
4493 {
4494   \global\let\LWR@closetwelve\LWR@closeeleven
4495   \global\let\LWR@closeeleven\LWR@closeten
4496   \global\let\LWR@closeten\LWR@closenine
```

```

4497 \global\let\LWR@close-nine\LWR@close-eight
4498 \global\let\LWR@close-eight\LWR@close-seven
4499 \global\let\LWR@close-seven\LWR@close-six
4500 \global\let\LWR@close-six\LWR@close-five
4501 \global\let\LWR@close-five\LWR@close-four
4502 \global\let\LWR@close-four\LWR@close-three
4503 \global\let\LWR@close-three\LWR@close-two
4504 \global\let\LWR@close-two\LWR@close-one
4505 \global\let\LWR@close-one#1
4506 \global\let\LWR@closedepth-twelve\LWR@closedepth-eleven
4507 \global\let\LWR@closedepth-eleven\LWR@closedepth-ten
4508 \global\let\LWR@closedepth-ten\LWR@closedepth-nine
4509 \global\let\LWR@closedepth-nine\LWR@closedepth-eight
4510 \global\let\LWR@closedepth-eight\LWR@closedepth-seven
4511 \global\let\LWR@closedepth-seven\LWR@closedepth-six
4512 \global\let\LWR@closedepth-six\LWR@closedepth-five
4513 \global\let\LWR@closedepth-five\LWR@closedepth-four
4514 \global\let\LWR@closedepth-four\LWR@closedepth-three
4515 \global\let\LWR@closedepth-three\LWR@closedepth-two
4516 \global\let\LWR@closedepth-two\LWR@closedepth-one
4517 \global\let\LWR@closedepth-one#2
4518 }

```

\popclose Pops one action and its depth off the stacks.

```

4519 \newcommand*{\popclose}
4520 {
4521 \global\let\LWR@close-one\LWR@close-two
4522 \global\let\LWR@close-two\LWR@close-three
4523 \global\let\LWR@close-three\LWR@close-four
4524 \global\let\LWR@close-four\LWR@close-five
4525 \global\let\LWR@close-five\LWR@close-six
4526 \global\let\LWR@close-six\LWR@close-seven
4527 \global\let\LWR@close-seven\LWR@close-eight
4528 \global\let\LWR@close-eight\LWR@close-nine
4529 \global\let\LWR@close-nine\LWR@close-ten
4530 \global\let\LWR@close-ten\LWR@close-eleven
4531 \global\let\LWR@close-eleven\LWR@close-twelve
4532 \global\let\LWR@closedepth-one\LWR@closedepth-two
4533 \global\let\LWR@closedepth-two\LWR@closedepth-three
4534 \global\let\LWR@closedepth-three\LWR@closedepth-four
4535 \global\let\LWR@closedepth-four\LWR@closedepth-five
4536 \global\let\LWR@closedepth-five\LWR@closedepth-six
4537 \global\let\LWR@closedepth-six\LWR@closedepth-seven
4538 \global\let\LWR@closedepth-seven\LWR@closedepth-eight
4539 \global\let\LWR@closedepth-eight\LWR@closedepth-nine
4540 \global\let\LWR@closedepth-nine\LWR@closedepth-ten
4541 \global\let\LWR@closedepth-ten\LWR@closedepth-eleven
4542 \global\let\LWR@closedepth-eleven\LWR@closedepth-twelve

```

```

4543 }

4544 \end{warpHTML}

```

## 42 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:** 4545 \begin{warpHTML}

```
\LWR@setexparray {<name>} {<index>} {<contents>}
```

```

4546 \NewDocumentCommand{\LWR@setexparray}{m m m}{%
4547     \xdef\LWR@thisexparrayname{#1#2}%
4548     \ifstrempy{#3}%
4549     {\csgdef{\LWR@thisexparrayname}{}}%
4550     {\csxdef{\LWR@thisexparrayname}{#3}}%
4551 }

```

```
\LWR@getexparray {<name>} {<index>}
```

```

4552 \newcommand*{\LWR@getexparray}[2]{%
4553     \@nameuse{#1#2}%
4554 }

4555 \end{warpHTML}

```

## 43 Localizing catcodes

**for HTML & PRINT:** 4556 \begin{warppall}

⚠ **Misplaced alignment** Place \StartDefiningTabulars and \StopDefiningTabulars before and after tab character &

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.

```
4557 \newcommand{\StartDefiningTabulars}{%
4558 \LWR@traceinfo{StartDefiningTabulars}%
4559 \warpHTMLonly{\catcode'\&=\active}%
4560 }
```

`\StopDefiningTabulars` Place after defining something with & in it.

```
4561 \newcommand{\StopDefiningTabulars}{%
4562 \LWR@traceinfo{StopDefiningTabulars}%
4563 \warpHTMLonly{\catcode'\&=4}%
4564 }
```

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.

```
4565 \newbool{LWR@mathmacro}
4566 \boolfalse{LWR@mathmacro}
```

`\StartDefiningMath` Place before defining something with \$ in it.

```
4567 \newcommand{\StartDefiningMath}{%
4568 \LWR@traceinfo{StartDefiningMath}%
4569 \warpHTMLonly{\catcode'\$=\active}%
4570 }
```

`\StopDefiningMath` Place after defining something with \$ in it.

```
4571 \newcommand{\StopDefiningMath}{%
4572 \LWR@traceinfo{StopDefiningMath}%
4573 \warpHTMLonly{\catcode'\$=3}% math shift
4574 }
```

```
4575 \end{warpall}
```

## 44 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`:

---

```
\xpatchcmd{\macroname}
  {$math expression$}
  {\inlinemathother$math expression$\inlinemathnormal}
  {}
  {\typeout{Error patching macroname.}}
```

---

**for HTML & PRINT:** 4576 `\begin{warpall}`

Bool `LWR@dynamicmath` True to mark inline math which is dynamic in nature, thus should not be hashed for reuse.  
 Default: `false`

```
4577 \newbool{LWR@dynamicmath}
4578 \boolfalse{LWR@dynamicmath}
```

`\inlinemathother` Place before using `$ ... $` or `\( ... \)` if the contents of the math are not static, depending on counters or dynamic macros.

```
4579 \newcommand{\inlinemathother}{%
4580 \LWR@traceinfo{inlinemathother}%
4581 \booltrue{LWR@dynamicmath}%
4582 }
```

`\inlinemathnormal` Place after using `$ ... $` or `\( ... \)` with dynamic contents.

```
4583 \newcommand{\inlinemathnormal}{%
4584 \LWR@traceinfo{inlinemathnormal}%
4585 \boolfalse{LWR@dynamicmath}%
4586 }
```

```
4587 \end{warpall}
```

## 45 Sanitizing labels and filenames

Special handling for underscores in labels and filenames.

**for HTML output:** 4588 \begin{warpHTML}

`\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.

```
4589 \newcommand*{\LWR@sanitized}{}%
```

`\LWR@sanitize`  $\{ \langle \textit{text} \rangle \}$

Sanitizes the text and returns the result in `\LWR@sanitized`.

```
4590 \newcommand*{\LWR@sanitize}[1]{%
4591 \LWR@traceinfo{\LWR@sanitize: !#1!}%
4592 \edef\LWR@sanitized{#1}%
4593 \LWR@traceinfo{\LWR@sanitize expanded: !\LWR@sanitized!}%
4594 \edef\LWR@sanitized{\detokenize\expandafter{\LWR@sanitized}}%
4595 \LWR@traceinfo{\LWR@sanitize result: !\LWR@sanitized!}%
4596 }
```

```
4597 \end{warpHTML}
```

## 46 HTML entities

**for HTML output:** 4598 \begin{warpHTML}

HTML Unicode entities:

```
4599 \let\LWR@origampersand\&
```

`\HTMLentity`  $\{ \langle \textit{entitytag} \rangle \}$

```
4600 \newcommand*{\HTMLentity}[1]{%
4601 % \LWR@traceinfo{\HTMLentity \detokenize{#1}}%
4602 \begingroup%
4603 \LWR@FBcancel%
```

```

4604 \LWR@origampersand#1;%
4605 \endgroup%
4606 % \LWR@traceinfo{HTMLentity done}%
4607 }

```

`\HTMLunicode` `{\hex_unicode}`

```

4608 \newcommand*{\HTMLunicode}[1]{\HTMLentity{\LWR@origpound{x#1}}

```

`\&`

```

4609 \renewrobustcmd*{\&}{\HTMLentity{amp}}

```

`\textless`

`\textgreater`

```

4610 \let\LWR@origtextless\textless
4611 \renewcommand*{\textless}{\HTMLentity{lt}}
4612
4613 \let\LWR@origtextgreater\textgreater
4614 \renewcommand*{\textgreater}{\HTMLentity{gt}}

```

```

4615 \end{warpHTML}

```

## 47 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:** 4616 `\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.

```

4617 \providecommand*{\BaseJobname}{\jobname}

```

`\HTMLFilename` The prefix for all generated HTML files other than the home page, defaulting to empty. See section 8.4.1.

```

4618 \providecommand*{\HTMLFilename}{}

```

`\HomeHTMLFilename` The filename of the home page, defaulting to the `\BaseJobname`. See section 8.4.1.

```
4619 \providecommand*{\HomeHTMLFilename}{\BaseJobname}
```

`\SetHTMLFileNumber`  $\{\langle number \rangle\}$

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.

```
4620 \newcommand*{\SetHTMLFileNumber}[1]{%
4621 \setcounter{LWR@htmlfilenumber}{#1}%
4622 }
```

Bool `FileSectionNames` Selects how to create HTML file names.

Defaults to use section names in the filenames.

```
4623 \newbool{FileSectionNames}
4624 \booltrue{FileSectionNames}
```

```
4625 \end{warppall}
```

**for HTML output:** `\begin{warppHTML}`

Ctr `LWR@htmlfilenumber` Records the number of each HTML file as it is being created. Number 0 is the home page.

```
4627 \newcounter{LWR@htmlfilenumber}
4628 \setcounter{LWR@htmlfilenumber}{0}
```

`\LWR@htmlsectionfilename`  $\{\langle htmlfilenumber \text{ or } name \rangle\}$

Prints the filename for a given section: `\HTMLFilename{}\filenumber/name.html`

```
4629 \newcommand*{\LWR@htmlsectionfilename}[1]{%
4630 \LWR@traceinfo{\LWR@htmlsectionfilename A !\detokenize{#1}!}%
```

Section 0 or empty is given the home filename. The filename must be detokenized for underscores.

```
4631 % \LWR@traceinfo{about to assign temp}%
4632 \edef\LWR@tempone{#1}%
4633 \LWR@traceinfo{about to compare with ??}%
4634 \ifthenelse{\equal{\LWR@tempone}{??}}%
```

```

4635 {\LWR@traceinfo{found ??}}%
4636 {\LWR@traceinfo{not found ??}}%
4637 \LWR@traceinfo{about to compare with zero or empty}%
4638 \ifthenelse{%
4639   \equal{\LWR@tempone}{0}%
4640   \OR \equal{\LWR@tempone}{}%
4641   \OR \equal{\LWR@tempone}{??}}%
4642 }%
4643 {%
4644   \LWR@traceinfo{\LWR@htmlsectionfilename B \HomeHTMLFilename.html}%
4645   \HomeHTMLFilename.html%
4646 }%

```

For a L<sup>A</sup>T<sub>E</sub>X section named “Index” or “index” without a prefix, create a filename with a leading underscore to avoid colliding with the HTML filename `index.html`:

```

4647 {%
4648   \LWR@traceinfo{\LWR@htmlsectionfilename C \LWR@tempone}%
4649   \ifthenelse{%
4650     \equal{\HTMLFilename}{%} \AND
4651     \equal{\LWR@tempone}{Index} \OR
4652     \equal{\LWR@tempone}{index}}%
4653   }%
4654   {%
4655     \LWR@traceinfo{Prefixing the index name with an underscore.}%
4656     \_#1.html%
4657   }%

```

Otherwise, create a filename with the chosen prefix:

```

4658   {\HTMLFilename\LWR@isolate{#1}.html}%
4659 }%
4660 \LWR@traceinfo{\LWR@htmlsectionfilename Z}%
4661 }

```

`\LWR@htmlrefsectionfilename`  $\{\langle label \rangle\}$

Prints the filename for the given label

```

4662 \newcommand*{\LWR@htmlrefsectionfilename}[1]{%
4663 \LWR@traceinfo{\LWR@htmlrefsectionfilename: !\detokenize{#1}!}%

```

`\LWR@nullfonts` to allow math in a section name.

```

4664 \begingroup%
4665 \LWR@nullfonts%
4666 \LWR@htmlsectionfilename{\LWR@htmlfileref{#1}}%
4667 \endgroup%

```

```

4668 \LWR@traceinfo{LWR@htmlrefsectionfilename: done}%
4669 }

4670 \end{warpHTML}

```

## 48 Homepage link

**for HTML & PRINT:** 4671 \begin{warpall}

\linkhomename Holds the default name for the home link.

```

4672 \newcommand{\linkhomename}{Home}

4673 \end{warpall}

```

**for HTML output:** 4674 \begin{warpHTML}

\LinkHome May be used wherever you wish to place a link back to the homepage. The filename must be detokenized for underscores.

```

4675 \newcommand*{\LinkHome}{%
4676 \LWR@subhyperrefclass{HomeHTMLFilename.html}{\linkhomename}{linkhome}%
4677 }

4678 \end{warpHTML}

```

**for PRINT output:** 4679 \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.

```

4680 \AtBeginDocument{
4681 \ifundefined{hyperref}{
4682   \newcommand*{\LinkHome}{\linkhomename\ --- page \pageref{page-LWRfirstpage}}
4683 }{
4684   \newcommand*{\LinkHome}{\hyperref[page-LWRfirstpage]{\linkhomename}}
4685 }
4686 }
4687
4688 \AfterEndPreamble{\label{page-LWRfirstpage}}

4689 \end{warpprint}

```

**for HTML output:** 4690 \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.

```
4691 \newcommand*{\LWR@topnavigation}{
4692 \LWR@htmlelementclassline{nav}{topnavigation}{\LinkHome}
4693 }
```

**\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.

```
4694 \newcommand*{\LWR@botnavigation}{
4695 \LWR@htmlelementclassline{nav}{botnavigation}{\LinkHome}
4696 }
```

```
4697 \end{warpHTML}
```

## 49 \LWRPrintStack diagnostic tool



Diagnostics tool: Prints the L<sup>A</sup>T<sub>E</sub>X 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:** 4698 \begin{warpHTML}

**\LWRPrintStack** Prints the closedepth stack.

```
4699 \newcommand*{\LWR@subprintstack}{
4700 \LWR@closedepthone\ \LWR@closedepthtwo\ \LWR@closedepththree\
4701 \LWR@closedepthfour\ \LWR@closedepthfive\ \LWR@closedepthsix\
4702 \LWR@closedepthseven\ \LWR@closedeptheight\ \LWR@closedepthnine\
4703 \LWR@closedepthten\ \LWR@closedeptheleven\ \LWR@closedepthtwelve\
4704 }
4705
4706 \newcommand*{\LWRPrintStack}{
4707 \LWR@startpars
4708 \LWR@subprintstack
4709 }
```

```
4710 \end{warpHTML}
```

**for PRINT output:** 4711 \begin{warpprint}

```
4712 \newcommand*{\LWRPrintStack}{}
```

```
4713 \end{warpprint}
```

## 50 Closing stack levels

for HTML output: 4714 \begin{warpHTML}

Close one nested level:

```
4715 \newcommand*{\LWR@closeoneprevious}{%
4716
4717 \LWR@closeone
4718
4719 \popclose
4720 }
```

\LWR@closeprevious  $\{ \langle depth \rangle \}$  Close everything up to the given depth:

```
4721 \newcommand*{\LWR@closeprevious}[1]{
4722 \LWR@traceinfo{\LWR@closeprevious to depth #1, depths are \LWR@subprintstack}%
```

Close any pending paragraph:

```
4723 \LWR@stoppars%
```

Close anything nested deeper than the desired depth. First close anything deeper, then at most one of the same level.

```
4724 \whileboolexpr{test{\ifnumcomp{\LWR@closedepthone}{>}{#1}}}%
4725 {%
4726   \LWR@traceinfo{\LWR@closeprevious: closing out depth \LWR@closedepthone}%
4727   \LWR@closeoneprevious%
4728 }%
4729 \ifboolexpr{test{\ifnumcomp{\LWR@closedepthone}{=}{#1}}}%
4730 {%
4731   \LWR@traceinfo{\LWR@closeprevious: closing out depth \LWR@closedepthone}%
4732   \LWR@closeoneprevious%
4733 }{}%
4734 \LWR@traceinfo{\LWR@closeprevious: done, depths are \LWR@subprintstack}%
4735 }
```

```
4736 \end{warpHTML}
```

## 51 PDF pages and styles

for HTML output: 4737 \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.

```
4738 \newcommand{\LWR@forcenewpage}{%
4739 \LWR@traceinfo{\LWR@forcenewpage}%
4740 \ifinner\else%
4741 \LWR@stoppars\LWR@orignewpage\LWR@startpars%
4742 \fi%
4743 }
```

\pagestyle, etc. are nullified for HTML output.

\pagestyle {\langle style \rangle}

```
4744 \renewcommand*{\pagestyle}[1]{}%
```

\thispagestyle {\langle style \rangle}

```
4745 \renewcommand*{\thispagestyle}[1]{}%
```

\markboth {\langle left \rangle} {\langle right \rangle}

```
4746 \renewcommand*{\markboth}[2]{}%
```

\markright {\langle right \rangle}

```
4747 \renewcommand*{\markright}[1]{}%
```

\raggedbottom

```
4748 \renewcommand*{\raggedbottom}{}%
```

\flushbottom

```
4749 \renewcommand*{\flushbottom}{}%
```

`\sloppy`

```
4750 \renewcommand*{\sloppy}{}

```

`\fussy`

```
4751 \renewcommand*{\fussy}{}

```

`\pagenumbering` \* `{<commands>}`

```
4752 \RenewDocumentCommand{\pagenumbering}{s m}{}

```

```
4753 \end{warpHTML}

```

## 52 HTML tags, spans, divs, elements

for HTML output: `4754 \begin{warpHTML}`

### 52.1 Mapping L<sup>A</sup>T<sub>E</sub>X sections to HTML sections

```
4755 \newcommand*{\LWR@tagtitle}{h1}
4756 \newcommand*{\LWR@tagtitleend}{/h1}
4757 \newcommand*{\LWR@tagpart}{h2}
4758 \newcommand*{\LWR@tagpartend}{/h2}
4759 \newcommand*{\LWR@tagchapter}{h3}
4760 \newcommand*{\LWR@tagchapterend}{/h3}
4761 \newcommand*{\LWR@tagsection}{h4}
4762 \newcommand*{\LWR@tagsectionend}{/h4}
4763 \newcommand*{\LWR@tagsubsection}{h5}
4764 \newcommand*{\LWR@tagsubsectionend}{/h5}
4765 \newcommand*{\LWR@tagsubsubsection}{h6}
4766 \newcommand*{\LWR@tagsubsubsectionend}{/h6}
4767 \newcommand*{\LWR@tagparagraph}{span class="paragraph"}
4768 \newcommand*{\LWR@tagparagraphend}{/span}
4769 \newcommand*{\LWR@tagsubparagraph}{span class="subparagraph"}
4770 \newcommand*{\LWR@tagsubparagraphend}{/span}
4771
4772 \newcommand*{\LWR@tagregularparagraph}{p}

```

### 52.2 Babel-French tag modifications

Adjust babel-french for HTML spaces. So far, this only works for *pdf<sub>l</sub>atex* and *xelatex*.

(Emulates or patches code by DANIEL FLIPO.)

```

4773 \providecommand*{\LWR@FBcancel}{%
4774
4775 \AtBeginDocument{%
4776 \@ifundefined{frenchbsetup}%
4777 {}%
4778 {%
4779     \frenchbsetup{FrenchFootnotes=false}%

4780 %
4781     \LetLtxMacro\LWR@FBcancel\NoAutoSpacing%
4782     \renewrobustcmd*{\FBcolonspace}{%
4783         \begingroup%
4784         \LWR@FBcancel%
4785         \LWR@origampersand{}~\;
4786     \endgroup%
4787 }%
4788     \renewrobustcmd*{\FBthinspace}{%
4789         \begingroup%
4790         \LWR@FBcancel%
4791         \LWR@origampersand\LWR@origpound{x202f}% \,
4792     \endgroup%
4793 }%
4794     \renewrobustcmd*{\FBguillspace}{%
4795         \begingroup%
4796         \LWR@FBcancel%
4797         \LWR@origampersand{}~\; for \og xyz \fg{}
4798     \endgroup%
4799 }%
4800     \DeclareDocumentCommand{\FBmedkern}{-}{%
4801         \begingroup%
4802         \LWR@FBcancel%
4803         \LWR@origampersand\LWR@origpound{x202f}% \,
4804     \endgroup%
4805 }%
4806     \DeclareDocumentCommand{\FBthickkern}{-}{%
4807         \begingroup%
4808         \LWR@FBcancel%
4809         \LWR@origampersand{}~\;
4810     \endgroup%
4811 }%
4812     \renewrobustcmd*{~}{\HTMLentity{nbsp}}% was overwritten by babel-french
4813     \ifFBunicode%
4814     \else%
4815         \DeclareTextSymbol{\FBtextellipsis}{LY1}{133}%
4816         \DeclareTextCommandDefault{\FBtextellipsis}{\textellipsis\xspace}%
4817     \fi%
4818 }%
```

4819 }

## 52.3 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.

```
4820 \newcommand*{\LWR@htmltagc}[1]{%
4821 \LWR@traceinfo{\LWR@htmltagc !\detokenize{#1}!}%
4822 \begingroup%
4823 \LWR@FBcancel%
4824 \ifmode\else\protect\LWR@origttfamily\fi%
4825 \protect\LWR@origtextless%
4826 \LWR@isolate{#1}%
4827 \protect\LWR@origtextgreater%
4828 \endgroup%
4829 % \LWR@traceinfo{\LWR@htmltagc: done}%
4830 }
```

Env `\LWR@nestspan` Disable minipage, `\parbox`, and HTML `<div>`s inside a `<span>`.

⚠ `\begin{\LWR@nestspan}` must follow the opening `<span>` tag to allow a paragraph to start if the span is at the beginning of a new paragraph.

⚠ `\end{\LWR@nestspan}` must follow the `</span>` or a `<p>` may appear inside the span.

```
4831 \newcommand*{\LWR@nestspanitem}{%
4832 \if@newlist\else{\LWR@htmltagc{br /}}\fi%
4833 \LWR@origitem%
4834 }
4835
4836 \newenvironment*{\LWR@nestspan}
4837 {%
4838 \LWR@traceinfo{\LWR@nestspan starting}%
4839 \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}%
4840 {%
4841   \LWR@traceinfo{\LWR@nestspan: inside a lateximage}%
4842 }%
4843 {% not in a lateximage
4844   \LWR@traceinfo{\LWR@nestspan: NOT inside a lateximage}%
4845   \addtocounter{\LWR@spandepth}{1}%
4846   \RenewDocumentEnvironment{minipage}{O{t} o O{t} m}{-}{-}%
4847   \RenewDocumentEnvironment{BlockClass}{o m}{-}{-}%
4848   \renewcommand{\BlockClassSingle}[2]{##2}%
4849   \renewcommand{\LWR@forcenewpage}{-}%
4850 }
```

```

4850 \renewcommand{\LWR@liststart}{%
4851 \let\item\LWR@nestspanitem%
4852 }%
4853 \renewcommand{\LWR@listend}{\LWR@htmltagc{br /}\LWR@htmltagc{br /}}%
4854 }% not in a lateximage
4855 \LWR@traceinfo{\LWR@nestspan starting: done}%
4856 }% starting env
4857 {% ending env
4858 \LWR@traceinfo{\LWR@nestspan ending}%
4859 \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}%
4860 {}%
4861 {\addtocounter{\LWR@spandepth}{-1}}%
4862 \LWR@traceinfo{\LWR@nestspan ending: done}%
4863 }
4864
4865 \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.

```

4866 \NewDocumentCommand{\LWR@htmlspan}{m +m}{%
4867 \LWR@ensuredoingapar%
4868 \LWR@htmltagc{#1}%
4869 \begin{\LWR@nestspan}%
4870 #2%
4871 \LWR@htmltagc{/#1}%
4872 \end{\LWR@nestspan}%
4873 }

```

`\LWR@htmlspanclass`  $[\langle style \rangle] \{\langle class \rangle\} \{\langle text \rangle\}$

```

4874 \NewDocumentCommand{\LWR@htmlspanclass}{o m +m}{%
4875 \LWR@traceinfo{\LWR@htmlspanclass |#1|#2|}%
4876 \LWR@ensuredoingapar%
4877 \LWR@subhtmlmlelementclass{span}{#1}{#2}%
4878 \begin{\LWR@nestspan}%
4879 #3%
4880 \LWR@htmltagc{/span}%
4881 \LWR@traceinfo{\LWR@htmlspanclass done}%
4882 \end{\LWR@nestspan}%
4883 }

```

`\LWR@htmltag`  $\{\langle tag \rangle\}$

Print an HTML tag: <tag>

```
4884 \newcommand*{\LWR@htmltag}[1]{%
4885 % \LWR@traceinfo{\LWR@htmltagb !\detokenize{#1}!}%
4886 \LWR@htmltagc{#1}%
4887 % \LWR@traceinfo{\LWR@htmltagb: done}%
4888 }
```

## 52.4 Block tags and comments

In the following, \origttfamily breaks ligatures, which may not be used for HTML codes:

```
\LWR@htmlopencomment
\LWR@htmlclosecomment
4889 \newcommand*{\LWR@htmlopencomment}{%
4890 {%
4891 % \LWR@traceinfo{\LWR@htmlopencomment}%
4892 \begingroup%
4893 \LWR@FBcancel%
4894 \ifmmode\else\protect\LWR@origttfamily\fi%
4895 \LWR@print@mbx{\LWR@origtextless{}}!-/-}%
4896 \endgroup%
4897 }%
4898 }
4899
4900 \newcommand*{\LWR@htmlclosecomment}{%
4901 {%
4902 % \LWR@traceinfo{\LWR@htmlclosecomment}%
4903 \begingroup%
4904 \LWR@FBcancel%
4905 \ifmmode\else\protect\LWR@origttfamily\fi%
4906 \LWR@print@mbx{-/-\LWR@origtextgreater{}}%
4907 \endgroup%
4908 }%
4909 }
```

\LWR@htmlcomment    {\comment}

```
4910 \newcommand{\LWR@htmlcomment}[1]{%
4911 \LWR@htmlopencomment}%
4912 {%
4913 \LWR@origttfamily% break ligatures
4914 #1%
4915 }%
4916 \LWR@htmlclosecomment{}}
```

`\LWR@htmlblockcomment` `{\langle comment \rangle}`

```
4917 \newcommand{\LWR@htmlblockcomment}[1]
4918 {\LWR@stoppars\LWR@htmlcomment{#1}\LWR@startpars}
```

`\LWR@htmlblocktag` `{\langle tag \rangle}` print a stand-alone HTML tag

```
4919 \newcommand*\LWR@htmlblocktag[1]{%
4920 \LWR@stoppars%
4921 \LWR@htmltag{#1}%
4922 \LWR@startpars%
4923 }
```

## 52.5 Div class and element class

`\LWR@subhtmlclass` `{\langle element \rangle} [\langle style \rangle] {\langle class \rangle}`

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.

```
4924 \NewDocumentCommand{\LWR@subhtmlclass}{m O{} m}{%
4925 \LWR@traceinfo{\LWR@subhtmlclass !#1!#2!#3!}%
4926 \ifblank{#2}%
4927 {% empty option
4928   \LWR@htmltag{#1 class=\textquotedbl#3\textquotedbl}%
4929 }%
4930 {% non-empty option
4931   \LWR@htmltag{%
4932     #1 % space
4933     class=\textquotedbl#3\textquotedbl\ % space
4934     style=\textquotedbl#2\textquotedbl%
4935   }%
4936 }%
4937 \LWR@traceinfo{\LWR@subhtmlclass done}%
4938 }
```

`\LWR@htmlclass` `{\langle element \rangle} {\langle class \rangle} [\langle style \rangle]`

```
4939 \NewDocumentCommand{\LWR@htmlclass}{m o m}{%
4940 \LWR@stoppars%
4941 \LWR@subhtmlclass{#1}[#2]{#3}%
4942 \LWR@startpars%
4943 }
```

```

\LWR@htmlelementclassend  {\langle element \rangle} {\langle class \rangle}

4944 \newcommand*{\LWR@htmlelementclassend}[2]{%
4945 \LWR@stoppars%
4946 \LWR@htmltag{/#1}%
4947 \ifbool{HTMLDebugComments}{%
4948     \LWR@htmlcomment{End of #1 ‘‘#2’’}%
4949 }{}%
4950 \LWR@startpars%
4951 }

\LWR@htmldivclass  [ {\langle style \rangle} ] {\langle class \rangle}

4952 \NewDocumentCommand{\LWR@htmldivclass}{o m}{%
4953 \LWR@htmlelementclass{div}[#1]{#2}%
4954 }

\LWR@htmldivclassend  {\langle class \rangle}

4955 \newcommand*{\LWR@htmldivclassend}[1]{%
4956 \LWR@htmlelementclassend{div}[#1]%
4957 }

```

## 52.6 Single-line elements

A single-line element, without a paragraph tag for the line of text:

```

\LWR@htmlelementclassline  {\langle element \rangle} [ {\langle style \rangle} ] {\langle class \rangle} {\langle text \rangle}

4958 \NewDocumentCommand{\LWR@htmlelementclassline}{m o m +m}{%
4959 \LWR@stoppars
4960 \LWR@subhtmlelementclass{#1}[#2]{#3}%
4961 #4%
4962 \LWR@htmltag{/#1}
4963 \LWR@startpars
4964 }

```

## 52.7 HTML5 semantic elements

```

\LWR@htmlmlelement  {\langle element \rangle}

```

```

4965 \newcommand*{\LWR@htmlelement}[1]{%
4966 \LWR@htmlblocktag{#1}
4967 }

```

`\LWR@htmlelementend`    `{\langle element \rangle}`

```

4968 \newcommand*{\LWR@htmlelementend}[1]{%
4969 \LWR@stoppars
4970 \LWR@htmltag{/#1}
4971 \LWR@startpars
4972 }
4973
4974 \end{warpHTML}

```

## 52.8 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 [89](#).

Env    `BlockClass`    `[\langle style \rangle]{\langle class \rangle}`    High-level interface for `<div>` classes.

Ex: `\begin{BlockClass}{class} text \end{BlockClass}`

**for PRINT output:** `4975 \begin{warpprint}`  
`4976 \NewDocumentEnvironment{BlockClass}{o m}{-}{-}%`  
`4977 \end{warpprint}`

**for HTML output:** `4978 \begin{warpHTML}`  
`4979 \NewDocumentEnvironment{\LWR@print@BlockClass}{o m}{-}{-}%`  
`4980 \NewDocumentEnvironment{\LWR@HTML@BlockClass}{o m}%`  
`4981 {%`  
`4982     \LWR@origpar%`  
`4983     \LWR@htmldivclass[#1]{#2}%`  
`4984 }`  
`4985 {\LWR@htmldivclassend{#2}}`  
`4986`  
`4987 \LWR@formattedenv{BlockClass}`  
`4988 \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:**

```

4989 \begin{warpall}
4990 \newcommand{\BlockClassSingle}[2]{#2}
4991 \end{warpall}

```

**for HTML output:**

```

4992 \begin{warpHTML}
4993 \newcommand{\LWR@HTML@BlockClassSingle}[2]{%
4994 \LWR@origpar%
4995 \LWR@html@element@classline{div}{#1}{#2}%
4996 }
4997
4998 \LWR@formatted{BlockClassSingle}
4999 \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:**

```

5000 \begin{warpprint}
5001 \NewDocumentCommand{\InlineClass}{D{({})}{ } o m +m}{#4}%
5002 \end{warpprint}

```

**for HTML output:**

```

5003 \begin{warpHTML}
5004 \NewDocumentCommand{\LWR@print@InlineClass}{D{({})}{ } o m +m}{#4}%
5005
5006 \NewDocumentCommand{\LWR@HTML@InlineClass}{D{({})}{ } o m +m}{%
5007 \ifbool{FormatWP}{%
5008   \LWR@html@spanclass[#1]{#3}{#4}%
5009 }{%
5010   \LWR@html@spanclass[#2]{#3}{#4}%
5011 }%
5012 }
5013
5014 \LWR@formatted{InlineClass}
5015 \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:**

```

5016 \begin{warpprint}
5017 \NewDocumentEnvironment{LWR@BlockClassWP}{m m m}{ }{}%
5018 \end{warpprint}

```

**for HTML output:**

```

5019 \begin{warpHTML}
5020 \NewDocumentEnvironment{LWR@print@LWR@BlockClassWP}{m m m}{-}{-}%
5021 \NewDocumentEnvironment{LWR@HTML@LWR@BlockClassWP}{m m m}%
5022 {%
5023 \LWR@stoppars%
5024 \ifbool{FormatWP}%
5025 {%
5026 \addtocounter{LWR@thisautoidWP}{1}%
5027 \LWR@htmltag{%
5028 div class=\textquotedbl#3\textquotedbl % space
5029 id=\textquotedbl%
5030 \LWR@print@mbbox{autoidWP-\arabic{LWR@thisautoidWP}}%
5031 \textquotedbl%
5032 \ifblank{#1}{-}{ style=\textquotedbl#1\textquotedbl}%
5033 }%
5034 }% FormatWP
5035 {% not FormatWP
5036 \LWR@htmltag{%
5037 div class=\textquotedbl#3\textquotedbl%
5038 \ifblank{#2}{-}{ style=\textquotedbl#2\textquotedbl}%
5039 }%
5040 }% not FormatWP
5041 \LWR@startpars%
5042 }
5043 {\LWR@htmldivclassend{#3}}
5044
5045 \LWR@formattedenv{LWR@BlockClassWP}
5046 \end{warpHTML}

```

## 52.9 Closing HTML tags

for HTML output: 5047 \begin{warpHTML}

Sections H1, H2, etc. do not need a closing HTML tag, but we add a comment for readability:

```

5048 \newcommand*{\LWR@printclosepart}
5049 {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing part}}{}}
5050 \newcommand*{\LWR@printclosechapter}
5051 {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing chapter}}{}}
5052 \newcommand*{\LWR@printclosesection}
5053 {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing section}}{}}
5054 \newcommand*{\LWR@printclosesubsection}
5055 {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing subsection}}{}}
5056 \newcommand*{\LWR@printclosesubsubsection}
5057 {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing subsubsection}}{}}
5058 \newcommand*{\LWR@printcloseparagraph}

```

```

5059     {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing paragraph}}{}}
5060 \newcommand*{\LWR@printclosesubparagraph}
5061     {\ifbool{HTMLDebugComments}{\LWR@htmlcomment{Closing subparagraph}}{}}

```

Lists require closing HTML tags:

```

5062 \newcommand*{\LWR@printcloselistitem}
5063     {\LWR@htmltag{/li}}
5064 \newcommand*{\LWR@printclosedescitem}
5065     {\LWR@htmltag{/dd}}
5066 \newcommand*{\LWR@printcloseitemize}
5067     {\LWR@htmltag{/ul}}
5068 \newcommand*{\LWR@printcloseenumerate}
5069     {\LWR@htmltag{/ol}}
5070 \newcommand*{\LWR@printclosedescription}
5071     {\LWR@htmltag{/dl}}

5072 \end{warpHTML}

```

## 53 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 54 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 `\fbx` commands and other spans.

**for HTML output:** 5073 `\begin{warpHTML}`

Ctr `LWR@spandepth` Do not create paragraph tags inside of an HTML span.

```

5074 \newcounter{LWR@spandepth}
5075 \setcounter{LWR@spandepth}{0}

```

Bool `LWR@doingstartpars` Tells whether paragraphs may be generated.

```

5076 \newbool{LWR@doingstartpars}
5077 \boolfalse{LWR@doingstartpars}

```

Bool `LWR@doingapar` Tells whether have actually generated and are currently processing paragraph text.

```

5078 \newbool{LWR@doingapar}
5079 \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:

```

5080 \newcommand*{\LWR@ensuredoingapar}{%
5081 \ifbool{LWR@doingstartpars}%
5082 {\global\booltrue{LWR@doingapar}}%
5083 {}}%
5084 }

```

`\PN@parnotes@auto` Redefined by `parnotes` to print paragraph notes at the end of each paragraph.

```

5085 \def\P@parnotes@auto{}%

```

`\LWR@openparagraph`

```

5086 \newcommand*{\LWR@openparagraph}
5087 {%

```

See if paragraph handling is enabled:

```

5088 \ifbool{LWR@doingstartpars}%
5089 {% handling pars

```

See if have already started a `lateximage` or a `<span>`. If so, do not generate nested paragraph tags.

```

5090 \ifbool{expr{
5091     test {\ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}} or
5092     test {\ifnumcomp{\value{LWR@spandepth}}{>}{0}}
5093 }} nested par tags?

```

If so: Do nothing if already started a `lateximage` page. Cannot nest a `lateximage`. Also do nothing if already inside a `<span>`. Do not nest paragraph tags inside a `<span>`.

```

5094 {}% no nested par tags

```

Else: No `lateximage` or `<span>` has been started yet, so it's OK to generate paragraph tags.

```

5095 {}% yes nest par tags

```

If parnotes is used, paragraph notes are inserted before starting the next paragraph:

```
5096      \PN@parnotes@auto%
```

The opening paragraph tag:

```
5097      \LWR@htmltagc{\LWR@tagregularparagraph}%
```

Now have started a paragraph.

```
5098      \global\booltrue{\LWR@doingapar}%
```

At the end of each paragraph, generate closing tag and do regular /par stuff. (Attempting to use the everyhook cr hook for \LWR@closeparagraph does not work well.)

```
5099      \let\par\LWR@closeparagraph%
5100  }% end of yes nest par tags
5101 }% end of handling pars
5102 {}% not handling pars
5103 }
```

\LWR@closeparagraph

```
5104 \newcommand*{\LWR@closeparagraph}
5105 {%
5106 % \LWR@traceinfo{\LWR@closeparagraph}%
```

See if paragraph handling is enabled:

```
5107 \ifbool{\LWR@doingapar}%
```

If currently in paragraph mode:

```
5108 {% handling pars
```

See if already started a lateximage or a <span>:

```
5109 \ifboolexpr{
5110   test {\ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}} or
5111   test {\ifnumcomp{\value{\LWR@spandepth}}{>}{0}}
5112 }%
```

Do nothing if already started a lateximage or a <span>, but add a parbreak if in a span but not a lateximage.

```
5113   {% no nested par tags
```

```

5114      \ifboolexpr{
5115          test {\ifnumcomp{\value{LWR@spandepth}}{>}{0}} and
5116          test {\ifnumcomp{\value{LWR@lateximagedepth}}{=}{0}}
5117      }%
5118      {\ifbool{LWR@intabularmetadata}{\unskip\LWR@htmltagc{br /}}}%
5119      {}%
5120  }% no nested par tags

```

If have not already started a lateximage or a <span>:

```

5121  {% yes nest par tags

```

Print a closing tag and some extra vertical space.

```

5122      \unskip%
5123      \LWR@htmltagc{/\LWR@tagregularparagraph}%
5124      \LWR@orignewline%

```

No longer doing a paragraph:

```

5125      \global\boolfalse{LWR@doingapar}%

```

Disable the special minipage & \hspace interaction until a new minipage is found:

```

5126      \global\boolfalse{LWR@minipagethispar}%

```

If parnotes is used, paragraph notes are inserted after ending the previous paragraph:

```

5127      \PN@parnotes@auto%
5128  }% end of yes nest par tags
5129}% end of handling pars

```

Add a parbreak if in a span, but not in a table outside a row:

```

5130 {% not handling pars
5131     \ifnumcomp{\value{LWR@spandepth}}{>}{0}%
5132     {\ifbool{LWR@intabularmetadata}{\unskip\LWR@htmltagc{br /}}}%
5133     {}%
5134}% 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:

```

5135 \ifboolexpr{%
5136     not bool {LWR@doingapar} and
5137     test {\ifnumcomp{\value{LWR@tabulardepth}}{>}{0}} and
5138     test {

```

```

5139      \ifnumcomp{\value{LWR@tabulardepth}}{=}{\value{LWR@tabularpardepth}}
5140    } and
5141    bool {LWR@intabularmetadata} and
5142    not bool {LWR@tableparcell} and
5143    test {\ifnumcomp{\value{LWR@lateximagedepth}}{=}{0}}
5144  }%
5145  {%
5146    \LWR@getmynexttoken%
5147  }{%
5148    \LWR@origpar%
5149  }%
5150  }

5151 \end{warpHTML}

```

## 54 Paragraph start/stop handling

These commands allow/disallow the generation of HTML paragraph tags.

Section 53 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:** 5152 `\begin{warpHTML}`

`\LWR@startpars` Begin handling HTML paragraphs. This allows an HTML paragraph to start, but one has not yet begun.

```

5153 \newcommand*{\LWR@startpars}%
5154 {%
5155 % \LWR@traceinfo{\LWR@startpars}%

```

Ignore if inside a span:

```

5156 \ifnumcomp{\value{LWR@spandepth}}{>}{0}%
5157 }%
5158 {%

```

See if currently handling HTML paragraphs:

```

5159 \ifbool{LWR@doingstartpars}%

```

If already in paragraph mode, do nothing.

```
5160    {}%
```

If not currently in paragraph mode:

```
5161    {%
```

At the start of each paragraph, generate an opening tag:

```
5162        \PushPreHook{par}{\LWR@openparagraph}%
```

At the end of each paragraph, generate closing tag then do regular /par actions:

```
5163        \let\par\LWR@closeparagraph
```

```
5164
```

```
5165    }% an intentionally blank line
```

Are now handling paragraphs, but have not yet actually started one:

```
5166    \global\setbool{LWR@doingstartpars}{true}%
```

No <par> tag yet to undo:

```
5167    \global\boolfalse{LWR@doingapar}%
```

```
5168 }% nestspan
```

```
5169 % \LWR@traceinfo{LWR@startpars: done}%
```

```
5170 }
```

`\LWR@stoppars` Stop handling HTML paragraphs. Any currently open HTML paragraph is closed, and no more will be opened.

```
5171 \newcommand*{\LWR@stoppars}%
```

```
5172 {%
```

Ignore if inside a span:

```
5173 \ifnumcomp{\value{LWR@spandepth}}{>}{0}%
```

```
5174 {}%
```

```
5175 {%
```

See if currently handling HTML paragraphs:

```
5176    \ifbool{LWR@doingapar}%
```

if currently in an HTML paragraph:

```
5177    {%
```

Print a closing tag:

```
5178      \unskip%
5179      \LWR@htmltagc{/\LWR@tagregularparagraph}%
5180      \LWR@orignewline%
```

No longer have an open HTML paragraph:

```
5181      \global\boolfalse{LWR@doingapar}%
```

Disable the special minipage & \hspace interaction until a new minipage is found:

```
5182      \global\boolfalse{LWR@minipagethispar}
5183
5184      }% an intentionally blank line
```

If was not in an HTML paragraph:

```
5185      {}%
```

See if currently allowing HTML paragraphs:

```
5186      \ifbool{LWR@doingstartpars}%
```

If so: clear the par hook to no longer catch paragraphs:

```
5187      {\ClearPreHook{par}}%
```

Else: Do nothing:

```
5188      {}%
```

No longer in paragraph mode:

```
5189      \global\setbool{LWR@doingstartpars}{false}%
```

No <p> tag to undo:

```
5190      \global\boolfalse{LWR@doingapar}%
5191      }% nestspan
5192      }
```

```
5193 \end{warpHTML}
```

## 55 Page headers and footers

**for HTML & PRINT:** 5194 \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.

```
5195 \newcommand{\LWR@firstpagetop}{} % for the home page alone
5196 \newcommand{\LWR@pagetop}{} % for all other pages
5197 \newcommand{\LWR@pagebottom}{}

```

\HTMLFirstPageTop {*<text and logos>*}

```
5198 \newcommand{\HTMLFirstPageTop}[1]{%
5199     \renewcommand{\LWR@firstpagetop}{#1}%
5200 }

```

\HTMLPageTop {*<text and logos>*}

```
5201 \newcommand{\HTMLPageTop}[1]{%
5202     \renewcommand{\LWR@pagetop}{#1}%
5203 }

```

\HTMLPageBottom {*<text and logos>*}

```
5204 \newcommand{\HTMLPageBottom}[1]{%
5205     \renewcommand{\LWR@pagebottom}{#1}%
5206 }

```

```
5207 \end{warpall}

```

## 56 CSS

**for HTML output:** 5208 \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.

```
5209 \newcommand*{\LWR@currentcss}{lwarp.css}

```

`\CSSFilename` `{\new-css-filename.css}` Assigns the css file to be used by the following HTML pages.

```
5210 \newcommand*{\CSSFilename}[1]{%
5211 \renewcommand*{\LWR@currentcss}{#1}%
5212 \@onelevel@sanitize\LWR@currentcss%
5213 }
5214
5215 \end{warpHTML}
```

**for PRINT output:** 5216 `\begin{warpprint}`  
 5217 `\newcommand*{\CSSFilename}[1]{}`  
 5218 `\end{warpprint}`

## 57 Title, HTML meta author, HTML meta description

**for HTML output:** 5219 `\begin{warpHTML}`

`\title` `{\title}` Modified to remember `\thetitle`, which is used to set the HTML page titles.

```
5220 \let\LWR@origtitle\title
5221
5222 \renewcommand*{\title}[1]{%
5223   \LWR@origtitle{#1}%
5224   \begingroup%
5225     \renewcommand{\thanks}[1]{}%
5226     \protected@xdef\thetitle{#1}%
5227   \endgroup%
5228 }
5229 \end{warpHTML}
```

**for HTML & PRINT:** 5230 `\begin{warppall}`


`\HTMLTitle` `{\Titlename}` The Title to place into an HTML meta tag. The default is to use the document `\title`'s setting.

```
5231 \providecommand{\thetitle}{}
5232
5233 \newcommand{\theHTMLTitle}{\thetitle}
5234
5235 \newcommand{\HTMLTitle}[1]{\renewcommand{\theHTMLTitle}{#1}}
```

`\HTMLAuthor` `{\authorname}` 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.

```
5236 \providecommand{\theauthor}{}
5237
5238 \newcommand{\theHTMLAuthor}{\theauthor}
5239
5240 \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` `{\New HTML meta description.}` Assigns the HTML file's description meta tag.

```
5241 \newcommand{\LWR@currentHTMLDescription}{}
5242
5243 \newcommand{\HTMLDescription}[1]{%
5244 \renewcommand{\LWR@currentHTMLDescription}{#1}
5245 }
5246
5247 \end{warpall}
```


## 58 Footnotes

lwarp uses native L<sup>A</sup>T<sub>E</sub>X footnote code, although with its own `\box` to avoid the L<sup>A</sup>T<sub>E</sub>X output routine. The usual functions mostly work as-is.

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

```

\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.

### 58.1 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<sup>A</sup>T<sub>E</sub>X box `\LWR@footnotes`. 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 58.4 for the implementation.

### 58.2 Minipage footnotes

See section 58.5 for how minipage footnotes are gathered. See section 88.3 for how minipage footnotes are placed into the document.

### 58.3 Titlepage thanks

See section 65.7 for titlepage footnotes.

### 58.4 Regular page footnote implementation

**for HTML & PRINT:** 5248 `\begin{warpall}`

|     |                            |   |
|-----|----------------------------|---|
| Ctr | <code>FootnoteDepth</code> | Determines how deeply to place footnotes in the HTML files, similar to <code>tocdepth</code> .  |
|     | Default: 3                 | The default of 3 places footnotes before each <code>\subsubsection</code> or higher. See table 9 for a table of L <sup>A</sup> T <sub>E</sub> X section headings. |

```

5249 \newcounter{FootnoteDepth}
5250 \setcounter{FootnoteDepth}{3}

5251 \end{warpall}

```

for HTML output: 5252 \begin{warpHTML}

Patch L<sup>A</sup>T<sub>E</sub>X 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.

5253 \newbox\LWR@footnotes

Much of the following has unneeded print-mode formatting removed.

\@makefntext {\text}

5254 \long\def\@makefntext#1{\textsuperscript{\@thefnmark}~#1}

\@makefnmark

```
5255 \def\@makefnmark{%
5256     \textsuperscript{\@thefnmark}%
5257 }
```

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}

```
5258 \long\def\LWR@footnotetext#1{%
5259 \LWR@traceinfo{\LWR@footnotetext}%
5260 \global\setbox\LWR@footnotes=\vbox{%
```

Add to any current footnotes:

5261 \unvbox\LWR@footnotes%

Remember the footnote number for \ref:

```
5262 \protected@edef\@currentlabel{%
5263     \csname p@footnote\endcsname\@thefnmark%
5264 }% \@currentlabel
```

Open a group:

```
5265 \color@begingroup%
```

Use HTML superscripts in the footnote even inside a lateximage:

```
5266 \renewrobustcmd{\textsuperscript}[1]{\LWR@htmlspan{sup}{##1}}%
```

Use paragraph tags if in a tabular data cell or a lateximage:

```
5267 \ifthenelse{%
5268     \boolean{LWR@doingstartpars} \AND%
5269     \cnttest{\value{LWR@lateximagedepth}}{=}{0}}%
5270 }%
5271 {}%
5272 {\LWR@htmltagc{\LWR@tagregularparagraph}}%
```

Append the footnote to the list:

```
5273 \@makefntext{#1}%
```

Closing paragraph tag:

```
5274 \ifthenelse{%
5275     \boolean{LWR@doingstartpars} \AND%
5276     \cnttest{\value{LWR@lateximagedepth}}{=}{0}}%
5277 }%
5278 {\par}%
5279 {%
5280 \LWR@htmltagc{/LWR@tagregularparagraph}%
5281 \LWR@orignewline%
5282 }%
```

Close the group:

```
5283 \color@endgroup%
5284 }% vbox
```

Paragraph handling:

```
5285 \LWR@ensuredoingapar%
5286 }%
```

```
\@footnotetext {<text>}
```

```
5287 \LetLtxMacro\@footnotetext\LWR@footnotetext
```

## 58.5 Minipage footnote implementation

Patch L<sup>A</sup>T<sub>E</sub>X 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.

```
5288 \newbox\LWR@mpfootnotes
```

```
\@mpfootnotetext  {\langle text \rangle}
```

```
5289 \long\def\@mpfootnotetext#1{%
5290 \LWR@traceinfo{\@mpfootnotetext}%
5291 \global\setbox\LWR@mpfootnotes\vbox{%
5292   \unvbox\LWR@mpfootnotes%
5293   \reset@font\footnotesize%
5294   \hsize\columnwidth%
5295   \@parboxrestore%
5296   \protected@edef\@currentlabel%
5297     {\csname p@mpfootnote\endcsname\@thefnmark}%
5298   \color@begingroup%
```

Use paragraph tags if in a tabular data cell or a `lateximage`:

```
5299   \ifthenelse{%
5300     \boolean{LWR@doingstartpars} \AND%
5301     \cnttest{\value{LWR@lateximagedepth}}{=}{0}}%
5302   {%
5303     {\LWR@htmltagc{\LWR@tagregularparagraph}}%
5304   }%

5305   \@makefntext{%
5306     \ignorespaces#1%
5307   }%
```

Don't add the closing paragraph tag if are inside a `lateximage`:

```
5308   \ifthenelse{\cnttest{\value{LWR@lateximagedepth}}{>}{0}}%
5309   {%
5310     {\LWR@htmltagc{\LWR@tagregularparagraph}%
5311       \LWR@orignewline%
5312     }%
5313   }%
5314   \color@endgroup%
5315 }% vbox
```

Paragraph handling:

```

5316 \LWR@ensuredoingapar%
5317 \LWR@traceinfo{@mpfootnotetext: done}%
5318 }

```

`\thempfootnote` Redefined to remove the `\itshape`, which caused an obscure compiling error in some situations.

```

5319 \AtBeginDocument{
5320 \def\thempfootnote{\@alph\c@mpfootnote}
5321 }

```

## 58.6 Printing pending footnotes

`\LWR@printpendingfootnotes` Enclose the footnotes in a class, print, then clear.

```

5322 \newcommand*{\LWR@printpendingfootnotes}{%
5323 \ifvoid\LWR@footnotes\else
5324   \LWR@forcenewpage
5325   \begin{BlockClass}{footnotes}
5326   \LWR@origmedskip
5327   \unvbox\LWR@footnotes
5328   \setbox\LWR@footnotes=\vbox{}
5329   \end{BlockClass}
5330 \fi
5331 }

```

`\LWR@maybeprintpendingfootnotes` `{\depth}` Used to print footnotes before sections only if formatting for an EPUB or word processor:

```

5332 \newcommand*{\LWR@maybeprintpendingfootnotes}[1]{%
5333 \ifboolexpr{
5334   not test{\ifnumcomp{#1}{>}{\value{FootnoteDepth}}} or
5335   bool{FormatEPUB} or
5336   bool{FormatWP}
5337 }%
5338 {\LWR@printpendingfootnotes}%
5339 {}%
5340 }

```

`\LWR@printpendingmpfootnotes` Enclose the minipage footnotes in a class, print, then clear.

```

5341 \newcommand*{\LWR@printpendingmpfootnotes}{%
5342 \ifvoid\LWR@mpfootnotes\else
5343   \LWR@forcenewpage

```

```

5344 \begin{BlockClass}{footnotes}
5345 \LWR@print@vspace*{\baselineskip}
5346 \unvbox\LWR@mpfootnotes
5347 \setbox\LWR@mpfootnotes=\vbox{}
5348 \end{BlockClass}
5349 \fi
5350 }

5351 \end{warpHTML}

```

## 59 Marginpars

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

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

for HTML output: 5352 `\begin{warpHTML}`

`\marginpar` [*<left>*] [*<right>*]

```

5353 \renewcommand{\marginpar}[2] [] {%
5354 \ifbool{FormatWP}%
5355 {%
5356 \begin{LWR@BlockClassWP}{width:2in; float:right; margin:10pt}{\marginblock}
5357 #2
5358 \end{LWR@BlockClassWP}
5359 }%
5360 {%
5361 \LWR@htmlspanclass{marginpar}{#2}%
5362 }%
5363 }

```

`\marginparBlock` [*<left>*] [*<right>*]

For use when the marginpar will be more than one paragraph, and/or contains more than simple text.

HTML version.

```

5364 \newcommand{\marginparBlock}[2] [] {%

```

```

5365 \ifbool{FormatWP}%
5366 {%
5367 \begin{LWR@BlockClassWP}{width:2in; float:right; margin:10pt}{}{marginblock}
5368 #2
5369 \end{LWR@BlockClassWP}
5370 }%
5371 {%
5372 \begin{BlockClass}[width:2in; float:right; margin:10pt]{marginparblock}
5373 #2
5374 \end{BlockClass}
5375 }%
5376 }

```

`\reversemarginpar`

```
5377 \renewcommand*{\reversemarginpar}{}

```

`\normalmarginpar`

```
5378 \renewcommand*{\normalmarginpar}{}

```

```
5379 \end{warpHTML}

```

**for PRINT output:** 5380 `\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.

```
5381 \LetLtxMacro\marginparBlock\marginpar

```

```
5382 \end{warpprint}

```

## 60 Splitting HTML files

- Files are split according to FileDepth and CombineHigherDepths.
- Filenames are sanitized by `\LWR@filenamenoblanks`.
- `\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:** 5383 \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.

```
5384 \newcounter{FileDepth}
5385 \setcounter{FileDepth}{-5}
```

Bool CombineHigherDepths Combile higher-level sections together into one file?

```
5386 \newbool{CombineHigherDepths}
5387 \booltrue{CombineHigherDepths}
```

```
5388 \end{warpall}
```

**for HTML output:** 5389 \begin{warpHTML}

\LWR@thisfilename The currently-active filename or number.

```
5390 \newcommand*{\LWR@thisfilename}{}
```

\LWR@thisnewfilename The filename being sanitized.

```
5391 \newcommand*{\LWR@thisnewfilename}{}
```

\LWR@filenamenoblanks {<filename>}

Convert blanks into dashes, removes short words, store result in \LWR@thisfilename.

⚠ filename collision Be sure that this does not result in filename collisions! Use the optional TOC caption entry parameter for formatting. Remember to \protect L<sup>A</sup>T<sub>E</sub>X commands which appear in section names and toc captions.

⚠ section names

```
5392 \newcommand*{\LWR@filenamenoblanks}[1]{%
5393 \begingroup
```

Locally temporarily disable direct-formatting commands, not used in filenames:

```
5394 \LWR@nullfonts%
5395 \renewcommand*{\LWR@htmltagc}[1]{}%
```

Replaces common symbols and short words with hyphens:

```
5396 \edef\LWR@thisnewfilename{#1}%
5397 \LWR@traceinfo{\LWR@filenamenoblanks} \edef: !\LWR@thisnewfilename!}%
5398 \fullexpandarg%
```

Convert spaces into hyphens:

```
5399 \StrSubstitute{\LWR@thisnewfilename}{\ }{-}[\LWR@thisnewfilename]
5400 \StrSubstitute{\LWR@thisnewfilename}{ }{-}[\LWR@thisnewfilename]
```

Convert punctutation into hyphens:

```
5401 \StrSubstitute{\LWR@thisnewfilename}{,}{-}[\LWR@thisnewfilename]
5402 \StrSubstitute{\LWR@thisnewfilename}{'}{-}[\LWR@thisnewfilename]
5403 \StrSubstitute{\LWR@thisnewfilename}%
5404     {\LWR@origampersand}{-}[\LWR@thisnewfilename]
5405 \StrSubstitute{\LWR@thisnewfilename}{+}{-}[\LWR@thisnewfilename]
5406 \StrSubstitute{\LWR@thisnewfilename}{,}{-}[\LWR@thisnewfilename]
5407 \StrSubstitute{\LWR@thisnewfilename}{/}{-}[\LWR@thisnewfilename]
5408 \StrSubstitute{\LWR@thisnewfilename}{:}{-}[\LWR@thisnewfilename]
5409 \StrSubstitute{\LWR@thisnewfilename}{;}{-}[\LWR@thisnewfilename]
5410 \StrSubstitute{\LWR@thisnewfilename}{=}{-}[\LWR@thisnewfilename]
5411 \StrSubstitute{\LWR@thisnewfilename}{?}{-}[\LWR@thisnewfilename]
5412 \StrSubstitute{\LWR@thisnewfilename}{@}{-}[\LWR@thisnewfilename]
5413 \StrSubstitute{\LWR@thisnewfilename}{"}{-}[\LWR@thisnewfilename]
5414 \StrSubstitute{\LWR@thisnewfilename}%
5415     {\textless}{-}[\LWR@thisnewfilename]
5416 \StrSubstitute{\LWR@thisnewfilename}%
5417     {\textgreater}{-}[\LWR@thisnewfilename]
5418 \StrSubstitute{\LWR@thisnewfilename}{\LWR@origpound}{-}[\LWR@thisnewfilename]

5419 \StrSubstitute{\LWR@thisnewfilename}{\_}{-}[\LWR@thisnewfilename]
5420 \StrSubstitute{\LWR@thisnewfilename}{\%}{-}[\LWR@thisnewfilename]
5421 \StrSubstitute{\LWR@thisnewfilename}{\%}{-}[\LWR@thisnewfilename]
5422 \StrSubstitute{\LWR@thisnewfilename}{\%}{-}[\LWR@thisnewfilename]
5423 \StrSubstitute{\LWR@thisnewfilename}{\%}{-}[\LWR@thisnewfilename]
5424 \StrSubstitute{\LWR@thisnewfilename}%
5425     {\textbackslash}{-}[\LWR@thisnewfilename]
5426 \StrSubstitute{\LWR@thisnewfilename}{^}{-}[\LWR@thisnewfilename]
5427 \StrSubstitute{\LWR@thisnewfilename}{~}{-}[\LWR@thisnewfilename]
5428 \StrSubstitute{\LWR@thisnewfilename}{~}{-}[\LWR@thisnewfilename]
5429 %     "~{" for babel
5430 \StrSubstitute{\LWR@thisnewfilename}{[]}{-}[\LWR@thisnewfilename]
5431 \StrSubstitute{\LWR@thisnewfilename}{[]}{-}[\LWR@thisnewfilename]
5432 \StrSubstitute{\LWR@thisnewfilename}{' }{-}[\LWR@thisnewfilename]
```

Convert short words:

```
5433 \StrSubstitute{\LWR@thisnewfilename}{-s}{-}[\LWR@thisnewfilename]
5434 \StrSubstitute{\LWR@thisnewfilename}{-S}{-}[\LWR@thisnewfilename]
5435 \StrSubstitute{\LWR@thisnewfilename}{-a}{-}[\LWR@thisnewfilename]
5436 \StrSubstitute{\LWR@thisnewfilename}{-A}{-}[\LWR@thisnewfilename]
5437 \StrSubstitute{\LWR@thisnewfilename}{-an}{-}[\LWR@thisnewfilename]
```

```

5438 \StrSubstitute{\LWR@thisnewfilename}{-AN-}{-}[\LWR@thisnewfilename]
5439 \StrSubstitute{\LWR@thisnewfilename}{-to-}{-}[\LWR@thisnewfilename]
5440 \StrSubstitute{\LWR@thisnewfilename}{-TO-}{-}[\LWR@thisnewfilename]
5441 \StrSubstitute{\LWR@thisnewfilename}{-by-}{-}[\LWR@thisnewfilename]
5442 \StrSubstitute{\LWR@thisnewfilename}{-BY-}{-}[\LWR@thisnewfilename]
5443 \StrSubstitute{\LWR@thisnewfilename}{-of-}{-}[\LWR@thisnewfilename]
5444 \StrSubstitute{\LWR@thisnewfilename}{-OF-}{-}[\LWR@thisnewfilename]
5445 \StrSubstitute{\LWR@thisnewfilename}{-and-}{-}[\LWR@thisnewfilename]
5446 \StrSubstitute{\LWR@thisnewfilename}{-AND-}{-}[\LWR@thisnewfilename]
5447 \StrSubstitute{\LWR@thisnewfilename}{-for-}{-}[\LWR@thisnewfilename]
5448 \StrSubstitute{\LWR@thisnewfilename}{-FOR-}{-}[\LWR@thisnewfilename]
5449 \StrSubstitute{\LWR@thisnewfilename}{-the-}{-}[\LWR@thisnewfilename]
5450 \StrSubstitute{\LWR@thisnewfilename}{-THE-}{-}[\LWR@thisnewfilename]

```

Convert multiple hyphens:

```

5451 \StrSubstitute{\LWR@thisnewfilename}{-----}{-}[\LWR@thisnewfilename]
5452 \StrSubstitute{\LWR@thisnewfilename}{----}{-}[\LWR@thisnewfilename]
5453 \StrSubstitute{\LWR@thisnewfilename}{---}{-}[\LWR@thisnewfilename]
5454 \StrSubstitute{\LWR@thisnewfilename}{--}{-}[\LWR@thisnewfilename]

```

If pdf<sub>La</sub>TeX and not utf8 encoding, don't try to convert emdash, endash:

```

5455 \ifPDFTeX% pdfLaTeX or dvi latex
5456 \ifdefstring{\inputencodingname}{utf8}{%
5457 \StrSubstitute{\LWR@thisnewfilename}{--}{-}[\LWR@thisnewfilename]
5458 %      emdash
5459 \StrSubstitute{\LWR@thisnewfilename}{-}{-}[\LWR@thisnewfilename]
5460 %      endash
5461 }{}%
5462 \else% not PDFTeX
5463 \StrSubstitute{\LWR@thisnewfilename}{--}{-}[\LWR@thisnewfilename]
5464 \StrSubstitute{\LWR@thisnewfilename}{-}{-}[\LWR@thisnewfilename]
5465 \fi%

```

Return the result:

```

5466 \global\let\LWR@thisfilename\LWR@thisnewfilename% return a global result
5467 \endgroup%
5468 \LWR@traceinfo{\LWR@filenamenoblanks: result is \LWR@thisfilename}%
5469 }

```

Ctrl Remembers which autopage label was most recently generated. Used to avoid duplicates.

```

5470 \newcounter{\LWR@previousautopagelabel}
5471 \setcounter{\LWR@previousautopagelabel}{-1}

```

`\LWR@newautopagelabel`  $\{\langle\textit{pagenumber counter}\rangle\}$

```

5472 \newcommand*{\LWR@newautopagelabel}[1]{%
5473 \ifnumequal{\value{\LWR@previousautopagelabel}}{\value{page}}%
5474 {}% no action if this autopage label has already been defined
5475 {%
5476     \label{autopage-\arabic{#1}}%
5477     \setcounter{\LWR@previousautopagelabel}{\value{page}}
5478 }%
5479 }
```

## 60.1 Customizing MATHJAX

`\LWR@customizedMathJax` Additional MATHJAX definitions to be added to the start of each HTML page.

```

5480 \newcommand*{\LWR@customizedMathJax}{}
```

`\CustomizeMathJax` MATHJAX does not have preexisting support every possible math function. Additional MATHJAX function definitions may be defined. These will be declared at the start of each HTML page, and thus will have a global effect.

Examples:

```

\CustomizeMathJax{
    \newcommand{\expval}[1]{\langle\textit{#1}\rangle}
    \newcommand{\abs}[1]{\lvert\textit{#1}\rvert}
}
\CustomizeMathJax{\newcommand{\arsinh}{\text{arsinh}}}
\CustomizeMathJax{\newcommand{\arcosh}{\text{arcosh}}}
\CustomizeMathJax{\newcommand{\NN}{\mathbb{N}}}

5481 \newcommand*{\CustomizeMathJax}[1]{%
5482     \appto{\LWR@customizedMathJax}{%
5483         \textit{#1}\par
5484     }%
5485 }
```

`\LWR@customizeMathJax`

```

5486 \newcommand{\LWR@customizeMathJax}{%
5487 \ifbool{mathjax}{

5488 \LWR@stoppars
5489 \LWR@htmlcomment{Nullify \textbackslash\ensuremath, footnotes for MathJax:}
5490 }
```

```

5491 \(\newcommand\ensuremath[1]{##1}\)
5492
5493 \(\newcommand\footnote[2][]{\text{( Footnote ##1 )}}\)
5494
5495 \(\newcommand\footnotemark[1][]{\text{( Footnote ##1 )}}\)
5496
5497 \LWR@htmlcomment{Additional customizations for MathJax:}
5498
5499 \LWR@customizedMathJax
5500
5501 \LWR@startpars
5502 }{}
5503 }

5504 \end{warpHTML}

```

**for PRINT output:** 5505 \begin{warpprint}

\CustomizeMathJax The print-mode version:

```

5506 \newcommand*{\CustomizeMathJax}[1]{}

5507 \end{warpprint}

```

**for HTML output:** 5508 \begin{warpHTML}

\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.

```

5509 \newcommand*{\LWR@newhtmlfile}[1]{
5510 \LWR@traceinfo{\LWR@newhtmlfile}

```

At the bottom of the ending file:

```

5511 \LWR@htmlclassend{section}{textbody}
5512
5513 \LWR@printpendingfootnotes
5514

```

No footer between files if EPUB:

```

5515 \ifbool{FormatEPUB}
5516 {}

```

```

5517 {
5518     \LWR@html element{footer}
5519
5520     \LWR@pagebottom
5521
5522     \LWR@html elementend{footer}
5523 }

```

No bottom navigation if are finishing the home page or formatting for EPUB or a word-processor.

```

5524 \ifthenelse{\boolean{FormatEPUB}\OR\boolean{FormatWP}}
5525 {}
5526 {\ifnumcomp{\value{LWR@htmlfilenumber}}{>}{0}{\LWR@botnavigation}{}}

```

End of this HTML file:

```

5527 \LWR@stoppars
5528 \LWR@htmltag{/body}\LWR@orignewline
5529 \LWR@htmltag{/html}\LWR@orignewline
5530 \LWR@traceinfo{LWR@newhtmlfile: about to LWR@orignewpage}
5531 \LWR@orignewpage
5532
5533 \addtocounter{LWR@htmlfilenumber}{1}%

```

If using a filename, create a version without blanks. The filename without blanks will be placed into \LWR@thisfilename. If not using a filename, the file number will be used instead.

```

5534 \ifbool{FileSectionNames}%
5535 {\LWR@filenameno blanks{#1}}
5536 {\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.

```

5537 \LWR@traceinfo{LWR@newhtmlfile: about to print start file}%

```

\LWR@nullfonts to allow math in a section name.

```

5538 \begingroup%
5539 \LWR@nullfonts%
5540 \LWR@htmlblockcomment{%
5541 |Start file|}%
5542 \LWR@htmlsectionfilename{\LWR@thisfilename}|%
5543 }
5544 \endgroup%

```

At the top of the starting file:

```
5545 \LWR@stoppars
5546
```

Start a new file with the given section name:

```
5547 \LWR@filestart[#1]
5548
```

Track the page numbers:

```
5549 \setcounter{LWR@latestautopage}{\value{page}}%
5550 \LWR@newautopagelabel{LWR@latestautopage}%
```

No navigation between files if formatting for an EPUB or word processor:

```
5551 \ifthenelse{\boolean{FormatEPUB}\OR\boolean{FormatWP}}
5552 {}
5553 {\LWR@topnavigation}
5554
```

No header if between files if formatting for an EPUB or word processor:

```
5555 \ifthenelse{\boolean{FormatEPUB}\OR\boolean{FormatWP}}
5556 {}
5557 {
5558     \LWR@html element{header}
5559
5560     \LWR@pagetop
5561
5562     \LWR@html elementend{header}
5563 }
5564
```

Print title only if there is one. Skip if formatting for an EPUB or word processor:

```
5565 \ifthenelse{\boolean{FormatEPUB}\OR\boolean{FormatWP}}
5566 {}
5567 {\ifcvoid{thetitle}{-}{\LWR@printthetitle}}
5568
```

No sidetoc if formatting for an EPUB or word processor:

```
5569 \ifthenelse{\boolean{FormatEPUB}\OR\boolean{FormatWP}}
5570 {}
5571 {\LWR@sidetoc}
5572
```

Start of the <tbody>:

```
5573 \LWR@htmlclass{section}{tbody}
5574
```

Keep paragraph tags disabled for now:

```
5575 \LWR@stoppars
5576
```

If using MATHJAX, disable `\ensuremath` by printing a nullified definition at the start of each file, and add further customizations:

```
5577 \LWR@customizeMathJax

5578 \LWR@traceinfo{LWR@newhtmlfile: done}
5579 }

5580 \end{warpHTML}
```

## 61 Sectioning

Sectioning and cross-references have been emulated from scratch, rather than try to patch several layers of existing  $\LaTeX$  code and packages. Formatting is handled by CSS, so the emulated code has much less work to do than the print versions.

### Unicode



### accents in filenames

Section names and the resulting filenames with accented characters are partially supported, depending on the ability of *pdf<sub>l</sub>atex* to generate characters and *pdf<sub>t</sub>otext* to read them. If extra symbols appear in the text, it may be that *pdf<sub>l</sub>atex* is actually producing a symbol over or under a character, resulting in *pdf<sub>t</sub>otext* picking up the accent symbol separately.

X $\LaTeX$  and Lua $\LaTeX$  directly support accented section and file names.

**for HTML output:** 5581 `\begin{warpHTML}`

### 61.1 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.

```
5582 \newbool{LWR@forcinghtmlpage}
5583 \boolfalse{LWR@forcinghtmlpage}
5584
5585 \newcommand*{\ForceHTMLPage}{%
5586 \global\booltrue{LWR@forcinghtmlpage}%
5587 }
```

**\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.

```
5588 \newbool{LWR@forcinghtmltoc}
5589 \boolfalse{LWR@forcinghtmltoc}
5590
5591 \newcommand*{\ForceHTMLTOC}{%
5592 \global\booltrue{LWR@forcinghtmltoc}%
5593 }
```

```
5594 \end{warpHTML}
```


**for PRINT output:**

```
5595 \begin{warpprint}
5596 \newcommand*{\ForceHTMLPage}{}
5597 \newcommand*{\ForceHTMLTOC}{}
5598 \end{warpprint}
```

**for HTML output:**

```
5599 \begin{warpHTML}
```

## 61.2 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.

```
5600 \newbool{LWR@mainmatter}
5601 \DeclareDocumentCommand{\mainmatter}{}{}{}
5602 \booltrue{LWR@mainmatter}%
5603 }
```

**\frontmatter** Declare the front matter section of the document, using arabic numbering for the internal numbering. Does not reset the page number.

```

5604 \DeclareDocumentCommand{\frontmatter}{-}{-}{%
5605 \boolfalse{LWR@mainmatter}%
5606 }

```

`\backmatter` Declare the back matter section of the document. Does not reset the page number.

```

5607 \DeclareDocumentCommand{\backmatter}{-}{-}{%
5608 \boolfalse{LWR@mainmatter}%
5609 }

```

### 61.3 Sectioning support macros

`\LWR@sectionnumber`  $\{\langle section\ type\rangle\}$

Typeset a section number and its trailing space with css formatting:

```

5610 \newcommand*{\LWR@sectionnumber}[1]{%
5611 \InlineClass{sectionnumber}{#1}%
5612 }

```

`autosec` A tag used by the TOC and index.

`\LWR@createautosec`  $\{\langle section\ type\rangle\}$

Create an autosection tag.

```

5613 \newcommand*{\LWR@createautosec}[1]{%
5614 \LWR@htmltag{%
5615   #1 % space
5616   id=\textquotedbl\LWR@print@mbbox{autosec-\arabic{page}}\textquotedbl%
5617 }%
5618 }

```

`\LWR@pushoneclose`  $\{\langle depth\rangle\}\ \{\langle printclose\rangle\}$  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.

```

5619 \NewDocumentCommand{\LWR@pushoneclose}{m m}{%
5620 \LWR@traceinfo{\LWR@pushoneclose #1}%
5621   \pushclose{#2}{#1}%
5622 }

```

`\LWR@startnewdepth`  $\{\langle depth \rangle\} \{\langle printclose \rangle\}$

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.

```
5623 \NewDocumentCommand{\LWR@startnewdepth}{m m}{%
```

Close any stacked sections up to this new one.

```
5624 \LWR@closeprevious{#1}%
```

Push a new section depth:

```
5625 \LWR@pushoneclose{#1}{#2}%
```

```
5626 }
```

**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.

```
5627 \newcounter{\LWR@prevFileDepth}
```

```
5628 \setcounter{\LWR@prevFileDepth}{\LWR@depthsubparagraph}
```

`\@secCNTformat`  $\{\langle sectiontype \rangle\}$

```
5629 \def\@secCNTformat#1{\csname the#1\endcsname\protect\quad}
```

`\simplechapterdelim` Used by `\tocbibind` and `\anonchap`.

```
5630 \newcommand*{\simplechapterdelim}{}%
```

`\@chapCNTformat`  $\{\langle sectiontype \rangle\}$

`\let` to `\@secCNTformat` by default, but may be redefined by `\simplechapter` and `\restorechapter` from `\tocbibind` or `\anonchap`.

```
5631 \let\@chapCNTformat\@secCNTformat
```

`\@partCNTformat`  $\{\langle sectiontype \rangle\}$

`\let` to `\@secCNTformat` by default, but may be redefined by `\ctex`.

```
5632 \let\@partCNTformat\@secCNTformat
```

`\@partnameformat` Prints “Part” for part sections.

Nullified by `ctex`.

```
5633 \newcommand*{\@partnameformat}{\LWR@isolate{\partname}~}%
```

`\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.

```
5634 \newcounter{\LWR@currentautosec}
```

`\LWR@section` \* [*TOC name*] {*name*} {*sectiontype*}

The common actions for the high-level sectioning commands.

```
5635 \DeclareDocumentCommand{\LWR@section}{m m m m}{%
```

```
5636 \LWR@traceinfo{\LWR@section: starting}%
```

```
5637 \LWR@stoppars%
```

Cancel special minipage horizontal space interaction:

```
5638 \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:

```
5639 \LWR@traceinfo{\LWR@section: testing whether to start a new HTML file}%
```

```
5640 \IfBooleanT{#1}{\LWR@traceinfo{\LWR@section: starred}}%
```

```
5641 \ifbool{\LWR@forcinghtmlpage}{\LWR@traceinfo{\LWR@section: forcinghtmlpage}}{}%
```

```
5642 \ifthenelse{%
```

```
5643   \(%
```

```
5644     \(\NOT\equal{#1}{\BooleanTrue})\OR%
```

```
5645     \(\cnttest{\@nameuse{\LWR@depth#4}}{=}{\LWR@depthpart})\OR%
```

```
5646     \(\boolean{\LWR@forcinghtmlpage})\)%
```

```
5647   \)%
```

```
5648   \AND%
```

```
5649   \cnttest{\@nameuse{\LWR@depth#4}}{<=}{\value{FileDepth}}%
```

```
5650   \AND%
```

```
5651   \(%
```

```
5652     \NOT\boolean{CombineHigherDepths}\OR%
```

```
5653     \cnttest{\@nameuse{\LWR@depth#4}}{<=}{\value{\LWR@prevFileDepth}}%
```

```
5654   \)%
```

```
5655   \AND%
```

```

5656 \(% phantomsection
5657 \NOT\isempty{#3}%
5658 \OR%
5659 \(\NOT\equal{#1}{\BooleanTrue}\)%
5660 \)%
5661 }%

```

If so: start a new HTML file:

```

5662 {% new file
5663 \LWR@traceinfo{LWR@section: new HTML file}%

```

See if there was an optional TOC name entry:

```

5664 \IfNoValueTF{#2}%

```

If no optional entry

```

5665 {\LWR@newhtmlfile{#3}}%

```

If yes an optional entry

```

5666 {\LWR@newhtmlfile{#2}}%
5667 }% new file

```

Else: No new HTML file:

```

5668 {% not new file

```

Generate a new L<sup>A</sup>T<sub>E</sub>X page so that toc and index page number points to the section:

```

5669 \LWR@traceinfo{LWR@section: not a new HTML file, about to LWR@orignewpage}%
5670 \LWR@orignewpage%
5671
5672 }% not new file

```

Remember this section's name for \nameref:

```

5673 \IfValueT{#3}{%
5674 \LWR@traceinfo{LWR@section: about to LWR@setlatestname}%
5675 \IfValueTF{#2}{\LWR@setlatestname{#2}}{\LWR@setlatestname{#3}}%
5676 }%

```

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.

```

5677
5678 \ifbool{HTMLDebugComments}{%
5679     \begingroup%
5680     \LWR@nullfonts%
5681     \IfBooleanTF{#1}% starred
5682     {\LWR@htmlcomment{Opening #4*}}%
5683     {%
5684         \IfNoValueTF{#2}% short TOC
5685         {\LWR@htmlcomment{Opening #4 ‘#3’}}%
5686         {\LWR@htmlcomment{Opening #4 ‘#2’}}%
5687     }
5688     \endgroup%
5689 }{}%
5690

```

For inline sections paragraph and subparagraph, start a new paragraph now:

```

5691 \ifthenelse{%
5692     \cnttest{\@nameuse{LWR@depth#4}}{>=}{\LWR@depthparagraph}%
5693 }%
5694 {\LWR@startpars}%
5695 {}%

```

Create the opening tag with an autosec:

```

5696 \LWR@traceinfo{LWR@section: about to LWR@createautosec}%
5697 \LWR@createautosec{\@nameuse{LWR@tag#4}}%

```

```

5698 \setcounter{LWR@currentautosec}{\value{page}}%

```

Check if starred:

```

5699 \IfBooleanTF{#1}%
5700 {%
5701     \LWR@traceinfo{LWR@section: starred}%

```

Starred, but also forcing a TOC entry, so add unnumbered TOC name or regular name:

```

5702     \ifbool{LWR@forcinghtmltoc}%
5703     {%
5704         \addcontentsline{toc}{#4}{%
5705             \IfValueTF{#2}{\LWR@isolate{#2}}{\LWR@isolate{#3}}%
5706         }%
5707     }%
5708     {}%
5709 }% starred

```

Not starred, so step counter and add to toc:

```
5710 {% not starred
```

Only add a numbered toc entry if section number is not too deep:

```
5711     \ifthenelse{%
5712         \cnttest{\@nameuse{LWR@depth#4}}{<=}{\value{secnumdepth}}%
5713     }%
5714     {% if secnumdepth
```

If in the main matter, step the counter and add the toc entry. For article class, lwarp assumes that all is mainmatter.

```
5715         \LWR@traceinfo{LWR@section: about to test main matter}%
5716         \ifbool{LWR@mainmatter}%
5717         {%
5718             \LWR@traceinfo{LWR@section: yes mainmatter}%
5719             \refstepcounter{#4}%
```

Add main matter numbered toc entry with the toc name or the regular name:

```
5720         \LWR@traceinfo{LWR@section: about to addcontentsline}%
5721         \addcontentsline{toc}{#4}%
5722         {%
5723             \protect\numberline{\@nameuse{the#4}}%
5724             {%
5725                 \ignorespaces%
5726                 \IfValueTF{#2}{\LWR@isolate{#2}}{\LWR@isolate{#3}}\protect\relax%
5727             }%
5728         }%
5729         \LWR@traceinfo{LWR@section: finished addcontentsline}%
5730     }% end of if main matter
```

If not main matter, add unnumbered toc name or regular name:

```
5731     {% not main matter
5732         \LWR@traceinfo{LWR@section: no main matter}%
5733         \addcontentsline{toc}{#4}{%
5734             \IfValueTF{#2}{\LWR@isolate{#2}}{\LWR@isolate{#3}}%
5735         }%
5736     }% end of not main matter
5737 }% end of secnumdepth
```

Deeper than secnumdepth, so add an unnumbered toc entry:

```
5738     {%
5739         \addcontentsline{toc}{#4}{%
```

```

5740          \IfValueTF{#2}{\LWR@isolate{#2}}{\LWR@isolate{#3}}%
5741      }%
5742  }%

```

For part, print “Part”:

```

5743  \ifbool{LWR@mainmatter}%
5744  {%
5745      \ifthenelse{%
5746          \(\cnttest{\@nameuse{LWR@depth#4}}{<=}%
5747          {\value{secnumdepth}}\)\ AND%
5748          \(\cnttest{\@nameuse{LWR@depth#4}}{<=}{\LWR@depthpart}}\)%
5749      }%
5750      {\@partnameformat}%
5751      {}%

```

Print the section number:

```

5752  \LWR@traceinfo{LWR@section: about to print section number}%
5753  \ifthenelse{%
5754      \cnttest{\@nameuse{LWR@depth#4}}{<=}{\value{secnumdepth}}%
5755      }%
5756      {%
5757          \ifstrequal{#4}{part}%
5758          {%
5759              \protect\LWR@sectionnumber{\@partcntformat{#4}}%
5760          }{%
5761              \ifstrequal{#4}{chapter}%
5762              {\protect\LWR@sectionnumber{\@chapcntformat{#4}}}%
5763              {\protect\LWR@sectionnumber{\@secntformat{#4}}}%
5764          }%
5765      }%
5766      {}%
5767  \LWR@traceinfo{LWR@section: finished print section number}%
5768  }{}%
5769 }% end of not starred

```

Print the section name:

```

5770 \LWR@traceinfo{LWR@section: about to print the section name}%
5771 \LWR@isolate{#3}%

```

Close the heading tag, such as /H2:

```

5772 \LWR@traceinfo{LWR@section: about to close the heading tag}%
5773 \LWR@htmltag{\@nameuse{LWR>tag#4end}}%

```

Generate a  $\LaTeX$  label:

```
5774 \LWR@traceinfo{LWR@section: about to create the LaTeX label}%
5775 \LWR@newautopagelabel{LWR@currentautosec}%
```

Start paragraph handing unless is an inline paragraph or subparagraph:

```
5776 \ifthenelse{%
5777     \cnttest{\@nameuse{LWR@depth#4}}{<}{\LWR@depthparagraph}%
5778 }%
5779 {\LWR@startpars}%
5780 {}%
```

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.

```
5781 \ifthenelse{%
5782     \NOT\equal{#1}{\BooleanTrue}\OR%
5783     \cnttest{\@nameuse{LWR@depth#4}}{=}{\LWR@depthpart}%
5784 }%
5785 {% not starred
5786     \setcounter{LWR@prevFileDepth}{\@nameuse{LWR@depth#4}}%
5787 }% not starred
5788 {}%
```

Reset to defaults if not a phantomsection:

```
5789 \ifstrempy{#3}%
5790 {}%
5791 {%
5792 \global\boolfalse{LWR@forcinghtmlpage}%
5793 \global\boolfalse{LWR@forcinghtmltoc}%
5794 }%
5795 %
5796 \LWR@traceinfo{LWR@section: done}%
5797 }
```

## 61.4 \section and friends

`\part * [TOC name] {name}`

```

5798 \newcommand{\part@preamble}{}% for koma-script
5799
5800 \DeclareDocumentCommand{\part}{s o m}{%
5801 \LWR@maybeprintpendingfootnotes{\LWR@depthpart}%
5802 \LWR@stoppars%
5803
5804 \LWR@startnewdepth{\LWR@depthpart}{\LWR@printclosepart}%
5805
5806 \LWR@section{#1}{#2}{#3}{part}%
5807
5808 \part@preamble% for koma-script
5809 \renewcommand{\part@preamble}{}%
5810 }

```

`\chapter` \* [*TOC name*] [*heading name*] {*name*}

```

5811 \let\@printcites\relax% for quotchap package
5812
5813 \newcommand{\chapter@preamble}{}% for koma-script
5814
5815 \ifundefined{chapter}
5816 {}
5817 {%
5818 \DeclareDocumentCommand{\chapter}{s o o m}{%
5819 \IfValueTF{#2}{
5820 \LWR@traceinfo{chapter #2}%
5821 }{
5822 \LWR@traceinfo{chapter #4}%
5823 }
5824 \LWR@maybeprintpendingfootnotes{\LWR@depthchapter}%
5825 \LWR@stoppars%
5826
5827 \LWR@startnewdepth{\LWR@depthchapter}{\LWR@printclosechapter}%
5828
5829 \LWR@section{#1}{#2}{#4}{chapter}%
5830
5831 \@printcites% for quotchap package
5832
5833 \chapter@preamble% for koma-script
5834 \renewcommand{\chapter@preamble}{}%
5835 }
5836 }

```

`\section` \* [*TOC name*] [*heading name*] {*name*}

```

5837 \DeclareDocumentCommand{\section}{s o o m}{%
5838 \LWR@traceinfo{section: starting}%
5839 \LWR@maybeprintpendingfootnotes{\LWR@depthsection}%

```

```

5840 \LWR@stoppars%
5841
5842 \LWR@startnewdepth{\LWR@depthsection}{\LWR@printclosesection}%
5843
5844 \LWR@section{#1}{#2}{#4}{section}%
5845 }

```

`\subsection` \* [*TOC name*] {*name*}

```

5846 \DeclareDocumentCommand{\subsection}{s o m}{%
5847 \LWR@maybeprintpendingfootnotes{\LWR@depthsubsection}%
5848 \LWR@stoppars%
5849
5850 \LWR@startnewdepth{\LWR@depthsubsection}{\LWR@printclosesubsection}%
5851
5852 \LWR@section{#1}{#2}{#3}{subsection}%
5853 }

```

`\subsubsection` \* [*TOC name*] {*name*}

```

5854 \DeclareDocumentCommand{\subsubsection}{s o m}{%
5855 \LWR@maybeprintpendingfootnotes{\LWR@depthsubsubsection}%
5856 \LWR@stoppars%
5857
5858 \LWR@startnewdepth{\LWR@depthsubsubsection}%
5859 {\LWR@printclosesubsubsection}%
5860
5861 \LWR@section{#1}{#2}{#3}{subsubsection}%
5862 }

```

`\paragraph` \* [*TOC name*] {*name*}

```

5863 \DeclareDocumentCommand{\paragraph}{s o m}{%
5864 \LWR@maybeprintpendingfootnotes{\LWR@depthparagraph}%
5865 \LWR@stoppars%
5866
5867 \LWR@startnewdepth{\LWR@depthparagraph}{\LWR@printcloseparagraph}%
5868
5869 \LWR@section{#1}{#2}{#3}{paragraph}%
5870 }

```

`\subparagraph` \* [*TOC name*] {*name*}

```

5871 \DeclareDocumentCommand{\subparagraph}{s o m}{%
5872 \LWR@maybeprintpendingfootnotes{\LWR@depthsubparagraph}%
5873 \LWR@stoppars%
5874

```

```

5875 \LWR@startnewdepth{\LWR@depthsubparagraph}{\LWR@printclosesubparagraph}%
5876
5877 \LWR@section{#1}{#2}{#3}{subparagraph}%
5878 }

5879 \end{warpHTML}

```

## 62 Starting a new file

**for HTML & PRINT:** 5880 \begin{warpall}

\HTMLLanguage Default language for the HTML lang tag.

```

5881 \newcommand*{\LWR@currentHTMLLanguage}{en-US}
5882
5883 \newcommand*{\HTMLLanguage}[1]{%
5884 \renewcommand*{\LWR@currentHTMLLanguage}{#1}%
5885 }

```

\theHTMLTitleSeparator May be used inside \theHTMLTitleSection to separate the website's overall HTML title and the particular page's section name.

```

5886 \ifPDFTeX% pdflatex or dvi latex
5887 \ifdefstring{\inputencodingname}{utf8}{%
5888 \newcommand*{\theHTMLTitleSeparator}{ -- }% EMdash
5889 }{%
5890 \newcommand*{\theHTMLTitleSeparator}{ - }% hyphen
5891 }%
5892 \else%
5893 \newcommand*{\theHTMLTitleSeparator}{ -- }% EMdash
5894 \fi%

```

\HTMLTitleBeforeSection Sets the HTML page's meta title tag to show the website title before the section name.

```

5895 \newcommand*{\HTMLTitleBeforeSection}{%
5896 \def\theHTMLTitleSection{%
5897 \theHTMLTitle\theHTMLTitleSeparator\theHTMLSection%
5898 }
5899 }

```

\HTMLTitleAfterSection Sets the HTML page's meta title tag to show the section name before the website title.

```

5900 \newcommand*{\HTMLTitleAfterSection}{%
5901     \def\theHTMLTitleSection{%
5902         \theHTMLSection\theHTMLTitleSeparator\theHTMLTitle%
5903     }
5904 }

```

`\theHTMLTitleSection` Forms the HTML page's meta title tag. The default is to show the website title before the section name.

```

5905 \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.

```

5906 \newcommand*{\theHTMLSection}{}
5907 \end{warpall}

```

**for HTML output:** 5908 `\begin{warpHTML}`

`\LWR@filestart` [`\sectionname`] Creates the opening HTML tags.

```

5909 \newcommand*{\LWR@filestart}[1] [] {%
5910 \LWR@traceinfo{\LWR@filestart !#1!}%

```

Locally temporarily disable direct-formatting commands:

```

5911 \begingroup%
5912 \LWR@nullfonts%

```

Save the section name for use while creating the HTML meta title tag:

```

5913 \edef\theHTMLSection{#1}%

```

Create the page's HTML header:

```

5914 \LWR@htmltag{!DOCTYPE html}\LWR@orignewline

```

The language is user-adjustable:

```

5915 \LWR@htmltag{%
5916     html lang=\textquotedbl\LWR@currentHTMLLanguage\textquotedbl%
5917 }\LWR@orignewline

```

Start of the meta data:

```
5918 \LWR@htmltag{head}\LWR@orignewline
```

Charset is fixed at UTF-8:

```
5919 \LWR@htmltag{%
5920     meta charset=\textquotedbl{}UTF-8\textquotedbl\ /\%
5921 }\LWR@orignewline
```

Author:

```
5922 \ifthenelse{\equal{\theHTMLAuthor}{}}{%
5923 {}%
5924 {%
5925     \LWR@htmltag{%
5926         meta name=\textquotedbl{}author\textquotedbl\ % space
5927         content=\textquotedbl{}theHTMLAuthor\textquotedbl\ /\%
5928     }\LWR@orignewline%
5929 }%
```

lwarp is the generator:

```
5930 \LWR@htmltag{%
5931     meta % space
5932     name=\textquotedbl{}generator\textquotedbl\ % space
5933     content=\textquotedbl{}LaTeX lwarp package\textquotedbl\ /\%
5934 }\LWR@orignewline%
```

If there is a description, add it now:

```
5935 \ifdefempty{\LWR@currentHTMLDescription}{}{%
5936     \LWR@htmltag{%
5937         meta name=\textquotedbl{}description\textquotedbl\ % space
5938         content=\textquotedbl{}\LWR@currentHTMLDescription\textquotedbl\ /\%
5939     }\LWR@orignewline
5940 }%
```

Mobile-friendly viewport:

```
5941 \LWR@htmltag{%
5942     meta % space
5943     name=\textquotedbl{}viewport\textquotedbl\ % space
5944     content=\textquotedbl{}width=device-width, initial-scale=1.0\textquotedbl\ /\%
5945 }\LWR@orignewline
```

IE patch:

```

5946 \LWR@htmltag{!-\/-[if lt IE 9]}\LWR@orignewline
5947 \LWR@htmltag{%
5948     script % space
5949     src=\textquotedbl{}%
5950     http://html5shiv.googlecode.com/svn/trunk/html5.js%
5951     \textquotedbl{}%
5952 }%
5953 \LWR@htmltag{/script}\LWR@orignewline
5954 \LWR@htmltag{![endif]-\/-}\LWR@orignewline

```

The page's title, if there is one. A section name is also added if given.

```

5955 \ifthenelse{\equal{\theHTMLTitle}{}}%
5956 {}%
5957 {%
5958     \LWR@htmltag{title}%
5959     \ifdefempty{\theHTMLSection}%
5960         {\theHTMLTitle}%
5961         {\theHTMLTitleSection}%
5962     \LWR@htmltag{/title}\LWR@orignewline%
5963 }%

```

The page's stylesheet:

```

5964 \LWR@htmltag{%
5965     link % space
5966     rel=\textquotedbl{}stylesheet\textquotedbl\ % space
5967     type=\textquotedbl{}text/css\textquotedbl\ % space
5968     href=\textquotedbl\LWR@currentcss\textquotedbl\ /%
5969 }%
5970 \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.

```

5971 \ifbool{mathjax}%
5972 {%
5973     \begingroup%
5974     \LWR@restoreoriglists%
5975     \boolfalse{LWR@verbtags}%

5976     \verbatiminput{lwarp_mathjax.txt}%

5977     \booltrue{LWR@verbtags}%
5978     \endgroup%
5979     \LWR@stoppars%
5980 }% end of mathjax
5981 {}%

```

End of the header:

```
5982 \LWR@htmltag{/head}\LWR@orignewline
```

Start of the body:

```
5983 \LWR@htmltag{body}\LWR@orignewline
5984 \endgroup
5985 \LWR@traceinfo{LWR@filestart: done}
5986 }

5987 \end{warpHTML}
```

## 63 Starting HTML output

**for HTML output:** 5988 \begin{warpHTML}

`\LWR@LwarpStart` Executed at the beginning of the entire document.

The use of `\textquotedbl` instead of `"` improves compatibility with `xeCJK`.

```
5989 \catcode'\$=\active
5990 \newcommand*{\LWR@LwarpStart}
5991 {%
5992 \LWR@traceinfo{LWR@lwarpStart}
```

If formatting for a word processor, force `filedepth` to single-file only, force HTML debug comments off.

```
5993 \ifbool{FormatWP}{%
5994   \setcounter{FileDepth}{-5}%
5995   \boolfalse{HTMLDebugComments}%
5996 }{}
```

Expand and detokenize `\HomeHTMLFilename` and `\HTMLFilename`:

```
5997 \edef\LWR@strresult{\HomeHTMLFilename}
5998 \edef\HomeHTMLFilename{\detokenize\expandafter{\LWR@strresult}}
5999 \edef\LWR@strresult{\HTMLFilename}
6000 \edef\HTMLFilename{\detokenize\expandafter{\LWR@strresult}}
```

Force `onecolumn` and empty page style:

```
6001 \LWR@origonecolumn%
6002 \LWR@origpagestyle{empty}%
```

No black box for overfull lines:

```
6003 \overfullrule=0pt
```

Reduce chance of line overflow in verbatim environments:

```
6004 \LWR@print@scriptsize%
```

In PDF output, don't allow line breaks to interfere with HTML tags:

```
6005 \LWR@print@raggedright%  
6006 \LetLtxMacro{\}\{\LWR@endofline}%
```

Spread the lines for *pdftotext* to read them well:

```
6007 \linespread{1.3}%
```

For *pdftotext* to reliably identify paragraph splits:

```
6008 \setlength{\parindent}{0pt}  
6009 \setlength{\parskip}{2ex}
```

For the lateximages record file:

```
6010 \immediate\openout\LWR@lateximagesfile=lateximages.txt
```

Removes space around the caption in the HTML:

```
6011 \setlength{\belowcaptionskip}{0ex}  
6012 \setlength{\abovecaptionskip}{0ex}
```

Redefine the plain page style to be empty when used by index pages:

```
6013 \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.

Tabular:

```
6014 \LetLtxMacro\LWR@origtabular\tabular  
6015 \LetLtxMacro\LWR@origendtabular\endtabular  
6016 \LetLtxMacro\tabular\LWR@tabular  
6017 \LetLtxMacro\endtabular\endLWR@tabular
```

Float captions:

```
6018 \let\LWR@origcaption\caption
```

Labels: `\ltx@label` is used in `amsmath` environments and is also patched by `cleveref`.

Label in HTML

```
6019 \let\LWR@origltx@label\ltx@label
6020 \let\ltx@label\LWR@htmlmathlabel
```

Logos:

```
6021 \LetLtxMacro\TeX\LWR@TeX
6022 \LetLtxMacro\LaTeX\LWR@LaTeX
6023 \LetLtxMacro\LuaTeX\LWR@LuaTeX
6024 \LetLtxMacro\LuaLaTeX\LWR@LuaLaTeX
6025 \LetLtxMacro\XeTeX\LWR@XeTeX
6026 \LetLtxMacro\XeLaTeX\LWR@XeLaTeX
6027 \LetLtxMacro\ConTeXt\LWR@ConTeXt
```

Not yet started any paragraph handling:

```
6028 \global\boolfalse{LWR@doingapar}
6029 \global\boolfalse{LWR@doingstartpars}
```

Document and page settings:

```
6030 \mainmatter
6031 \LWR@origpagenumbering{arabic}
```

Start a new HTML file and a header:

```
6032 \LWR@traceinfo{LWR@lwarpStart: Starting new file.}
6033 \LWR@filestart
6034 \LWR@traceinfo{LWR@lwarpStart: Generating first header.}
6035 \LWR@htmltag{header}\LWR@orignewline
6036 \LWR@startpars
6037 \LWR@firstpagetop
6038 \LWR@stoppars
6039 \LWR@htmltag{/header}\LWR@orignewline
6040 \LWR@traceinfo{LWR@lwarpStart: Generating textbody.}
6041 \LWR@htmltag[section class=\textquotedbl{}]{textbody\textquotedbl}
```

Patch the `itemize`, `enumerate`, and `description` environments and `\item`. This works with the native  $\text{\LaTeX}$  environments, as well as those provided by `enumitem`, `enumerate`, and `paralist`.

```
6042 \LWR@patchlists
```

Ensure that math mode is active to call `lwarp`'s patches:

```
6043 \catcode'\$=\active
```

Required for `\nameref` to work with SVG math:

```
6044 \immediate\write\@mainaux{\catcode'\string$\active}%
6045 \LetLtxMacro\LWR@syntaxhighlightone$% balance for editor syntax highlighting
```

Allow HTML paragraphs to begin:

```
6046 \LWR@startpars
```

If using MATHJAX, disable `\ensuremath` by printing a nullified definition at the start of each file, and add further customizations:

```
6047 \LWR@customizeMathJax

6048 \LWR@traceinfo{\LWR@lwarpStart: done}
6049 }
6050 \catcode'\$=3% math shift until lwarp starts

6051 \end{warpHTML}
```

## 64 Ending HTML output

**for HTML output:** 6052 `\begin{warpHTML}`

`\LWR@requesttoc` `{\<boolean>}` `{\<suffix>}` Requests that a TOC, LOF, or LOT be generated.

```
6053 \newcommand*{\LWR@requesttoc}[2]{%
6054 \ifbool{#1}
6055 {
6056   \expandafter\newwrite\@nameuse{tf@#2}
6057   \immediate\openout \@nameuse{tf@#2} \jobname.#2\relax
6058 }{}
6059 }
```

`\LWR@LwarpEnd` Final stop of all HTML output:

```
6060 \newcommand*{\LWR@LwarpEnd}
6061 {
6062 \LWR@stoppars
6063 \LWR@closeprevious{\LWR@depthfinished}
```

At the bottom of the ending file:

Close the textbody:

```
6064 \LWR@html elementclassend{section}{textbody}
```

Print any pending footnotes:

```
6065 \LWR@printpendingfootnotes
```

Create the footer:

```
6066 \LWR@html element{footer}
6067
6068 \LWR@pagebottom
6069
6070 \LWR@html elementend{footer}
```

No bottom navigation if are finishing the home page, or if formatting for an EPUB or word processor.

Presumably has a table-of-contents.

```
6071 \ifthenelse{\boolean{FormatEPUB}\OR\boolean{FormatWP}}
6072 {}
6073 {
6074   \ifnumcomp{\value{LWR@htmlfilenumber}}{>}{0}{\LWR@botnavigation}{ }
6075 }
```

```
6076 \LWR@stoppars% final stop of all paragraphs
```

Finish the HTML file:

```
6077 \LWR@htmltag{/body}\LWR@orignewline
6078 \LWR@htmltag{/html}\LWR@orignewline
```

Seems to be required sometimes:

```
6079 \LWR@orignewpage
```

For lateximage commands:

```
6080 \immediate\closeout\LWR@lateximagesfile
6081 }
```

```
6082 \end{warpHTML}
```

## 65 Title page

**package support** 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**.

 **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 65.8.


**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<sup>A</sup>T<sub>E</sub>X 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.

### 65.1 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

**\and**

```
\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** **\@title**, **\@author**, etc. store the values as originally assigned, including any **\thanks**, **\and**, or **\affiliation**. These are low-level macros intended to be used by **\@author** **\@date**

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` `\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` `\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` `{\text}`

---

```
\HTMLPageBottom{
\begin{center}\textcopyright~2016 \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 L<sup>A</sup>T<sub>E</sub>X 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.

## 65.2 `\if@titlepage`

**for HTML & PRINT:** 6083 `\begin{warpall}`

`\if@titlepage` Some classes do not provide `\if@titlepage`. In this case, provide it and force it false.

```
6084 \ifcsvoid{@titlepagefalse}{
6085     \newif\if@titlepage
6086     \@titlepagefalse
6087 }{}

6088 \end{warpall}
```

### 65.3 Changes for `\affiliation`

`\affiliation`  $\{ \langle text \rangle \}$

Adds the affiliation to the author for use in `\maketitle`.

Inside `titlepage`, this macro prints its argument. Outside, it is null.

**for HTML & PRINT:**

```
6089 \begin{warpall}
6090 \providerobustcmd{\affiliation}[1]{}
6091 \end{warpall}
```

**for PRINT output:**

```
6092 \begin{warpprint}
```

```
6093 \AtBeginEnvironment{titlepage}{
6094 \renewrobustcmd{\affiliation}[1]{\ \textsc{\small#1}}
6095 }
6096
6097 \AtBeginDocument{
6098 \@ifpackageloaded{titling}{
6099 \AtBeginEnvironment{titlingpage}{
6100 \renewrobustcmd{\affiliation}[1]{\ \textsc{\small#1}}
6101 }
6102 }{}% titling loaded
6103 }% AtBeginDocument

6104 \end{warpprint}
```

**for HTML output:**

```
6105 \begin{warpHTML}
```

Env `titlepage` Sets up a `<div>` of class `titlepage`. Provided even for memoir class, since it is used by `\maketitle`.

```
6106 \DeclareDocumentEnvironment{titlepage}{}
6107 {
```

```

6108 \renewrobustcmd{\affiliation}[1]{\ \ \InlineClass{affiliation}{##1}}
6109 \LWR@printpendingfootnotes
6110 \LWR@forcenewpage
6111 \BlockClass{titlepage}
6112 }
6113 {
6114 \endBlockClass
6115 \LWR@printpendingfootnotes
6116 }

6117 \end{warpHTML}

```

## 65.4 Printing the thanks

**for HTML & PRINT:** 6118 \begin{warpall}

\printthanks Forces the \thanks to be printed.

This is necessary in a titlingpage environment when \maketitle was not used.

```

6119 \newcommand*{\printthanks}{\@thanks}

6120 \end{warpall}

```

## 65.5 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:** 6121 \begin{warpHTML}

\printtitle

```

6122 \newcommand*{\printtitle}
6123 {
6124 \LWR@stoppars
6125 \LWR@htmltag{\LWR@tagtitle}%
6126 \@title%
6127 \LWR@htmltag{\LWR@tagtitleend}
6128 \LWR@startpars
6129 }

```

`\LWR@printthetitle` A private version which prints the title without footnotes, used to title each HTML page.

```
6130 \newcommand*{\LWR@printthetitle}
6131 {
6132 \LWR@stoppars
6133 \LWR@htmltag{\LWR@tagtitle}%
6134 \thetitle%
6135 \LWR@htmltag{\LWR@tagtitleend}
6136 \LWR@startpars
6137 }
```

`\printauthor` HTML version.

```
6138 \newcommand*{\printauthor}{
```

The entire author block is contained in a <div> named author:

```
6139 \begin{BlockClass}{author}
```

`\and` finishes one author and starts the next:

```
6140 \renewcommand{\and}{%
6141 \end{BlockClass}
6142 \begin{BlockClass}{oneauthor}
6143 }
```

Individual authors are contained in a <div> named oneauthor:

```
6144 \begin{BlockClass}{oneauthor}
6145 \@author
6146 \end{BlockClass}
6147 \end{BlockClass}
6148 }
```

`\printdate`

```
6149 \newcommand*{\printdate}{%
6150 \begin{BlockClass}{titledate}
6151 \@date
6152 \end{BlockClass}
6153 }
```

```
6154 \end{warpHTML}
```

## 65.6 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:** 6155 `\begin{warpprint}`

`\printtitle`

6156 `\newcommand*{\printtitle}{\Huge\@title}`

`\printauthor`    Print mode.

6157 `\newcommand*{\printauthor}`  
 6158     `{\large\begin{tabular}[t]{c}\@author\end{tabular}}`

`\printdate`

6159 `\newcommand*{\printdate}{\small\textit{\@date}}`

6160 `\end{warpprint}`

## 65.7 `\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 58 for other kinds of footnotes.

See `\thanksmarkseries{series}`, below, to set the style of the footnote marks.

**for HTML output:** 6161 `\begin{warppHTML}`

6162 `\@ifclassloaded{memoir}`  
 6163 {  
 6164 `\newcommand{\LWR@setfootnoteseries}{%`  
 6165     `\renewcommand\thefootnote{\@arabic\c@footnote}%`  
 6166 }  
 6167 }{% not memoir  
 6168 `\if@titlepage`  
 6169 `\newcommand{\LWR@setfootnoteseries}{%`  
 6170     `\renewcommand\thefootnote{\@arabic\c@footnote}%`  
 6171 }  
 6172 `\else`

```

6173 \newcommand{\LWR@setfootnoteseries}{%
6174     \renewcommand\thefootnote{\@fnsymbol\c@footnote}%
6175 }
6176 \fi
6177 }% not memoir

```

\LWR@maketitlesetup Patches \thanks macros.

```

6178 \newcommand*{\LWR@maketitlesetup}{%

```

Redefine the footnote mark:

```

6179 \LWR@setfootnoteseries%
6180 \def\@makefnmark{\textsuperscript{\thefootnote}}

\thefootnote ⇒ \nameuse{arabic}{footnote}, or
\thefootnote ⇒ \nameuse{fnsymbol}{footnote}

```

Redefine the footnote text:

```

6181 \long\def\@makefntext##1{%

```

Make the footnote mark and some extra horizontal space for the tags:

```

6182 \textsuperscript{\@thefnmark}~%

\makethanksmark ⇒ \thanksfootmark ⇒ \tamark ⇒
\@thefnmark ⇒ \itshape a (or similar)

```

Print the text:

```

6183 ##1%
6184 }%
6185 }

```

\@fnsymbol1 {\langle counter \rangle}

Re-defined to use an HTML entity for the double vertical bar symbol. The original definition used \| which was not being seen by *pdftotext*.

```

6186 \def\@fnsymbol#1{\ifcase#1\or *\or \HTMLentity{dagger}\or \HTMLentity{Dagger}\or
6187     \HTMLentity{sect}\or \HTMLentity{para}\or \text{\HTMLUnicode{2016}}\or
6188     **\or \HTMLentity{dagger}\HTMLentity{dagger} \or
6189     \HTMLentity{Dagger}\HTMLentity{Dagger} \else\@ctrerr\fi}

```

`\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.

```
6190 \renewcommand*{\maketitle}{%
```

An HTML titlepage <div> is used for all classes.

```
6191 \begin{titlepage}
```

Set up special patches:

```
6192 \LWR@maketitlesetup
```

Typeset the title, etc:

```
6193 \@maketitle
```

Immediately generate any \thanks footnotes:

```
6194 \@thanks
```

Close the HTML titlepage div and cleanup:

```
6195 \end{titlepage}
6196 \setcounter{footnote}{0}%
6197 \global\let\thanks\relax
6198 \global\let\maketitle\relax
6199 \global\let\@maketitle\relax
6200 \global\let\@thanks\@empty
6201 \global\let\@author\@empty
6202 \global\let\@date\@empty
6203 \global\let\@title\@empty
6204 \global\let\title\relax
6205 \global\let\author\relax
6206 \global\let\date\relax
6207 \global\let\and\relax
6208 }
```

`\@maketitle` HTML mode. Typesets the title, etc.:

```
6209 \DeclareDocumentCommand{\@maketitle}{-}{%
6210   \LWR@stoppars\LWR@htmltag{\LWR@tagtitle}
6211   \@title
6212   \LWR@htmltag{\LWR@tagtitleend}\LWR@startpars
6213   \begin{BlockClass}{author}}
```

For IEEEtran class:

```

6214    \renewcommand*{\cr}{\}
6215    \renewcommand*{\crr}{\}
6216    \renewcommand*{\noalign}{\}

6217        \renewcommand{\and}{\{
6218            \end{BlockClass}
6219            \begin{BlockClass}{oneauthor}
6220        \}
6221        \begin{BlockClass}{oneauthor}
6222            \@author
6223        \end{BlockClass}
6224    \end{BlockClass}
6225    \begin{BlockClass}{titledate}
6226        \@date
6227    \end{BlockClass}
6228 }
```

`\LWR@titlingmaketitle` `\maketitle` for use inside an HTML titlingpage environment.

```
6229 \newcommand*{\LWR@titlingmaketitle}{%
```

Keep pending footnotes out of the title block:

```
6230 \@thanks
```

Set up special patches:

```
6231 \LWR@maketitlesetup
```

Typeset the title, etc:

```
6232 \@maketitle
```

Immediately generate any `\thanks` footnotes:

```
6233 \@thanks
```

```
6234 }
```

```
6235 \end{warpHTML}
```


## 65.8 `\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 `warppall`.

**for HTML & PRINT:** 6236 `\begin{warppall}`

`\AddSubtitlePublished` Adds `\published` and `\subtitle`, and related.

```

6237 \newcommand*{\AddSubtitlePublished}{%
6238 \@ifpackageloaded{titling}{% yes titling package
6239   \newcommand{\@published}{}%
6240   \newcommand{\published}[1]{\gdef\@published{##1}}%
6241   \renewcommand*{\maketitlehooka}{\printpublished}%
6242   \newcommand*{\printpublished}{%
6243     \warpprintonly{\begin{center}\unskip}%
6244     \begin{BlockClass}{published}%
6245     \warpprintonly{\large\itshape}%
6246     \@published%
6247     \end{BlockClass}%
6248     \warpprintonly{\end{center}}}%
6249   }%
6250   \newcommand{\@subtitle}{}%
6251   \newcommand{\subtitle}[1]{\gdef\@subtitle{##1}}%
6252   \renewcommand*{\maketitlehookb}{\printsubtitle}%
6253   \newcommand*{\printsubtitle}{%
6254     \warpprintonly{\begin{center}\unskip}%
6255     \begin{BlockClass}{subtitle}%
6256     \warpprintonly{\Large\itshape}%
6257     \@subtitle%
6258     \end{BlockClass}%
6259     \warpprintonly{\end{center}}}%
6260   }%
6261 }% yes titling package
6262 {% no titling package
6263   \newcommand{\published}[1]{}%
6264   \newcommand*{\printpublished}{}%
6265   \newcommand{\subtitle}{}%
6266   \newcommand*{\printsubtitle}%
6267 }% no titling package
6268 }% \AddSubtitlePublished

```

```
6269 \end{warpall}
```

## 66 Abstract

The following code replaces the  $\LaTeX$  default, and will itself be replaced later if the abstract package is loaded.

**for HTML output:** 6270 \begin{warpHTML}

\abstractname User-redefinable title for the abstract.

Also over-written by the babel package.

```
6271 \providecommand*\abstractname{Abstract}
```

Some classes allow an optional name, so it is allowed here.

Env **abstract**

```
6272 \DeclareDocumentEnvironment{abstract}{0{\abstractname}}
6273 {
6274 \LWR@forcenewpage
6275 \BlockClass{abstract}
6276 \BlockClassSingle{abstracttitle}{#1}
6277 }
6278 {
6279 \endBlockClass
6280 }

6281 \end{warpHTML}
```

## 67 Quote and verse

### 67.1 Attributions

\attribution For use with quote, quotation, verse:

Ex: "A quotation." \attribution{\textsc{Author Name}\\\textsl{Book Title}}

**for HTML output:** 6282 \begin{warpHTML}

```

6283 \newcommand{\attribution}[1]{%
6284     \begin{BlockClass}{attribution}
6285     #1
6286     \end{BlockClass}
6287 }
6288 \end{warpHTML}

```

**for PRINT output:**

```

6289 \begin{warpprint}
6290 \newcommand{\attribution}[1]{
6291     \begin{flushright}
6292     \unskip
6293     #1
6294     \end{flushright}}%
6295 }
6296 \end{warpprint}

```

## 67.2 Quotes, quotations

**for HTML output:**

```

6297 \begin{warpHTML}

```

Env    quote

```

6298 \renewenvironment*{quote}
6299 {
6300 \LWR@forcenewpage
6301 \LWR@htmlblocktag{blockquote}
6302 }
6303 {\LWR@htmlblocktag{/blockquote}}
6304
6305 \renewenvironment*{quotation}
6306 {
6307 \LWR@forcenewpage
6308 \LWR@htmlblocktag{blockquotation}
6309 }
6310 {\LWR@htmlblocktag{/blockquotation}}
6311 \end{warpHTML}

```

## 67.3 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 <code>\leftskip</code><br>Len <code>\leftmargini</code><br>Len <code>\HTMLvleftskip</code><br>Len <code>\HTMLleftmargini</code> | These lengths are used by <code>verse</code> and <code>memoir</code> to control the left margin, and they may already be set by the user for print output. New lengths <code>\HTMLvleftskip</code> and <code>\HTMLleftmargini</code> are provided to control the margins in HTML output. These new lengths may be set by the user before any <code>verse</code> environment, and persist until they are manually changed again. One reason to change <code>\HTMLleftmargini</code> is if there is a wide <code>\flagverse</code> in use, such as the word “Chorus”, in which case the value of <code>\HTMLleftmargini</code> should be set to a wide enough length to contain “Chorus”. The default is wide enough for a stanza number. |
|---|---|

 **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.

### 67.3.1 L<sup>A</sup>T<sub>E</sub>X core verse environment

**for HTML output:** 6312 `\begin{warpHTML}`

Env **verse**

```
6313 \renewenvironment{verse}
6314     {\let\\ \newline% lwarp
6315      \list{}{\itemsep      \z@
6316              \itemindent   -1.5em%
6317              \listparindent\itemindent
6318              \rightmargin  \leftmargin
6319              \advance\leftmargin 1.5em}%
6320      \item\relax}
6321     {\endlist}

6322 \end{warpHTML}
```

**for HTML & PRINT:** 6323 `\begin{warppall}`

### 67.3.2 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 `\leftskip` and `\leftmargini` for print output, and optionally select different values for HTML.

Len `\HTMLvleftskip` Sets `\vleftskip` inside a verse environment in HTML.

```
6324 \newlength{\HTMLvleftskip}
6325 \setlength{\HTMLvleftskip}{1em}
```

Len `\HTMLleftmargini` Sets `\leftmargini` inside a verse environment in HTML.

```
6326 \newlength{\HTMLleftmargini}
6327 \setlength{\HTMLleftmargini}{4.5em}

6328 \end{warpall}
```

## 68 Verbatim and tabbing

**for HTML & PRINT:** 6329 `\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.

```
6330 \newlength{\VerbatimHTMLWidth}
6331 \setlength{\VerbatimHTMLWidth}{4in}
6332 \end{warpall}
```

**for HTML output:** 6333 `\begin{warpHTML}`

Bool `LWR@verbtags` Used to temporarily turn off verbatim tags while doing `\verbatiminput` in the HTML head.

```
6334 \newbool{LWR@verbtags}
6335 \booltrue{LWR@verbtags}
```

`\LWR@atbeginverbatim` [*1: style*] [*2: negative \baselineskip \vspace*] [*3: class*]

Encloses a verbatim environment with the given CSS class.

The use of `\textquotedbl` instead of `"` improves compatibility with XeCJK.

```
6336 \newcommand*{\LWR@atbeginverbatim}[3] []
6337 {%
```

Avoid excessive space between lines:

```
6338 \setlength{\parskip}{0ex}%
```

Stop generating HTML paragraph tags:

```
6339 \LWR@stoppars%
```

Create a new pre of the given class. The tags may temporarily be turned off for internal use, such as loading the MATHJAX script.

```
6340 \ifbool{\LWR@verbtags}{%
6341   \LWR@htmltag{pre class=\textquotedbl#3\textquotedbl%
6342     \ifthenelse{\equal{#1}{}}{}{{ style=\textquotedbl#1\textquotedbl}%
6343   }}%
6344   \LWR@orignewline% pre
6345   \leavevmode\unskip\LWR@print@vspace*{-#2\baselineskip}%
6346 }{}%
```

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.

```
6347 \begingroup%
```

```
6348 % \LWR@print@normalsize%
6349 \LWR@origttfamily%
6350 \LWR@print@small%
```

Since inside a <pre>, restore the original list processing:

```
6351 \LWR@restoreoriglists%
```

Turn off babel-french extra space before punctuation:

```
6352 \LWR@FBcancel%
```

Do not produce HTML tags for \hspace inside a verse par. Restore plain L<sup>A</sup>T<sub>E</sub>X \hspace functionality:

```
6353 \LWR@select@print@hspace%
6354 }
```

```
\LWR@afterendverbatim {\langle negative \baselineskip \vspace \rangle}
```

Finishes enclosing a verbatim environment.

```
6355 \newcommand*{\LWR@afterendverbatim}[1]{%
6356 \endgroup%
6357 \par%
```

At the end of the environment, close the pre:

```
6358 \ifbool{\LWR@verbtags}{%
6359     \LWR@print@vspace*{-#1\baselineskip}%
6360     \noindent\LWR@htmltag{/pre}\LWR@orignewline% pre
6361 }{}%
```

Resume regular paragraph handling:

```
6362 \LWR@startpars%
6363 }
```

`\verbatiminput`  $\{ \langle filename \rangle \}$


Patch `\verbatiminput` to add HTML tags:

```
6364 \let\LWRV@origverbatim@input\verbatim@input
6365
6366 \renewcommand{\verbatim@input}[2]{%
6367 \ifbool{\LWR@verbtags}{\LWR@forcenewpage}{}%
6368 \LWR@atbeginverbatim{2.5}{Verbatim}%
6369 \LWRV@origverbatim@input{#1}{#2}%
6370 \LWR@afterendverbatim{1.5}%
6371 }
```

Env `verbatim`

```
6372 \AfterEndPreamble{
6373 \LWR@traceinfo{Patching verbatim.}
6374 \AtBeginEnvironment{verbatim}{%
6375 \LWR@forcenewpage%
6376 \LWR@atbeginverbatim{2.5}{verbatim}%
6377 }
6378 \AfterEndEnvironment{verbatim}{%
6379     \LWR@afterendverbatim{1}%
6380 }
6381 }
```

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.

```

6382 \newcommand*\LWR@HTML@tabbing}{%
6383 \LWR@forcenewpage%
6384 \LWR@atbeginverbatim{3}{tabbing}%
6385 \LWR@print@tabbing%
6386 }
6387
6388 \newcommand*\LWR@HTML@endtabbing}{%
6389   \LWR@print@endtabbing%
6390   \LWR@afterendverbatim{1}%
6391 }
6392
6393 \LWR@formatted{tabbing}
6394 \LWR@formatted@endtabbing}

6395 \end{warpHTML}

```

## 69 Theorems

`\newtheorem`  $\{\langle text \rangle\}$  [ $\langle counter \rangle$ ] -or- [ $\langle oldname \rangle$ ]  $\{\langle text \rangle\}$

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 `<span>` of class `theoremlabel`.
- The contents are placed inside a `<div>` of class `theoremcontents`.

**for HTML output:** `6396 \begin{warpHTML}`

`\@begintheorem`  $\{\langle name \rangle\}$   $\{\langle number \rangle\}$

```

6397 \renewcommand{\@begintheorem}[2]{%
6398 \LWR@forcenewpage
6399 \BlockClass{theoremcontents}
6400 \trivlist
6401 \item[\InlineClass{theoremlabel}{#1\ #2\ }]\itshape
6402 }

```

`\@opargbegintheorem`  $\{\langle name \rangle\}$   $\{\langle number \rangle\}$   $\{\langle oparg \rangle\}$

```

6403 \renewcommand{\@opargbegintheorem}[3]{%
6404 \LWR@forcenewpage
6405 \BlockClass{theoremcontents}
6406 \trivlist
6407 \item[\InlineClass{theoremlabel}{#1\ #2\ (#3)\ }]\itshape
6408 }

```

`\@endtheorem`

```

6409 \renewcommand*{\@endtheorem}{%
6410 \endtrivlist
6411 \endBlockClass% theoremcontents
6412 }

6413 \end{warpHTML}

```

## 70 Lists

The environments `itemize`, `enumerate`, and `description` are patched when `lwarp` is started. These patches support the standard  $\text{\LaTeX}$  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  $\text{\LaTeX}$  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  $\text{\TeX}$  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`.

## 70.1 List environment

**for HTML output:** 6414 `\begin{warpHTML}`

`\LWR@printcloselist` May be locally redefined by `enumerate` or `description`.

```
6415 \newcommand*{\LWR@printcloselist}{\LWR@printcloseitemize}
```

`\LWR@printopenlist` May be locally redefined by `enumerate` or `description`.

```
6416 \newcommand*{\LWR@printopenlist}{\ul style="\LWR@print@mbbox{list-style-type:none}"}
```

`\@mklab` Removes PDF spacing.

```
6417 \AtBeginDocument{
6418 \def\@mklab#1{%
6419 % \hfil %
6420 #1}
6421 \let\makelabel\@mklab
6422 }
```

`\@donoparitem` Modified for HTML output by replacing TeX boxes with plain text. Also removes PDF spacing.

```
6423 \def\@donoparitem{%
6424 \@noperitemfalse
6425 % \global\setbox\@labels\hbox{\hskip -\leftmargin
6426 % \unhbox\@labels
6427 % \hskip \leftmargin}%
6428 % \if@minipage\else
6429 % \@tempskipa\lastskip
6430 % \vskip -\lastskip
6431 % \advance\@tempskipa\@outerparskip
6432 % \advance\@tempskipa -\parskip
6433 % \vskip\@tempskipa
6434 % \fi
6435 }
```

`\@item` Modified for HTML output by replacing TeX boxes with plain text. Also removes PDF spacing.

```

6436 \def\LWR@HTML@item[#1]{%
6437 \LWR@traceinfo{@item}
6438   \if@noparitem
6439     \@donoparitem
6440   \else
6441 %     \if@inlabel
6442 %       \indent
6443 %       \par
6444 %     \fi
6445   \ifhmode
6446 %     \unskip\unskip
6447 %     \par
6448 %   \fi
6449   \if@newlist
6450     \if@nobreak
6451       \@nbitem
6452     \else
6453 %       \addpenalty\@beginparpenalty
6454 %       \addvspace\@topsep
6455 %       \addvspace{-\parskip}%
6456 %     \fi
6457   \else
6458 %     \addpenalty\@itempenalty
6459 %     \addvspace\itemsep
6460 %   \fi
6461   \global\@inlabeltrue
6462 \fi
6463 % \everypar{%
6464 % \@minipagefalse
6465 % \global\@newlistfalse

6466 %   \if@inlabel
6467 %     \global\@inlabelfalse

6468 %   {\setbox\z@\lastbox
6469 %     \ifvoid\z@
6470 %       \kern-\itemindent
6471 %     \fi}%

6472 %   \box\@labels
6473 %   \penalty\z@
6474 % \fi

6475 %   \if@nobreak
6476 %     \@nobreakfalse
6477 %     \clubpenalty \@M
6478 %   \else
6479 %     \clubpenalty \@clubpenalty
6480 %     \everypar{}%

```

```

6481 %      \fi}%

6482 \if@noitemarg
6483   \@noitemargfalse
6484   \if@nmbrlist

6485     \refstepcounter\@listctr
6486     \fi
6487   \fi

6488   \makelabel{#1} % extra space
6489 %   \sbox\@tempboxa{\makelabel{#1}}%
6490 %   \global\setbox\@labels\hbox{%
6491 %     \unhbox\@labels
6492 %     \hskip \itemindent
6493 %     \hskip -\labelwidth
6494 %     \hskip -\labelsep
6495 %     \ifdim \wd\@tempboxa >\labelwidth
6496 %       \box\@tempboxa

6497 %     \else
6498 %       \hbox to\labelwidth {\unhbox\@tempboxa}%
6499 %     \fi
6500 %     \hskip \labelsep}%
6501 \ignorespaces%
6502 }

```

`\@nbitem`

```

6503 \def\@nbitem{%
6504 %   \@tempskipa\@outerparskip
6505 %   \advance\@tempskipa -\parskip
6506 %   \addvspace\@tempskipa
6507 }

```

`\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.

```

6508 \newcommand*{\LWR@listitem}{%
6509 \LWR@stoppars%
6510 \LWR@startnewdepth{\LWR@depthlistitem}{\LWR@printcloselistitem}%
6511 \LWR@htmltag{li}%
6512 \LWR@startpars%

```

```
6513 \LWR@origitem%
6514 }
```

`\LWR@nulllistfills` Nullifies various TeX fill commands, in case they are used inside `\makeatlabel`. Problems are caused when these are nullified all the time.

```
6515 \newcommand*\LWR@nulllistfills{%
6516 \renewcommand*\hss{%}%
6517 \renewcommand*\llap[1]{##1}%
6518 \renewcommand*\rlap[1]{##1}%
6519 \renewcommand*\hfil{%}%
6520 \renewcommand*\hfilneg{%}%
6521 \renewcommand*\hfill{%}%
6522 }
```

Env `list` `{\label}` `{\commands}`

```
6523 \newcommand*\LWR@liststart{%
6524 \LWR@traceinfo{\LWR@liststart}%
6525 \LWR@stoppars%
6526 \LWR@pushoneclose{\LWR@depthlist}{\LWR@printcloselist}%
6527 \LWR@htmltag{\LWR@printopenlist}\LWR@orignewline%
6528 \LWR@startpars%
6529 \setlength{\topsep}{0pt}%
6530 \setlength{\partopsep}{0pt}%
6531 \setlength{\itemsep}{0pt}%
6532 \setlength{\parsep}{0pt}%
6533 \setlength{\leftmargin}{0pt}%
6534 \setlength{\rightmargin}{0pt}%
6535 \setlength{\listparindent}{0pt}%
6536 \setlength{\itemindent}{0pt}%
6537 \setlength{\labelsep}{1em}%
6538 \LWR@nulllistfills%
6539 }
```

```
6540 \newcommand*\LWR@listend{%
6541 \LWR@traceinfo{\LWR@listend}%
6542 \LWR@stoppars%
6543 \LWR@closeprevious{\LWR@depthlist}%
6544 \LWR@startpars%
6545 }
```

## 70.2 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.

```
6546 \newcommand*{\LWR@itemizeitem}{%
6547 \LWR@stoppars%
6548 \LWR@startnewdepth{\LWR@depthlistitem}{\LWR@printcloselistitem}%
6549 \LWR@htmltag{li}%
6550 \LWR@startpars%
6551 \LWR@origitem%
6552 }
```

Env `itemize` [*options*]

```
6553 \newcommand*{\LWR@itemizestart}{%
6554 \renewcommand*{\LWR@printcloselist}{\LWR@printcloseitemize}
6555 \renewcommand*{\LWR@printopenlist}{ul style="\LWR@print@mbbox{list-style-type:none}"}
6556 \let\item\LWR@itemizeitem%
6557 \LWR@nulllistfills%
6558 }
```

### 70.3 Enumerate

An HTML unordered list is used with customized L<sup>A</sup>T<sub>E</sub>X-generated labels.

Env `enumerate` [*options*]

```
6559 \newcommand*{\LWR@enumeratestart}{%
6560 \renewcommand*{\LWR@printcloselist}{\LWR@printcloseitemize}
6561 \renewcommand*{\LWR@printopenlist}{ul style="\LWR@print@mbbox{list-style-type:none}"}
6562 \let\item\LWR@itemizeitem%
6563 \LWR@nulllistfills%
6564 }
```

### 70.4 Description

`\LWR@descitem` [*label*] Handles an `\item` inside a description.

```
6565 \newcommand*{\LWR@descitem}[1][ ]{%
6566 {%
6567 \LWR@stoppars%
```

```
6568 \LWR@setlatestname{#1}%
6569 \LWR@startnewdepth{\LWR@depthlistitem}{\LWR@printclosedescitem}%
```

Temporarily disable `\hspace`, which `article.cls`, etc. use per `\item` for descriptions only. This causes `lwarp` to mistakenly place an empty span between HTML list tags.

```
6570 \LWR@select@html@nohspace%
```

Process the original `\item` code:

```
6571 \LWR@origitem[]%
```

Restore `\hspace` for use in the item text:

```
6572 \LWR@select@html@hspace%

6573 \LWR@htmltag{dt}#1\LWR@htmltag{/dt}%
6574 \LWR@orignewline%
6575 \LWR@htmltag{dd}%
6576 \LWR@startpars%
6577 }
```

Env `description` [*options*]

```
6578 \newcommand*{\LWR@descriptionstart}{%
6579 \renewcommand*{\LWR@printcloselist}{\LWR@printclosedescription}
6580 \renewcommand*{\LWR@printopenlist}{dl}
6581 \let\item\LWR@descitem%
6582 \LWR@nulllistfills%
6583 }
```

## 70.5 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  $\text{\LaTeX}$  environments, as well as those provided by `enumitem`, `enumerate`, and `paralist`.

```
6584 \newcommand*{\LWR@patchlists}{%
6585     \LetLtxMacro\item\LWR@listitem%
6586     \LetLtxMacro\@item\LWR@HTML@item%
6587     \renewcommand*{\@trivlist}{%
```

```

6588      \LWR@traceinfo{@trivlist start}%
6589      \LWR@liststart%
6590      \LWR@orig@trivlist%
6591      \LWR@traceinfo{@trivlist done}%
6592  }%
6593  \renewcommand*{\trivlist}{%
6594      \LWR@traceinfo{trivlist}%
6595      \LWR@origtrivlist%
6596  }%
6597  \renewcommand*{\endtrivlist}{%
6598      \LWR@traceinfo{endtrivlist start}%
6599      \LWR@origendtrivlist\LWR@listend%
6600      \LWR@traceinfo{endtrivlist done}%
6601  }%
6602  \renewcommand*{\itemize}{%
6603      \LWR@itemizestart\LWR@origitemize%
6604  }%
6605  \renewcommand*{\enumerate}{%
6606      \LWR@enumeratestart\LWR@origenumerate%
6607  }%
6608  \renewcommand*{\description}{%
6609      \LWR@descriptionstart\LWR@origdescription%
6610  }%
6611 }

```

`\LWR@restoreoriglists` Restores the original trivlist environment.

```

6612 \newcommand*{\LWR@restoreoriglists}{%
6613 \LWR@traceinfo{\LWR@restoreoriglists}%
6614 \LetLtxMacro\item\LWR@origitem%
6615 \LetLtxMacro\@item\LWR@orig@item%
6616 \let\@trivlist\LWR@orig@trivlist%
6617 \let\trivlist\LWR@origtrivlist%
6618 \let\endtrivlist\LWR@origendtrivlist%
6619 \LetLtxMacro\itemize\LWR@origitemize%
6620 \LetLtxMacro\enditemize\LWR@endorigitemize%
6621 \LetLtxMacro\enumerate\LWR@origenumerate%
6622 \LetLtxMacro\endenumerate\LWR@endorigenumerate%
6623 \LetLtxMacro\description\LWR@origdescription%
6624 \LetLtxMacro\enddescription\LWR@endorigdescription%
6625 \let\@mklab\LWR@orig@mklab%
6626 \let\makelabel\LWR@origmakelabel%
6627 \let\@donoparitem\LWR@orig@donoparitem%
6628 \let\@nbitem\LWR@orig@nbitem%
6629 }

6630 \end{warpHTML}

```

## 71 Tabular

This is arguably the most complicated part of the entire package. Numerous tricks are employed to handle the syntax of the L<sup>A</sup>T<sub>E</sub>X core and the various tabular-related packages.

### 71.1 Limitations

Tabular mostly works as expected, but pay special attention to the following, especially if working with environments, macros inside tabulars, multirows, \* column specifiers, siunitx S columns, or the packages multirow, longtable, supertabular, or xtab.

#### Defining 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 % because & is used in a  
definition
```

```
\newenvironment{outerenvironment}
```

```
{
```

```
\tabular{cc}
```

```
left & right \\\
```

```
}
```

```
{
```

```
\TabularMacro\ResumeTabular
```

```
left & right \\\
```

```
\endtabular
```

```
}
```

```
\StopDefiningTabulars
```

**Cell contents:**⚠ `\multirow`

- 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.

```
... & \multirow{2}{.5in}{text} & ...
... & \mrowcell & ...
```

`vposn`

Note that recent versions of `\multirow` include a new optional `vposn` argument.

- 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.
- See section 290.2 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}[Opt]{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:

```
... & \multicolumnrow{2}{c}[c]{3}[0]{1in}[Opt]{Text} & ...
... & \mcolrowcell & \mcolrowcell & ...
... & \mcolrowcell & \mcolrowcell & ...
```

`vposn`

Note that recent versions of `\multirow` include a new optional `vposn` argument.

⚠ 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:**

⚠ \* column specification

- \* in a column specification is not used (so far). Repeat the column type the correct number of times.

`@ 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 1.

#### 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.

##### full-width rules

- `\toprule`, `\midrule`, `\bottomrule`, and `\hline` 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.

#### colortbl:

### ⚠ row/cell color

Only use `\rowcolor` and `\cellcolor` at the start of a row, in that order.

`colortbl` ignores the overhang arguments.

#### Other:

##### longtable headings

- `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{}`.

### ⚠ `S` columns

- 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 \\}
```

for HTML output: 6631 \begin{warpHTML}

## 71.2 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.

### 71.2.1 arydashln

Emulated by the original  $\LaTeX$  non-dashed versions.

```
6632 \LetLtxMacro\hdashline\hline
6633 \LetLtxMacro\cdashline\cline
6634 \LetLtxMacro\firsthdashline\hline
6635 \LetLtxMacro\lasthdashline\hline
```

## 71.3 Token lookahead

Used by `\LWR@futurenonpacelet` to look at the next token.

`\LWR@mynexttoken`

```
6636 \newcommand\LWR@mynexttoken\relax
```

`\futurelet` copies the next token then executes a function to analyze

`\LWR@futurenonpacelet` does the same, but ignores intervening white space

Based on the booktabs style:

`\LWR@futurenonpacelet`

```
6637 \def\LWR@futurenonpacelet#1{\def\LWR@cs{#1}%
6638 \afterassignment\LWR@fnslone\let\nexttoken= }
6639 \def\LWR@fnslone{\expandafter\futurelet\LWR@cs\LWR@fnsltwo}
6640 \def\LWR@fnsltwo{%
```

```

6641 \expandafter\ifx\LWR@cs\@sptoken\let\next=\LWR@fnslnthree%
6642 \else\let\next=\nexttoken\fi\next}
6643 \def\LWR@fnslnthree{\afterassignment\LWR@fnslnone\let\next= }

```

`\LWR@getmynexttoken` Looks ahead and copies the next token into `\LWR@mynexttoken`.

```

6644 \newcommand*{\LWR@getmynexttoken}{%
6645 \LWR@traceinfo{\LWR@getmynexttoken}%
6646 % nothing must follow this next line
6647 \LWR@futurenonospacelet\LWR@mynexttoken\LWR@tabledatacolumn\tag
6648 }

```

## 71.4 Tabular variables

Bool `LWR@startedrow` True if should print a row tag before this column.

```

6649 \newbool{LWR@startedrow}
6650 \boolfalse{LWR@startedrow}

```

Bool `LWR@tabularcelladded` True if have added a data cell for this position.

```

6651 \newbool{LWR@tabularcelladded}
6652 \boolfalse{LWR@tabularcelladded}

```

Ctrl `LWR@hlines` Number of `\hlines` or `\midrules` above the next row.

```

6653 \newcounter{LWR@hlines}

```

Ctrl `LWR@hdashedlines` Number of `\arydshln` dashed lines above the next row.

```

6654 \newcounter{LWR@hdashedlines}

```

Bool `LWR@doingtbrule` True if the next row will have a top/bottom rule above it.

```

6655 \newbool{LWR@doingtbrule}
6656 \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`.

```

6657 \newbool{LWR@doingcmidrule}
6658 \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.   |
|      |                         | 6659 \newbool{LWR@tableparcell}   |
| Bool | LWR@skippingmrowcell    | True if are doing an empty \multirow cell, and thus there is no data tag to close.  |
|      |                         | 6660 \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.  |
|      |                         | 6661 \newbool{LWR@skippingmcolrowcell}  |
| Bool | LWR@skipatbang          | True if just finished a \multicolumn so should not create the trailing @ or ! columns table data cells.   |
|      |                         | 6662 \newbool{LWR@skipatbang}   |
| Bool | LWR@emptyatbang         | True if finishing a row and should print empty @ or ! column table data cells.  |
|      |                         | 6663 \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.  |
|      |                         | 6664 \newbool{LWR@intabularmetadata}  |
|      |                         | 6665 \boolfalse{LWR@intabularmetadata}  |
| Ctr  | LWR@tabularDepth        | Tracks whether & is being used inside a tabular.  |
|      |                         | 6666 \newcounter{LWR@tabulardepth}  |
|      |                         | 6667 \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. |
|      |                         | 6668 \newcounter{LWR@tabularpardepth}   |
|      |                         | 6669 \setcounter{LWR@tabularpardepth}{0}  |
|      |                         | 6670 \newcommand*{\LWR@colsresult}{}%temp storage for column format results   |
|      |                         | 6671 \newcommand*{\LWR@pposition}{}%  |
|      |                         | 6672 \newcommand*{\LWR@pleft}{}%  |
|      |                         | 6673 \newcommand*{\LWR@pright}{}%   |

|   |   |
|---|---|
| <code>LWR@tablecolspec</code>                 | <p>Holds the parsed column specification, of total width <code>LWR@tablettotalLaTeXcols</code>, not counting <code>@</code> and <code>!</code> columns.</p> <p>Will contain a string such as <code>llrrccpc</code>, exactly one letter per <math>\text{\LaTeX}</math> table column, without <code>@</code>, <code>!</code>, <code>&gt;</code>, <code>&lt;</code>, or the vertical bar.</p>  |
| <code>\LWR@strresult</code>                   | <p>Holds the result of <code>Str</code> functions.</p> <pre>6674 \providecommand*\LWR@strresult{}\{} 6675 \providecommand*\LWR@strresulttwo{}\{}</pre>  |
| <code>\LWR@origcolspec</code>                 | <p>Holds the original column specs given to <code>tabular</code>.</p> <pre>6676 \newcommand*\LWR@origcolspec{}\{}</pre>   |
| Ctr <code>LWR@tablecolspecwidth</code>        | <p>Holds the number of tokens in the table columns specification.</p> <p>This includes one for each <code>@</code>, <code>!</code>, <code>&lt;</code>, <code>&gt;</code> column, and also one for each of the parameters of <code>p</code>, <code>@</code>, <code>!</code>, <code>&lt;</code>, <code>&gt;</code> columns, and three for each <code>D</code> column.</p> <p>(This is not the total # of <math>\text{\LaTeX}</math> columns in the table.)</p> <pre>6677 \newcounter{LWR@tablecolspecwidth}</pre> |
| Ctr <code>LWR@tablecolspecindex</code>        | <p>While parsing the <math>\text{\LaTeX}</math> table column specification, starts at 1 and is incremented per token of the specification.</p> <pre>6678 \newcounter{LWR@tablecolspecindex}</pre>   |
| Ctr <code>LWR@tableLaTeXcolindex</code>       | <p>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.</p> <pre>6679 \newcounter{LWR@tableLaTeXcolindex}</pre>  |
| Ctr <code>LWR@tablettotalLaTeXcols</code>     | <p>While parsing a table column specification, begins at 0 and increments by 1 per <math>\text{\LaTeX}</math> table column. Eventually holds the final number of <math>\text{\LaTeX}</math> table columns in each row, not counting <code>@</code> and <code>!</code> columns. (In <code>HTML</code>, <code>@</code> and <code>!</code> cells become their own columns, but are not included in <code>LWR@tablettotalLaTeXcols</code>.)</p> <pre>6680 \newcounter{LWR@tablettotalLaTeXcols}</pre>               |
| Ctr <code>LWR@tablettotalLaTeXcolsnext</code> | <p>Holds the next <math>\text{\LaTeX}</math> table column index while parsing, equal to one more than <code>LWR@tablettotalLaTeXcols</code>.</p> <pre>6681 \newcounter{LWR@tablettotalLaTeXcolsnext}</pre>  |

|                   |  |
|-------------------|--|
| LWR@colatspec     | A data array of specifications for @ columns. The leftmost's index is leftedge, the others are counter values. See section 42. |
| LWR@colbangspec   | A data array of specifications for ! columns. The leftmost's index is leftedge, the others are counter values. See section 42. |
| 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.   |

## 71.5 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](http://tex.stackexchange.com/questions/11638/where-do-i-find-futurelets-nasty-behaviour-documented/11860#11860)

\LWR@instertatbangcols

```

6682 \newcommand*{\LWR@insertatbangcols}{%
6683 \ifbool{\LWR@skipatbang}%
6684 {}%
6685 {%
6686   \LWR@printatbang{at}{\arabic{\LWR@tableLaTeXcolindex}}%
6687   \LWR@printatbang{bang}{\arabic{\LWR@tableLaTeXcolindex}}%
6688 }%
6689 }
```

\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.

```

6690 \newcommand*{\LWR@closetabledatacell}{%
6691 \LWR@stoppars%
6692 \global\booltrue{\LWR@intabularmetadata}%
6693 \ifbool{\LWR@exitingtabular}{}%
6694 {% not exiting tabular
6695   \ifboolexpr{bool{\LWR@skippingmrowcell} or bool{\LWR@skippingmcolrowcell}}%
6696   {%
```

If not skipping a \multicolumnrow cell, insert the @ and ! columns after this non-existent column.

```

6697   \ifbool{\LWR@skippingmcolrowcell}%
6698   {}%
```

```

6699          {\LWR@insertatbangcols}%
6700      }%
6701      {% not skippingmrowcell

```

Insert any < then any @ and ! column contents, unless muted for the \bottomrule or a \multicolumn:

```

6702      \unskip%
6703      \ifboolexpr{%
6704          bool{\LWR@tabularmutemods} or
6705          bool{\LWR@skipatbang} or
6706          bool{\LWR@emptyatbang}
6707      }%
6708      {%
6709      {\LWR@getexparray{\LWR@colafterspec}{\arabic{\LWR@tableLaTeXcolindex}}}%

```

Close paragraphs:

```

6710      \ifbool{\LWR@tableparcell}{\LWR@stoppars}{}%
6711      \global\boolfalse{\LWR@tableparcell}%

```

Close the table data cell.

Close any color <div>s.

```

6712      \whileboolexpr{test {\ifnumcomp{\value{\LWR@cellcolordepth}}{>}{0}}}{%
6713          \LWR@htmltag{/div}\LWR@orignewline%
6714          \addtocounter{\LWR@cellcolordepth}{-1}%
6715      }%

```

Skip the @ and ! cells if are closing a multicolumn cell.

```

6716      \leavevmode\unskip\LWR@htmltag{/td}\LWR@orignewline%
6717      \global\booltrue{\LWR@tabularcelladded}%
6718      \LWR@insertatbangcols%
6719      }% not skipping mrowcell
6720 }% not exiting tabular
6721 \global\boolfalse{\LWR@skippingmrowcell}%
6722 \global\boolfalse{\LWR@skippingmcolrowcell}%
6723 \global\boolfalse{\LWR@skipatbang}%

```

Color control. Column is set by >{} for each cell, so it must be cleared here.

```

6724 \gdef\LWR@cellHTMLcolor{}
6725 \gdef\LWR@columnHTMLcolor{}
6726 \setcounter{\LWR@cellcolordepth}{0}
6727 }

```

When not used inside a tabular, & performs its original function as recorded here ( with catcode 4 ).

```
6728 \let\LWR@origampmacro&
```

```
6729 \end{warpHTML}
```

### 71.5.1 Handling &

for HTML output: 6730 \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.

```
6731 \newcommand*{\LWR@tabularampersand}{%
6732 \LWR@traceinfo{\LWR@tabularampersand}%
6733 \ifnumcomp{\value{\LWR@tabulardepth}}{>}{0}%
6734 {%
```

If not skipping a multirow cell, close the current data cell.

```
6735 \unskip%
6736 \LWR@closetabledatacell%
```

Move to the next column.

```
6737 \addtocounter{\LWR@tableLaTeXcolindex}{1}%
```

Have not yet added data in this column:

```
6738 \global\boolfalse{\LWR@tabularcelladded}%
```

Look at the next token to decide multi or single column data tag.

```
6739 \LWR@getmynexttoken%
6740 }%
```

If not inside a tabular, performs the original action:

```
6741 {\LWR@origampmacro}%
6742 }
```

`&` 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.

### 71.5.2 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.

```
6743 \newcommand*{\LWR@tabularfinishrow}{%
```

If not exiting the `tabular`, or doing a rule, or have already started a row, finish this row:

```
6744 \ifbool{expr}{%
6745   not bool {LWR@exitingtabular} or%
6746   bool{LWR@doingtbrule} or%
6747   bool{LWR@doingcmidrule} or%
6748   test{\ifnumcomp{\value{LWR@hlines}}{>}{0}} or%
6749   test{\ifnumcomp{\value{LWR@hdashedlines}}{>}{0}} or%
6750   bool{LWR@startedrow}}%
6751 }{%
```

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:

```
6752 \ifbool{LWR@exitingtabular}{%
6753   \global\booltrue{LWR@tabularmutemods}%
6754 }{%
6755   \global\boolfalse{LWR@tabularmutemods}%
6756 }%
```

Locally reenables the table data tags until finished with the final row:

```
6757 \global\boolfalse{LWR@exitingtabular}%
```

Generate table data tags and ampersands until the right edge:

```

6758 \whileboolexpr{%
6759     test {
6760         \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{<}{\value{LWR@tabletotalLaTeXcols}}
6761     } or %
6762     (%
6763         bool{LWR@intabularmetadata} and%
6764         not bool{LWR@tabularcelladded} and%
6765         test {
6766             \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{=}{\value{LWR@tabletotalLaTeXcols}}
6767         }%
6768     )%
6769 }%
6770 {%
6771     \LWR@tabledatasinglecolumn%

```

The following is essentially `\LWR@tabularampersand` with `LWR@emptyatbang` added to empty the following cells:

```

6772     \LWR@closetabledatacell%
6773     \addtocounter{LWR@tableLaTeXcolindex}{1}%
6774     \global\boolfalse{LWR@tabularcelladded}%
6775     \global\booltrue{LWR@emptyatbang}%

```

Starts the next cell:

```

6776     \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{<}{\value{LWR@tabletotalLaTeXcols}}%
6777         {\LWR@getmynexttoken}%
6778     }%
6779 }%

```

Reenable the original `LWR@exitingtabular` to close the entire table:

```

6780 \ifbool{LWR@tabularmutemods}{%
6781     \global\booltrue{LWR@exitingtabular}%
6782 }{%
6783     \global\boolfalse{LWR@exitingtabular}%
6784 }%
6785 \global\boolfalse{LWR@tabularmutemods}%

6786 \global\boolfalse{LWR@emptyatbang}%
6787 }{}% ifboolexpr
6788 }

```

## 71.6 Handling \\

Inside tabular, \\ is redefined to \LWR@tabularendofline

Throws away options \\[dim] or \\\*

\LWR@tabularendofline

```
6789 \NewDocumentCommand{\LWR@tabularendofline}{s o}{%
```

Finish the row:

```
6790 \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{<}{\value{LWR@tabletotalLaTeXcols}}{%
6791     {\LWR@tabularfinishrow}%
6792     {\LWR@closetabledatacell}%
6793 \LWR@htmltag{/tr}\LWR@orignewline%
```

xcolor row color support:

```
6794 \@rowcolor%
```

No longer inside a data cell:

```
6795 \global\booltrue{LWR@intabularmetadata}%
```

Not yet started a table row:

```
6796 \global\boolfalse{LWR@startedrow}%
```

Additional setup:

```
6797 \setcounter{LWR@hlines}{0}%
6798 \setcounter{LWR@hdashedlines}{0}%
6799 \global\boolfalse{LWR@doingtbrule}%
6800 \global\boolfalse{LWR@doingcmidrule}%
6801 \LWR@clearmidrules%
6802 \gdef\LWR@rowHTMLcolor{%
```

Start at first column:

```
6803 \setcounter{LWR@tableLaTeXcolindex}{1}%
```

Have not yet added data in this column:

```
6804 \global\boolfalse{LWR@tabularcelladded}%
```

Allow T<sub>E</sub>X to flush the pending paragraph. Not doing so causes a slowdown for very large tables.

```
6805 \LWR@stoppars
6806 \LWR@origpar
```

Look at the next token to decide between single column data tag or a special case:

```
6807 \LWR@getmynexttoken%
6808 }
```

## 71.7 Looking ahead in the column specifications

```
\LWR@columnspeclookahead {\langle offset\rangle}
```

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}`.

```
6809 \newcommand*{\LWR@columnspeclookahead}[1]{%
6810 \setcounter{\LWR@tempcountone}{\value{\LWR@tablecolspecindex}}%
6811 \addtocounter{\LWR@tempcountone}{#1}%
6812 \fullexpandarg%
6813 \StrChar{\LWR@origcolspec}{\arabic{\LWR@tempcountone}}[\LWR@strresulttwo]%
```

Get the contents of the first group in `\LWR@strresulttwo`:

```
6814 \exploregroups%
6815 \StrChar{\LWR@strresulttwo}{1}[\LWR@strresulttwo]%
6816 \noexploregroups%
6817 }
```

## 71.8 Parsing @, >, <, !, bar columns

Holds the parsed argument for @, >, <, or ! columns:

```
6818 \newcommand*{\LWR@colparameter}{}
```

```
\LWR@parseatcolumn Handles @\text columns.
```

```
6819 \newcommand*{\LWR@parseatcolumn}{%
```

Move to the next token after the '@':

```
6820 \LWR@traceinfo{at column}%
6821 \addtocounter{LWR@tablecolspecindex}{1}%
```

Read the next token into \LWR@colparameter, expanding once:

```
6822 \LWR@traceinfo{about to read the next token:}%
6823 \expandarg%
6824 \StrChar{\LWR@origcolspec}%
6825     {\arabic{LWR@tablecolspecindex}}[\LWR@colparameter]
6826 \fullexpandarg%
```

Store the result into a data array, expanding once out of \LWR@colparameter:

```
6827 \LWR@traceinfo{have now read the next token}%
6828 \ifnumcomp{\value{LWR@tabletotalLaTeXcols}}{=}{0}%
6829 {% left edge of the table:
6830     \LWR@traceinfo{at the left edge}%
6831     \LWR@setexparray{LWR@colatspec}{leftedge}{\LWR@colparameter}%
6832     \LWR@traceinfo{at the left edge: %
6833     \LWR@getexparray{LWR@colatspec}{leftedge}}%
6834 }%
6835 {% not at the left edge:
6836     \LWR@traceinfo{not at the left edge}%
6837     \LWR@setexparray{LWR@colatspec}%
6838     {\arabic{LWR@tabletotalLaTeXcols}}{\LWR@colparameter}%
6839     \LWR@traceinfo{at \arabic{LWR@tabletotalLaTeXcols}: %
6840     \LWR@getexparray{LWR@colatspec}{\arabic{LWR@tabletotalLaTeXcols}}}%
6841 }%
6842 \let\LWR@colparameter\relax%
6843 \global\booltrue{LWR@validtablecol}%
6844 }
```

\LWR@parsebangcolumn Handles !{text} columns.

```
6845 \newcommand*{\LWR@parsebangcolumn}{%
```

Move to the next token after the '!':

```
6846 \LWR@traceinfo{bang column}%
6847 \addtocounter{LWR@tablecolspecindex}{1}%
```

Read the next token into \LWR@colparameter, expanding once:

```
6848 \LWR@traceinfo{about to read the next token:}%
6849 \expandarg%
```

```

6850 \StrChar{\LWR@origcolspec}%
6851     {\arabic{\LWR@tablecolspecindex}}[\LWR@colparameter]
6852 \fullexpandarg%

```

Store the result into a data array, expanding once out of \LWR@colparameter:

```

6853 \LWR@traceinfo{have now read the next token}%
6854 \ifnumcomp{\value{\LWR@tabletotalLaTeXcols}}{=}{0}%
6855 {% left edge of the table:
6856     \LWR@traceinfo{at the left edge}%
6857     \LWR@setexparray{\LWR@colbangspec}{\leftedge}{\LWR@colparameter}%
6858 }%
6859 {% not at the left edge:
6860     \LWR@traceinfo{not at the left edge}%
6861     \LWR@setexparray{\LWR@colbangspec}%
6862         {\arabic{\LWR@tabletotalLaTeXcols}}{\LWR@colparameter}%
6863     \LWR@traceinfo{bang \arabic{\LWR@tabletotalLaTeXcols}: \LWR@colparameter!}%
6864 }%
6865 \let\LWR@colparameter\relax%
6866 \global\booltrue{\LWR@validtablecol}%
6867 }

```

\LWR@parsebeforecolumn Handles >{text} columns.

```

6868 \newcommand*{\LWR@parsebeforecolumn}{%

```

Move to the next token after the '>':

```

6869 \addtocounter{\LWR@tablecolspecindex}{1}%

```

Read the next token, expanding once into \LWR@colparameter:

```

6870 \expandarg%
6871 \StrChar{\LWR@origcolspec}%
6872     {\arabic{\LWR@tablecolspecindex}}[\LWR@colparameter]%
6873 \fullexpandarg%

```

Store the result into a data array, expanding once out of \LWR@colparameter:

```

6874 \LWR@setexparray{\LWR@colbeforespec}%
6875     {\arabic{\LWR@tabletotalLaTeXcolsnext}}{\LWR@colparameter}%
6876 \let\LWR@colparameter\relax%
6877 \global\booltrue{\LWR@validtablecol}%
6878 }

```

\LWR@parseaftercolumn Handles <{text} columns.

```

6879 \newcommand*{\LWR@parseaftercolumn}{%

```

Move to the next token after the '<':

```
6880 \addtocounter{LWR@tablecolspecindex}{1}%
```

Read the next token, expanding once into \LWR@colparameter:

```
6881 \expandarg%
6882 \StrChar{\LWR@origcolspec}%
6883     {\arabic{LWR@tablecolspecindex}}[\LWR@colparameter]%
6884 \fullexpandarg%
```

Store the result into a data array, expanding once out of \LWR@colparameter:

```
6885 \LWR@setexparray{LWR@colafterspec}%
6886     {\arabic{LWR@tabletotalLaTeXcols}}{\LWR@colparameter}%
6887 \let\LWR@colparameter\relax%
6888 \global\booltrue{LWR@validtablecol}%
6889 }
```

\LWR@parsebarcolumn      Handles vertical rules.

```
6890 \newcommand*{\LWR@parsebarcolumn}{%
6891 \LWR@traceinfo{LWR@parsebarcolumn}%
```

Remember the bar at this position:

```
6892 \ifnumcomp{\value{LWR@tabletotalLaTeXcols}}{=}{0}%
6893 {% left edge of the table:
6894     \edef\LWR@tempone{\LWR@getexparray{LWR@colbarspec}{leftedge}}%
6895     \ifdefstring{\LWR@tempone}{tvertbarl}%
6896     {\LWR@setexparray{LWR@colbarspec}{leftedge}{tvertbarldouble}}%
6897     {\LWR@setexparray{LWR@colbarspec}{leftedge}{tvertbarl}}%
6898 }%
6899 {% not at the left edge:
6900     \edef\LWR@tempone{%
6901         \LWR@getexparray{LWR@colbarspec}{\arabic{LWR@tabletotalLaTeXcols}}%
6902     }%
6903     \ifdefstring{\LWR@tempone}{tvertbarr}%
6904     {%
6905         \LWR@setexparray{LWR@colbarspec}%
6906             {\arabic{LWR@tabletotalLaTeXcols}}{tvertbarrdouble}%
6907     }%
6908     {%
6909         \LWR@setexparray{LWR@colbarspec}%
6910             {\arabic{LWR@tabletotalLaTeXcols}}{tvertbarr}%
6911     }%
6912 }%
6913 \global\booltrue{LWR@validtablecol}%
```

6914 }

`\LWR@parsecoloncolumn`      Handles vertical rules.

```
6915 \newcommand*{\LWR@parsecoloncolumn}{%
6916 \LWR@traceinfo{\LWR@parsecoloncolumn}%
```

Remember the bar at this position:

```
6917 \ifnumcomp{\value{\LWR@tabletotalLaTeXcols}}{=}{0}%
6918 {% left edge of the table:
6919   \edef\LWR@tempone{\LWR@getexparray{\LWR@colbarspec}{leftedge}}%
6920   \ifdefstring{\LWR@tempone}{tvertbarldash}%
6921   {\LWR@setexparray{\LWR@colbarspec}{leftedge}{tvertbarldoubledash}}%
6922   {\LWR@setexparray{\LWR@colbarspec}{leftedge}{tvertbarldash}}%
6923 }%
6924 {% not at the left edge:
6925   \edef\LWR@tempone{%
6926     \LWR@getexparray{\LWR@colbarspec}{\arabic{\LWR@tabletotalLaTeXcols}}%
6927   }%
6928   \ifdefstring{\LWR@tempone}{tvertbarrdash}%
6929   {\LWR@setexparray{\LWR@colbarspec}%
6930     {\arabic{\LWR@tabletotalLaTeXcols}}{tvertbarrdoubledash}}%
6931   {\LWR@setexparray{\LWR@colbarspec}%
6932     {\arabic{\LWR@tabletotalLaTeXcols}}{tvertbarrdash}}%
6933 }%
6934 \global\booltrue{\LWR@validtablecol}%
6935 }
```

`\LWR@parsesemicoloncolumn`      Handles vertical rules.

```
6936 \newcommand*{\LWR@parsesemicoloncolumn}{%
```

Treat ; as a : column:

```
6937 \LWR@parsecoloncolumn%
```

Skip the following width token:

```
6938 \addtocounter{\LWR@tablecolspecindex}{1}%
6939 }
```

## 71.9 Parsing ‘l’, ‘c’, or ‘r’ columns

`\LWR@parsenormalcolumn`    `{\thiscolumn}`

Add to the accumulated column specs, advance counters, and pre-clear another column of at, before, and after specs.

```

6940 \newcommand*{\LWR@parsenormalcolumn}[1]{%
6941 \addtocounter{\LWR@tablettotalLaTeXcols}{1}%
6942 \addtocounter{\LWR@tablettotalLaTeXcolsnext}{1}%

6943 \LWR@setexparray{\LWR@tablecolspec}{\arabic{\LWR@tablettotalLaTeXcols}}{#1}%

6944 \LWR@traceinfo{normal column \arabic{\LWR@tablettotalLaTeXcols}: #1}%
6945 \LWR@setexparray{\LWR@colatspec}{\arabic{\LWR@tablettotalLaTeXcolsnext}}{}%
6946 \LWR@setexparray{\LWR@colbangspec}{\arabic{\LWR@tablettotalLaTeXcolsnext}}{}%
6947 \LWR@setexparray{\LWR@colbeforespec}{\arabic{\LWR@tablettotalLaTeXcolsnext}}{}%
6948 \LWR@setexparray{\LWR@colafterspec}{\arabic{\LWR@tablettotalLaTeXcolsnext}}{}%
6949 \LWR@setexparray{\LWR@colbarspec}{\arabic{\LWR@tablettotalLaTeXcolsnext}}{}%
6950 \global\booltrue{\LWR@validtablecol}%
6951 }
```

## 71.10 Parsing ‘p’, ‘m’, or ‘b’ columns

`\LWR@parsepcolumn` `{\<thiscolumn>}` The width will be ignored.

```

6952 \newcommand*{\LWR@parsepcolumn}[1]{%
```

Converts to the given column type:

```

6953 \LWR@parsenormalcolumn{#1}%
```

Skips the following width token:

```

6954 \addtocounter{\LWR@tablecolspecindex}{1}%
6955 }
```

## 71.11 Parsing ‘w’ columns

`\LWR@parsewcolumn` The width will be ignored.

```

6956 \newcommand*{\LWR@parsewcolumn}{%
```

```

6957 \LWR@columnspeclookahead{1}%
6958 \expandafter\LWR@parsenormalcolumn\expandafter{\LWR@strresulttwo}%
```

Table 10: Tabular baseline

|   |     |     |     |   |
|---|-----|-----|-----|---|
| l | p   | m   | b   | r |
|   |     |     | bot |   |
|   |     | mid | bot |   |
| l | par | mid | bot | r |
|   | par | mid |     |   |
|   | par |     |     |   |

Skips the following width and alignment tokens:

```
6959 \addtocounter{LWR@tablecolspecindex}{2}%
6960 }
```

71.12 Parsing ‘D’ columns

From the dcolumn package.

```
\LWR@parseDcolumn {<thiscolumn>} The three parameters will be ignored.
```

```
6961 \newcommand*{\LWR@parseDcolumn}[1]{%
```

Converts to the given column type.

```
6962 \LWR@parsenormalcolumn{#1}%
```

Skips the following three parameters.

```
6963 \addtocounter{LWR@tablecolspecindex}{3}%
6964 }
```

71.13 Parsing the column specifications


 **tabular baselines** HTML CSS cannot exactly match the  $\text{\LaTeX}$  concept of a baseline for a table row. Table 10 shows the  $\text{\LaTeX}$  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 11 for details.

Table 11 describes how each kind of column is converted to HTML.

Table 11: Tabular HTML column conversions

---

|                          |  |
|--------------------------|--|
| <b>l, r, c:</b>          | Converted to table cells without paragraph tags.<br>Uses css <code>vertical-align:middle</code> so that top or bottom-aligned cells may go above or below this cell.   |
| <b>p:</b>                | Converted to table cells with paragraph tags. Ref: Table 10, $\text{\LaTeX}$ 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 $\text{\LaTeX}$ baselines. |
| <b>m:</b>                | With paragraph tags, css <code>vertical-align:middle</code> .  |
| <b>b:</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.   |
| <b>P, M, B:</b>          | Horizontally-centered versions.  |
| <b>S:</b>                | Converted to 'r'. Ignores optional argument. From the <code>siunitx</code> package.  |
| <b>D:</b>                | Converted to 'c'. From the <code>dcolumn</code> package.   |
| <b>@, !, &gt;, &lt;:</b> | One each, in that order.   |
| <b> :</b>                | Vertical rule.   |
| <b>Unknown:</b>          | Converted to 'l'.  |
| <b>\newcolumn:</b>       | Currently treated as unknown.  |

---

Bool LWR@validtablecol True if found a valid table column type.

```
6965 \newbool{LWR@validtablecol}
```

Bool LWR@opttablecol True if found a table column optional argument.

```
6966 \newbool{LWR@opttablecol}
```

\LWR@parsetablecols  $\{\langle colspecs \rangle\}$

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.

```
6967 \newcommand*{\LWR@parsetablecols}[1]{%
6968 \LWR@traceinfo{\LWR@parsetablecols}%
```

Remember the original supplied column spec:

```
6969 \renewcommand*{\LWR@origcolspec}{#1}%
```

Remove spaces:

```
6970 \expandarg%
6971 \StrSubstitute{\LWR@origcolspec}{ }{ }[\LWR@origcolspec]%
```

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:

```
6972 \setcounter{LWR@tabletotalLaTeXcols}{0}%
6973 \setcounter{LWR@tabletotalLaTeXcolsnext}{1}%
6974 \LWR@setexparray{LWR@colatspec}{leftedge}{}%
6975 \LWR@setexparray{LWR@colatspec}{1}{}%
6976 \LWR@setexparray{LWR@colatspec}{2}{}%
6977 \LWR@setexparray{LWR@colatspec}{3}{}%
6978 \LWR@setexparray{LWR@colbangspec}{leftedge}{}%
6979 \LWR@setexparray{LWR@colbangspec}{1}{}%
6980 \LWR@setexparray{LWR@colbangspec}{2}{}%
6981 \LWR@setexparray{LWR@colbangspec}{3}{}%
6982 \LWR@setexparray{LWR@colbeforespec}{1}{}%
6983 \LWR@setexparray{LWR@colbeforespec}{2}{}%
```

```

6984 \LWR@setexparray{LWR@colbeforespec}{3}{}%
6985 \LWR@setexparray{LWR@colafterspec}{1}{}%
6986 \LWR@setexparray{LWR@colafterspec}{2}{}%
6987 \LWR@setexparray{LWR@colafterspec}{3}{}%
6988 \LWR@setexparray{LWR@colbarspec}{leftedge}{}%
6989 \LWR@setexparray{LWR@colbarspec}{1}{}%
6990 \LWR@setexparray{LWR@colbarspec}{2}{}%
6991 \LWR@setexparray{LWR@colbarspec}{3}{}%

```

Starting at the first column specification:

```

6992 \setcounter{LWR@tablecolspecindex}{1}%

```

Place the colspecs string length into \LWR@strresult, and remember the number of characters in the column specification:

```

6993 \expandarg%
6994 \StrLen{LWR@origcolspec}[LWR@strresult]%
6995 \fullexpandarg%
6996 \LWR@traceinfo{original column spec length: LWR@strresult}%
6997 \setcounter{LWR@tablecolspecwidth}{LWR@strresult}%

```

Haven't seen any optional arguments so far

```

6998 \global\boolfalse{LWR@opttablecol}%

```

Scan through the column specifications:

```

6999 \whileboolexpr{%
7000   not test{%
7001     \ifnumcomp{\value{LWR@tablecolspecindex}}{>}%
7002       {\value{LWR@tablecolspecwidth}}}%
7003   }%
7004 }%
7005 {%

```

Place the next single-character column type into \LWR@strresult:

```

7006 \expandarg%
7007 \StrChar{LWR@origcolspec}{\arabic{LWR@tablecolspecindex}}[LWR@strresult]%
7008 \LWR@traceinfo{position \arabic{LWR@tablecolspecindex}: LWR@strresult}%
7009 \fullexpandarg%

```

Not yet found a valid column type:

```

7010 \global\boolfalse{LWR@validtablecol}%

```

Skip over any optional arguments, such as siunitx S column:

```
7011 \IfStrEq{\LWR@strresult}{[]}{\global\booltrue{\LWR@opttablecol}}{ }%
```

Throw away anything found inside the optional argument:

```
7012 \ifbool{\LWR@opttablecol}%
7013 {}% inside an optional argument
7014 {}% not an optional tabular argument
```

Not inside an optional argument, so consider the column type:

```
7015 \IfStrEq{\LWR@strresult}{l}{\LWR@parsenormalcolumn{l}}{ }%
7016 \IfStrEq{\LWR@strresult}{c}{\LWR@parsenormalcolumn{c}}{ }%
7017 \IfStrEq{\LWR@strresult}{r}{\LWR@parsenormalcolumn{r}}{ }%
7018 \IfStrEq{\LWR@strresult}{L}{\LWR@parsenormalcolumn{l}}{ }%
7019 \IfStrEq{\LWR@strresult}{C}{\LWR@parsenormalcolumn{c}}{ }%
7020 \IfStrEq{\LWR@strresult}{R}{\LWR@parsenormalcolumn{r}}{ }%
7021 \IfStrEq{\LWR@strresult}{J}{\LWR@parsenormalcolumn{l}}{ }%

7022 \IfStrEq{\LWR@strresult}{S}{\LWR@parsenormalcolumn{c}}{ }%
7023 \IfStrEq{\LWR@strresult}{s}{\LWR@parsenormalcolumn{c}}{ }%

7024 \IfStrEq{\LWR@strresult}{\detokenize{@}}{\LWR@parseatcolumn}{ }%
7025 \IfStrEq{\LWR@strresult}{!}{\LWR@parsebangcolumn}{ }%
7026 \IfStrEq{\LWR@strresult}{>}{\LWR@parsebeforecolumn}{ }%
7027 \IfStrEq{\LWR@strresult}{<}{\LWR@parseaftercolumn}{ }%
7028 \IfStrEq{\LWR@strresult}{|}{\LWR@parsebarcolumn}{ }%
7029 \IfStrEq{\LWR@strresult}{:}{\LWR@parsecoloncolumn}{ }%
7030 \IfStrEq{\LWR@strresult}{;}{\LWR@parsesemicoloncolumn}{ }%

7031 \IfStrEq{\LWR@strresult}{p}{\LWR@parsepcolumn{p}}{ }%
7032 \IfStrEq{\LWR@strresult}{m}{\LWR@parsepcolumn{m}}{ }%
7033 \IfStrEq{\LWR@strresult}{b}{\LWR@parsepcolumn{b}}{ }%

7034 \IfStrEq{\LWR@strresult}{w}{\LWR@parsewcolumn}{ }%
7035 \IfStrEq{\LWR@strresult}{W}{\LWR@parsewcolumn}{ }%
```

From the dcolumn package:

```
7036 \IfStrEq{\LWR@strresult}{D}{\LWR@parseDcolumn{c}}{ }%
```

From the tabularx package. X column has no parameter, but will be given paragraph tags.

```
7037 \IfStrEq{\LWR@strresult}{X}{\LWR@parsenormalcolumn{X}}{ }%
```

---

Many people define centered versions “P”, “M”, and “B”:

---

```
\newcolumnntype{P}[1]{>\centering\arraybackslashp{#1}}
```

---

```
7038 \IfStrEq{\LWR@strresult}{P}{\LWR@parsepcolumn{P}}{}%
7039 \IfStrEq{\LWR@strresult}{M}{\LWR@parsepcolumn{M}}{}%
7040 \IfStrEq{\LWR@strresult}{B}{\LWR@parsepcolumn{B}}{}%
```

If this column was an invalid column type, convert it to an 1 column:

```
7041 \ifbool{LWR@validtablecol}{}%
7042     \LWR@traceinfo{invalid column type: \LWR@strresult}%
7043     \LWR@parsenormalcolumn{1}%
7044 }%
7045 }% not an optional column argument
```

If read the closing bracket, no longer inside the optional argument:

```
7046 \IfStrEq{\LWR@strresult}{}}{\global\boolfalse{LWR@opttablecol}}{}%
```

Move to the next character:

```
7047 \addtocounter{LWR@tablecolspecindex}{1}%
7048 }% whiledo
7049 }%
```

## 71.14 colortbl and xparse 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.

```
7050 \@ifundefined{rownum}{\newcount\rownum}{}
```

`\@rowcolors` Emulated in case xcolor is not used.

```
7051 \newcommand*{\@rowcolors}{}%
```

```
7052 \newcommand*{\@rowc@lors}{}
```

```
7053 \newcommand*{\LWR@xcolorrowHTMLcolor}{{}
```

```
7054 \def\LWR@columnHTMLcolor{}
```

```
7055 \def\LWR@rowHTMLcolor{}
```

```
7056 \def\LWR@cellHTMLcolor{}
```

```
7057 \newcommand*{\LWR@ruleHTMLcolor}{}

```

```
7058 \newcommand*{\rowcolor}{\LWR@getmynexttoken}%
```

$$\backslash arrayrulecolornexttoken \quad [\langle model \rangle] \{ \langle color \rangle \}$$

```
7059 \newcommand{\arrayrulecolor}[2][named]{}
```

```
7060 \newcommand{\arrayrulecolornexttoken}[2][named]{\LWR@getmynexttoken}
```

`\doublerulesepcolor` [*model*] {*color*}

`\doublerulesepcolornexttoken` [*model*] {*color*}

Print versions for use inside and outside a tabular:

```
7061 \newcommand{\doublerulesepcolor}[2][named]{}
7062 \newcommand{\doublerulesepcolornexttoken}[2][named]{\LWR@getmynexttoken}
```

## 71.15 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.

```
7063 \newcommand*{\LWR@maybenewtablerow}
7064 {%
7065 \ifbool{\LWR@startedrow}%
7066 {}% started the row
7067 {% not started the row
```

Remember that now have started the row:

```
7068 \global\booltrue{\LWR@startedrow}%
```

Create the row tag, with a class if necessary.

```
7069 \global\booltrue{\LWR@intabularmetadata}%
7070 \ifbool{expr}%
7071 test{\ifnumcomp{\value{\LWR@hlines}}{>}{0}} or%
7072 test{\ifnumcomp{\value{\LWR@hdashedlines}}{>}{0}}%
7073 }%
7074 {%
7075 \LWR@htmltag{tr class="hline" }%
7076 \LWR@orignewline%
7077 }%
7078 {% not doing hline
7079 \ifbool{\LWR@doingtbrule}%
7080 {%
7081 \ifvoid{\LWR@ruleHTMLcolor}%
7082 \LWR@htmltag{tr class="tbrule"}%
7083 }{%
7084 \LWR@htmltag{%
7085 tr class="tbrule" % space
7086 style="border-top: 1px solid % space
7087 \LWR@origpound\LWR@ruleHTMLcolor "%
7088 }%
7089 }%
7090 \LWR@orignewline%
```

```

7091      }%
7092      {\LWR@htmltag{tr}\LWR@orignewline}%
7093      }% end of not doing hline
7094 }% end of not started the row
7095 }

```

## 71.16 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.

```

7096 \newcommand*{\LWR@printbartag}[1]{%
7097 \LWR@traceinfo{\LWR@printbartag !#1!}%
7098 \ifboolexpr{bool{\LWR@tabularmutemods} or bool{\LWR@emptyatbang}}{%
7099 {}% muting or empty
7100 {% not muting
7101     \edef\LWR@tempone{\LWR@getexparray{\LWR@colbarspec}{#1}}%
7102     \ifdefempty{\LWR@tempone}{ }\LWR@tempone}%
7103 }% not muting
7104 \LWR@traceinfo{\LWR@printbartag done}%
7105 }

```

## 71.17 Printing at or bang tags

`\LWR@printatbang`  $\{\langle at-or-bang \rangle\} \{\langle index \rangle\}$

```

7106 \newcommand*{\LWR@printatbang}[2]{%

```

Fetch the column at or bang spec:

```

7107 \xdef\LWR@atbangspec{\LWR@getexparray{\LWR@col#1spec}{#2}}%
7108 \LWR@traceinfo{atbang: #2 !\LWR@atbangspec!}%

```

Only generate if is not empty;

```

7109 \ifdefempty{\LWR@atbangspec}%
7110 {}%
7111 {% not empty
7112     \LWR@htmltag{%
7113         td class="td#1%
7114             \LWR@subaddcmidruletrim{}{}%
7115             \LWR@printbartag{#2}%

```

```

7116      "%
7117      \LWR@tdstartstyles%
7118      \LWR@addcmidrulewidth%
7119      \LWR@addcdashline%
7120      \LWR@addtabularrulecolors%
7121      \LWR@tdendstyles%
7122  }%

```

Create an empty cell if muting for the `\bottomrule`:

```

7123  \ifboolexpr{bool{LWR@tabularmutemods} or bool{LWR@emptyatbang}}%
7124  {}%
7125  {\LWR@atbangspec}%
7126 %
7127  \LWR@htmltag{/td}\LWR@orignewline%
7128  \global\booltrue{LWR@tabularcelladded}%
7129 }% not empty
7130 }%

```

`\LWR@addleftmostbartag`

```

7131 \newcommand*{\LWR@addleftmostbartag}{%
7132 \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{=}{1}{%
7133   \LWR@printbartag{leftedge}%
7134 }{}%
7135 }

```

`\LWR@tabularleftedge`

```

7136 \newcommand*{\LWR@tabularleftedge}{%
7137 \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{=}{1}%
7138 {%
7139   \LWR@printatbang{at}{leftedge}%
7140   \LWR@printatbang{bang}{leftedge}%
7141 }% left edge
7142 {}% not left edge
7143 }

```

## 71.18 Data opening tag

`\LWR@thiscolspec` Temporary storage.

```

7144 \newcommand*{\LWR@thiscolspec}{}

```

`\LWR@tabledatasinglecolumnntag` Print a table data opening tag with style for alignment and color.

```
7145 \newcommand*{\LWR@tabledatasinglecolumnntag}%
7146 {%
7147 \LWR@traceinfo{\LWR@tabledatasinglecolumnntag}%
7148 \LWR@maybe newtable row%
```

Don't start a new paragraph tag if have already started one:

```
7149 \ifbool{\LWR@intabularmetadata}%
7150 {%
```

If have found the end of tabular command, do not create the next data cell:

```
7151 \ifbool{\LWR@exitingtabular}{}%
7152 {% not exiting tabular
```

Print the @ and ! contents before first column:

```
7153 \LWR@tabularleftedge%
```

Fetch the current column's alignment character into `\LWR@strresult`:

```
7154 \xdef\LWR@strresult{%
7155 \LWR@getexparray{\LWR@tablecolspec}{\arabic{\LWR@tableLaTeXcolindex}}%
7156 }%
```

print the start of a new table data cell:

```
7157 \LWR@traceinfo{\LWR@tabledatasinglecolumnntag: about to print td tag}%
7158 \LWR@htmltag{td class="td%
```

append this column's spec:

```
7159 \LWR@strresult%
```

If this column has a `cmidrule`, add “rule” to the end of the HTML class tag. Also add vertical bar tags.

```
7160 \LWR@addcmidruletrim%
7161 \LWR@addleftmostbartag%
7162 \LWR@printbartag{\arabic{\LWR@tableLaTeXcolindex}}%
7163 "%
```

Add styles for rules, alignment:

```
7164 \LWR@tdstartstyles%
```

```

7165      \LWR@addcmidrulewidth%
7166      \LWR@addcdashline%

7167      \xdef\LWR@thiscolspec{%
7168          \LWR@getexparray{LWR@tablecolspec}{\arabic{LWR@tableLaTeXcolindex}}%
7169      }%
7170      \LWR@addformatwppalignment{\LWR@thiscolspec}%

```

Add styles for cell and rule colors:

```

7171      \LWR@addtabulararrowcolor%
7172      \LWR@addtabularrulecolors%

7173      \LWR@tdendstyles%
7174      }% HTML td
7175      \LWR@traceinfo{LWR@tabledatasinglecolumn tag: done printing td tag}%

```

If this is a p, m, b, or X column, allow paragraphs:

```

7176      \ifboolexpr{%
7177          test{ \ifdefstring{\LWR@strresult}{p} } or
7178          test{ \ifdefstring{\LWR@strresult}{m} } or
7179          test{ \ifdefstring{\LWR@strresult}{b} } or
7180          test{ \ifdefstring{\LWR@strresult}{P} } or
7181          test{ \ifdefstring{\LWR@strresult}{M} } or
7182          test{ \ifdefstring{\LWR@strresult}{B} } or
7183          test{ \ifdefstring{\LWR@strresult}{X} }
7184      }%
7185      {% allow pars
7186          \LWR@traceinfo{LWR@tabledatasinglecolumn tag: about to LWR@startpars}%
7187          \global\booltrue{LWR@tableparcell}%
7188          \LWR@startpars%
7189          \LWR@traceinfo{LWR@tabledatasinglecolumn tag: done with LWR@startpars}%
7190      }% allow pars
7191      }% no pars

```

Print the > contents unless muted for the \bottomrule:

```

7192      \ifboolexpr{bool{LWR@tabularmutemods} or bool{LWR@emptyatbang}}%
7193      {%
7194          {%
7195              \LWR@getexparray{LWR@colbefore spec}{\arabic{LWR@tableLaTeXcolindex}}%
7196          }%
7197          \global\boolfalse{LWR@intabularmetadata}%
7198      }% not exiting tabular
7199  }{}% in tabular metadata
7200  \LWR@traceinfo{LWR@tabledatasinglecolumn tag: done}%
7201  }%

```

## 71.19 Midrules

**LWR@midrules** LWR@midrules is a data array (section 42) 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 42) of columns containing 1 if a midrule should be left trimmed for each column.

**LWR@trimrrules** LWR@trimrrules is a data array (section 42) of columns containing r if a midrule should be right trimmed for each column.

**LWR@cdashlines** LWR@cdashlines is a data array (section 42) of columns each containing a Y if an arydshln package "cdashed line" should be created for this column.

**Ctr LWR@midrulecounter** Indexes across the LWR@midrules and LWR@trim<l/r>rules data arrays.

7202 \newcounter{LWR@midrulecounter}

**Len \LWR@heavyrulewidth** The default width of the rule.

7203 \newlength{\LWR@heavyrulewidth}

7204 \setlength{\LWR@heavyrulewidth}{.08em}

**Len \LWR@lightrulewidth** The default width of the rule.

7205 \newlength{\LWR@lightrulewidth}

7206 \setlength{\LWR@lightrulewidth}{.05em}

**Len \LWR@cmidrulewidth** The default width of the rule.

7207 \newlength{\LWR@cmidrulewidth}

7208 \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.

7209 \newlength{\LWR@thiscmidrulewidth}

7210 \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.

7211 \newcommand\*{\LWR@clearmidrules}

```

7212 {%
7213 \setcounter{LWR@midrulecounter}{1}%
7214 \whilebool{expr{%
7215     not test{%
7216         \ifnumcomp{\value{LWR@midrulecounter}}{>}%
7217             {\value{LWR@tablettotalLaTeXcols}}%
7218     }%
7219 }%
7220 {%
7221     \LWR@setexparray{LWR@midrules}{\arabic{LWR@midrulecounter}}{Opt}%
7222     \setlength{\LWR@thiscmidrulewidth}{\LWR@cmidrulewidth}%
7223     \LWR@setexparray{LWR@trimlrules}{\arabic{LWR@midrulecounter}}{}%
7224     \LWR@setexparray{LWR@trimrrules}{\arabic{LWR@midrulecounter}}{}%
7225     \LWR@setexparray{LWR@cdashlines}{\arabic{LWR@midrulecounter}}{N}%
7226     \addtocounter{LWR@midrulecounter}{1}%
7227 }%
7228 }

```

`\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.

```

7229 \newcommand*{\LWR@subcmidrule}[4]{%
7230 \setcounter{LWR@midrulecounter}{#3}%
7231 \whilebool{expr{%
7232     not test {%
7233         \ifnumcomp{\value{LWR@midrulecounter}}{>}{#4}%
7234     }%
7235 }%
7236 {%
7237     \LWR@setexparray{LWR@midrules}{\arabic{LWR@midrulecounter}}{#1}%
7238     \addtocounter{LWR@midrulecounter}{1}%
7239 }% whiledo
7240 \IfSubStr{#2}{l}{\LWR@setexparray{LWR@trimlrules}{#3}{l}}{}%
7241 \IfSubStr{#2}{r}{\LWR@setexparray{LWR@trimrrules}{#4}{r}}{}%
7242 \global\booltrue{LWR@doingcmidrule}%
7243 }

```

`\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.

```

7244 \NewDocumentCommand{\LWR@docmidrule}

```

```

7245 {0{\LWR@cmidrulewidth} D(){} >\SplitArgument{1}{-}}m}
7246 {\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.

```

7247 \newcommand*{\LWR@subcdashline}[2]{%
7248 \setcounter{LWR@midrulecounter}{#1}%
7249 \whileboolexpr{%
7250     not test {%
7251         \ifnumcomp{\value{LWR@midrulecounter}}{>}{#2}%
7252     }%
7253 }%
7254 {%
7255     \LWR@setexparray{LWR@cdashlines}{\arabic{LWR@midrulecounter}}{Y}%
7256     \addtocounter{LWR@midrulecounter}{1}%
7257 }% whiledo
7258 \global\booltrue{LWR@doingcmidrule}%
7259 }

```

`\LWR@docdashline`  $\{\langle leftcolumn-rightcolumn \rangle\}$

Marks LWR@cdashlines data array elements to be Y from left to right columns.

```

7260 \NewDocumentCommand{\LWR@docdashline}
7261 {>\SplitArgument{1}{-}}m}%
7262 {%
7263     \LWR@subcdashline#1%
7264 }

```

Used to compute margins, tabular trims, column offsets:

```

7265 \newlength{\LWR@templengthone}
7266 \newlength{\LWR@templengthtwo}
7267 \newlength{\LWR@templengththree}
7268 \newcounter{LWR@tempcountone}

```

Used to add a style to a table data cell:

```

7269 \newbool{LWR@tdhavecellstyle}

```

`\LWR@tdstartstyles` Begins possibly adding a table data cell style.

```
7270 \newcommand*{\LWR@tdstartstyles}{\global\boolfalse{\LWR@tdhavecellstyle}}
```

`\LWR@tdaddstyle` Starts adding a table data cell style.

```
7271 \newcommand*{\LWR@tdaddstyle}{%
7272 \ifbool{\LWR@tdhavecellstyle}%
7273 {; }%
7274 { style="%}
7275 \booltrue{\LWR@tdhavecellstyle}%
7276 }
```

`\LWR@tdendstyles` Finishes possibly adding a table data cell style. Prints the closing quote.

```
7277 \newcommand*{\LWR@tdendstyles}{%
7278 \ifbool{\LWR@tdhavecellstyle}{%
7279     "%
7280     \global\boolfalse{\LWR@tdhavecellstyle}%
7281 }{}%
7282 }
```

`\LWR@subaddcmidruletrim` `{\lefttrim}` `{\righttrim}` Adds a `\cmidrule` with optional trim.

```
7283 \newcommand*{\LWR@subaddcmidruletrim}[2]{%
7284 \setlength{\LWR@templengthone}{%
7285     \LWR@getexparray{\LWR@midrules}{\arabic{\LWR@tableLaTeXcolindex}}}%
7286 }%
7287 \ifdimcomp{\LWR@templengthone}{>}{0pt}%
7288 {%
```

Print the class with left and right trim letters appended:

```
7289     \LWR@origtilde tdrule#1#2%
```

Remember the width of the rule:

```
7290     \setlength{\LWR@thiscmidrulewidth}{\LWR@templengthone}%
7291 }%
7292 {%
7293     \setlength{\LWR@thiscmidrulewidth}{0pt}%
7294 }%
7295 }
```

`\LWR@addcmidruletrim` Adds left or right trim to a `\cmidrule`.

```
7296 \newcommand*{\LWR@addcmidruletrim}{%
7297 \LWR@subaddcmidruletrim%
```

```

7298 {\LWR@getexparray{\LWR@trimlrules}{\arabic{\LWR@tableLaTeXcolindex}}}%
7299 {\LWR@getexparray{\LWR@trimrrules}{\arabic{\LWR@tableLaTeXcolindex}}}%
7300 }

```

`\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`.

```

7301 \newcommand{\LWR@addrulewidth}[2]{%

```

Only add a custom width if `thiswidth` is different than the `defaultwidth`, or if a color is being used:

```

7302 \ifboolexpr{%
7303     test{\ifdimcomp{#1}{=}{Opt}} or
7304     (
7305         ( test{\ifdimcomp{#1}{=}{#2}} and not bool{FormatWP} )
7306         and ( test {\ifdefvoid{\LWR@ruleHTMLcolor}} )
7307     )
7308 }%
7309 {}% default width and color
7310 {% custom width and/or color

```

Ensure that the width is wide enough to display in the browser:

```

7311     \LWR@forceminwidth{#1}%

```

Begin adding another style:

```

7312     \LWR@tdaddstyle%

```

The style itself:

```

7313     border-top:\LWR@printlength{\LWR@atleastonept} solid %

```

If default gray, the darkness of the color depends on the thickness of the rule:

```

7314     \ifdefvoid{\LWR@ruleHTMLcolor}{%
7315         \ifdimcomp{#1}{<}{\LWR@lightrulewidth}%
7316         {\LWR@origpound{AOA0A0}}%
7317         {% lightrule or heavier
7318             \ifdimcomp{#1}{<}{\LWR@heavyrulewidth}%
7319             {\LWR@origpound{808080}}%
7320             {black}%

```

```

7321      }% lightrule or heavier
7322      }{%
7323      \LWR@origpound\LWR@ruleHTMLcolor%
7324      }
7325 }% custom width and/or color
7326 }

```

`\LWR@addcmidrulewidth` Adds a style for the rule width.

Must be placed between `\LWR@tdstartstyles` and `\LWR@tdendstyles`.

```

7327 \newcommand{\LWR@addcmidrulewidth}{%
7328 \LWR@addrulewidth{\LWR@thiscmidrulewidth}{\LWR@cmidrulewidth}%
7329 }

```

`\LWR@addcdashline` Must be placed between `\LWR@tdstartstyles` and `\LWR@tdendstyles`.

```

7330 \newcommand{\LWR@addcdashline}{%
7331 \edef\LWR@tempone{%
7332 \LWR@getexparray{\LWR@cdashlines}{\arabic{\LWR@tableLaTeXcolindex}}}%
7333 }%
7334 \ifdefstring{\LWR@tempone}{Y}{%
7335 \LWR@tdaddstyle%
7336 border-top: 1pt dashed %
7337 \ifdefvoid{\LWR@ruleHTMLcolor}%
7338 {black}%
7339 {\LWR@origpound\LWR@ruleHTMLcolor}%
7340 }{}%
7341 }

```

`\LWR@WPcell` `{\langle text-align \rangle}{\langle vertical-align \rangle}`

```

7342 \newcommand*{\LWR@WPcell}[2]{%
7343 \LWR@tdaddstyle%
7344 \LWR@print@mbbox{text-align:#1}; \LWR@print@mbbox{vertical-align:#2}%
7345 }

```

`\LWR@addformatwpalignment` If `FormatWP`, adds a style for the alignment.

Must be placed between `\LWR@tdstartstyles` and `\LWR@tdendstyles`.

```

7346 \newcommand*{\LWR@addformatwpalignment}[1]{%
7347 \ifbool{FormatWP}{%
7348 \IfSubStr{#1}{l}{\LWR@WPcell{left}{middle}}{}%
7349 \IfSubStr{#1}{c}{\LWR@WPcell{center}{middle}}{}%
7350 \IfSubStr{#1}{r}{\LWR@WPcell{right}{middle}}{}%

```

```

7351 \IfSubStr{#1}{p}{\LWR@WPcell{left}{bottom}}{}%
7352 \IfSubStr{#1}{m}{\LWR@WPcell{left}{middle}}{}%
7353 \IfSubStr{#1}{b}{\LWR@WPcell{left}{top}}{}%
7354 \IfSubStr{#1}{P}{\LWR@WPcell{center}{bottom}}{}%
7355 \IfSubStr{#1}{M}{\LWR@WPcell{center}{middle}}{}%
7356 \IfSubStr{#1}{B}{\LWR@WPcell{center}{top}}{}%
7357 }{}%
7358 }

```

## 71.20 Cell colors

`\LWR@addtabulararrowcolor` Adds a cell's row color style, if needed.

No color is added for the final row of empty cells which finishes each tabular.

```

7359 \newcommand*{\LWR@addtabulararrowcolor}{%
7360 \ifbool{LWR@tabularmutemods}{}{%
7361   \ifdefvoid{\LWR@rowHTMLcolor}{%
7362     \ifdefvoid{\LWR@xcolorrowHTMLcolor}{}%
7363     {% xcolor row color
7364       \LWR@tdaddstyle%
7365       background:\LWR@origpound\LWR@xcolorrowHTMLcolor%
7366     }%
7367   }%
7368   {% explicit row color
7369     \LWR@tdaddstyle%
7370     background:\LWR@origpound\LWR@rowHTMLcolor%
7371   }%
7372 }%
7373 }

```

`\LWR@addtabularhrulecolor` Adds a cell's horizontal rule color style, if needed.

```

7374 \newcommand*{\LWR@addtabularhrulecolor}{%

```

If either form of horizontal rule is requested:

```

7375 \ifbool{LWR@hr}%
7376   test{\ifnumcomp{\value{LWR@hlines}}{>}{0}} or%
7377   test{\ifnumcomp{\value{LWR@hdashedlines}}{>}{0}} or%
7378   bool{LWR@doingtbrule}%
7379 }{}%

```

If there is a no custom color:

```

7380 \ifdefvoid{\LWR@ruleHTMLcolor}%
7381 {%
7382     \ifnumcomp{\value{\LWR@hlines}}{>}{1}%
7383     {%
7384         \LWR@tdaddstyle%
7385         border-top: 4px double%
7386     }{% else
7387     \ifnumcomp{\value{\LWR@hdashedlines}}{>}{1}%
7388     {%
7389         \LWR@tdaddstyle%
7390         border-top: 2px dashed%
7391     }{% else
7392     \ifnumcomp{\value{\LWR@hdashedlines}}{=}{1}%
7393     {%
7394         \LWR@tdaddstyle%
7395         border-top: 1px dashed%
7396     }{}}}%

```

If no color and not doubled or dashed, then add nothing, since a simpler rule is the default.

```

7397 }%

```

If there is a custom color:

```

7398 {%
7399     \ifnumcomp{\value{\LWR@hlines}}{>}{1}%
7400     {%
7401         \LWR@tdaddstyle%
7402         border-top: 4px double \LWR@origpound\LWR@ruleHTMLcolor%
7403     }{% else
7404     \ifnumcomp{\value{\LWR@hdashedlines}}{>}{1}%
7405     {%
7406         \LWR@tdaddstyle%
7407         border-top: 2px dashed \LWR@origpound\LWR@ruleHTMLcolor%
7408     }{% else
7409     \ifnumcomp{\value{\LWR@hdashedlines}}{=}{1}%
7410     {%
7411         \LWR@tdaddstyle%
7412         border-top: 1px dashed \LWR@origpound\LWR@ruleHTMLcolor%
7413     }{% else
7414         \LWR@tdaddstyle%
7415         border-top: 1px solid \LWR@origpound\LWR@ruleHTMLcolor%
7416     }}}}
7417 }%
7418 }{}%
7419 }

```

`\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.

```
7420 \newcommand*{\LWR@addtabularrulecolors}{%
```

Custom horizontal rule color:

```
7421 \LWR@addtabularhrulecolor%
```

No vertical rules if finishing the tabular with a row of empty cells:

```
7422 \ifbool{\LWR@tabularmutemods}{}{%
```

If at the leftmost cell, possibly add a leftmost vertical rule:

```
7423 \ifnumequal{\value{\LWR@tableLaTeXcolindex}}{1}{%
```

Fetch the left edge's vertical bar specification:

```
7424 \edef\LWR@tempone{\LWR@getexparray{\LWR@colbarspec}{leftedge}}%
```

Add a custom style if a vertical bar was requested:

```
7425 \ifdefstring{\LWR@tempone}{tvertbarl}{%
7426     \LWR@tdaddstyle%
7427     border-left: 1px solid % space
7428     \LWR@origpound\LWR@vertruleHTMLcolor%
7429 }{}%
7430 \ifdefstring{\LWR@tempone}{tvertbarldouble}{%
7431     \LWR@tdaddstyle%
7432     border-left: 4px double % space
7433     \LWR@origpound\LWR@vertruleHTMLcolor%
7434 }{}%
7435 \ifdefstring{\LWR@tempone}{tvertbarldash}{%
7436     \LWR@tdaddstyle%
7437     border-left: 1px dashed % space
7438     \LWR@origpound\LWR@vertruleHTMLcolor%
7439 }{}%
7440 \ifdefstring{\LWR@tempone}{tvertbarldoubledash}{%
7441     \LWR@tdaddstyle%
7442     border-left: 2px dashed % space
7443     \LWR@origpound\LWR@vertruleHTMLcolor%
7444 }{}%
7445 }{}%
```

Possibly add a right vertical rule for this cell:

```
7446 \edef\LWR@tempone{%
7447     \LWR@getexparray{\LWR@colbarspec}{\arabic{\LWR@tableLaTeXcolindex}}%
```

```

7448 }%
7449 \ifdefstring{\LWR@tempone}{tvertbarr}{%

```

Add a custom style if a vertical bar was requested:

```

7450 \LWR@tdaddstyle%
7451 border-right: 1px solid \LWR@origpound\LWR@vertruleHTMLcolor%
7452 }{}%
7453 \ifdefstring{\LWR@tempone}{tvertbarrdouble}{%
7454 \LWR@tdaddstyle%
7455 border-right: 4px double \LWR@origpound\LWR@vertruleHTMLcolor%
7456 }{}%
7457 \ifdefstring{\LWR@tempone}{tvertbarrdash}{%
7458 \LWR@tdaddstyle%
7459 border-right: 1px dashed \LWR@origpound\LWR@vertruleHTMLcolor%
7460 }{}%
7461 \ifdefstring{\LWR@tempone}{tvertbarrdoubledash}{%
7462 \LWR@tdaddstyle%
7463 border-right: 2px dashed \LWR@origpound\LWR@vertruleHTMLcolor%
7464 }{}%
7465 }%
7466 }

```

Ctr LWR@cellcolordepth Counts how many cell color <div>s were added to the current tabular data cell.

```

7467 \newcounter{\LWR@cellcolordepth}

```

\LWR@subaddtabularcellcolor {<HTML color>}

```

7468 \newcommand*{\LWR@subaddtabularcellcolor}[1]{%
7469 \LWR@htmltag{div class="cellcolor" style="%
7470 background:\LWR@origpound{}{}#1 %
7471 " }%
7472 \addtocounter{\LWR@cellcolordepth}{1}%
7473 }

```

\LWR@addtabularcellcolor Adds a cell color style, if needed.

```

7474 \newcommand*{\LWR@addtabularcellcolor}{%
7475 \ifdefvoid{\LWR@cellHTMLcolor}%
7476 {%
7477 \ifdefvoid{\LWR@rowHTMLcolor}%
7478 {%
7479 \ifdefvoid{\LWR@xcolorrowHTMLcolor}%
7480 {%
7481 \ifdefvoid{\LWR@columnHTMLcolor}%
7482 {}%

```

```

7483         {\LWR@subadddtabularcellcolor{\LWR@columnHTMLcolor}}}%
7484     }%
7485     {\LWR@subadddtabularcellcolor{\LWR@xcolorrowHTMLcolor}}}%
7486 }%
7487 {\LWR@subadddtabularcellcolor{\LWR@rowHTMLcolor}}}%
7488 }%
7489 {\LWR@subadddtabularcellcolor{\LWR@cellHTMLcolor}}}%
7490 }

```

## 71.21 Multicolumns

### 71.21.1 Parsing multicolumns

```
7491 \newcounter{LWR@tablemulticolwidth}
```

Indexes into the multicolumn specification:

```
7492 \newcounter{LWR@tablemulticolspos}
```

Remembers multicolumn vertical rules if found in the column spec.

```

7493 \newcounter{LWR@mcolvertbarsl}
7494 \newcounter{LWR@mcolvertbarsr}
7495 \newcounter{LWR@mcolvertbarsldash}
7496 \newcounter{LWR@mcolvertbarsrdash}
7497 \newbool{LWR@mcolvertbaronleft}%

```

`\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.

```

7498 \newcommand*{\LWR@printmccoltype}[1]{%
7499 \LWR@traceinfo{lwarp@printmccoltype -#1-}%

```

Get one token of the column spec:

```
7500 \StrChar{#1}{\arabic{LWR@tablemulticolspos}}[\LWR@strresult]%
```

Add to the HTML tag depending on which column type is found:

```

7501 \IfStrEq{\LWR@strresult}{l}{l}{}%
7502 \IfStrEq{\LWR@strresult}{c}{c}{}%
7503 \IfStrEq{\LWR@strresult}{r}{r}{}%
7504 \IfStrEq{\LWR@strresult}{p}{p}{}%

```

```

7505 \IfStrEq{\LWR@strresult}{m}{m}{}%
7506 \IfStrEq{\LWR@strresult}{b}{b}{}%
7507 \IfStrEq{\LWR@strresult}{P}{P}{}%
7508 \IfStrEq{\LWR@strresult}{M}{M}{}%
7509 \IfStrEq{\LWR@strresult}{B}{B}{}%

7510 \IfStrEq{\LWR@strresult}{w}{w}{}%
7511 \IfStrEq{\LWR@strresult}{W}{W}{}%

7512 \IfStrEq{\LWR@strresult}{S}{c}{}%
7513 \IfStrEq{\LWR@strresult}{s}{c}{}%

7514 \IfStrEq{\LWR@strresult}{X}{p}{}%

7515 \IfStrEq{\LWR@strresult}{|}{|}%
7516 {%
7517     \ifbool{LWR@mcolvertbaronleft}%
7518         {\addtocounter{LWR@mcolvertbarsl}{1}}% left edge
7519         {\addtocounter{LWR@mcolvertbarsr}{1}}% not left edge
7520 }%
7521 {%
7522     \IfStrEq{\LWR@strresult}{:}{}%
7523     {%
7524         \ifbool{LWR@mcolvertbaronleft}%
7525             {\addtocounter{LWR@mcolvertbarsldash}{1}}% left edge
7526             {\addtocounter{LWR@mcolvertbarsrdash}{1}}% not left edge
7527     }%
7528     {%
7529         \IfStrEq{\LWR@strresult}{;}{}%
7530         {%
7531             \ifbool{LWR@mcolvertbaronleft}%
7532                 {\addtocounter{LWR@mcolvertbarsldash}{1}}% left edge
7533                 {\addtocounter{LWR@mcolvertbarsrdash}{1}}% not left edge
7534             }%
7535             {\boolfalse{LWR@mcolvertbaronleft}}%
7536         }%
7537     }%
7538 \LWR@traceinfo{lwr@printmccoltype done}%
7539 }

```

`\LWR@multicolpartext`  $\{ \langle num\ parameters \rangle \}$  Print the data with paragraph tags, advance to bypass the given number of parameters.

```

7540 \newcommand*{\LWR@multicolpartext}[1]{%
7541 \LWR@startpars%
7542 \LWR@multicoltext%
7543 \addtocounter{LWR@tablemulticolspos}{#1}%

```

```
7544 \LWR@stoppars%
7545 }
```

\LWR@multicolother *{<colspec>}* For @, !, >, <, print the next token without paragraph tags:

```
7546 \newcommand*{\LWR@multicolother}[1]{%
7547 \addtocounter{LWR@tablemulticolspos}{1}%
7548 \StrChar{#1}{\arabic{LWR@tablemulticolspos}}[\LWR@strresult]%
7549 \LWR@strresult%
```

A valid column data type was found:

```
7550 \global\booltrue{LWR@validtablecol}%
7551 }
```

\LWR@multicolskip Nothing to print for this column type.

```
7552 \newcommand*{\LWR@multicolskip}{%
```

A valid column data type was found:

```
7553 \global\booltrue{LWR@validtablecol}%
7554 }
```

\LWR@printmccoldata *{<colspec>}* Print the data for any valid column type found.

```
7555 \newcommand*{\LWR@printmccoldata}[1]{%
7556 \LWR@traceinfo{lw@printmccoldata -#1}%
```

Not yet found a valid column type:

```
7557 \global\boolfalse{LWR@validtablecol}%
```

Get one token of the column spec:

```
7558 \StrChar{#1}{\arabic{LWR@tablemulticolspos}}[\LWR@strresult]%
```

Print the text depending on which column type is found. Also handles @, >, < as it comes to them.

```
7559 \IfStrEq{\LWR@strresult}{l}{\LWR@multicoltext}{}%
7560 \IfStrEq{\LWR@strresult}{c}{\LWR@multicoltext}{}%
7561 \IfStrEq{\LWR@strresult}{r}{\LWR@multicoltext}{}%
7562 \IfStrEq{\LWR@strresult}{D}{}%
7563 \addtocounter{LWR@tablemulticolspos}{3}% skip parameters
7564 \LWR@multicoltext%
7565 }{}%
```

```

7566 \IfStrEq{\LWR@strresult}{p}{\LWR@multicolpartext{0}}{}%
7567 \IfStrEq{\LWR@strresult}{m}{\LWR@multicolpartext{0}}{}%
7568 \IfStrEq{\LWR@strresult}{b}{\LWR@multicolpartext{0}}{}%
7569 \IfStrEq{\LWR@strresult}{P}{\LWR@multicolpartext{0}}{}%
7570 \IfStrEq{\LWR@strresult}{M}{\LWR@multicolpartext{0}}{}%
7571 \IfStrEq{\LWR@strresult}{B}{\LWR@multicolpartext{0}}{}%

7572 \IfStrEq{\LWR@strresult}{w}{\LWR@multicolpartext{3}}{}%
7573 \IfStrEq{\LWR@strresult}{W}{\LWR@multicolpartext{3}}{}%

7574 \IfStrEq{\LWR@strresult}{S}{\LWR@multicoltext}{}%
7575 \IfStrEq{\LWR@strresult}{s}{\LWR@multicoltext}{}%

7576 \IfStrEq{\LWR@strresult}{X}{\LWR@multicolpartext{0}}{}%
7577 \IfStrEq{\LWR@strresult}{|}{\LWR@multicolskip}{}%
7578 \IfStrEq{\LWR@strresult}{:}{\LWR@multicolskip}{}%
7579 \IfStrEq{\LWR@strresult}{;}{}%
7580     \LWR@multicolskip%
7581     \addtocounter{LWR@tablemulticolspos}{1}% skip parameter
7582 }{}%
7583 \IfStrEq{\LWR@strresult}{\detokenize@}{\LWR@multicolother{#1}}{}%
7584 \IfStrEq{\LWR@strresult}{\detokenize!}{\LWR@multicolother{#1}}{}%
7585 \IfStrEq{\LWR@strresult}{\detokenize>}{\LWR@multicolother{#1}}{}%
7586 \IfStrEq{\LWR@strresult}{\detokenize<}{\LWR@multicolother{#1}}{}%

```

If an invalid column type:

```

7587 \ifbool{LWR@validtablecol}{\LWR@multicoltext}%

```

Tracing:

```

7588 \LWR@traceinfo{lwr@printmccoldata done}%
7589 }

```

`\parsemulticolumnalignment`  $\{ \langle 1: colspec \rangle \} \{ \langle 2: printresults \rangle \}$

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.

```

7590 \newcommand*{\LWR@parsemulticolumnalignment}[2]{%
7591 \setcounter{LWR@tablemulticolspos}{1}%
7592 \StrLen{#1}[\LWR@strresult]%
7593 \setcounter{LWR@tablemulticolwidth}{\LWR@strresult}%

```

Scan across the tokens in the column spec:

```

7594 \whileboolexpr{%
7595     not test {%
7596         \ifnumcomp{\value{LWR@tablemulticolspos}}{>}%
7597             {\value{LWR@tablemulticolwidth}}}%
7598     }%
7599 }%
7600 {%

```

Execute the assigned print function for each token in the column spec:

```

7601 #2{#1}%

```

Move to the next token in the column spec:

```

7602 \addtocounter{LWR@tablemulticolspos}{1}%
7603 }%
7604 }

```

### 71.21.2 Multicolumn factored code

\LWR@addmulticolvertrulecolor

```

7605 \newcommand*{\LWR@addmulticolvertrulecolor}{%

```

No vertical rules if finishing the tabular with a row of empty cells:

```

7606 \ifbool{LWR@tabularmutemods}{}{%

```

Left side:

```

7607     \ifnumcomp{\value{LWR@mcolvertbarsl}}{=}{1}{%
7608         \LWR@tdaddstyle%
7609         border-left: 1px solid \LWR@origpound\LWR@vertruleHTMLcolor%
7610     }{}%
7611     \ifnumcomp{\value{LWR@mcolvertbarsl}}{>}{1}{%
7612         \LWR@tdaddstyle%
7613         border-left: 4px double \LWR@origpound\LWR@vertruleHTMLcolor%
7614     }{}%
7615     \ifnumcomp{\value{LWR@mcolvertbarsldash}}{=}{1}{%
7616         \LWR@tdaddstyle%
7617         border-left: 1px dashed \LWR@origpound\LWR@vertruleHTMLcolor%
7618     }{}%
7619     \ifnumcomp{\value{LWR@mcolvertbarsldash}}{>}{1}{%
7620         \LWR@tdaddstyle%
7621         border-left: 2px dashed \LWR@origpound\LWR@vertruleHTMLcolor%
7622     }{}%

```

Right side:

```

7623 \ifnumcomp{\value{LWR@mcolvertbarsr}}{=}{1}{%
7624 \LWR@tdaddstyle%
7625 border-right: 1px solid \LWR@origpound\LWR@vertruleHTMLcolor%
7626 }{}%
7627 \ifnumcomp{\value{LWR@mcolvertbarsr}}{>}{1}{%
7628 \LWR@tdaddstyle%
7629 border-right: 4px double \LWR@origpound\LWR@vertruleHTMLcolor%
7630 }{}%
7631 \ifnumcomp{\value{LWR@mcolvertbarsrdash}}{=}{1}{%
7632 \LWR@tdaddstyle%
7633 border-right: 1px dashed \LWR@origpound\LWR@vertruleHTMLcolor%
7634 }{}%
7635 \ifnumcomp{\value{LWR@mcolvertbarsrdash}}{>}{1}{%
7636 \LWR@tdaddstyle%
7637 border-right: 2px dashed \LWR@origpound\LWR@vertruleHTMLcolor%
7638 }{}%
7639 }%
7640 }

```

```
7641 \newcommand{\LWR@multicoltext}{}

```

To find multicolumn right trim:

```
7642 \newcounter{LWR@lastmulticolumn}

```

```

\LWR@domulticolumn [\langle 1: vpos \rangle] [\langle 2: #rows \rangle] {\langle 3: numLaTeXcols \rangle} {\langle 4: numHTMLcols \rangle} {\langle 5: colspec \rangle}
{\langle 6: text \rangle}

```

```

7643 \NewDocumentCommand{\LWR@domulticolumn}{o o m m m +m}{%
7644 \LWR@traceinfo{\LWR@domulticolumn -#1- -#2- -#4- -#5-}%

```

Remember the text to be inserted, and remember that a valid column type was found:

```

7645 \renewcommand{\LWR@multicoltext}{%
7646 #6%
7647 \global\booltrue{LWR@validtablecol}%
7648 }%

```

Compute the rightmost column to be included. This is used to create the right trim.

```

7649 \setcounter{LWR@lastmulticolumn}{\value{LWR@tableLaTeXcolindex}}%
7650 \addtocounter{LWR@lastmulticolumn}{#3}%
7651 \addtocounter{LWR@lastmulticolumn}{-1}%

```

Row processing:

7652 \LWR@maybenewtablerow%

Begin the opening table data tag:

7653 \LWR@htmltag{td colspan="#4" %

7654 \IfValueT{#2}{ % rows?

7655 rowspan="#2" %

7656 \IfValueT{#1}{ % vpos?

7657 \ifstrequal{#1}{b}{style="\LWR@print@mbbox{vertical-align:bottom}" }{}%

7658 \ifstrequal{#1}{t}{style="\LWR@print@mbbox{vertical-align:top}" }{}%

7659 } % vpos?

7660 } % rows?

7661 class="td%

Print the column type and vertical bars:

7662 \setcounter{LWR@mcolvertbarsl}{0}%

7663 \setcounter{LWR@mcolvertbarsr}{0}%

7664 \setcounter{LWR@mcolvertbarsldash}{0}%

7665 \setcounter{LWR@mcolvertbarsrdash}{0}%

7666 \booltrue{LWR@mcolvertbaronleft}%

7667 \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:

7668 \LWR@subaddcmidruletrim%

7669 {\LWR@getexparray{LWR@trimlrules}{\arabic{LWR@tableLaTeXcolindex}}}%

7670 {\LWR@getexparray{LWR@trimrrules}{\arabic{LWR@lastmulticolumn}}}%

Also add vertical bar class.

7671 \ifnumcomp{\value{LWR@mcolvertbarsl}}{=}{1}{ tvertbarl}{}%

7672 \ifnumcomp{\value{LWR@mcolvertbarsl}}{>}{1}{ tvertbarldouble}{}%

7673 \ifnumcomp{\value{LWR@mcolvertbarsr}}{=}{1}{ tvertbarr}{}%

7674 \ifnumcomp{\value{LWR@mcolvertbarsr}}{>}{1}{ tvertbarrdouble}{}%

7675 \ifnumcomp{\value{LWR@mcolvertbarsldash}}{=}{1}{ tvertbarldash}{}%

7676 \ifnumcomp{\value{LWR@mcolvertbarsldash}}{>}{1}{ tvertbarldoubledash}{}%

7677 \ifnumcomp{\value{LWR@mcolvertbarsrdash}}{=}{1}{ tvertbarrdash}{}%

7678 \ifnumcomp{\value{LWR@mcolvertbarsrdash}}{>}{1}{ tvertbarrdoubledash}{}%

Close the class tag's opening quote: " NOT A TYPO

7679 %

```

7680 \LWR@tdstartstyles%

7681 \LWR@addtabulararrowcolor%

7682 \LWR@addcmidrulewidth%
7683 \LWR@addcdashline%
7684 \LWR@addtabularhrulecolor%
7685 \LWR@addmulticolvertrulecolor%
7686 \LWR@addformatwpalignment{#5}%
7687 \LWR@tdendstyles%
7688 }% end of the opening table data tag
7689 \global\boolfalse{LWR@intabularmetadata}%
7690 \LWR@parsemulticolumnalignment{#5}{\LWR@printmccoldata}%
7691 }

```

### 71.21.3 Multicolumn

`\LWR@htmlmulticolumn`  $\{ \langle numcols \rangle \} \{ \langle alignment \rangle \} \{ \langle text \rangle \}$

```

7692 \NewDocumentCommand{\LWR@htmlmulticolumn}{m m +m}%
7693 {%

```

Figure out how many extra HTML columns to add for @ and ! columns:

```

7694 \LWR@tabularhtmlcolumns{\arabic{LWR@tableLaTeXcolindex}}{#1}

```

Create the multicolumn tag:

```

7695 \LWR@domulticolumn{#1}{\arabic{LWR@tabhtmlcoltotal}}{#2}{#3}%

```

Move to the next L<sup>A</sup>T<sub>E</sub>X column:

```

7696 \addtocounter{LWR@tableLaTeXcolindex}{#1}%
7697 \addtocounter{LWR@tableLaTeXcolindex}{-1}%

```

Skip any trailing @ or ! columns for this cell:

```

7698 \global\booltrue{LWR@skipatbang}%
7699 }

```

### 71.21.4 Longtable captions

longtable captions use `\multicolumn`.

Bool LWR@starredlongtable Per the caption pacakge, step the counter if longtable\*.

```
7700 \newbool{LWR@starredlongtable}
7701 \boolfalse{LWR@starredlongtable}
```

Per the caption package. User-redefinable float type.

```
7702 \providecommand*{\LTcapttype}{table}
```

\LWR@longtabledatacaptiontag \* [*toc entry*] {*caption*}

```
7703 \NewDocumentCommand{\LWR@longtabledatacaptiontag}{s o +m}
7704 {%
```

Remember the latest name for \nameref:

```
7705 \IfValueTF{#2}{% optional given?
7706   \ifblank{#2}{% optional empty?
7707     {\LWR@setlatestname{#3}}% empty
7708     {\LWR@setlatestname{#2}}% given and non-empty
7709 }% optional given
7710 {\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:

```
7711 \LWR@tabularhtmlcolumns{1}{\arabic{LWR@tabletotalLaTeXcols}}
```

Create the multicolumn tag:

```
7712 \LWR@domulticolumn{\arabic{LWR@tabletotalLaTeXcols}}%
7713   {\arabic{LWR@tabhtmlcoltotal}}%
7714   {P}%
7715 {% \LWR@domulticolumn
7716 \IfBooleanTF{#1}{% star?
```

Star version, show a caption but do not make a LOT entry:

```
7717 {% yes star
7718   \LWR@figcaption%
7719   \LWR@isolate{#3}%
7720   \endLWR@figcaption%
7721 }%
7722 {% No star:
```

Not the star version:

Don't step the counter if \caption[] {A caption.}

```

7723 \ifbool{LWR@starredlongtable}%
7724 {%
7725 \ifblank{#2}% TOC entry
7726 {}%
7727 {%
7728 \refstepcounter{LTcaption}%
7729 \protected@edef\currentlabel{%
7730 \@nameuse{p@LTcaption}\@nameuse{theLTcaption}%
7731 }%
7732 }%
7733 }{}%
```

Create an HTML caption. Afterwards, maybe make a LOT entry.

```

7734 \LWR@figcaption%
7735 \LWR@isolate{\@nameuse{fnum@LTcaption}}%
7736 \CaptionSeparator%
7737 \LWR@isolate{#3}%
7738 \endLWR@figcaption%
```

See if an optional caption was given:

```

7739 \ifblank{#2}% TOC entry empty
```

if the optional caption was given, but empty, do not form a TOC entry

```

7740 {}%
```

If the optional caption was given, but might only be []:

```

7741 {% TOC entry not empty
7742 \IfNoValueTF{#2}% No TOC entry?
```

The optional caption is []:

```

7743 {% No TOC entry
7744 \addcontentsline%
7745 {\@nameuse{ext@LTcaption}}%
7746 {LTcaption}%
7747 {%
7748 \protect\numberline%
7749 {\LWR@isolate{\@nameuse{p@LTcaption}}\@nameuse{theLTcaption}}%
7750 {\ignorespaces \LWR@isolate{#3}\protect\relax}%
7751 }%
7752 }% end of No TOC entry
```

The optional caption has text enclosed:

```

7753      {% yes TOC entry
7754          \addcontentsline%
7755          {\@nameuse{ext@LTcapttype}}%
7756          {LTcapttype}%
7757          {%
7758              \protect\numberline%
7759              {\LWR@isolate{\@nameuse{p@LTcapttype}}\@nameuse{theLTcapttype}}%
7760              {\ignorespaces \LWR@isolate{#2}\protect\relax}%
7761          }%
7762      }% end of yes TOC entry
7763  }% end of TOC entry not empty
7764 }% end of no star

```

Skip any trailing @ or ! columns for this cell:

```

7765 \global\booltrue{LWR@skipatbang}%
7766 }% end of \LWR@domulticolumn
7767
7768 \addtocounter{LWR@tableLaTeXcolindex}{\arabic{LWR@tabletotalLaTeXcols}}
7769 \addtocounter{LWR@tableLaTeXcolindex}{-1}
7770
7771 }

```

### 71.21.5 Counting HTML tabular columns

The L<sup>A</sup>T<sub>E</sub>X 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 L<sup>A</sup>T<sub>E</sub>X \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.

```

7772 \newcounter{LWR@tabhtmlcolindex}
7773 \newcounter{LWR@tabhtmlcolend}
7774 \newcounter{LWR@tabhtmlcoltotal}

```

\LWR@subtabularhtmlcolumns {<index>}

Factored from \LWR@tabularhtmlcolumns, which follows.

```

7775 \newcommand*{\LWR@subtabularhtmlcolumns}[1]{%

```

Temporarily define a macro equal to the @ specification for this column:

```
7776 \edef\LWR@atbangspec{\LWR@getexparray{LWR@colatspec}{#1}}%
```

If the @ specification is not empty, add to the count:

```
7777 \ifdefempty{\LWR@atbangspec}%
7778 {}%
7779 {\addtocounter{LWR@tabhtmlcoltotal}{1}}%
```

Likewise for the ! columns:

```
7780 \edef\LWR@atbangspec{\LWR@getexparray{LWR@colbangspec}{#1}}%
7781 \ifdefempty{\LWR@atbangspec}%
7782 {}%
7783 {\addtocounter{LWR@tabhtmlcoltotal}{1}}%
7784 }
```

```
\LWR@tabularhtmlcolumns {\langle starting LATEX column \rangle} {\langle number LATEX columns \rangle}
```

Compute the total number of HTML columns being spanned, considering the starting L<sup>A</sup>T<sub>E</sub>X table column and the number of L<sup>A</sup>T<sub>E</sub>X 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.

```
7785 \newcommand*{\LWR@tabularhtmlcolumns}[2]{%
```

Count the starting index, compute ending index, and begin with the count being the L<sup>A</sup>T<sub>E</sub>X span, to which additional @ and ! columns may be added:

```
7786 \setcounter{LWR@tabhtmlcolindex}{#1}%
7787 \setcounter{LWR@tabhtmlcoltotal}{#2}%
7788 \setcounter{LWR@tabhtmlcolend}{#1}%
7789 \addtocounter{LWR@tabhtmlcolend}{#2}%
```

If at the left edge, add the at/bang columns for the left edge:

```
7790 \ifnumcomp{\value{LWR@tabhtmlcolindex}}{=}{1}{%
7791 \LWR@subtabularhtmlcolumns{leftedge}%
7792 }{}}%
```

Walk across the L<sup>A</sup>T<sub>E</sub>X columns looking for @ and ! columns:

```
7793 \whileboolexpr{%
7794 test {%
7795 \ifnumcomp{\value{LWR@tabhtmlcolindex}}{<}{\value{LWR@tabhtmlcolend}}%
7796 }%
```

```

7797 }%
7798 {%
7799   \LWR@subtabularhtmlcolumns{\arabic{LWR@tabhtmlcolindex}}}%
7800   \addtocounter{LWR@tabhtmlcolindex}{1}%
7801 }% whiledo
7802 }

7803 \end{warpHTML}

```

## 71.22 Multirow if not loaded

A default definition in case multirow is not loaded. This is used during table parsing.

```

7804 \begin{warpHTML}
7805 \newcommand{\multirow}[2][c]{}
7806 \end{warpHTML}

```

## 71.23 Multicolumnrow

A print-mode version is defined here, and is also used during HTML output while inside a lateximage.

See section 290 for the HTML versions.

**for HTML & PRINT:** 7807 \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.

```
7808 \AtBeginDocument{
```

\@ifundefined{@xmultirow} determines if multirow was never loaded.

Null action if not loaded:

```
7809 \@ifundefined{@xmultirow}
```

```

7810 {
7811 \DeclareExpandableDocumentCommand{\LWR@print@multicolumnrow}%
7812   {+m +m +0{c} +m +0{0} +m +0{Opt} +m}%
7813   {}%
7814 }% no version of multirow was loaded
7815 {% \@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:

```

7816 \@ifpackageloaded{multirow}{% v2.0 or newer
7817 \@ifpackagelater{multirow}{2016/09/01}% 2016/09/27 for v2.0
7818 {% v2.0+:
7819 \DeclareExpandableDocumentCommand{\LWR@print@multicolumnrow}%
7820   {+m +m +0{c} +m +0{0} +m +0{Opt} +m}%
7821   {\multicolumn{#1}{#2}{\@xmultirow[#3]{#4}{#5}{#6}{#7}{#8}}}%
7822 }
7823 {% loaded but older, probably not executed:
7824 \DeclareExpandableDocumentCommand{\LWR@print@multicolumnrow}%
7825   {+m +m +0{c} +m +0{0} +m +0{Opt} +m}%
7826   {\multicolumn{#1}{#2}{\@xmultirow[#4]{#5}{#6}{#7}{#8}}}%
7827 }
7828 }% 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.

```

7829 {% v1.6 or older did not \ProvidePackage
7830 \DeclareExpandableDocumentCommand{\LWR@print@multicolumnrow}%
7831   {+m +m +0{c} +m +0{0} +m +0{Opt} +m}%
7832   {\multicolumn{#1}{#2}{\@xmultirow[#4]{#5}{#6}{#7}{#8}}}%
7833 }
7834
7835 }% \@ifundefined{@xmultirow}
7836
7837 \providecommand*{\multicolumnrow}{\LWR@print@multicolumnrow}
7838
7839 }% AtBeginDocument

7840 \end{warpall}

```

## 71.24 Utility macros inside a table

for HTML output: 7841 \begin{warpHTML}

Used to prevent opening a tabular data cell if the following token is one which does not create tabular data:

```
7842 \newcommand*{\LWR@donothing}{}{}
```

In case array is not loaded:

```
7843 \let\firsthline\relax
7844 \let\lasthline\relax
7845 \newcommand*{\firsthline}{}{ }
7846 \newcommand*{\lasthline}{}{ }
```

In case bigdelim is not loaded:

```
7847 \newcommand*{\ldelim}{}{ }
7848 \newcommand*{\rdelim}{}{ }
```

```
7849 \end{warpHTML}
```

## 71.25 Special-case tabular markers

**for HTML & PRINT:** 7850 \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 9.9.

```
7851 \newcommand*{\TabularMacro}{}{ }
```

```
7852 \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 % because & is used in a definition
\newenvironment{outerenvironment}
{
\tabular{cc}
left & right \\\
}
{
\TabularMacro\ResumeTabular
left & right \\\
\endtabular
}
\StopDefiningTabulars

```

**for HTML output:** 7853 \begin{warpHTML}

```

7854 \newcommand*{\ResumeTabular}{%
7855 \global\boolfalse{LWR@exitingtabular}%
7856 \global\boolfalse{LWR@tabularmutemods}%
7857 \LWR@getmynexttoken%
7858 }

```

```

7859 \end{warpHTML}

```

**for PRINT output:** 7860 \begin{warpprint}

```

7861 \newcommand*{\ResumeTabular}{}
7862 \end{warpprint}

```

## 71.26 Checking for a new table cell

**for HTML output:** 7863 \begin{warpHTML}

Bool LWR@exitingtabular When \end is found, turns off the next opening data tag.

```

7864 \newbool{LWR@exitingtabular}

```

Bool LWR@tabularmutemods Mutes HTML output for @, !, < and >.

This is used while printing the final row to generate \bottomrules.

```

7865 \newbool{LWR@tabularmutemods}

```

`\LWR@tabledatacolumnntag` Open a new HTML table cell unless the next token is for a macro which does not create data, such as `\hline`, `\toprule`, etc:

```
7866 \newcommand*{\LWR@tabledatacolumnntag}%
7867 {%
7868 \LWR@traceinfo{\LWR@tabledatacolumnntag}%
```

`\show\LWR@mynexttoken` to see what tokens to look for

If not any of the below, start a new table cell:

```
7869 \global\let\LWR@mynextaction\LWR@tabledatasinglecolumnntag%
```

If exiting the tabular:

```
7870 \ifdefequal{\LWR@mynexttoken}{\end}%
7871     {\global\booltrue{\LWR@exitingtabular}}{}%
```

`longtable` can have a caption in a cell

```
7872 \ifdefequal{\LWR@mynexttoken}{\caption}%
7873     {\global\let\LWR@mynextaction\LWR@donothing}{}%
```

Look for other things which would not start a table cell:

```
7874 \ifdefequal{\LWR@mynexttoken}{\multicolumn}%
7875     {\global\let\LWR@mynextaction\LWR@donothing}{}%
7876 \ifdefequal{\LWR@mynexttoken}{\multirow}%
7877     {\global\let\LWR@mynextaction\LWR@donothing}{}%
7878 \ifdefequal{\LWR@mynexttoken}{\multicolumnrow}%
7879     {\global\let\LWR@mynextaction\LWR@donothing}{}%
7880 \ifdefequal{\LWR@mynexttoken}{\noalign}%
7881     {\global\let\LWR@mynextaction\LWR@donothing}{}%
```

If an `\mrowcell`, this is a cell to be skipped over:

```
7882 \ifdefequal{\LWR@mynexttoken}{\mrowcell}%
7883     {\global\let\LWR@mynextaction\LWR@donothing}{}%
```

If an `\mcolrowcell`, this is a cell to be skipped over:

```
7884 \ifdefequal{\LWR@mynexttoken}{\mcolrowcell}%
7885     {\global\let\LWR@mynextaction\LWR@donothing}{}%
```

```
7886 \ifdefequal{\LWR@mynexttoken}{\TabularMacro}%
7887     {\global\let\LWR@mynextaction\LWR@donothing}{}%
```

```
7888 \ifdefequal{\LWR@mynexttoken}{\hline}%
7889     {\global\let\LWR@mynextaction\LWR@donothing}{}%

7890 \ifdefequal{\LWR@mynexttoken}{\firsthline}%
7891     {\global\let\LWR@mynextaction\LWR@donothing}{}%

7892 \ifdefequal{\LWR@mynexttoken}{\lasthline}%
7893     {\global\let\LWR@mynextaction\LWR@donothing}{}%

7894 \ifdefequal{\LWR@mynexttoken}{\toprule}%
7895     {\global\let\LWR@mynextaction\LWR@donothing}{}%

7896 \ifdefequal{\LWR@mynexttoken}{\midrule}%
7897     {\global\let\LWR@mynextaction\LWR@donothing}{}%

7898 \ifdefequal{\LWR@mynexttoken}{\cmidrule}%
7899     {\global\let\LWR@mynextaction\LWR@donothing}{}%

7900 \ifdefequal{\LWR@mynexttoken}{\morecmidrules}%
7901     {\global\let\LWR@mynextaction\LWR@donothing}{}%

7902 \ifdefequal{\LWR@mynexttoken}{\specialrule}%
7903     {\global\let\LWR@mynextaction\LWR@donothing}{}%

7904 \ifdefequal{\LWR@mynexttoken}{\cline}%
7905     {\global\let\LWR@mynextaction\LWR@donothing}{}%

7906 \ifdefequal{\LWR@mynexttoken}{\bottomrule}%
7907     {\global\let\LWR@mynextaction\LWR@donothing}{}%

7908 \ifdefequal{\LWR@mynexttoken}{\rowcolor}%
7909     {\global\let\LWR@mynextaction\LWR@donothing}{}%

7910 \ifdefequal{\LWR@mynexttoken}{\arrayrulecolor}%
7911     {\global\let\LWR@mynextaction\LWR@donothing}{}%

7912 \ifdefequal{\LWR@mynexttoken}{\doublerulesepcolor}%
7913     {\global\let\LWR@mynextaction\LWR@donothing}{}%

7914 \ifdefequal{\LWR@mynexttoken}{\warpprintonly}%
7915     {\global\let\LWR@mynextaction\LWR@donothing}{}%

7916 \ifdefequal{\LWR@mynexttoken}{\warppHTMLonly}%
7917     {\global\let\LWR@mynextaction\LWR@donothing}{}%
```

```

7918 \ifdefequal{\LWR@mynexttoken}{\ldelim}%
7919     {\global\let\LWR@mynextaction\LWR@donothing}{}%

7920 \ifdefequal{\LWR@mynexttoken}{\rdelim}%
7921     {\global\let\LWR@mynextaction\LWR@donothing}{}%

```

For arydshln:

```

7922 \ifdefequal{\LWR@mynexttoken}{\hdashline}%
7923     {\global\let\LWR@mynextaction\LWR@donothing}{}%

7924 \ifdefequal{\LWR@mynexttoken}{\cdashline}%
7925     {\global\let\LWR@mynextaction\LWR@donothing}{}%

7926 \ifdefequal{\LWR@mynexttoken}{\firsthdashline}%
7927     {\global\let\LWR@mynextaction\LWR@donothing}{}%

7928 \ifdefequal{\LWR@mynexttoken}{\lasthdashline}%
7929     {\global\let\LWR@mynextaction\LWR@donothing}{}%

```

Ignore an empty line between rows:

```

7930 \ifdefequal{\LWR@mynexttoken}{\par}%
7931     {\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:

```


7932 \LWR@traceinfo{\LWR@tabledatacolumnntag: about to do mynext}%
7933 \LWR@mynextaction%
7934 \LWR@traceinfo{\LWR@tabledatacolumnntag: done}%
7935 }

7936 \end{warpHTML}

```

## 71.27 \mrowcell

**for HTML & PRINT:** 7937 \begin{warpall}

 **\mrowcell** The user must insert \mrowcell into any \multirow cells which must be skipped.  
**multirow cells** This command has no action during print output.

```
7938 \newcommand*{\mrowcell}{}


```

```
7939 \end{warpall}

```

## 71.28 \mcolrowcell

**for HTML & PRINT:** 7940 \begin{warpall}

 **\mcolrowcell** The user must insert \mcolrowcell into any \multicolumnrow cells which must be skipped. This command has no action during print output.

```
7941 \newcommand*{\mcolrowcell}{}

```

```
7942 \end{warpall}

```

## 71.29 HTML tabular environment

**for HTML output:** 7943 \begin{warpHTML}

These are default definitions in case booktabs is not loaded, and are not expected to be used, but must exist as placeholders. They are pre-deleted in case memoir has already loaded booktabs.

```
7944 \LetLtxMacro\toprule\relax
7945 \LetLtxMacro\midrule\relax
7946 \LetLtxMacro\cmidrule\cline
7947 \LetLtxMacro\bottomrule\relax
7948 \LetLtxMacro\addlinespace\relax
7949 \LetLtxMacro\morecmidrules\relax
7950 \LetLtxMacro\specialrule\relax
7951
7952 \newcommand*{\toprule}[1][1]{\hline}
7953 \newcommand*{\midrule}[1][1]{\hline}
7954 \LetLtxMacro\cmidrule\cline
7955 \newcommand*{\bottomrule}[1][1]{\hline}
7956 \newcommand*{\addlinespace}[1][1]{}
7957 \newcommand*{\morecmidrules}{}
7958 \newcommand*{\specialrule}[3]{\hline}

```

**\noalign**  $\{ \langle text \rangle \}$  Redefined for use inside tabular.

```

7959 \LetLtxMacro\LWR@orignoalign\noalign
7960
7961 \newcommand{\LWR@tabularnoalign}[1]{%
7962 \begingroup%
7963 \global\advance\rownum\m@ne%
7964 \renewcommand*\LWR@xcolorrowHTMLcolor{}%
7965 \multicolumn{value\LWR@tabletotalLaTeXcols}{1}{#1} \\
7966 \endgroup%
7967 % \@rowcolors%
7968 \LWR@getmynexttoken%
7969 }

```

**\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.

```

7970 \AtBeginDocument{
7971 \ifpackageloaded{lwarp-tabls}
7972 {
7973 \newcommand*\LWR@HTMLhline[1][ ]{%
7974 \ifbool{FormatWP}%
7975 {\LWR@docmidrule{1-\arabic\LWR@tabletotalLaTeXcols}}%
7976 {\addtocounter\LWR@hlines{1}}%
7977 \LWR@getmynexttoken}%
7978 }
7979 {
7980 \newcommand*\LWR@HTMLhline{%
7981 \ifbool{FormatWP}%
7982 {\LWR@docmidrule{1-\arabic\LWR@tabletotalLaTeXcols}}%
7983 {\addtocounter\LWR@hlines{1}}%
7984 \LWR@getmynexttoken}%
7985 }
7986 }% AtBeginDocument

```

**\LWR@HTMLcline** `{\langle columns \rangle}`

```

7987 \NewDocumentCommand{\LWR@HTMLcline}{m}%
7988 {\LWR@docmidrule{#1}\LWR@getmynexttoken}%

```

**\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`.

```

7989 \AtBeginDocument{
7990 \ifundefined{frenchbsetup}%
7991 {% no babel-french
7992 \newcommand*\LWR@nullifyNoAutoSpacing{}
7993 }% no babel-french

```

```

7994 {% yes babel-french
7995     \newcommand*{\LWR@nullifyNoAutoSpacing}{%
7996         \NoAutoSpacing%
7997         \renewcommand*{\NoAutoSpacing}{}%
7998         \renewcommand*{\LWR@FBcancel}{}%
7999     }
8000 }% yes babel-french
8001 }% AtBeginDocument

```

Env `LWR@tabular` [*<vertposition>*] {*<colspecs>*}

The new tabular environment will be `\let` in `\LWR@LwarpStart`, since `siunitx` might redefine `tabular` in the user's document.

```

8002 \StartDefiningTabulars
8003
8004 \newenvironment*{LWR@tabular}[2] []
8005 {%
8006 \LWR@traceinfo{LWR@tabular started}%
8007 \addtocounter{LWR@tabulardepth}{1}%

```

Not yet started a table row:

```

8008 \global\boolfalse{LWR@startedrow}%

```

Not yet doing any rules:

```

8009 \setcounter{LWR@hlines}{0}%
8010 \setcounter{LWR@hdashedlines}{0}%
8011 \global\boolfalse{LWR@doingtbrule}%
8012 \global\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.

```

8013 \LWR@nullifyNoAutoSpacing%

```

Have not yet found the end of tabular command. Unmute the `@` and `!` columns.

```

8014 \global\boolfalse{LWR@exitingtabular}%
8015 \global\boolfalse{LWR@tabularmutemods}%

```

Create the table tag:

```

8016 \global\booltrue{LWR@intabularmetadata}%
8017 \LWR@traceinfo{LWR@tabular: About to LWR@forecenewpage.}%
8018 \LWR@forcenewpage
8019 \LWR@htmlblocktag{table}%

```

Parse the table columns:

```
8020 \LWR@parsetablecols{#2}%
```

Table col spec is: \LWR@tablecolspec which is a string of llccrr, etc.

Do not place the table inside a paragraph:

```
8021 \LWR@stoppars%
```

Track column #:

```
8022 \setcounter{LWR@tableLaTeXcolindex}{1}%
```

Have not yet added data in this column:

```
8023 \global\boolfalse{LWR@tabularcelladded}%
```

Start looking for midrules:

```
8024 \LWR@clearmidrules%
```

\\ becomes a macro to end the table row:

```
8025 \LetLtxMacro{\\}{\LWR@tabularendoffline}%
```

The following adjust for colortbl.

```
8026 \LetLtxMacro\arrayrulecolor\arrayrulecolornexttoken%
8027 \LetLtxMacro\doublerulesepcolor\doublerulesepcolornexttoken%
8028 \gdef\LWR@columnHTMLcolor{}%
8029 \gdef\LWR@rowHTMLcolor{}%
8030 \gdef\LWR@cellHTMLcolor{}%
8031 \@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.

```
8032 \edef\LWR@vertruleHTMLcolor{\LWR@ruleHTMLcolor}%
```

Tracking the depth of cell color <div>s:

```
8033 \setcounter{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.

```

8034 \LWR@traceinfo{LWR@tabular: redefining macros}%
8035 \LetLtxMacro\noalign\LWR@tabularnoalign%
8036 \LetLtxMacro\hline\LWR@HTMLhline%
8037 \LetLtxMacro\cline\LWR@HTMLcline%

8038 \DeclareDocumentCommand{\hdashline}{o}{%
8039     \ifbool{FormatWP}%
8040         {\LWR@docdashline{1-\arabic{LWR@tabletotalLaTeXcols}}}%
8041         {\addtocounter{LWR@hdashedlines}{1}}}%
8042     \LWR@getmynexttoken%
8043 }%

8044 \DeclareDocumentCommand{\cdashline}{m}{%
8045     \LWR@docdashline{##1}\LWR@getmynexttoken%
8046 }%

8047 \DeclareDocumentCommand{\firsthdashline}{o}{%
8048     \ifbool{FormatWP}%
8049         {\LWR@docdashline{1-\arabic{LWR@tabletotalLaTeXcols}}}%
8050         {\addtocounter{LWR@hdashedlines}{1}}}%
8051     \LWR@getmynexttoken%
8052 }%

8053 \DeclareDocumentCommand{\lasthdashline}{o}{%
8054     \ifbool{FormatWP}%
8055         {\LWR@docdashline{1-\arabic{LWR@tabletotalLaTeXcols}}}%
8056         {\addtocounter{LWR@hdashedlines}{1}}}%
8057     \LWR@getmynexttoken%
8058 }%

```

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`.

```

8059 \renewcommand{\multicolumn}{\LWR@htmlmulticolumn}%
8060 \renewcommand*\mrowcell{%
8061     \LWR@maybenewtablerow%
8062     \LWR@tabularleftedge%
8063     \global\booltrue{LWR@skippingmrowcell}%
8064 }%
8065 \renewcommand*\mcolrowcell{%
8066     \LWR@maybenewtablerow%
8067     \global\booltrue{LWR@skippingmcolrowcell}%
8068 }%
8069 \LetLtxMacro\caption\LWR@longtabledatacaptiontag%

```

Reset for new processing:

```
8070 \global\boolfalse{LWR@tableparcell}%
8071 \global\boolfalse{LWR@skippingmrowcell}%
8072 \global\boolfalse{LWR@skippingmcolrowcell}%
8073 \global\boolfalse{LWR@skipatbang}%
8074 \global\boolfalse{LWR@emptyatbang}%
```

Set & for its special meaning inside the tabular:

```
8075 \StartDefiningTabulars%
8076 \protected\gdef&{\LWR@tabularampersand}%
```

Nest one level deeper of tabular paragraph handling:

```
8077 \addtocounter{LWR@tabularpardepth}{1}%
```

Look ahead for a possible table data cell:

```
8078 \LWR@traceinfo{LWR@tabular: about to LWR@getmynexttoken}%
8079 \LWR@getmynexttoken%
8080 }%
```

Ending the environment:

```
8081 {%
8082 \LWR@traceinfo{LWR@tabular ending}%
```

Unnest one level of tabular paragraph handling:

```
8083 \addtocounter{LWR@tabularpardepth}{-1}%
8084 \ifboolexpr{%
8085   test {%
8086     \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{<}{\value{LWR@tabletotalLaTeXcols}}
8087   } or %
8088   (%
8089     bool{LWR@intabularmetadata} and%
8090     not bool{LWR@tabularcelladded} and%
8091     test {%
8092       \ifnumcomp{\value{LWR@tableLaTeXcolindex}}{=}{\value{LWR@tabletotalLaTeXcols}}%
8093     }%
8094   )%
8095 }%
8096 {%
8097   \LWR@tabularfinishrow%
8098 }%
8099 {%
8100   \LWR@closetabledatacell%
```

```

8101 }%
8102 \LWR@htmlblocktag{/tr}%

xcolor row color support:

8103 \@rowc@lors%

8104 \LWR@htmlblocktag{/table}%
8105 \global\boolfalse{LWR@intabularmetadata}%

```

Unnest one level of tabular:

```
8106 \addtocounter{LWR@tabulardepth}{-1}%
```

Restore & to its usual meaning:

```

8107 \protected\gdef&{\LWR@origampmacro}%
8108 \StopDefiningTabulars%
8109 \LWR@traceinfo{LWR@tabular finished ending}%
8110 }
8111
8112 \StopDefiningTabulars

8113 \end{warpHTML}

```

## 72 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.

The zref package is used to remember section name, file, and lateximage depth and number for each label.

Table 12 shows the data structures related to cross-referencing.

for HTML output: 8114 \begin{warpHTML}

### 72.1 Setup

\@currentlabelname To remember the most recently defined section name, description, or caption, for \nameref.

Table 12: Cross-referencing data structures

|   |                  |
|---|------------------|
| <b>Original L<sup>A</sup>T<sub>E</sub>X:</b>  | (print and HTML) |
| <code>\refstepcounter:</code> Steps the couunter and sets <code>\@currentlabel</code> .<br><code>\@currentlabel:</code> <code>\p@&lt;ctr&gt;\the&lt;ctr&gt;</code> Updated by <code>\refstepcounter</code> .<br><code>\label:</code> Writes to the .aux file:<br><code>\newlabel{&lt;label&gt;}{\@currentlabel}{\thepage}}</code><br><code>\newlabel:</code> When the .aux file is read, sets <code>\r@&lt;label&gt;</code> .<br><code>\r@&lt;label&gt;:</code> Set to: <code>{\@currentlabel}{\thepage}}</code><br><code>\ref:</code> Returns the first part of <code>\r@&lt;label&gt;</code> .<br><code>\pageref:</code> Returns the second part of <code>\r@&lt;label&gt;</code> .   |                  |
| <b>Added by lwarp:</b>  | (HTML only)      |
| <code>\label:</code> Adds HTML tags (section 72.3), plus <code>\splabel</code> data (section 72.2):<br><code>zLWR@name:</code> The section name for this label.<br><code>zLWR@htmlfilenumber:</code> The filenumber or name for this label.<br><code>zLWR@lateximagedepth:</code> The lateximagedepth for this label.<br><code>zLWR@lateximagenumber:</code> The lateximagenumber for this label.<br><code>\nameref:</code> Emualted from hyperref for lwarp. See section 72.4.<br><code>\ref</code> and <code>\nameref:</code> Adds HTML tags. See section 72.4.   |                  |
| <b>Added by amsmath:</b>  | (print and HTML) |
| <code>\label:</code> Execution is delayed until the math environment is completed.<br><code>\ltx@label:</code> L <sup>A</sup> T <sub>E</sub> X <code>\label</code> , (HTML: patched by lwarp,) later patched by cleveref.   |                  |
| <b>Added by cleveref:</b>   | (print and HTML) |
| <code>\refstepcounter:</code> Added: sets <code>\cref@currentlabel</code> .<br><code>\cref@currentlabel:</code> ( <code>&lt;type&gt;=&lt;ctr&gt;</code> unless an alias is used):<br><code>[&lt;type&gt;][\arabic{&lt;ctr&gt;}][&lt;parent ctrs&gt;]{\p@&lt;ctr&gt;\the&lt;ctr&gt;}</code> Also see section 58.4 for use with footnotes.<br><code>\label:</code> Writes to the .aux file:<br><code>\newlabel{&lt;label&gt;@cref}{\cref@currentlabel}{\thepage}}</code><br><code>\newlabel:</code> (Unchanged.) When the .aux file is read, sets <code>\r@&lt;label&gt;@cref</code> .<br><code>\r@&lt;label&gt;@cref:</code> Set to: <code>{\cref@currentlabel}{\thepage}}</code><br><b>Utility functions:</b> See <code>\cref@getlabel</code> , <code>\cref@gettype</code> , <code>\cref@getcounter</code> , <code>\cref@getprefix</code> .<br><b>Cross-referencing names:</b> <code>\crefname</code> and <code>\Crefname</code> assign human-readable names for references to this counter type. |                  |
| <b>Additionally patched by lwarp:</b>   | (HTML only)      |
| <code>\cref, etc.:</code> Modified for lwarp. See section 86.<br><code>\label inside math:</code> See section 78.7.1.   |                  |
| <b>Footnotes:</b> See <code>\noteentry</code> in section 58.4.  |                  |

```
8115 \providecommand*{\@currentlabelname}{}
```

```
\LWR@stripperperiod {\langle text \rangle} [(\.)]
```

Removes a trailing period.

```
8116 \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.

```
8117 \newcommand*{\LWR@setlatestname}[1]{%
```

Remove \label and other commands from the name, the strip any final period. See zref-titleref and gettitlestring.

```
8118 \GetTitleStringExpand{#1}%
```

```
8119 \edef\@currentlabelname{\detokenize\expandafter{\GetTitleStringResult}}%
```

```
8120 \edef\@currentlabelname{%
```

```
8121     \expandafter\LWR@stripperperiod\@currentlabelname%
```

```
8122     \ltx@empty.\ltx@empty\@nil%
```

```
8123 }%
```

```
8124 }
```

## 72.2 zref setup

See:

[http://tex.stackexchange.com/questions/57194/  
extract-section-number-from-equation-reference](http://tex.stackexchange.com/questions/57194/extract-section-number-from-equation-reference)

Create a new property list called special:

```
8125 \zref@newlist{special}
```

Define a new property which has the name of the most recently declared section:

```
8126 \zref@newprop{zLWR@name}{\@currentlabelname}
```

Define a new property which has either a filename or a file number:

```
8127 \zref@newprop{zLWR@htmlfilenumber}{%
```

```
8128 \ifbool{FileSectionNames}{\LWR@thisfilename}{\arabic{LWR@htmlfilenumber}}%
```

```
8129 }%
```

Additional properties for lateximages:

```
8130 \zref@newprop{zLWR@lateximagedepth}{\arabic{LWR@lateximagedepth}}
8131 \zref@newprop{zLWR@lateximagenumber}{\arabic{LWR@lateximagenumber}}
```

zLWR@htmlfilenumber property holds the file number or name

Add a LWR@htmlfilenumber property, and lateximage properties to special:

```
8132 \zref@addprop{special}{zLWR@name}
8133 \zref@addprop{special}{zLWR@htmlfilenumber}
8134 \zref@addprop{special}{zLWR@lateximagedepth}
8135 \zref@addprop{special}{zLWR@lateximagenumber}
```

Returns the selected field:

```
8136 \newcommand*{\LWR@spref}[2]{%
8137 \zref@extractdefault{#1}{#2}{??}%
8138 }
```

`\LWR@nameref` `{<label>}` Returns the section name for this label:

```
8139 \newcommand*{\LWR@nameref}[1]{%
8140 \LWR@spref{#1}{zLWR@name}%
8141 }
```

`\LWR@htmlfileref` `{<label>}` Returns the file number or name for this label:

```
8142 \newcommand*{\LWR@htmlfileref}[1]{%
```

DO NOT USE \LWR@traceinfo HERE! Will be expanded.

```
8143 \LWR@spref{#1}{zLWR@htmlfilenumber}%
8144 }
```

`\LWR@lateximagedepthref` `{<label>}` Returns the lateximagedepth for this label:

```
8145 \newcommand*{\LWR@lateximagedepthref}[1]{%
8146 \LWR@spref{#1}{zLWR@lateximagedepth}%
8147 }
```

`\LWR@lateximagenumberref` `{<label>}` Returns the lateximagenumber for this label:

```
8148 \newcommand*{\LWR@lateximagenumberref}[1]{%
8149 \LWR@spref{#1}{zLWR@lateximagenumber}%
8150 }
```

`\LWR@splabel`  $\{\langle label \rangle\}$  Sanitize the name and then creates the label:

```
8151 \newcommand*\LWR@splabel}[1]{%
8152 \LWR@traceinfo{\LWR@splabel !#1!}%
8153 \LWR@setlatestname{\@currentlabelname}%
8154 \zref@labelbylist{#1}{special}%
8155 }
```

## 72.3 Labels

`\LWR@sublabel`  $\{\langle label \rangle\}$  Creates an HTML id tag.

`\detokenize` is used to allow underscores in the labels.

```
8156 \newcommand*\LWR@sublabel}[1]{%
8157 \LWR@traceinfo{\LWR@sublabel !#1!}%
```

Create an HTML id tag unless are inside a lateximage, since it would appear in the image:

```
8158 \ifnumcomp{\value{\LWR@lateximagedepth}}{>}{0}%
8159 {}%
8160 {% not lateximage
```

If not doing a lateximage, create an HTML ID tag: (To be factored...)

```
8161 \LWR@sanitize{#1}%
8162 \ifbool{\LWR@doingstartpars}%
8163 {% pars allowed
8164 \ifbool{\LWR@doingapar}%
8165 {% par started
8166 \LWR@htmltag{a \LWR@print@mbox{id="\LWR@sanitized"}}\LWR@htmltag{/a}%
8167}% par started
8168 {% par not started
8169 \LWR@stoppars%
8170 \LWR@htmltag{a \LWR@print@mbox{id="\LWR@sanitized"}}\LWR@htmltag{/a}%
8171 \LWR@startpars%
8172}% par not started
8173}% pars allowed
8174 {% pars not allowed
8175 \LWR@htmltag{a \LWR@print@mbox{id="\LWR@sanitized"}}\LWR@htmltag{/a}%
8176}% pars not allowed
8177}% not lateximage
8178 }
```

`\LWR@new@label`  $(\langle bookmark \rangle) \{\langle label \rangle\} [\langle type \rangle]$

`\label` during HTML output when not in SVG math mode, removing extra spaces around the label, as done by regular  $\LaTeX$  `\label`.

This is also used during a `lateximage`, including SVG math, since the special label handling is required, but `\LWR@sublabel` does not generate HTML tags inside a `lateximage`.

`cleveref` later encases this to add its own cross-referencing.

The optional `\bookmark` is per the memoir class, and is ignored.

The optional `\type` is per the ntheorem package, and is ignored.

```
8179 \NewDocumentCommand{\LWR@new@label}{d() m o}{%
8180 \LWR@traceinfo{\LWR@new@label: starting}%
8181 \LWR@traceinfo{\LWR@new@label: !#2!}%
8182 % \@bspack%
```

Create a traditional  $\LaTeX$  label, as modified by `cleveref`:

```
8183 \LWR@orig@label{#2}%
```

Create a special label which holds the section number, `LWR@htmlfilenumber`, `LWR@lateximagedepth`, and `LWR@lateximagenumber`:

```
8184 \LWR@traceinfo{\LWR@new@label: filesectionnames is \ifbool{FileSectionNames}{true}{false}}%
8185 \LWR@traceinfo{\LWR@new@label: LWR@thisfilename is !\LWR@thisfilename!}%
8186 \LWR@traceinfo{\LWR@new@label: LWR@htmlfilenumber is \arabic{LWR@htmlfilenumber}}%
8187 \LWR@splabel{#2}%
8188 \LWR@sublabel{#2}%
8189 % \@espack%
8190 \LWR@traceinfo{\LWR@new@label: done}%
8191 }
```

## 72.4 References

`\LWR@startref` `{\label}` (Common code for `\ref` and `\nameref`.)

Open an HTML tag reference to a filename, # character, and a label.

```
8192 \newcommand*{\LWR@startref}[1]
8193 {%
8194 \edef\LWR@lidref{\LWR@lateximagedepthref{#1}}%
8195 \LWR@sanitize{#1}%
8196 \LWR@traceinfo{\LWR@startref A: !#1!}%
```

Create the filename part of the link:

```
8197 \LWR@htmltag{a href="%
8198 \LWR@traceinfo{LWR@startref B}%
8199 \LWR@print@mbox{\LWR@htmlrefsectionfilename{#1}}%
8200 \LWR@traceinfo{LWR@startref C}%
8201 \LWR@origpound%
```

Create the destination id:

See if LWR@lateximagedepth is unknown:

```
8202 \LWR@traceinfo{LWR@startref D: !#1!}%
8203 \ifthenelse{\equal{\LWR@lidref}{??}}%
```

“??” if LWR@lateximagedepth is unknown, so create a link with an unknown destination:

```
8204 {%
8205     \LWR@traceinfo{LWR@startref D0: ??}%
8206     ??%
8207 }%
```

If LWR@lateximagedepth is known. Use a lateximage if the depth is greater than zero, or a regular link otherwise:

```
8208 {%
8209     \LWR@traceinfo{LWR@startref D1: \LWR@lidref}%
8210     \ifthenelse{\cinttest{\LWR@lidref}{>}{0}}%
8211     {%
8212         \LWR@traceinfo{LWR@startref D2: \LWR@lidref}%
8213         lateximage\LWR@lateximagenumberref{#1}%
8214     }%
8215     {%
8216         \LWR@traceinfo{LWR@startref D3}%

```

\detokenize is used to allow underscores in the labels:

```
8217         \LWR@print@mbox{\LWR@sanitized}%
8218     }%
8219 }%
8220 \LWR@traceinfo{LWR@startref E}%

```

Closing quote:

```
8221 "%
8222 \LWR@traceinfo{LWR@startref F}%
8223 }
```

`\LWR@subnewref` \*  $\langle label \rangle$   $\langle label \text{ or } sub@label \rangle$

Factored for the subfig package. Uses the original label for the hyper-reference, but prints its own text, such as “1(b)”.

```
8224 \NewDocumentCommand{\LWR@subnewref}{m m}{%
8225 \LWR@traceinfo{\LWR@subnewref #1 #2}%
8226 \LWR@startref{#1}%
8227 \LWR@print@ref{#2}%
8228 \LWR@htmltag{/a}%
8229 }
```

`\ref` \*  $\langle label \rangle$  `\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` \*  $\langle label \rangle$  Create an internal document reference link, or without a link if starred per `\hyperref`.

```
8230 \NewDocumentCommand{\LWR@HTML@ref}{s m}{%
8231 \LWR@traceinfo{\LWR@HTML@ref !#2!}%
8232 \IfBooleanTF{#1}%
8233 {\LWR@print@ref{#2}}%
8234 {\LWR@subnewref{#2}{#2}}%
8235 }
8236
8237 \LWR@formatted{ref}
```

`\LWR@ref@ignorestar` \*  $\langle label \rangle$  For use inside `\hyperref`. Ignores the star, then uses the original `\ref`.

```
8238 \NewDocumentCommand{\LWR@ref@ignorestar}{s m}{%
8239 \LWR@print@ref{#2}%
8240 }
```

`\pagerefPageFor` Text for page references.

```
8241 \newcommand*{\pagerefPageFor}{see }
```

`\pageref` \*  $\langle label \rangle$  Create an internal document reference, or just the unlinked number if starred, per `\hyperref`.

```
8242 \NewDocumentCommand{\LWR@new@pageref}{s m}{%
8243 \IfBooleanTF{#1}%
8244 {(\pagerefPageFor\LWR@print@ref{#2})}%
8245 {(\cpgeref{#2})}%
8246 }
```

`\nameref`  $\{\langle label \rangle\}$

```
8247 \newrobustcmd*{\nameref}[1]{%
8248 \LWR@traceinfo{nameref}%
8249 \LWR@startref{#1}%
8250 \LWR@traceinfo{nameref B}%
8251 \LWR@nameref{#1}%
8252 \LWR@traceinfo{nameref C}%
8253 \LWR@htmltag{/a}%
8254 \LWR@traceinfo{nameref: done}%
8255 }
```

`\Nameref`  $\{\langle label \rangle\}$  In print, adds the page number. In HTML, does not.

```
8256 \LetLtxMacro\Nameref\nameref
```

## 72.5 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.

```
8257 % DO NOT TELL OTHER PACKAGES TO ASSUME HYPERREF, lest they attempt to patch it:
8258 % \EmulatesPackage{hyperref}[2015/08/01]% Disabled. Do not do this.
```

Emulates `hyperref`:

`\@currentHref` Added to support backref.

```
8259 \AtBeginDocument{
8260 \def\@currentHref{%
8261 autopage-\theLWR@currentautosec%
8262 }
8263 }
```

`\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.

```
8264 \NewDocumentCommand{\LWR@subhyperref}{m}{%
8265 \LWR@traceinfo{\LWR@subhyperref !#1!}%
8266 \LWR@sanitize{#1}%
8267 \LWR@htmltag{%
8268     a href="\LWR@sanitized" %
8269     target="\_{}blank"\LWR@orignewline%
8270 }%
8271 }
```

`\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.

```
8272 \newcommand{\LWR@subhyperreftext}[1]{%
8273 #1%
8274 \LWR@htmltag{/a}%
8275 \LWR@ensuredoingapar%
8276 }
```

`\LWR@subhyperrefclass`  $\{\langle URL \rangle\} \{\langle text \rangle\} \{\langle htmlclass \rangle\}$

```
8277 \NewDocumentCommand{\LWR@subhyperrefclass}{m +m m}{%
8278 \LWR@htmltag{%
8279     a href="%
8280         \begingroup\@sanitize#1\endgroup%
8281     " %
8282     class="#3"\LWR@orignewline%
8283 }%
8284 #2%
8285 \LWR@htmltag{/a}%
8286 \LWR@ensuredoingapar%
8287 }
```

`\href`  $[\langle options \rangle] \{\langle URL \rangle\}$

Create a link with accompanying text:

```
8288 \DeclareDocumentCommand{\LWR@hrefb}{O{} m}{%
8289 \LWR@ensuredoingapar%
8290 \LWR@subhyperref{#2}%
8291 \endgroup% restore catcodes
8292 \LWR@subhyperreftext%
```

```

8293 }
8294
8295 \newrobustcmd*{\href}{%
8296 \begingroup%
8297 \catcode'\#=12%
8298 \catcode'\%=12%
8299 \catcode'\&=12%
8300 \catcode'\~=12%
8301 \catcode'\_ =12%
8302 \LWR@hrefb%
8303 }

```

`\nolinkurl`  $\{\langle URL \rangle\}$

Print the name of the link without creating the link:

```

8304 \newcommand*{\LWR@nolinkurl}[1]{%
8305 \LWR@ensuredoingapar%
8306 \def\LWR@templink{#1}%
8307 \@onelevel@sanitize\LWR@templink%
8308 \LWR@templink%
8309 \endgroup%
8310 }
8311
8312 \newrobustcmd*{\nolinkurl}{%
8313 \begingroup%
8314 \catcode'\#=12%
8315 \catcode'\%=12%
8316 \catcode'\&=12%
8317 \catcode'\~=12%
8318 \catcode'\_ =12%
8319 \LWR@nolinkurlb%
8320 }

```

`\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`.

```

8321 \DeclareDocumentCommand{\LWR@urlb}{m}{%
8322 \LWR@ensuredoingapar%
8323 \def\LWR@templink{#1}%
8324 \@onelevel@sanitize\LWR@templink%
8325 \href{\LWR@templink}{\LWR@templink}%
8326 \endgroup%
8327 }

```

```

8328
8329 \newrobustcmd*{\url}{%
8330 \begingroup%
8331 \catcode'\#=12%
8332 \catcode'\%=12%
8333 \catcode'\&=12%
8334 \catcode'\~=12%
8335 \catcode'\_ =12%
8336 \LWR@urlb%
8337 }

```

`\LWR@subinlineimage` [*<alttag>*] [*<class>*] [*<filename>*] [*<extension>*] [*<style>*]

```

8338 \newcommand*{\LWR@subinlineimage}[5][]{%
8339 \ifblank{#1}%
8340 {\LWR@htmltag{img src="#3.#4" alt="#3" style="#5" class="#2"}}%
8341 {\LWR@htmltag{img src="#3.#4" alt="#1" style="#5" class="#2"}}%
8342 }

8343 \end{warpHTML}

```

Table 13: 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<sup>A</sup>T<sub>E</sub>X 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.
- 

## 73 Floats

Floats are supported, although partially through emulation.

Table 13 shows the data structure associated with each `<type>` of float.

`\@makecaption` is redefined to print the float number and caption text, separated by `\CaptionSeparator`, which works with the `babel` package to adjust the caption separator according to the language. French, for example, uses an en-dash instead of a colon: “Figure 123 – Caption text”.

### 73.1 Float environment

for HTML output: 8344 \begin{warpHTML}

\LWR@floatbegin {<type>} [<placement>] Begins a \newfloat environment.

```
8345 \NewDocumentCommand{\LWR@floatbegin}{m o}{%
8346 \ifbool{FormatWP}{\newline}{}%
8347 \LWR@stoppars
```

There is a new float, so increment the unique float counter:

```
8348 \addtocounter{LWR@thisautoid}{1}%
8349 \booltrue{LWR@freezethisautoid}%
```

```
8350 \begingroup%
```

Settings while inside the environment:

```
8351 \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.

```
8352 \LWR@htmltag{%
8353     figure id="\LWR@print@mbox{autoid-\arabic{LWR@thisautoid}}" % space
8354     class="#1 \@nameuse{LWR@floatstyle@#1}"%
8355 }%
8356 \ifbool{FormatWP}{%
8357     \LWR@orignewline%
8358     \LWR@BlockClassWP}{-}{wp#1}%
8359 }{}%
```

Update the caption type:

```
8360 \renewcommand*{\@capttype}{#1}%
8361 \caption@settype{#1}%
```

Mark the float for a word processor conversion:

```
8362 \LWR@startpars%
8363 \ifboolexpr{bool{FormatWP} and bool{WPMarkFloats}}{%
8364
8365 === begin #1 ===
8366
8367 }{}%
```

Look for \centering, etc:

```
8368 \LWR@futurenonSPACElet\LWR@mynexttoken\LWR@floatalignment%
8369 }
```

For koma-script. The following does not work for tables.

```
8370 \AtBeginDocument{
8371 \ifpackageloaded{tocbasic}{
8372 \appto\figure@atbegin{%
8373 \LWR@futurenonSPACElet\LWR@mynexttoken\LWR@floatalignment%
8374 }
8375 }{}
8376 }
```

\@float Support packages which create floats directly.  
 \@dblfloat

```
8377 \let\@float\LWR@floatbegin
8378 \let\@dblfloat\LWR@floatbegin
```

\LWR@floatend Ends a \newfloat environment.

```
8379 \newcommand*{\LWR@floatend}{%
```

If saw a \centering, finish the center environment:

```
8380 \LWR@endfloatalignment%
```

Mark the float end for a word processor conversion:

```
8381 \ifboolexpr{bool{FormatWP} and bool{WPMarkFloats}}{%
8382
8383 === end ===
8384
8385 }{}%
8386 \LWR@stoppars%
```

Close an HTML figure tag:

```
8387 \ifbool{FormatWP}{\endLWR@BlockClassWP}{}%
8388 \LWR@htmlElementend{figure}%
8389 \endgroup%
8390 \boolfalse{LWR@freezethisautoid}%
8391 \LWR@startpars%
8392 \ifbool{FormatWP}{\newline}{}%
8393 }
```

`\end@float` Support packages which create floats directly.  
`\end@dblfloat`

8394 `\let\end@float\LWR@floatend`  
 8395 `\let\end@dblfloat\LWR@floatend`

## 73.2 Float tracking

**Ctrl** `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.

8396 `\newcounter{LWR@thisautoid}`

**Ctrl** `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.

8397 `\newcounter{LWR@thisautoidWP}`

**Bool** `LWR@freezethisautoid` Prevents multiple increments of `\LWR@thisautoid` inside a float.

8398 `\newbool{LWR@freezethisautoid}`  
 8399 `\boolfalse{LWR@freezethisautoid}`

`\LWR@newautoidanchor` Adds a new `<autoid>` anchor.

8400 `\newcommand*{\LWR@newautoidanchor}{%`  
 8401 `\ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%`  
 8402 `{}%`  
 8403 `{`  
 8404 `\ifbool{LWR@freezethisautoid}{}{%`  
 8405 `\addtocounter{LWR@thisautoid}{1}%`  
 8406 `\LWR@htmltag{a id="\LWR@print@mbox{autoid-\arabic{LWR@thisautoid}}"}%`  
 8407 `\LWR@htmltag{/a}%`  
 8408 `}%`  
 8409 `}`  
 8410 `}`

`\@capttype` Remembers which float type is in use.

8411 `\newcommand*{\@capttype}{}`

`\LWR@floatalignmentname` Set to center, flushleft, or flushright if saw `\centering`, `\raggedright`, or `\raggedleft`.

8412 `\newcommand*{\LWR@floatalignmentname}{}`

`\LWR@floatalignment` If sees a `\centering`, `\raggedleft`, or `\raggedright`, creates a center, flushright, or flushleft environment.

```

8413 \newcommand*\LWR@floatalignment}{%
8414 \ifdefstrequal{\LWR@mynexttoken}{\centering}{%
8415     \center%
8416     \renewcommand*\LWR@floatalignmentname}{center}%
8417 }{}%
8418 \ifdefstrequal{\LWR@mynexttoken}{\raggedright}{%
8419     \flushleft%
8420     \renewcommand*\LWR@floatalignmentname}{flushleft}%
8421 }{}%
8422 \ifdefstrequal{\LWR@mynexttoken}{\raggedleft}{%
8423     \flushright%
8424     \renewcommand*\LWR@floatalignmentname}{flushright}%
8425 }{}%
8426 }
```

`\LWR@endfloatalignment` Closes an environment from `\LWR@floatalignment`.

```

8427 \newcommand*\LWR@endfloatalignment}{%
8428 \ifdefvoid{\LWR@floatalignmentname}{\@nameuse{end\LWR@floatalignmentname}}%
8429 \renewcommand*\LWR@floatalignmentname}{}%
8430 }
```

### 73.3 Caption inside a float environment

`\CaptionSeparator` How to separate the float number and the caption text.

```

8431 \AtBeginDocument{\providecommand*\CaptionSeparator}{:~}}
```

`\@makecaption` `{\langle name and num \rangle}{\langle text \rangle}`

Prints the float type and number, the caption separator, and the caption text.

```

8432 \AtBeginDocument{\renewcommand{\@makecaption}[2]{%
8433     \LWR@traceinfo{\@makecaption}%
8434     \LWR@isolate{#1}\CaptionSeparator\LWR@isolate{#2}%
8435     \LWR@traceinfo{\@makecaption: done}%
8436 }%
8437 }
```

### 73.4 Caption and LOF linking and tracking

When a new HTML file is marked in the  $\LaTeX$  PDF file, the  $\LaTeX$  page number at that point is stored in `LWR@latestautopage`, (and the associated filename is remembered by the special  $\LaTeX$  labels). This page number is used to generate an autopage HTML `<id>` in the HTML output at the start of the new HTML file. 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.

```
8438 \newcounter{LWR@nextautoid}
8439 \newcounter{LWR@nextautopage}
```

`\LWRsetnextfloat` `{\langle autopage \rangle}{\langle autoid \rangle}`

This is written to the `.lof`, `.lot` file just before each float's usual entry. The autopage and autoid are remembered for `\l@figure` to use when creating the HTML links.

```
8440 \newcommand*{\LWRsetnextfloat}[2]{%
8441 \setcounter{LWR@nextautopage}{#1}%
8442 \setcounter{LWR@nextautoid}{#2}%
8443 }
```

Ctrl `LWR@latestautopage` Updated each time a new HTML file is begun. `\LWRsetnextfloat` is written with this and the autoid by the modified `\addcontentsline` just before each float's entry.

```
8444 \newcounter{LWR@latestautopage}
8445 \setcounter{LWR@latestautopage}{1}
```

Env `LWR@figcaption` Encapsulates a caption inside `<figcaption>`, and if `FormatWP` then also a `<div>` with an italic style.

```
8446 \newenvironment*{LWR@figcaption}
8447 {%
8448 \LWR@traceinfo{LWR@figcaption env start}%
8449 \LWR@htmlblocktag{figcaption}%
8450 \ifbool{FormatWP}{%
8451 \begin{BlockClass}[font-style:italic]{italic}
8452 \LWR@print@vspace*{\baselineskip}
8453 }{}%
8454 \LWR@traceinfo{LWR@figcaption env start: done}%
```

```

8455 }
8456 {%
8457   \LWR@traceinfo{LWR@figcaption env end}%
8458   \ifbool{FormatWP}{\end{BlockClass}}{}%
8459   \LWR@htmlblocktag{/figcaption}%
8460   \LWR@traceinfo{LWR@figcaption env end: done}%
8461 }

```

`\LWR@HTML@caption@begin` `{\langle type \rangle}`

Low-level patches to create HTML tags for captions.

```

8462 \newcommand*{\LWR@HTML@caption@begin}[1]
8463 {
8464   \LWR@traceinfo{LWR@HTML@caption@begin}%

```

Keep par and minipage changes local:

```

8465 \begingroup%

```

The caption code was not allowing the closing par tag:

```

8466 \@setpar{\LWR@closeparagraph\@par}%

```

No need for a minipage or `\parbox` inside the caption:

```

8467 \RenewDocumentEnvironment{minipage}{O{t} o O{t} m}{-}{-}%
8468 \RenewDocumentCommand{\parbox}{O{t} o O{t} m +m}{##5}%

```

Enclose the original caption code inside an HTML tag:

```

8469 \LWR@figcaption%
8470 \LWR@traceinfo{LWR@HTML@caption@begin: about to LWR@origcaption@begin}%
8471 \LWR@print@caption@begin{#1}%
8472 \LWR@traceinfo{LWR@HTML@caption@begin: done}%
8473 }

```

`\LWR@HTML@caption@end` Low-level patches to create HTML tags for captions.

```

8474 \newcommand*{\LWR@HTML@caption@end}
8475 {%
8476   \LWR@traceinfo{LWR@HTML@caption@end}%
8477   \LWR@print@caption@end%

```

Closing tag:

```

8478 \endLWR@figcaption%

```

```

8479 \endgroup%
8480 % \leavevmode% avoid bad space factor (0) error
8481 \LWR@traceinfo{LWR@HTML@caption@end: done}%
8482 }

```

`\caption@begin` Low-level patches to create HTML tags for captions. These are assigned `\AtBeginDocument`  
`\caption@end` so that other packages which modify captions will have already been loaded before  
saving the print-mode version.

```

8483 \AtBeginDocument{
8484 \LWR@formatted{caption@begin}
8485 \LWR@formatted{caption@end}
8486 }

```

`\captionlistentry` Tracks the float number for this caption used outside a float. Patched to create an  
HTML anchor.

```

8487 \let\LWR@origcaptionlistentry\captionlistentry
8488
8489 \renewcommand*{\captionlistentry}{%
8490 \LWR@ensuredoingapar%
8491 \LWR@origcaptionlistentry%
8492 }
8493
8494 \def\LWR@LTcaptionlistentry{%
8495 \LWR@ensuredoingapar%
8496 \LWR@htmltag{a id="\LWR@print@mbox{autoid-\arabic{LWR@thisautoid}}"}\LWR@htmltag{/a}%
8497 \bgroup
8498 \@ifstar{\egroup\LWR@LT@captionlistentry}% gobble *
8499 {\egroup\LWR@LT@captionlistentry}}%
8500 \def\LWR@LT@captionlistentry#1{%
8501 \caption@listentry\@firstoftwo[\LTcaptype]{#1}}%

```

`\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

```

8502 \let\LWR@origaddcontentsline\addcontentsline
8503
8504 \renewcommand*{\addcontentsline}[3]{%
8505 \ifstrequal{#1}{toc}{-}{-}% not TOC

8506 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
8507 {}%
8508 {\LWR@newautoidanchor}%

```

```

8509     \ifcsvoid{ext@#2}{\csdef{ext@#2}{#1}}{}%

8510     \addtocontents{\@nameuse{ext@#2}}{%
8511         \protect\LWRsetnextfloat%
8512         {\arabic{LWR@latestautopage}}%
8513         {\arabic{LWR@thisautoid}}%
8514     }%
8515 }% not TOC
8516 \LWR@origaddcontentsline{#1}{#2}{#3}%
8517 }

```

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.

```

8518 \AtBeginDocument{
8519 \let\LWR@origcaptionof\captionof
8520
8521 \renewcommand*{\captionof}{%
8522 \LWR@stoppars
8523 \LWR@origcaptionof%
8524 }
8525 }

8526 \end{warpHTML}

```

## 74 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<sup>A</sup>T<sub>E</sub>X infrastructure is used for toc, along with some patches to generate HTML output.

for HTML output: 8527 `\begin{warpHTML}`

## 74.1 Reading and printing the toc

`\LWR@myshorttoc`  $\{\langle toc/lof/lot/sidetoc \rangle\}$

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<sup>A</sup>T<sub>E</sub>X, the file is not reset after being read, since the sideroc may be referred to again in each HTML page.

```
8528 \newcommand*\LWR@myshorttoc}[1]{%
8529 \LWR@traceinfo{\LWR@myshorttoc: #1}%
8530 \LWR@ensuredoingapar%
```

Only if the file exists:

```
8531 \IfFileExists{\jobname.#1}{%
8532 \LWR@traceinfo{\LWR@myshorttoc: loading}%
```



Many of the commands in the file will have @ characters in them, so @ must be made a regular letter.

```
8533 \begingroup%
8534 \makeatletter%
```

Read in the TOC file:

```
8535 \@input{\jobname.#1}%
8536 \endgroup%
8537 }%
8538 {}%
8539 \LWR@traceinfo{\LWR@myshorttoc: done}%
8540 }
```

`\LWR@subtableofcontents`  $\{\langle toc/lof/lot \rangle\} \{\langle sectionstarname \rangle\}$

Places a TOC/LOF/LOT at the current position.

```
8541 \NewDocumentCommand{\LWR@subtableofcontents}{m m}{%
```

Closes previous levels:

```
8542 \@ifundefined{chapter}
8543 {\LWR@closeprevious{\LWR@depthsection}}
8544 {\LWR@closeprevious{\LWR@depthchapter}}
```

Prints any pending footnotes so that they appear above the potentially large toc:

```
8545 \LWR@printpendingfootnotes
```

Place the list into its own chapter (if defined) or section:

```
8546 \@ifundefined{chapter}{\section*{#2}}{\chapter*{#2}}
```

Create a new HTML nav containing the TOC/LOF/LOT:

```
8547 \LWR@htmlelementclass{nav}{#1}
```

Create the actual list:

```
8548 \LWR@myshorttoc{#1}
```

Close the nav:

```
8549 \LWR@htmlelementclassend{nav}{#1}
8550 }
```

```
\@starttoc {<ext>}
```

Patch \@starttoc to encapsulate the toc inside HTML tags:

```
8551 \let\LWR@orig@starttoc\@starttoc
8552
8553 \renewcommand{\@starttoc}[1]{
8554 \LWR@htmlelementclass{nav}{#1}
8555 \LWR@orig@starttoc{#1}
8556 \LWR@htmlelementclassend{nav}{#1}
8557 }
```

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.)

```
8558 \newbool{LWR@copiedsidetoc}
8559 \boolfalse{LWR@copiedsidetoc}
```

\tableofcontents Patch \tableofcontents, etc. to print footnotes first. newfloat uses \listoffigures for all future float types.

```
8560 \AtBeginDocument{
```

```

8561 \let\LWR@origtableofcontents\tableofcontents
8562
8563 \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:

```

8564 \ifbool{FormatWP} and bool{WPMarkTOC}}{
8565
8566 === table of contents ===
8567
8568 }
8569 {

```

Copy the .toc file to .sidetoc for printing the sideroc. The original .toc file is renewed when \tableofcontents is finished.

```

8570   \ifbool{LWR@copiedsidetoc}}{%
8571       \LWR@copyfile{\jobname.toc}{\jobname.sidetoc}%
8572       \booltrue{LWR@copiedsidetoc}%
8573   }%
8574   \LWR@printpendingfootnotes
8575   \LWR@origtableofcontents
8576 }
8577 }% \tableofcontents
8578 }% AtBeginDocument

```

## \listoffigures

```

8579 \let\LWR@origlistoffigures\listoffigures
8580
8581 \renewcommand*{\listoffigures}{
8582 \ifbool{FormatWP} and bool{WPMarkLOFT}}{
8583
8584 === list of figures ===
8585
8586 }
8587 {
8588   \LWR@printpendingfootnotes
8589   \LWR@origlistoffigures
8590 }
8591 }

```

## \listoftables

```

8592 \let\LWR@origlistoftables\listoftables
8593
8594 \renewcommand*{\listoftables}{

```

```

8595 \ifboolexpr{bool{FormatWP} and bool{WPMarkLOFT}}{
8596
8597 === list of tables ===
8598
8599 }
8600 {
8601     \LWR@printpendingfootnotes
8602     \LWR@origlistoftables
8603 }
8604 }

```

## 74.2 High-level toc commands

`\listof`  $\langle type \rangle$   $\langle title \rangle$

Emulate the `\listof` command from the float package (section 210). Used to create lists of custom float types. Also used to redefine the standard L<sup>A</sup>T<sub>E</sub>X `\listoffigures` and `\listoftables` commands.

```

8605 \NewDocumentCommand{\listof}{m +m}{%
8606 \ifundefined{l@#1}{%
8607     \csdef{l@#1}##1##2{\hypertocfloat{1}{#1}{\@nameuse{ext@#1}}{##1}{##2}}%
8608 }{}%
8609 \LWR@subtableofcontents{\@nameuse{ext@#1}}{#2}
8610 \expandafter\newwrite\csname tf@\csname ext@#1\endcsname\endcsname
8611 \immediate\openout \csname tf@\csname ext@#1\endcsname\endcsname
8612     \jobname.\@nameuse{ext@#1}\relax
8613 }

```

## 74.3 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.

css may be used to format the sideTOC:

---

*CSS related to sideTOC:*

**nav.sidetoc:** The entire sideroc.

**div.sidetoctitle:** The title.

**div.sidetoccontents:** The table of contents.

---

```
8614 \end{warpHTML}
```

**for HTML & PRINT:** 8615 \begin{warpall}

Ctr SideTOCDepth Controls how deep the side-TOC gets. Use a standard  $\LaTeX$  section level similar to tocdepth.

```
8616 \newcounter{SideTOCDepth}
8617 \setcounter{SideTOCDepth}{1}
```

\sitetocname Holds the default name for the sidetoc.

```
8618 \newcommand{\sitetocname}{Contents}
```

```
8619 \end{warpall}
```

**for HTML output:** 8620 \begin{warpHTML}

\LWR@sitetoc Creates the actual side-TOC.

```
8621 \newcommand*{\LWR@sitetoc}{
8622 \LWR@forcenewpage
8623 \LWR@stoppars
8624 }
```

The entire sidetoc is placed into a nav of class sidetoc.

```
8625 \LWR@htmlclass{nav}{sidetoc}
8626
8627 \setcounter{tocdepth}{\value{SideTOCDepth}}
8628
```

The title is placed into a <div> of class sidetoc title, and may contain paragraphs.

```
8629 \begin{BlockClass}{sidetoc title}
8630 \sitetocname
8631 \end{BlockClass}
```

The table of contents is placed into a <div> of class sidetoc contents.

```
8632 \begin{BlockClass}{sidetoc contents}
8633 \LinkHome
8634
8635 \LWR@myshorttoc{sidetoc}
8636 \end{BlockClass}
8637 \LWR@htmlclassend{nav}{sidetoc}
8638 }
```

## 74.4 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:

```
8639 \newcommand*{\LWR@numberline}[1]{%
8640 \LWR@sectionnumber{#1}\quad%
8641 }
8642
8643 \LetLtxMacro\numberline\LWR@numberline
```

`\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

```
8644 \NewDocumentCommand{\hypertoc}{m m +m m}{%
8645 \LWR@traceinfo{hypertoc !#1!#2!#3!#4!}%
```

Respond to `tocdepth`:

```
8646 \ifthenelse{\cnttest{#1}{<=}{\value{tocdepth}}}{%
8647 \LWR@startpars%
```

Create an HTML link to `filename#autosec-(page)`, with the name, of the given HTML class.

```
8648 \LWR@subhyperrefclass{%
8649 \LWR@htmlrefsectionfilename{autopage-#4}\LWR@origpound\LWR@print@mbox{autosec-#4}%
8650 }{#3}{toc#2}%
8651 \LWR@stoppars%
8652 }%
8653 {}%
8654 \LWR@traceinfo{hypertoc done}%
8655 }
```

Ctrl lofdepth TOC depth for figures.

```
8656 \@ifclassloaded{memoir}{%
8657 \newcounter{lofdepth}
8658 \setcounter{lofdepth}{1}
8659 }
```

Ctrl lotdepth TOC depth for tables.

```
8660 \@ifclassloaded{memoir}{%
8661 \newcounter{lotdepth}
8662 \setcounter{lotdepth}{1}
8663 }
```

`\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

```
8664 \newcommand{\hypertocfloat}[5]{%
8665 \LWR@startpars
```

If some float-creation package has not yet defined the float type's lofdepth counter, etc, define it here:

```
8666 \@ifundefined{c#3depth}{%
8667 \newcounter{#3depth}%
8668 \setcounter{#3depth}{1}%
8669 }{}%
```

Respond to lofdepth, etc.:

```
8670 \LWR@traceinfo{\hypertocfloat depth is #1 #3depth is \arabic{#3depth}}%
8671 \ifthenelse{\cnttest{#1}{<=}}{\arabic{#3depth}}{%
8672 \LWR@startpars%
```

Create an HTML link to filename#autoid-(float number), with text of the caption, of the given HTML class.

```

8673 \LWR@subhyperrefclass{%
8674 \LWR@htmlrefsectionfilename{autopage-\arabic{LWR@nextautopage}}%
8675 \LWR@origpound\LWR@print@mbbox{autoid-\arabic{LWR@nextautoid}}}%
8676 {#4}{toc#2}%
8677 \LWR@stoppars%
8678 }{}%
8679 }

```

Automatically called by `\contentsline`:

`\l@part`    `{\langle name\rangle}{\langle page\rangle}`

Uses `\DeclareDocumentCommand` in case the class does not happen to have a `\part`.

```

8680 \DeclareDocumentCommand{\l@part}{m m}{\hypertoc{-1}{part}{#1}{#2}}

```

`\l@chapter`    `{\langle name\rangle}{\langle page\rangle}`

Uses `\DeclareDocumentCommand` in case the class does not happen to have a `\chapter`.

```

8681 \@ifundefined{chapter}
8682 {}
8683 {
8684 \DeclareDocumentCommand{\l@chapter}{m m}
8685   {\hypertoc{0}{chapter}{#1}{#2}}
8686 }

```

`\l@section`    `{\langle name\rangle}{\langle page\rangle}`

```

8687 \renewcommand{\l@section}[2]{\hypertoc{1}{section}{#1}{#2}}

```

`\l@subsection`    `{\langle name\rangle}{\langle page\rangle}`

```

8688 \renewcommand{\l@subsection}[2]{\hypertoc{2}{subsection}{#1}{#2}}

```

`\l@subsubsection`    `{\langle name\rangle}{\langle page\rangle}`

```

8689 \renewcommand{\l@subsubsection}[2]{\hypertoc{3}{subsubsection}{#1}{#2}}

```

`\l@paragraph`    `{\langle name\rangle}{\langle page\rangle}`

```

8690 \renewcommand{\l@paragraph}[2]{\hypertoc{4}{paragraph}{#1}{#2}}

```

`\l@subparagraph`  $\{\langle name \rangle\} \{\langle page \rangle\}$

8691 `\renewcommand{\l@subparagraph}[2]{\hypertoc{5}{subparagraph}{#1}{#2}}`

`\l@figure`  $\{\langle name \rangle\} \{\langle page \rangle\}$

8692 `\renewcommand{\l@figure}[2]{\hypertocfloat{1}{figure}{lof}{#1}{#2}}`

`\l@table`  $\{\langle name \rangle\} \{\langle page \rangle\}$

8693 `\renewcommand{\l@table}[2]{\hypertocfloat{1}{table}{lot}{#1}{#2}}`

8694 `\end{warpHTML}`

## 75 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:** 8695 `\begin{warpHTML}`

8696 `\newcounter{LWR@autoindex}`

8697 `\setcounter{LWR@autoindex}{0}`

8698

8699 `\newcounter{LWR@autoglossary}`

8700 `\setcounter{LWR@autoglossary}{0}`

Env `theindex`

8701 `\@ifundefined{chapter}`

8702 `{\newcommand*{\LWR@indexsection}[1]{\section*{#1}}}`

8703 `{\newcommand*{\LWR@indexsection}[1]{\chapter*{#1}}}`

8704

8705 `\AtBeginDocument{`

8706 `\renewenvironment*{theindex}{%`

8707 `\LWR@indexsection{\indexname}%`

8708 `\let\item\LWR@indexitem%`

```

8709 \let\subitem\LWR@indexsubitem%
8710 \let\subsubitem\LWR@indexsubsubitem%
8711 }{}
8712 }% AtBeginDocument

```

`\LWR@indexitem` [*<index key>*] The optional argument is added to support repeatindex.

```

8713 \newcommand{\LWR@indexitem}[1][\@empty]{
8714
8715 \InlineClass{indexitem}{#1%
8716 }

```

`\LWR@indexsubitem`

```

8717 \newcommand{\LWR@indexsubitem}{
8718
8719 \InlineClass{indexsubitem}{
8720 }

```

`\LWR@indexsubsubitem`

```

8721 \newcommand{\LWR@indexsubsubitem}{
8722
8723 \InlineClass{indexsubsubitem}{
8724 }

```

`\@wrindex` {*<term>*} Redefined to write the LWR@autoindex counter instead of page.

```

8725 \def\LWR@wrindex#1{%
8726 \addtocounter{LWR@autoindex}{1}%
8727 \LWR@new@label{LWRindex-\arabic{LWR@autoindex}}%
8728 \protected@write\@indexfile{%
8729 {\string\indexentry{#1}{\arabic{LWR@autoindex}}}%
8730 \endgroup
8731 \@esphack}
8732
8733 \AtBeginDocument{
8734 \let\@wrindex\LWR@wrindex
8735 }

```

`\@wrglossary` {*<term>*} Redefined to write the LWR@latestautopage counter instead of page.

```

8736 \def\@wrglossary#1{%
8737 \addtocounter{LWR@autoglossary}{1}%
8738 \LWR@new@label{LWRglossary-\theLWR@autoglossary}%
8739 \protected@write\@glossaryfile{%

```

```

8740 {\string\glossaryentry{#1}{\theLWR@autoglossary}}%
8741 \endgroup
8742 \@esphack}

```

`\LWR@indexnameref`    `{\LWR@autoindex}`

Creates a hyperlink based on the given entry's autoindex.

```

8743 \newcommand*{\LWR@indexnameref}[1]{\nameref{LWRindex-#1}}

```

`\LWR@doindexentry`    `{\LWR@autoindex, or macros.}`

Creates a hyperlink, or handles `\see`, `\textbf`, etc.

```

8744 \newrobustcmd{\LWR@doindexentry}[1]{%
8745 \IfInteger{#1}%
8746   {\LWR@indexnameref{#1}}%
8747   {#1}}%
8748 }

```

`\LWR@hyperindexrefnullified`    Handles macros commonly seen inside an `\index` entry.

To handle additional macros:

```

\appto\LWR@hyperindexrefnullified{...}

```

```

8749 \newcommand{\LWR@hyperindexrefnullified}{%
8750 \renewrobustcmd{\emph}[1]{\LWR@HTML@emph{\LWR@doindexentry{##1}}}%
8751 \renewrobustcmd{\textbf}[1]{\LWR@HTML@textbf{\LWR@doindexentry{##1}}}%
8752 \renewrobustcmd{\textrm}[1]{\LWR@HTML@textrm{\LWR@doindexentry{##1}}}%
8753 \renewrobustcmd{\textsf}[1]{\LWR@HTML@textsf{\LWR@doindexentry{##1}}}%
8754 \renewrobustcmd{\texttt}[1]{\LWR@HTML@texttt{\LWR@doindexentry{##1}}}%
8755 \renewrobustcmd{\textup}[1]{\LWR@HTML@textup{\LWR@doindexentry{##1}}}%
8756 \renewrobustcmd{\textsc}[1]{\LWR@HTML@textsc{\LWR@doindexentry{##1}}}%
8757 \renewrobustcmd{\textit}[1]{\LWR@HTML@textit{\LWR@doindexentry{##1}}}%
8758 \renewrobustcmd{\textsl}[1]{\LWR@HTML@textsl{\LWR@doindexentry{##1}}}%
8759 }

```

`\hyperindexref`    `{\LWR@autoindex}`

`\hyperindexref{LWR@autoindex}` is inserted into `*.ind` by the `makeindex` style file `lwarp.ist` or the `xindy` style file `lwarp.xdy`.

```

8760 \newcommand{\hyperindexref}[1]{%
8761 \IfInteger{#1}%
8762   {\LWR@indexnameref{#1}}%

```

```

8763    {%
8764        \begingroup%
8765        \LWR@hyperindexrefnullified
8766        #1%
8767        \endgroup%
8768    }%
8769 }

8770 \end{warpHTML}

```

**for PRINT output:** A null command for print mode, in case hyperref was not used:

```

8771 \begin{warpprint}
8772 \newcommand{\hyperindexref}[1]{#1}
8773 \end{warpprint}

```

**for HTML & PRINT:** For the glossaries package, try to prevent an error where \glo@name was not found:

```

8774 \begin{warppall}
8775 \providecommand{\glo@name}{}
8776 \end{warppall}

```

## 76 Bibliography presentation

**for HTML output:** 8777 \begin{warpHTML}

\bibliography {<filenames>}

Modified to use the base jobname instead of the \_html jobname.

```

8778 \def\bibliography#1{%
8779     \if@filesw
8780     \immediate\write\@auxout{\string\bibdata{#1}}%
8781     \fi
8782 %     \@input@{\jobname.bbl}% original
8783     \begingroup%
8784     \@input@{\BaseJobname.bbl}% lwarp
8785     \endgroup%
8786 }

```

\@biblabel {<text-refnumber>}

```

8787 \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>

```

8788 \AtBeginDocument{
8789 \AtBeginEnvironment{thebibliography}{
8790 \providecommand*{\LWR@newem}[1]{\textit{#1}}
8791
8792 \renewrobustcmd{\em}{%
8793   \begingroup
8794     \gdef\LWR@em@after{\LWR@em@finish\LWR@newem}%
8795     \afterassignment\LWR@em@after
8796     \toks@\bgroup
8797 }
8798
8799 \def\LWR@em@finish#1{%
8800   \xdef\LWR@em@after{\noexpand#1{\the\toks@}}%
8801   \endgroup
8802   \LWR@em@after\egroup
8803 }
8804 }% \AtBeginEnvironment{thebibliography}
8805 }% \AtBeginDocument

8806 \end{warpHTML}

```

## 77 Restoring original formatting

`\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`.

for HTML output: 8807 `\begin{warpHTML}`

```

8808 \newcommand*{\LWR@restoreorigformatting}{%
8809 \LWR@traceinfo{\LWR@restoreorigformatting}%

```

Numerous macros change their print/HTML meaning depending on \LWR@formatting:

```

8810 \renewcommand*{\LWR@formatting}{print}%
8811 \linespread{1}%

8812 \let\par\LWR@origpar%

8813 \LWR@select@print@hspace%

8814 \LetLtxMacro\hfil\LWR@origfil%
8815 \let\hss\LWR@orighss%
8816 \let\llap\LWR@origllap%
8817 \let\rlap\LWR@origrlap%
8818 \let\hfilneg\LWR@origfilneg%

8819 \let\,\LWR@origcomma% disable HTML short unbreakable space
8820 \let\thinspace\LWR@origthinspace% disable HTML short unbreakable space
8821 \let\negthinspace\LWR@orignegthinspace% disable HTML negative short unbreakable space
8822 \let\textellipsis\LWR@origtextellipsis%
8823 \let\textless\LWR@origtextless%
8824 \let\textgreater\LWR@origtextgreater%
8825 \LetLtxMacro\rmfamily\LWR@origrmfamily%
8826 \LetLtxMacro\sffamily\LWR@origsffamily%
8827 \LetLtxMacro\ttfamily\LWR@origttfamily%
8828 \LetLtxMacro\bfseries\LWR@origbfseries%
8829 \LetLtxMacro\mdseries\LWR@origmdseries%
8830 \LetLtxMacro\upshape\LWR@origupshape%
8831 \LetLtxMacro\slshape\LWR@origslshape%
8832 \LetLtxMacro\scshape\LWR@origscshape%
8833 \LetLtxMacro\itshape\LWR@origitshape%
8834 \LetLtxMacro\em\LWR@origem%
8835 \LetLtxMacro\normalfont\LWR@orignormalfont%
8836 \let\sp\LWR@origsp%
8837 \let\sb\LWR@origsb%
8838 \LetLtxMacro\textsuperscript\LWR@origtextsuperscript%
8839 \LetLtxMacro\@textsuperscript\LWR@orig@textsuperscript%
8840 \LetLtxMacro\textsubscript\LWR@origtextsubscript%
8841 \LetLtxMacro\@textsubscript\LWR@orig@textsubscript%
8842 \LetLtxMacro\underline\LWR@origunderline%
8843 \let~\LWR@origtilde%
8844 \let\enskip\LWR@origenskip%
8845 \let\quad\LWR@origquad%
8846 \let\qqquad\LWR@origqqquad%
8847 \LetLtxMacro\tabular\LWR@origtabular%
8848 \LetLtxMacro\endtabular\LWR@origendtabular%
8849 \LetLtxMacro\noalign\LWR@orignoalign%
8850 \LetLtxMacro\hline\LWR@orighline%
8851 \let\newline\LWR@orignewline%

```

```

8852 \LetLtxMacro\includegraphics\LWR@originincludegraphics%
8853 \let\TeX\LWR@origTeX%
8854 \let\LaTeX\LWR@origLaTeX%
8855 \let\LaTeXe\LWR@origLaTeXe%
8856 \renewcommand*{\Xe}{X\textsubscript{E}}%

8857 \LetLtxMacro\@ensuredmath\LWR@origensuredmath%
8858 %
8859 \LWR@restoreorigaccents%
8860 \LWR@restoreoriglists%
8861 %
8862 \LWR@FBcancel%
8863 }

8864 \end{warpHTML}

```

## 78 Math

### 78.1 Limitations

#### 78.1.1 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<sup>A</sup>T<sub>E</sub>X-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 11 regarding EPUB output with MATHJAX.

### 78.1.2 svg option

**SVG math option** For svg math, math is rendered as usual by L<sup>A</sup>T<sub>E</sub>X into the initial PDF file using the current font<sup>18</sup>, 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<sup>A</sup>T<sub>E</sub>X 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<sup>A</sup>T<sub>E</sub>X code which generated the math, allowing copy/paste of the L<sup>A</sup>T<sub>E</sub>X 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<sup>A</sup>T<sub>E</sub>X 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<sup>A</sup>T<sub>E</sub>X math expression.

 **SVG math in T<sub>E</sub>X boxes** SVG math does not work inside T<sub>E</sub>X boxes, since a \newpage is required before and after each image.

### 78.1.3 MATHJAX option

**MATHJAX math option** The popular MATHJAX alternative ([mathjax.org](http://mathjax.org)) may be used to display math.

Prog MathJax

When MATHJAX is enabled, math is rendered twice:

1. As regular L<sup>A</sup>T<sub>E</sub>X PDF output placed inside an HTML comment, allowing equation numbering and cross referencing to be almost entirely under the control of L<sup>A</sup>T<sub>E</sub>X, and

---

<sup>18</sup>See section 435 regarding fonts and fractions.

2. As detokenized printed L<sup>A</sup>T<sub>E</sub>X 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<sup>A</sup>T<sub>E</sub>X values, and the MATHJAX cross-referencing system is ignored in favor of the L<sup>A</sup>T<sub>E</sub>X internal system, seamlessly integrating with the rest of the L<sup>A</sup>T<sub>E</sub>X code.

#### 78.1.4 Customizing MATHJAX

MATHJAX does not have preexisting support every possible math function. Additional MATHJAX function definitions may be defined. These will be declared at the start of each HTML page, and thus will have a global effect.

Examples:

```
\CustomizeMathJax{
  \newcommand{\expval}[1]{\langle#1\rangle}
  \newcommand{\abs}[1]{\lvert#1\rvert}
}
\CustomizeMathJax{\newcommand{\arsinh}{\text{arsinh}}}
\CustomizeMathJax{\newcommand{\arcosh}{\text{arcosh}}}
\CustomizeMathJax{\newcommand{\NN}{\mathbb{N}}}
```

#### 78.1.5 MATHJAX limitations

##### MATHJAX limitations

Limitations when using MATHJAX include:

Prog MathJax

subequations

footnotes in math

lateximage

siunitx

⚠ siunitx inside an equation

tabbing

- MATHJAX itself does not support subequations. This may be improved by parsing the L<sup>A</sup>T<sub>E</sub>X math expression to manually insert tags, but this has not yet been done.
- Footnotes inside equations are not yet supported while using MATHJAX.
- 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.
- Usage of siunitx inside a math equation is supported via a third-party MATHJAX extension. While inside a math expression, do not use \SI or \si inside \text, where it will be rendered as normal text.  
<https://github.com/burnpanck/MathJax-siunitx>  
 Also see section 9.6.10.
- 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.

### other macros and packages

- Other math-related macros and packages are not supported by MATHJAX, including `\ensuremath` and `\bigdelim`, along with occasionally-used macros such as `\relax`. lwarp emulates footnotes, units, and `nicefrac` for MathJax.

#### 78.1.6 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.

#### 78.1.7 Complicated inline math objects

`\inlinemathnormal`  
`\inlinemathother`

##### changing contents complicated alt tag

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. Another problem is complicated contents which do not expand well in an alt tag. The macro `\inlinemathother` may be used before a dynamic math expression, and `\inlinemathnormal` after. Doing so tells lwarp to use an unhashed svg math image, even if MathJax is in use. See section 44.

#### 78.1.8 Complicated display math objects

`\displaymathnormal`

By default, or when selecting `\displaymathnormal`, MATHJAX math display environments print their contents as text into HTML, 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.

**MathJax unsupported complicated alt tag**

## 78.2 HTML alt tag names

Redefinable names for the HTML alt tags, for translation according to the reader's native language.

**for HTML & PRINT:** 8865 `\begin{warpall}`

`\mathimagenam` The HTML alt tag for an SVG math image.  
 Default: "math image"

8866 `\newcommand*{\mathimagenam}{math image}`

`\packagediagramname` Appended to the lateximage HTML alt tag for the images generated by many packages.  
 Default: "diagram"

8867 `\newcommand*{\packagediagramname}{diagram}`

8868 `\end{warpall}`

## 78.3 Inline and display math

**for HTML output:** 8869 `\begin{warpHTML}`

**Ctrl LWR@externalfilecnt** Counter for the external files which are generated and then referenced from the HTML:

8870 `\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.

8871 `\newbool{LWR@indisplaymathimage}`

`\$` Plain dollar signs appearing in the HTML output may be interpreted by MATHJAX to be math shifts. For a plain text dollar `\$`, 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.

```
8872 \let\LWR@origtextdollar\$
8873
8874 \renewcommand*{\$}{%
8875 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
8876 {\LWR@origtextdollar}%
8877 {\HTMLentity{dollar}}%
8878 }
```

File `lwarp_baseline_marker.png` A marker to be used to help *pdfcrop* identify the inline math baseline and width. If 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 `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`.

`\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.

```
8879 \AtBeginDocument{
8880
8881 \ifpdf
8882   \newcommand*{\LWR@baselinename}{lwarp_baseline_marker.png}
8883 \else
8884   \ifXeTeX
8885     \newcommand*{\LWR@baselinename}{lwarp_baseline_marker.png}
8886   \else
8887     \newcommand*{\LWR@baselinename}{lwarp_baseline_marker.eps}
8888   \fi
8889 \fi
8890
8891 \IfFileExists{\LWR@baselinename}%
8892 {
8893   \@ifpackageloaded{graphicx}{
8894     \newcommand*{\LWR@addbaselinemarker}{%
```

```

8895         \LWR@originincludegraphics{\LWR@baselinename}%
8896     }
8897   }{
8898     \@ifpackageloaded{graphics}{
8899       \newcommand*\LWR@addbaselinemarker}{%
8900         \LWR@originincludegraphics{\LWR@baselinename}%
8901       }
8902     }{
8903       \PackageWarning{lwarp}{Load graphicx or graphics
8904         for improved SVG math baselines,}
8905       \newcommand*\LWR@addbaselinemarker}{%
8906     }
8907   }
8908 }{% lwarp_baseline_marker.png or .eps is not present
8909   \PackageWarning{lwarp}{File \LWR@baselinename\space is not installed alongside
8910     the lwarp-*.sty files, so SVG math baselines may not be accurate,}
8911   \newcommand*\LWR@addbaselinemarker}{%
8912 }
8913
8914 }% AtBeginDocument

```

`\LWR@subsingledollar` \*  $\{ \langle 2: \textit{alt text} \rangle \} \{ \langle 3: \textit{add'l hashing} \rangle \} \{ \langle 4: \textit{math expression} \rangle \}$

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`.

**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  $\text{\TeX}$  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.

```

8915 \newlength{\LWR@singledollarwidth}
8916 \newlength{\LWR@singledollarheight}
8917 \newlength{\LWR@singledollardepth}
8918
8919 \newsavebox{\LWR@singledollarbox}
8920
8921 \NewDocumentCommand{\LWR@subsingledollar}{s m m m}{%
8922   \LWR@traceinfo{\LWR@subsingledollar}%

```

```

8923 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
8924 {%
8925 \LWR@traceinfo{LWR@subsingledollar: already in a lateximage}%
8926     #4% contents
8927 }%
8928 {% not in a lateximage
8929 \begingroup%

```

MathJax cannot parse the often complicated T<sub>E</sub>X expressions which appear in the various uses of `\ensuredmath`. `\ensuremath` forces the alt tag to “(math image)”, as translated according to `\mathimagenam`. 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:

```

8930 \ifboolexpr{%
8931     (
8932         bool{mathjax} or
8933         ( bool{FormatWP} and bool{WPMarkMath} )
8934     ) and
8935     ( not test { \ifstrequal {#2} {(\mathimagenam)} } ) and % from \ensuredmath
8936     ( not bool{LWR@dynamicmath} )
8937 }%

```

For MATHJAX, print the math between `\(` and `\)`:

```

8938 {%
8939     \LWR@traceinfo{LWR@subsingledollar: Mathjax}%
8940     {\textbackslash\LWR@HTMLsanitize{#4}\textbackslash}}%
8941 }% mathjax

```

For SVG, print the math inside a `lateximage`, with an `<alt>` tag of the L<sup>A</sup>T<sub>E</sub>X code, and a CSS style to control the baseline adjustment.

```

8942 {% not mathjax
8943 \LWR@traceinfo{LWR@subsingledollar: NOT mathjax, or is ensuremath, or is dynamic}%

```

Measure the depth, width, and height of the math image:

```

8944     \begingroup%

```

Temporarily disable formatting while measuring the image parameters:

```

8945     \LWR@restoreorigformatting%
8946     \RenewDocumentEnvironment{lateximage}{s o o o}{\}{\}% inside group
8947     \LWR@print@normalsize%

```

Temporarily set font for the HTML PDF output:

```

8948 \LWR@traceinfo{Using font family \LWR@f@family}%
8949 \@nameuse{\LWR@orig\LWR@f@family family}%
8950 \LWR@traceinfo{Using font series \LWR@f@series}%
8951 \@nameuse{\LWR@orig\LWR@f@series series}%
8952 \LWR@traceinfo{Using font shape \LWR@f@shape}%
8953 \@nameuse{\LWR@orig\LWR@f@shape shape}%

```

`lateximagedepth` must be nested to avoid generating paragraph tags.  $\mathcal{AMS}$  math modifies the `\text` macro such that `\addtocounter` does not always occur as expected. Lower-level code is used instead.

```

8954 \global\advance\c@LWR@lateximagedepth 1\relax%

```

Typeset and save the contents, depending on how they were generated:

**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”.

```

8955 \ifmmode%
8956 \global\sbox{\LWR@singledollarbox}{#4}%
8957 \else%
8958 \ifbool{\LWR@dynamicmath}{%
8959 \ifbool{\mathjax}{%
8960 \global\sbox{\LWR@singledollarbox}{\LWR@origensuredmath{#4}}%
8961 }{%
8962 \global\sbox{\LWR@singledollarbox}{#4}%
8963 }%
8964 }{%
8965 \global\sbox{\LWR@singledollarbox}{#4}%
8966 }%
8967 \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.

```

8968   \global\sbox{\LWR@singledollarbox}{%
8969       \usebox{\LWR@singledollarbox}%
8970       \raisebox{-\dp\LWR@singledollarbox}{%
8971           \LWR@addbaselinemarker%
8972       }%
8973   }%
```

More low-level code to undo the counter change.

```

8974   \global\advance\c@LWR@lateximagedepth -1\relax% Due to AmS \text macro.
```

Measure the depth:

```

8975   \setlength{\LWR@singledollardepth}{%
8976       \LateximageFontScale\dp\LWR@singledollarbox%
8977   }%
```

Make the length a global change:

```

8978   \global\LWR@singledollardepth=\LWR@singledollardepth%
```

Likewise for width:

```

8979   \setlength{\LWR@singledollarwidth}{%
8980       \LateximageFontScale\wd\LWR@singledollarbox%
8981   }%
8982   \global\LWR@singledollarwidth=\LWR@singledollarwidth%
```

Likewise for total height:

```

8983   \setlength{\LWR@singledollarheight}{%
8984       \LateximageFontScale\ht\LWR@singledollarbox%
8985   }%
8986   \addtolength{\LWR@singledollarheight}{%
8987       \LateximageFontScale\dp\LWR@singledollarbox%
8988   }%
8989   \global\LWR@singledollarheight=\LWR@singledollarheight%

8990   \endgroup%
```

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:

```

8991 \ifdimgreater{\LWR@singledollarwidth}{.7\LWR@singledollarheight}{%
8992 \def\LWR@singledollarstyle{%
8993 width:\LWR@convertto{em}{\the\LWR@singledollarwidth} em%
8994 }%
8995 }{%
8996 \def\LWR@singledollarstyle{%
8997 height:\LWR@convertto{em}{\the\LWR@singledollarheight} em%
8998 }%
8999 }%

```

If a very narrow width, use the height.

```

9000 \ifdimless{\LWR@singledollarwidth}{.2em}%
9001 {%
9002 \def\LWR@singledollarstyle{%
9003 height:\LWR@convertto{em}{\the\LWR@singledollarheight} em%
9004 }%
9005 }%
9006 {}%

```

If very wide and short, use the width:

```

9007 \ifdimless{\LWR@singledollarheight}{.2em}%
9008 {%
9009 \def\LWR@singledollarstyle{%
9010 width:\LWR@convertto{em}{\the\LWR@singledollarwidth} em%
9011 }%
9012 }%
9013 {}%

```

If there is significant text depth, add the depth to the style.

```

9014 \ifdimgreater{\LWR@singledollardepth}{0.05ex}{%
9015 \def\LWR@singledollardepthstyle{%
9016 \ ; % extra space
9017 \LWR@print@mbbox{%
9018 vertical-align:-\LWR@convertto{em}{\the\LWR@singledollardepth} em%
9019 } % extra space
9020 }%
9021 }{%
9022 \def\LWR@singledollardepthstyle{}%
9023 }%

```

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.

```

9024 \ifbool{LWR@dynamicmath}{%
9025     \LWR@traceinfo{subsingledollar: dynamic}%
9026     \begin{lateximage}% no hashing
9027         [(\mathimagename)]% alt tag
9028         []% no add'l hashing
9029         [\LWR@singledollarstyle \LWR@singledollardepthstyle]% CSS
9030 }{%
9031     \LWR@traceinfo{subsingledollar: static}%
9032     \IfValueTF{#1}{%
9033         \LWR@findcurrenttextcolor% sets \LWR@tempcolor
9034         \begin{lateximage}% use hashing
9035             [#2]% alt
9036             [% add'l hashing
9037                 #3%
9038                 FM\LWR@f@family%
9039                 SR\LWR@f@series%
9040                 SH\LWR@f@shape%
9041                 CL\LWR@tempcolor%
9042             ]%
9043             [\LWR@singledollarstyle \LWR@singledollardepthstyle]% CSS
9044         }{%
9045             \begin{lateximage}% no hashing
9046                 [#2]% alt
9047                 []% no add'l hashing
9048                 [\LWR@singledollarstyle \LWR@singledollardepthstyle]% CSS
9049         }%
9050     }%

```

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.)

```

9051 \LWR@addbaselinemarker%

```

Typeset the contents:

```

9052 \usebox{\LWR@singledollarbox}%

```

The closing baseline marker:

```

9053 \LWR@addbaselinemarker%

```

```

9054 \end{lateximage}%
9055 %
9056 }% not mathjax

```

```

9057 \endgroup%
9058 }% not in a lateximage
9059 \LWR@traceinfo{LWR@subsingledollar: done}%
9060 }

```

```

9061 \LetLtxMacro\LWR@origdollar$
9062 \LetLtxMacro\LWR@secondorigdollar$% balance for editor syntax highlighting

```

```

9063 \LetLtxMacro\LWR@origopenparen\(  

9064 \LetLtxMacro\LWR@origcloseparen\  

9065 \LetLtxMacro\LWR@origopenbracket\  

9066 \LetLtxMacro\LWR@origclosebracket\  


```

**\$** Redefine the dollar sign to place math inside a lateximage, or use MATHJAX:  
**\$\$**

```

9067 \begingroup
9068 \catcode'\$=\active%
9069 \protected\gdef$\{@ifnextchar$\LWR@doubledollar\LWR@singledollar}%

```

Used by chemformula to escape single-dollar math:

```

9070 \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:

```

9071 \protected\gdef\LWR@doubledollar$#1$${%

```

If MATHJAX or formatting for a word processor, print the L<sup>A</sup>T<sub>E</sub>X expression:

```

9072 \ifboolexpr{bool{mathjax} or ( bool{FormatWP} and bool{WPMarkMath} ) }%

```

For MATHJAX, print the math between \[ and \]:

```

9073 {
9074
9075   \textbackslash[
9076   \LWR@HTMLsanitize{#1}%
9077   \textbackslash]
9078
9079 }% mathjax

```

For SVG, print the math inside a lateximage, with an <alt> tag of the L<sup>A</sup>T<sub>E</sub>X code:

```

9080 {% not mathjax
9081   \begin{BlockClass}{displaymath}%
9082   \LWR@newautoidanchor%
9083   \booltrue{LWR@indisplaymathimage}%

```

```

9084 \begin{lateximage}%
9085 [%
9086 \textbackslash{} % extra space
9087 \LWR@HTMLsanitize{#1} % extra space
9088 \textbackslash{]}%
9089 ]%
9090 \LWR@origdollar\LWR@origdollar#1\LWR@origdollar\LWR@origdollar%
9091 \end{lateximage}%
9092 \end{BlockClass}%
9093 }% not mathjax
9094 }%

```

`\LWR@singledollar`  $\{\langle alt\ text\rangle\}\{\langle math\ expression\rangle\}$

```

9095 \protected\gdef\LWR@singledollar#1${%
9096 \ifbool{mathjax}{%
9097 \LWR@subsingledollar*%
9098 {% alt tag
9099 \textbackslash( %
9100 \LWR@HTMLsanitize{#1} % extra space
9101 \textbackslash)%
9102 }%
9103 {singledollar}% add'l hashing
9104 {#1}% contents
9105 }% not mathjax
9106 \LWR@subsingledollar*%
9107 {% alt tag
9108 \textbackslash( %
9109 \LWR@HTMLsanitize{#1} % extra space
9110 \textbackslash)%
9111 }%
9112 {singledollar}% add'l hashing
9113 {\LWR@origensuredmath{#1}}% contents
9114 }% not mathjax
9115 }

```

`\(` Redefine to the above dollar macros.

`\[`

```

9116 \AtBeginDocument{
9117 \protected\gdef\(#1\){$#1$}
9118 \protected\gdef\[#1\]{$$#1$$}
9119 }
9120
9121 \endgroup

9122 \AtBeginDocument{
9123 \LetLtxMacro\LWR@openbracketnormal\[
9124 \LetLtxMacro\LWR@closebracketnormal\]

```

9125 }

`\@ensuredmath`  $\langle expression \rangle$

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.

```

9126 \LetLtxMacro\LWR@origensuredmath\@ensuredmath
9127
9128 \renewcommand{\@ensuredmath}[1]{%
9129 \ifbool{mathjax}{%
9130     \LWR@subsingledollar*{(\mathimagenamename)}{%
9131         \protect\LWR@HTMLsanitize{\detokenize\expandafter{#1}}%
9132     }{\relax%
9133         \LWR@origensuredmath{#1}%
9134     }%
9135 }{% SVG math

```

If already inside a `lateximage` in math mode, continue as-is.

```

9136 \ifmmode%
9137     \LWR@origensuredmath{#1}%
9138 \else%

```

Create an inline math `lateximage` with a simple alt tag and additional hashing according to the contents.

```

9139     \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
9140     {\LWR@origensuredmath{#1}}%
9141     {%
9142         \LWR@subsingledollar*{(\mathimagenamename)}{%
9143             \protect\LWR@HTMLsanitize{\detokenize\expandafter{#1}}%
9144         }{%
9145             \LWR@origensuredmath{#1}%
9146         }%
9147     }%
9148 \fi%
9149 }%
9150 }

```

Remove the old math and `displaymath` environments:

```

9151 \let\math\relax
9152 \let\endmath\relax
9153 \let\displaymath\relax
9154 \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`.

```
9155 \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`.

```
9156 \NewEnviron{LWR@displaymathnormal}{\expandafter\[\BODY\]\@ignoretrue}
```

Set the default `displaymath` to the normal version:

```
9157 \LetLtxMacro\[\LWR@openbracketnormal%
9158 \LetLtxMacro\]\LWR@closebracketnormal%
9159 \LetLtxMacro\displaymath\LWR@displaymathnormal%
9160 \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.

```
9161 \newenvironment{LWR@displaymathother}
9162 {%
9163   \begin{BlockClass}{displaymath}%
9164   \LWR@newautoidanchor%
9165   \booltrue{LWR@indisplaymathimage}%
9166   \begin{lateximage}%
9167   [(display math)]%
9168   \LWR@origdollar\LWR@origdollar%
9169 }
9170 {%
9171   \LWR@origdollar\LWR@origdollar%
9172   \end{lateximage}%
9173   \end{BlockClass}%
9174 }
```

Env `LWR@equationother` A version of `displaymath` which can handle complicated objects, but does not supply MATHJAX or HTML alt tags.

```
9175 \newenvironment{LWR@equationother}
9176 {%
9177   \begin{BlockClass}{displaymathnumbered}%
9178   \LWR@newautoidanchor%
9179   \booltrue{LWR@indisplaymathimage}%
9180   \begin{lateximage}%
9181   [(display math)]%
9182   \LWR@origequation%
```

```

9183 }
9184 {%
9185     \LWR@origendequation%
9186     \end{lateximage}%
9187     \end{BlockClass}%
9188 }

```

## 78.4 MATHJAX support

Ctrl LWR@nextequation Used to add one to compute the next equation number.

```
9189 \newcounter{LWR@nextequation}
```

\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<sup>A</sup>T<sub>E</sub>X.

```
9190 \newcommand*{\LWR@syncmathjax}{%
```

If using chapters, place the chapter number in front of the equation. Otherwise, use the simple equation number.

```

9191 \ifcsdef{thechapter}{
9192 \InlineClass{hidden}{
9193 \textbackslash(
9194 \textbackslash{}seteqsection \{\thechapter\}
9195 \textbackslash)
9196 }
9197 }
9198 {}% not using chapters

```

MATHJAX doesn't allow setting the equation number to 1:

```

9199 \ifthenelse{\cnttest{\value{equation}}>0}
9200 {

```

Tell MATHJAX that the next set of equations begins with the current L<sup>A</sup>T<sub>E</sub>X equation number, plus one.

```

9201     \setcounter{LWR@nextequation}{\value{equation}}
9202     \addtocounter{LWR@nextequation}{1}

```

Place the MATHJAX command inside “\ (“ and “\)” characters, to be printed to HTML, not interpreted by L<sup>A</sup>T<sub>E</sub>X.

```

9203 \InlineClass{hidden}{
9204     \textbackslash(
9205     \textbackslash{ }seteqnumber \{\arabic{LWR@nextequation}\}
9206     \textbackslash)
9207 }
9208 }{}% not eq > 0
9209 }

```

`\LWR@hidelatexequation`  $\{\langle environment \rangle\} \{\langle contents \rangle\}$

Creates the L<sup>A</sup>T<sub>E</sub>X version of the equation inside an HTML comment.

```

9210 \NewDocumentCommand{\LWR@hidelatexequation}{m +m}{%

```

Stop HTML paragraph handling and open an HTML comment:

```

9211 \LWR@stoppars
9212 \LWR@htmlopencomment
9213

```

Start the L<sup>A</sup>T<sub>E</sub>X math environment inside the HTML comment:

```

9214 \begingroup
9215 \@nameuse{LWR@orig#1}

```

While in the math environment, restore various commands to their L<sup>A</sup>T<sub>E</sub>X meanings.

```

9216 \LWR@restoreorigformatting

```

See `\LWR@htmlmathlabel` in section 78.7.1.

Print the contents of the equation:

```

9217 #2

```

End the L<sup>A</sup>T<sub>E</sub>X math environment inside the HTML comment:

```

9218 \@nameuse{LWR@origend#1}
9219 \endgroup
9220

```

Close the HTML comment and resume HTML paragraph handling:

```

9221 \LWR@htmlclosecomment
9222 \LWR@startpars
9223 }

```

`\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<sup>A</sup>T<sub>E</sub>X.

```
9224 \NewDocumentCommand{\LWR@addmathjax}{m +m}{%
```

Enclose the MATHJAX environment inside printed “\(" and “\)” characters.

```
9225 \LWR@origtilde\LWR@orignewline
9226 \textbackslash{}begin\{#1\}
```

Print the contents, sanitizing for HTML special characters.

```
9227 \LWR@HTMLsanitizeexpand{\detokenize\expandafter{#2}}
```

Close the MATHJAX environment:

```
9228 \textbackslash{}end\{#1\}
9229 \LWR@orignewline
9230 }
```

## 78.5 Equation environment

Remember existing equation environment:

```
9231 \AtBeginDocument{
9232 \let\LWR@origequation\equation
9233 \let\LWR@origendequation\endequation
9234 \csletcs\LWR@origequation*{equation*}
9235 \csletcs\LWR@origendequation*{endequation*}
9236 }
```

`\LWR@doequation`  $\{\langle env contents \rangle\} \{\langle env name \rangle\}$

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 L<sup>A</sup>T<sub>E</sub>X 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.

```
9237 \newcommand*{\LWR@doequation}[2]{%
9238
```

If mathjax or FormatWP, print the L<sup>A</sup>T<sub>E</sub>X expression:

```
9239 \ifboolexpr{bool{mathjax} or ( bool{FormatWP} and bool{WPMarkMath} ) }%
```

MATHJAX output:

```
9240 {
```

Print commands to synchronize MATHJAX's equation number and format to the current L<sup>A</sup>T<sub>E</sub>X chapter/section and equation number:

```
9241 \LWR@syncmathjax
```

Print the L<sup>A</sup>T<sub>E</sub>X math inside an HTML comment:

```
9242 \LWR@hidelatexequation{#2}{#1}
9243 }
```

SVG output: Create the lateximage along with an HTML <alt> tag having an equation number, the L<sup>A</sup>T<sub>E</sub>X equation environment commands, and the contents of the environment's \BODY.

```
9244 {% not mathjax
```

Begin the lateximage with an <alt> tag containing the math source:

```
9245 \ifstrequal{#2}{equation*}{%
9246 \begin{BlockClass}{displaymath}%
9247 }{%
9248 \begin{BlockClass}{displaymathnumbered}%
9249 }%
9250 \LWR@newautoidanchor%
9251 \booltrue{LWR@indisplaymathimage}%
9252 \begin{lateximage}{%
9253 \ifstrequal{#2}{equation*}{%
9254 \ifdefequal{LWR@equationtag}{\theequation}{%
9255 % no tag was given
9256 }{%
9257 (\LWR@equationtag) % tag was given
9258 }%
9259 }{%
9260 (\LWR@equationtag) % automatic numbering
9261 }%
9262 \textbackslash{begin\{#2\}} % extra space
9263 \LWR@HTMLsanitizeexpand{\detokenize\expandafter{#1}} % extra space
9264 \textbackslash{end\{#2\}}%
9265 ]% alt tag
```

Create the actual L<sup>A</sup>T<sub>E</sub>X-formatted equation inside the `lateximage` using the contents of the environment.

```

9266 \nameuse{LWR@orig#2}%
9267 #1% contents collected by \collect@body
9268 \nameuse{LWR@origend#2}%
9269 \end{lateximage}%
9270 \end{BlockClass}%
9271 }% not mathjax
9272 }

```

After the environment, if MATHJAX, print the math to the HTML output for MATHJAX processing:

```

9273 \newcommand*\LWR@doendequation}[1]{%
9274 \ifboolexpr{bool{mathjax} or ( bool{FormatWP} and bool{WPMarkMath} ) }%
9275 {%
9276 \LWR@addmathjax{#1}{\BODY}%
9277 }{}%
9278
9279 }

```

Remove existing equation environment:

```

9280 \AtBeginDocument{
9281 \let\equation\relax
9282 \let\endequation\relax
9283 \csletcs{equation*}{relax}
9284 \csletcs{endequation*}{relax}
9285 }

```

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`.

```

9286 \AtBeginDocument{
9287 \NewEnviron{equation}%
9288 {\LWR@doequation{\BODY}{equation}}%
9289 [\LWR@doendequation{equation}]
9290
9291 \LetLtxMacro\LWR@equationnormal\equation
9292 \LetLtxMacro\endLWR@equationnormal\endequation
9293 }

```

Env `equation*`

```

9294 \AtBeginDocument{
9295 \NewEnviron{equation*}%

```

```

9296 {\LWR@doequation{\BODY}{equation*}}%
9297 [\LWR@doendequation{equation*}]
9298
9299 \csletcs{\LWR@equationnormalstar}{equation*}
9300 \csletcs{\LWR@endequationnormalstar}{endequation*}
9301 }

```

Remember the “less” version of `equation`, which uses MATHJAX and `alt` tags, but does not support complicated contents such as some `Tikz` expressions.

```

9302 \AtBeginDocument{
9303 \LetLtxMacro{\LWR@equationless\equation
9304 \LetLtxMacro{\endLWR@equationless\endequation
9305 \csletcs{\LWR@equationlessstar}{equation*}
9306 \csletcs{\LWR@endequationlessstar}{endequation*}
9307 }

```

## 78.6 `\displaymathnormal` and `\displaymathother`

`\displaymathnormal` By default, or when selecting `\displaymathnormal`, MATHJAX math display environments print their contents as text into HTML, 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 or included in HTML `alt` tags.  
**simple math objects**

```

9308 \newcommand*{\displaymathnormal}{%
9309 \ifbool{\LWR@origmathjax}{\booltrue{mathjax}}{\boolfalse{mathjax}}%
9310 \LetLtxMacro{\LWR@openbracketnormal%
9311 \LetLtxMacro{\LWR@closebracketnormal%
9312 \LetLtxMacro{\displaymath\LWR@displaymathnormal%
9313 \LetLtxMacro{\enddisplaymath\endLWR@displaymathnormal%
9314 \LetLtxMacro{\equation\LWR@equationnormal%
9315 \LetLtxMacro{\endequation\endLWR@equationnormal%
9316 \csletcs{equation*}{\LWR@equationnormalstar}%

```

```

9317 \csletcs{endequation*}{LWR@endequationnormalstar}%
9318 }

```

`\displaymathother` Use when display math environments have complicated objects which will not work with MathJax or should not be included in HTML alt tags. Complicated contents are more likely to compile correctly.

```

9319 \newcommand*{\displaymathother}{%
9320 \boolfalse{mathjax}%
9321 \LetLtxMacro\displaymath\LWR@displaymathother%
9322 \LetLtxMacro\enddisplaymath\endLWR@displaymathother%
9323 \LetLtxMacro[\LWR@displaymathother%
9324 \LetLtxMacro\]\endLWR@displaymathother%
9325 \LetLtxMacro\equation\LWR@equationother%
9326 \LetLtxMacro\endequation\endLWR@equationother%
9327 \csletcs{equation*}{\displaymath}%
9328 \csletcs{endequation*}{\enddisplaymath}%
9329 }

```

```

9330 \end{warpHTML}

```

**for PRINT output:** 9331 \begin{warpprint}

Print-mode versions:

```

9332 \newcommand*{\displaymathnormal}{}
9333 \newcommand*{\displaymathother}{}

```

```

9334 \end{warpprint}

```

**for HTML output:** 9335 \begin{warpHTML}

## 78.7 AMS Math environments

### 78.7.1 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.

```

9336 \newbool{LWR@amsmultline}
9337 \boolfalse{LWR@amsmultline}

```

`\LWR@htmlmathlabel`  $\{\langle label \rangle\}$

lwarp points `\ltx@label` here. This is used by `\label` when inside a L<sup>A</sup>T<sub>E</sub>X AMS math environment's math display environment.

`\LWR@origltx@label` points to the L<sup>A</sup>T<sub>E</sub>X original, modified by lwarp, then by amsmath, then by cleveref.

```
9338 \newcommand*\LWR@htmlmathlabel}[1]{%
9339 \LWR@traceinfo{\LWR@htmlmathlabelb #1}%
```

If mathjax or FormatWP, print the L<sup>A</sup>T<sub>E</sub>X expression:

```
9340 \ifboolexpr{bool{mathjax} or ( bool{FormatWP} and bool{WPMarkMath} ) }%
9341 {%
```

The combined L<sup>A</sup>T<sub>E</sub>X & HTML label is printed in a `\text` field:

```
9342   \text{%
```

Shift the label over to the right side of the environment to avoid over-printing the math:

```
9343   \ifbool{\LWR@amsmultline}{\hspace*{\totwidth@}}%
```

Temporarily end the HTML comment, insert the L<sup>A</sup>T<sub>E</sub>X & HTML label, then resume the HTML comment. `\@firstofone` is required to remove extra braces introduced by the amsmath package.)

```
9344   \LWR@htmlclosecomment%
9345   \LWR@origltx@label{#1}%
9346   \LWR@htmlopencomment%
9347   }% text
9348 }% mathjax
9349 {%
9350   \LWR@origltx@label{#1}%
9351 }%
9352 }
```

`\LWR@beginhideamsmath` Starts hiding L<sup>A</sup>T<sub>E</sub>X math inside an HTML comment.

```
9353 \newcommand*\LWR@beginhideamsmath){
9354 \LWR@stoppars
9355 \LWR@origtilde\LWR@orignewline
9356 \LWR@htmlopencomment
9357
9358 \begingroup
9359 \LWR@restoreorigformatting
```

9360 }

`\LWR@endhideamsmath` Ends hiding L<sup>A</sup>T<sub>E</sub>X math inside an HTML comment.

```
9361 \newcommand*{\LWR@endhideamsmath}{
9362 \endgroup
9363
9364 \LWR@htmlclosecomment
9365 \LWR@orignewline
9366 \LWR@startpars
9367 }
```

### 78.7.2 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<sup>A</sup>T<sub>E</sub>X's equation numbers, typeset with L<sup>A</sup>T<sub>E</sub>X inside an HTML comment, then printed to HTML output for MATHJAX to process.

Env `eqnarray` This environmnet is not an  $\mathcal{AMS}$  environment and thus its body is not automatically captured, so the `environ` package is used to capture the environment into `\BODY`.

```
9368 \let\LWR@origeqnarray\eqnarray
9369 \let\LWR@origendeqnarray\endeqnarray
```

To remember whether the starred environment was used, and thus whether to number the equations:

```
9370 \newbool{\LWR@numbereqnarray}
9371 \booltrue{\LWR@numbereqnarray}
```

Common code used by `eqnarray` and `Beqnarray` (from `fancybox`):

```
9372 \newcommand{\LWR@eqnarrayfactor}{%
```

If `mathjax` or `FormatWP`, print the L<sup>A</sup>T<sub>E</sub>X expression:

```
9373 \ifboolexpr{bool{mathjax} or ( bool{FormatWP} and bool{WPMarkMath} ) }%
9374 {%
```

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:

```
9375 \LWR@syncmathjax
9376 \boolfalse{LWR@amsmultline}
9377 \ifbool{LWR@numbreqnarray}
9378 {
```

If numbering the equations, execute a copy inside an HTML comment block:

```
9379 \LWR@beginhideamsmath
9380 \LWR@origeqnarray
9381 \BODY
9382 \LWR@origendeqnarray
9383 \LWR@endhideamsmath
```

Then print the (sanitized) contents to the output for MATHJAX to interpret:

```
9384 \LWR@addmathjax{eqnarray}{\BODY}
9385 }%
9386 {% not LWR@numbreqnarray
```

If not numbering equations, just create the contents for MATHJAX:

```
9387 \LWR@addmathjax{eqnarray*}{\BODY}
9388 }% LWR@numbreqnarray
9389 }% mathjax
9390 {% not mathjax
9391 \ifbool{LWR@numbreqnarray}
9392 {
```

For numbered svg equations, first create a `lateximage` with an `alt` attribute containing sanitized copy of the source code:

```
9393 \begin{BlockClass}{displaymathnumbered}%
9394 \LWR@newautoidanchor%
9395 \booltrue{LWR@indisplaymathimage}%
9396 \begin{lateximage}[{\LWR@startingequationtag--\LWR@equationtag}
9397 \LWR@addmathjax{eqnarray}{\BODY}]
```

Then create the image contents using an actual `eqnarray`:

```
9398 \LWR@origeqnarray
9399 \BODY
9400 \LWR@origendeqnarray
9401 \end{lateximage}
9402 \end{BlockClass}
```

```

9403     }%
9404     {% not LWR@numbreqnarray

```

If not numbered, do the same, but an extra `\nonumber` seems to be required:

```

9405         \begin{BlockClass}{displaymath}
9406         \LWR@newautoidanchor%
9407         \booltrue{LWR@indisplaymathimage}%
9408         \begin{lateximage}[\LWR@addmathjax{eqnarray*}]{\BODY}
9409         \LWR@origeqnarray
9410         \BODY
9411         \nonumber
9412         \LWR@origendeqnarray
9413         \end{lateximage}
9414         \end{BlockClass}
9415     }% LWR@numbreqnarray
9416 }% not mathjax

```

Default to number equations in the future:

```

9417 \booltrue{LWR@numbreqnarray}
9418 }

```

`eqnarray` itself is made with a blank line before and after to force it to be on its own line:

```

9419 \RenewEnviron{eqnarray}
9420 {%
9421
9422 \LWR@eqnarrayfactor
9423
9424 }

```

The starred version is patched to turn off the numbering:

```

9425 \csgpreto{eqnarray*}{\boolfalse{LWR@numbreqnarray}}

9426 \end{warpHTML}

```

## 79 Lateximages

### 79.1 Description

Env `lateximage` A `lateximage` is a piece of the document which is typeset in  $\text{\LaTeX}$  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 77.)

A `lateximage` is typeset on its own PDF page inside an HTML comment which starts on the preceeding 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 `<span>` is created to hold both the HTML comment, which will have the `pdftotext` conversion, and also the link to the final `.svg` image.

A L<sup>A</sup>T<sub>E</sub>X 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 L<sup>A</sup>T<sub>E</sub>X 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 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 `\mathimagename`, and the image is not reused.

This 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 `\packagediagramname`. 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 `lateximages`.

**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}
```

## 79.2 Support counters and macros

**for HTML output:** 9427 `\begin{warpHTML}`

Ctr LWR@lateximagenumber Sequence the images.

```
9428 \newcounter{LWR@lateximagenumber}
9429 \setcounter{LWR@lateximagenumber}{0}
```

Ctr LWR@lateximagedepth Do not create `\lateximage` inside of `\lateximage`.

```
9430 \newcounter{LWR@lateximagedepth}
9431 \setcounter{LWR@lateximagedepth}{0}
```

A few utility macros to write special characters:

```
9432 \edef\LWR@hashmark{\string#} % for use in \write
9433 \edef\LWR@percent{\@percentchar} % for use in \write
```

Ctr LWR@LIPage Used to reference the PDF page number of a lateximage to be written into `lateximages.txt`.


```
9434 \newcounter{LWR@LIPage}
```

```
9435 \end{warpHTML}
```

## 79.3 Font size

**for HTML & PRINT:** 9436 `\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.

```
9437 \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 .75, but it may be redefined as needed depending on the HTML font.

```
9438 \newcommand*{\LateximageFontScale}{.75}
```

```
9439 \end{warpall}
```

## 79.4 Sanitizing math expressions for HTML

**for HTML output:** 9440 `\begin{warpHTML}`

`\LWR@HTMLsanitize`  $\{ \langle text \rangle \}$

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.

Two versions follow, depending on expansion needs. There may be a better way...

```
9441 \newrobustcmd{\LWR@HTMLsanitize}[1]{%
```

Cancel French babel character handling, and fully expand the strings:

```
9442 \begingroup%
9443 \LWR@FBcancel%
9444 \fullexpandarg%
```

The `&`, `<`, and `>` may be interpreted by the browser:

```
9445 \protect\StrSubstitute{\detokenize{#1}}{%
9446 {\detokenize{&}}{\detokenize{&}}}{\LWR@strresult}%

9447 \protect\StrSubstitute{\detokenize\expandafter{\LWR@strresult}}{%
9448 {\detokenize{<}}{\detokenize{&lt;}}}{\LWR@strresult}%

9449 \protect\StrSubstitute{\detokenize\expandafter{\LWR@strresult}}{%
9450 {\detokenize{>}}{\detokenize{&gt;}}}{\LWR@strresult}%

9451 \protect\StrSubstitute{\detokenize\expandafter{\LWR@strresult}}{%
9452 {\detokenize{"}}{\detokenize{&quot;}}}{\LWR@strresult}%

```

The double quote occasionally causes problems.

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.

```
9453 \protect\StrSubstitute{\detokenize\expandafter{\LWR@strresult}}%
9454 {\detokenize{##}}{\LWR@origpound}[\LWR@strresult]%
```

```
9455 \LWR@strresult%
9456 \endgroup%
9457 }
```

```
\LWR@HTMLsanitizeexpand {<{text}>}
```

This version expands the argument before sanitizing it.

```
9458 \newrobustcmd{\LWR@HTMLsanitizeexpand}[1]{%
```

Cancel French babel character handling, and fully expand the strings:

```
9459 \begingroup%
9460 \LWR@FBcancel%
9461 \fullexpandarg%
```

The difference between this and `\LWR@HTMLsanitize` (without “expand”) is the following `\expandafter`:

```
9462 \protect\StrSubstitute{\detokenize\expandafter{#1}}%
9463 {\detokenize{&}}{\detokenize{&}}[\LWR@strresult]%
```

```
9464 \protect\StrSubstitute{\detokenize\expandafter{\LWR@strresult}}%
9465 {\detokenize{<}}{\detokenize{&lt;}}[\LWR@strresult]%
```

```
9466 \protect\StrSubstitute{\detokenize\expandafter{\LWR@strresult}}%
9467 {\detokenize{>}}{\detokenize{&gt;}}[\LWR@strresult]%
```

```
9468 \protect\StrSubstitute{\detokenize\expandafter{\LWR@strresult}}%
9469 {\detokenize{"}}{\detokenize{&quot;}}[\LWR@strresult]%
```

`\LWR@HTMLsanitizeexpand` is not used for defining new MathJax macros, so the `##` conversion is not needed here.

```
9470 \LWR@strresult%
9471 \endgroup%
9472 }
```

## 79.5 Equation numbers

**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.

```

9473 \newcounter{LWR@startingequation}
9474
9475 \@ifundefined{chapter}
9476 {
9477 \renewcommand{\theLWR@startingequation}{%
9478 \arabic{LWR@startingequation}%
9479 }
9480 }
9481 {% chapter defined
9482 \renewcommand{\theLWR@startingequation}{%
9483 \ifnumcomp{\value{chapter}}{>}{0}{\arabic{chapter}.}%
9484 \arabic{LWR@startingequation}%
9485 }
9486 }
```

**Bool LWR@isstartingequation** True for the first equation tag, false for later tags in the same environment.

```

9487 \newbool{LWR@isstartingequation}
```

**\LWR@startingequationtag** Prints the starting equation number or tag.

```

9488 \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.

```

9489 \newcommand*{\LWR@equationtag}{}
```

Only if svg math, patch \tag after packages have loaded, in case someone else modified \tag.

```

9490 \AtBeginDocument{
9491
9492 \ifbool{mathjax}{\% not mathjax
```

**\LWR@remembertag**  $\{ \langle tag \rangle \}$

For use inside the math environments while using svg math. Sets `\theLWR@startingequation` and `\theequation` to the given tag.

```

9493 \NewDocumentCommand{\LWR@remembertag}{m}{%
9494 \ifbool{LWR@isstartingequation}%
9495 {%
9496     \global\boolfalse{LWR@isstartingequation}%
9497     \xdef\LWR@startingequationtag{#1}%
9498 }{}%
9499 \xdef\LWR@equationtag{#1}%
9500 }%

9501 }% not mathjax
9502 }% AtBeginDocument

```

## 79.6 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.

```

9503 \newcommand*{\LWR@amsmathbody}[1]
9504 {%
9505 \textbackslash\begin\}\{#1\} % extra space
9506 \LWR@HTMLsanitizeexpand{\detokenize\expandafter{\the\envbody}}%
9507 \textbackslash\end\}\{#1\}%
9508 }

```

`\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.

```

9509 \newcommand*{\LWR@amsmathbodynumbered}[1]
9510 {%
9511 \ifnumcomp{\value{LWR@startingequation}}{=}{\value{equation}}%
9512 {(\LWR@equationtag)}%
9513 {(\LWR@startingequationtag--\LWR@equationtag)} % extra space
9514 \LWR@amsmathbody{#1} % extra space
9515 }

```

## 79.7 lateximage environment

Env `lateximage` \* [`<2: <alt> tag`] [`<3: add'l hashing`] [`<4: css style`]

Typesets the contents and then renders the result as an SVG file. Star causes the image to be hashed for reuse.

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.

```

9516 \catcode'\$=\active%
9517
9518 \NewDocumentEnvironment{lateximage}{s O{(image)} O{} O{}}
9519 {%
9520 \LWR@traceinfo{lateximage: starting on \jobname.pdf page \arabic{page}}%
9521 \LWR@traceinfo{lateximage: entering depth is \arabic{LWR@lateximagedepth}}%

```

Nested lateximages remain one large lateximage:

```

9522 \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.

```

9523 {%
9524 % \addtocounter{LWR@lateximagedepth}{1}%
9525 \global\advance\c@LWR@lateximagedepth 1\relax% Due to AmS \text macro.
9526 }%

```

Otherwise, this is the outer-most lateximage:

```

9527 {% start of outer-most lateximage

```

Remember the next equation number to be allocated, in case it must be printed in a multi-equation environment:

```

9528 \LWR@traceinfo{lateximage: starting outer-most lateximage}%

```

```

9529    \setcounter{LWR@startingequation}{\value{equation}}%
9530    \addtocounter{LWR@startingequation}{1}%
9531    \booltrue{LWR@isstartingequation}%
9532    \let\LWR@startingequationtag\theLWR@startingequation%

```

The default equation tag, unless overwritten by `\tag`:

```

9533    \let\LWR@equationtag\theequation%

```

Starting a new lateximage:

```

9534    \addtocounter{LWR@lateximagenumber}{1}%
9535    \LWR@traceinfo{lateximage: LWR@lateximagenumber is \arabic{LWR@lateximagenumber}}%

```

While inside a lateximage, locally do not use mathjax:

```

9536    \boolfalse{mathjax}%

```

Be sure that are doing a paragraph:

```

9537    \LWR@ensuredoingapar%

```

Next file:

```

9538    \addtocounter{LWR@externalfilecnt}{1}%
9539    \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 `LWRlateximageXXX`:

```

9540    \setcounterpageref{LWR@LIpage}{LWRlateximage\arabic{LWR@lateximagenumber}}%
9541    \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:

```

9542    \LWR@htmltag{span id="lateximage\arabic{LWR@lateximagenumber}" % extra space
9543    class="lateximagesource"}%

```

Write instructions to the `lateximages.txt` file:

```

9544    \LWR@traceinfo{lateximage: about to write to lateximages.txt}%
9545    \IfBooleanTF{#1}% starred
9546    {% hash
9547        \LWR@traceinfo{lateximage: hash true, adding %
9548        !\detokenize\expandafter{#2}!\detokenize\expandafter{#3}!}%

```

Compute and save the hashed file name for later use:

```

9549      \edef\LWR@hashedname{%
9550          \LWR@mdfive{\detokenize\expandafter{#2}-!-#3}%
9551 %      \LWR@mdfive{\detokenize\expandafter{#2}-!\detokenize\expandafter{#3}}%
9552      }%
9553      \LWR@traceinfo{lateximage: hash is \LWR@hashedname}%

```

Write the page, hashing, and hashed name:

```

9554      \immediate\write\LWR@lateximagesfile{%
9555          |\arabic{LWR@LPage}|true|\LWR@hashedname|
9556      }%
9557      }% hash
9558      {% no hash

```

No hash, so write the page, no hashing, and the image number:

```

9559      \LWR@traceinfo{lateximage: hash false}%
9560      \immediate\write\LWR@lateximagesfile{%
9561          |\arabic{LWR@LPage}|false|lateximage-\arabic{LWR@externalfilecnt}|
9562      }%
9563      }% no hash

```

Place an open comment tag. This will hide any traces of the lateximage PDF page which were picked up by *pdftotext*.

```

9564      \LWR@traceinfo{lateximage: about to create open comment}%
9565      \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.

```

9566      \addtocounter{LWR@lateximagedepth}{1}%

```

Start the new PDF page:

```

9567      \LWR@traceinfo{lateximage: about to create a new page}%
9568      \LWR@originnewpage%

```

Typeset the image in a “standard” width page and font size:

```

9569      \LWR@traceinfo{lateximage: about to create minipage}%
9570      \LWR@print@minipage{6in}%
9571      \@nameuse{LWR@print@\LateximageFontSizeName}%

```

Temporarily restore formatting to its PDF definitions: Do not produce HTML tags for `\hspace`, etc. inside a `lateximage`.

```
9572 \LWR@traceinfo{lateximage: about to temporarily restore formatting}%
9573 \LWR@restoreorigformatting%
```

Use full-page footnotes instead of minipage footnotes. These become HTML footnotes.

```
9574 \def\@mpfn{footnote}%
9575 \def\thempfn{\thefootnote}%
9576 \LetLtxMacro\@footnotetext\LWR@footnotetext%
```

Create the `LWRlateximage<number>` label:

```
9577 \LWR@traceinfo{lateximage: about to create label}%
9578 \LWR@orig@label{LWRlateximage\arabic{LWR@lateximagenumber}}%
9579 \LWR@traceinfo{lateximage: finished creating the label}%
```

Enable print-mode math functions:

```
9580 \LetLtxMacro$\LWR@origdollar%
9581 \catcode'\$=3% math shift
9582 \LetLtxMacro\(\LWR@origopenparen%
9583 \LetLtxMacro\)\LWR@origcloseparen%
```

Only enable print-mode display math if are not already inside display math:

```
9584 \ifbool{LWR@indisplaymathimage}{}{% not in display math
9585     \LetLtxMacro\[\LWR@origopenbracket%
9586     \LetLtxMacro\]\LWR@origclosebracket%
9587     \let\equation\LWR@origequation%
9588     \let\endequation\LWR@origendequation%
9589     \csletcs{equation*}{LWR@origequation*}%
9590     \csletcs{endequation*}{LWR@origendequation*}%
9591 }% not in display math
```

For chemformula:

```
9592 \LetLtxMacro\LWR@newsingledollar$%
9593 \LetLtxMacro\LWR@newsingledollar$% syntax highlighting
```

```
9594}% end of outer-most lateximage
9595\LWR@traceinfo{lateximage: finished start of environment}%
9596}% end of \begin{lateximage}
```

`\endlateximage` When the environment closes:

```

9597 {% start of \end{lateximage}
9598 \LWR@traceinfo{lateximage: starting end of lateximage}%

```

Nested more than one deep?

```

9599 \LWR@traceinfo{lateximage: internal depth was \arabic{LWR@lateximagedepth}}%
9600 \ifnumcomp{\value{LWR@lateximagedepth}}{>}{1}%

```

If nesting inside an already existing lateximage, simply record one less level. Uses a lower-level T<sub>E</sub>X macro due to  $\mathcal{M}$ S \text change of \addtocounter.

```

9601 {%
9602   \LWR@traceinfo{lateximage: unnesting}%
9603   \global\advance\c@LWR@lateximagedepth -1\relax%
9604 }%

```

If this is the outer-most lateximage:

```

9605 {% end of outer-most lateximage

```

Finish the lateximage minipage and start a new PDF page:

```

9606 \LWR@traceinfo{lateximage: ending outer-most lateximage}%
9607   \endLWR@print@minipage%
9608   \LWR@orignewpage%
9609   \LWR@print@scriptsize%

```

Close the HTML comment which encapsulated any traces of the lateximage picked up by *pdftotext*:

```

9610   \LWR@print@vspace*{.5\baselineskip}%
9611   \LWR@htmlclosecomment%
9612   \LWR@traceinfo{lateximage: The page after the image is \arabic{page}}%

```

Create a link to the lateximage, allowing its natural height:

```

9613   \IfBooleanTF{#1}% starred
9614   {% hash
9615     \LWR@subinlineimage[#2]{lateximage}%
9616     {%
9617       lateximages\OSPathSymbol%
9618       \LWR@print@mbbox{\LWR@hashedname}%
9619     }{svg}{#4}%
9620   }% hash
9621   {% no hash
9622     \LWR@subinlineimage[#2]{lateximage}%
9623     {%
9624       lateximages\OSPathSymbol%

```

```

9625      \LWR@print@ombbox{lateximage-\theLWR@externalfilecnt}%
9626      }{svg}{#4}%
9627      }% no hash

```

Be sure that are doing a paragraph:

```

9628      \LWR@ensuredoingapar%

```

Close the HTML span which has the *pdf<sub>totext</sub>* comment and also the link to the .svg image:

```

9629      \LWR@htmltag{/span}%
9630      \ifbool{HTMLDebugComments}{%
9631          \LWR@htmlcomment{End of lateximage}%
9632      }{}%

```

Undo one lateximage level. This is not inside an  $\text{\textit{AMS}}\text{\textit{S}}$  \text, so regular \addtocounter may be used here.

```

9633      \addtocounter{LWR@lateximagedepth}{-1}%
9634  }% end of outer-most lateximage
9635  \LWR@traceinfo{lateximage: exiting depth is \arabic{LWR@lateximagedepth}}%
9636  \LWR@traceinfo{lateximage: done}%
9637  }%
9638  \catcode'\$=3% math shift
9639  \end{warpHTML}

```

**for PRINT output:** 9640 \begin{warpprint}

Env lateximage [*<alt> tag*] [*<css style>*]

varwidth is used to create a box of the natural width of its contents.

```

9641  \NewDocumentEnvironment{lateximage}{s o o o}
9642      {\begin{varwidth}[b]{\linewidth}}
9643      {\end{varwidth}}

9644  \end{warpprint}

```

## 80 center, flushleft, flushright

**for HTML output:** 9645 \begin{warpHTML}

Env **center** Replace center functionality with CSS tags:

```

9646 \renewenvironment*{center}
9647 {
9648 \LWR@forcenewpage
9649 \ifbool{FormatWP}
9650 {\BlockClass[\LWR@print@mbox{text-align:center}]{center}}
9651 {\BlockClass{center}}
9652 }
9653 {\endBlockClass}

```

Env **flushright**

```

9654 \renewenvironment*{flushright}
9655 {
9656 \LWR@forcenewpage
9657 \ifbool{FormatWP}
9658 {\BlockClass[\LWR@print@mbox{text-align:right}]{flushright}}
9659 {\BlockClass{flushright}}
9660 }
9661 {\endBlockClass}

```

Env **flushleft**

```

9662 \renewenvironment*{flushleft}
9663 {
9664 \LWR@forcenewpage
9665 \ifbool{FormatWP}
9666 {\BlockClass[\LWR@print@mbox{text-align:left}]{flushleft}}
9667 {\BlockClass{flushleft}}
9668 }
9669 {\endBlockClass}

```

`\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**

```

9670 \newcommand*{\LWR@HTML@centering}{%
9671 \ifbool{HTMLDebugComments}{%
9672 \LWR@htmlcomment{centering}%
9673 }{}%
9674 }
9675 \LWR@formatted{centering}

```

`\raggedleft`

```
9676 \newcommand*{\LWR@HTML@raggedleft}{%
9677 \ifbool{HTMLDebugComments}{%
9678   \LWR@htmlcomment{raggedleft}%
9679 }{}%
9680 }
9681 \LWR@formatted{raggedleft}
```

`\raggedright`

```
9682 \newcommand*{\LWR@HTML@raggedright}{%
9683 \ifbool{HTMLDebugComments}{%
9684   \LWR@htmlcomment{raggedright}%
9685 }{}%
9686 }
9687 \LWR@formatted{raggedright}
```

`\leftline`  $\{\langle text \rangle\}$

```
9688 \renewcommand{\leftline}[1]{\begin{flushleft}#1\end{flushleft}}
```

`\centerline`  $\{\langle text \rangle\}$

```
9689 \renewcommand{\centerline}[1]{\begin{center}#1\end{center}}
```

`\rightline`  $\{\langle text \rangle\}$

```
9690 \renewcommand{\rightline}[1]{\begin{flushright}#1\end{flushright}}
```

```
9691 \end{warpHTML}
```

## 81 Preloaded packages

**for HTML output:** 9692 `\begin{warpHTML}`

If was loaded before lwarp, load the lwarp version as well.

`\LWR@PreloadedPackage`  $\{\langle packagename \rangle\}$

```
9693 \newcommand*{\LWR@PreloadedPackage}[1]{%
9694 \@ifpackageloaded{#1}{\LWR@origRequirePackage{lwarp-#1}}{}
9695 }
```

If textcomp was loaded before lwarp, perhaps as part of the font-related packages, explicitly load the lwarp patches now:

```
9696 \LWR@PreloadedPackage{textcomp}
```

If xunicode was loaded before lwarp, perhaps as part of the font-related packages, explicitly load the lwarp patches now:

```
9697 \LWR@PreloadedPackage{xunicode}
```

If graphics or graphicx were loaded before lwarp, perhaps by xunicode, explicitly load the lwarp patches now:

```
9698 \LWR@PreloadedPackage{graphics}
```

```
9699 \LWR@PreloadedPackage{graphicx}
```

ulem may be preloaded by ctex, ctexart, and related classes.

```
9700 \LWR@PreloadedPackage{ulem}
```

xetexko-vertical may be preloaded by xetexko.

```
9701 \LWR@PreloadedPackage{xetexko-vertical}
```

```
9702 \end{warpHTML}
```


## 82 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.

**NOTE:** As of this writing, the siunitx extension for MATHJAX is not currently hosted at any public CDN, thus siunitx is not usable with MATHJAX unless a local copy of this extension is created first.

 **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.

**for HTML output:** 9703 \begin{warpHTML}

Options for siunitx:

```

9704 \newrobustcmd{\LWR@siunitx@textcelsius}{\HTMLentity{deg}C}
9705 \newrobustcmd{\LWR@siunitx@textdegree}{\HTMLentity{deg}}
9706 \newrobustcmd{\LWR@siunitx@textprime}{\HTMLUnicode{2032}}
9707 \newrobustcmd{\LWR@siunitx@textdblprime}{\HTMLUnicode{2033}}
9708 \newrobustcmd{\LWR@siunitx@textplanckbar}{\text{\textit{\HTMLUnicode{0127}}}}
9709
9710 \appto\LWR@restoreorigformatting{%
9711 \renewrobustcmd{\LWR@siunitx@textcelsius}{\text{\ensuremath{^\circ}C}}%
9712 \renewrobustcmd{\LWR@siunitx@textdegree}{\text{\ensuremath{^\circ}}}%
9713 \renewrobustcmd{\LWR@siunitx@textprime}{\text{\ensuremath{^\prime}}}%
9714 \renewrobustcmd{\LWR@siunitx@textdblprime}{\text{\ensuremath{^\prime\prime}}}%
9715 \renewrobustcmd{\LWR@siunitx@textplanckbar}{\text{\ensuremath{\hbar}}}%
9716 }
9717
9718 \PassOptionsToPackage{
9719     detect-mode=true,
9720     per-mode=symbol,% fraction is not seen by pdftotext
9721     text-celsius = {\LWR@siunitx@textcelsius},
9722     text-degree = {\LWR@siunitx@textdegree},
9723     text-arcminute = {\LWR@siunitx@textprime} ,
9724     text-arcsecond = {\LWR@siunitx@textdblprime} ,
9725 }{siunitx}

9726 \end{warpHTML}

```

## 83 Graphics print-mode modifications

### 83.1 General limitations

**\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  $\Rightarrow$  `pdftocairo -svg filename.pdf`

Prog `lwarpmk pdftosvg` For a large number of images, use *lwarpmk*:

Enter  $\Rightarrow$  `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  $\Rightarrow$  `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  $\Rightarrow$  `lwarpmk epstopdf *.eps` (or a list of filenames)

Enter  $\Rightarrow$  `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 a new class key.

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.

`\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<sup>A</sup>T<sub>E</sub>X, so expect some ugly results for scaling and rotating.

## 83.2 Print-mode modifications

**for PRINT output:** For print output, accept and then discard the new `class` key:

```
9727 \begin{warpprint}
9728 \define@key{Gin}{class}{}

```

Print-mode additions for the `overpic` package. See section 306 for the HTML version.

```
9729 \AtBeginDocument{
9730 \ifpackageloaded{overpic}{
9731 \newcommand*{\overpicfontsize}{12}
9732 \newcommand*{\overpicfontskip}{14}
9733 }{}
9734 }
9735 \end{warpprint}

```

## 84 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:** 9736 `\begin{warppall}`

After `xparse` may have been loaded ...

```
9737 \AtBeginDocument{

```

... and *only* if `xcolor` was loaded:

```
9738 \ifpackageloaded{xcolor}{

```

```
9739 \LWR@traceinfo{patching xcolor}
```

The print version:

`\colorboxBlock` `\colorboxBlock` is the same as `\colorbox`:

```
9740 \LetLtxMacro\colorboxBlock\colorbox
```

The original definition is reused by the new versions:

```
9741 \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`.)

```
9742 \newsavebox{\LWR@colorminipagebox}
```

```
9743
```

```
9744 \NewDocumentCommand{\LWR@print@fcolorbox}{o m o m +m}{%
```

```
9745 \LWR@traceinfo{\LWR@print@fcolorbox #2 #4}%
```

Pre-load the contents into an LR box so that they can be used inside a `\fcolorbox`:

```
9746 \begin{lrbox}{\LWR@colorminipagebox}%
```

```
9747 #5%
```

```
9748 \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.

```
9749 \ifstrequal{#4}{none}%
```

```
9750 {% #4 none
```

```
9751 \LWR@traceinfo{background is none}%
```

```
9752 {% scope the \colorlet
```

```
9753 \colorlet{\LWR@currentcolor}{.}%
```

```
9754 \color{#2}%
```

```
9755 \fbox{%
```

```
9756 \color{\LWR@currentcolor}%
```

```
9757 \usebox{\LWR@colorminipagebox}%
```

```
9758 }% fbox
```

```
9759 }% colorlet
```

```

9760 }% #4 none
9761 {% #4 not none
9762 \LWR@traceinfo{background not none}%
9763 \IfValueTF{#1}%
9764 {%
9765     \IfValueTF{#3}%
9766     {\LWR@orig@print@fcolorbox[#1]{#2}{#3}{#4}{\usebox{\LWR@colorminipagebox}}}%
9767     {\LWR@orig@print@fcolorbox[#1]{#2}{#4}{\usebox{\LWR@colorminipagebox}}}%
9768 }%
9769 {% no value #1
9770     \IfValueTF{#3}%
9771     {\LWR@orig@print@fcolorbox[#2]{#3}{#4}{\usebox{\LWR@colorminipagebox}}}%
9772     {\LWR@orig@print@fcolorbox[#2]{#4}{\usebox{\LWR@colorminipagebox}}}%
9773 }% no value #1
9774 }% #4 not none
9775 \LWR@traceinfo{\LWR@print@fcolorbox done}%
9776 }
9777
9778 \renewcommand*{\fcolorbox}{\LWR@print@fcolorbox}

```

`\fcolorboxBlock` [*⟨framemodel⟩*] [*⟨framecolor⟩*] [*⟨boxmodel⟩*] [*⟨boxcolor⟩*] [*⟨text⟩*]

In print mode, `\fcolorboxBlock` is the same as `\fcolorbox`.

```

9779 \newcommand*{\LWR@print@fcolorboxBlock}{\LWR@print@fcolorbox}
9780 \newcommand*{\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:

```

9781 \NewDocumentEnvironment{LWR@print@fcolorminipage}{o m o m O{c} O{ } o m}
9782 {%
9783 \LWR@traceinfo{*** fcolorminipage: #2 #4 #8}%

```

Pre-load the contents into an LR box so that they can be used inside a `\fcolorbox`:

```

9784 \begin{lrbox}{\LWR@colorminipagebox}%

```

If inner alignment is not given, use the outer alignment instead:

```

9785 \IfValueTF{#7}%
9786 {\begin{minipage}[#5][#6][#7]{#8}}%
9787 {\begin{minipage}[#5][#6][#5]{#8}}%
9788 }%
9789 {%
9790 \end{minipage}%

```

```

9791 \end{lrbox}%
9792 \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.

```

9793 \ifstrequal{#4}{none}%
9794 {% #4 none
9795     {% scope the \colorlet
9796         \colorlet{LWR@currentcolor}{.}%
9797         \color{#2}%
9798         \fbox{%
9799             \color{LWR@currentcolor}%
9800             \usebox{LWR@colorminipagebox}%
9801         }% fbox
9802     }% colorlet
9803 }% #4 none
9804 {% #4 not none
9805     \IfValueTF{#1}%
9806     {%
9807         \IfValueTF{#3}%
9808         {\LWR@orig@print@fcolorbox[#1]{#2}[#3]{#4}{\usebox{LWR@colorminipagebox}}}%
9809         {\LWR@orig@print@fcolorbox[#1]{#2}{#4}{\usebox{LWR@colorminipagebox}}}%
9810     }%
9811     {% no value #1
9812         \IfValueTF{#3}%
9813         {\LWR@orig@print@fcolorbox{#2}[#3]{#4}{\usebox{LWR@colorminipagebox}}}%
9814         {\LWR@orig@print@fcolorbox{#2}{#4}{\usebox{LWR@colorminipagebox}}}%
9815     }% no value #1
9816 }% #4 not none
9817 \LWR@traceinfo{*** finished end fcolorminipage}%
9818 }
9819
9820 \newenvironment*{fcolorminipage}
9821     {\LWR@print@fcolorminipage}
9822     {\endLWR@print@fcolorminipage}

9823 \LWR@traceinfo{xcolor patches done}
9824 }{}% xcolor loaded
9825 }% AtBeginDocument

9826 \end{warpall}

```

## 85 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:** 9827 `\begin{warpprint}`

```
9828 \AtBeginDocument{
9829 \ifpackageloaded{chemmacros}{
```

Env `polymerdelims`

```
9830 \DeclareDocumentEnvironment{polymerdelims}{}
9831 {}{}
```

Env `redoxreaction` `{\space above}` `{\space below}`

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 157.4.

```
9832 \DeclareDocumentEnvironment{redoxreaction}{m m}
9833 {\rule{0pt}{\#1}}{\rule[-\#2]{0pt}{\#2}}
```

```
9834 }{}% chemmacros
9835 }% AtBeginDocument
```

```
9836 \end{warpprint}
```

## 86 cleveref

Pkg `cleveref` `cleveref` package is used as-is with minor patches.



### 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 567 to redefine the message which is printed for page number references.

**loading order** `cleveref` and the following 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.

Table 12 on page 483 shows the data structure of the label/reference system as revised by `lwarp` and `cleveref`.

A few patches allow `cleveref` to work as-is:

**for HTML output:** 9837 `\begin{warpedHTML}`

`\AtEndPreamble` forces `cleveref` to be loaded last:

```
9838 \AtEndPreamble{
9839 \RequirePackage{cleveref}
9840 }
```

The following patches are applied after `cleveref` has loaded, and after `\AtBeginDocument`. Print-mode versions are not required since they all come down to `\ref` eventually, and `\ref` has a print-mode version.

```
9841 \AfterEndPreamble{
9842 \LWR@traceinfo{Patching cleveref.}
```

```
\@@@setcref {<kindofref>} {<label>}
```

`\@templabel` becomes the section number.

```
9843 \def\LWR@orig@@@setcref#1#2{\cref@getlabel{#2}{\@templabel}#1{\@templabel}{-}}%
9844
9845 \ifdefequal{\@@@setcref}{\LWR@orig@@@setcref}{% before v0.21
9846   \renewcommand*{\@@@setcref}[2]{#1{\ref{#2}}}{-}}
9847 }{
9848   \ifdefequal{\@@@setcref}{\LWR@orig@@@setcref}{% as of v0.21
```

```

9849      \renewcommand*{\@@@setcref}[2]{#1{\ref{#2}}{}}
9850    }{
9851      \PackageWarning{lwarp-cleveref}{
9852        Unknown version of cleveref.
9853        \protect\cref\space will fail.
9854      }%
9855    }
9856 }

```

`\@@@setcrefrange` `{\text}` `{\label}` `{\label}`

```

9857 \def\LWR@orig@@@setcrefrange#1#2#3{%
9858   \cref@getlabel{#2}{\@labela}%
9859   \cref@getlabel{#3}{\@labelb}%
9860   #1{\@labela}{\@labelb}{\ref{#2}}{\ref{#3}}{}{}{}%
9861 }
9862 \ifdefequal{\@@@setcrefrange}{\LWR@orig@@@setcrefrange}{
9863   \renewcommand{\@@@setcrefrange}[3]{%
9864     #1{\ref{#2}}{\ref{#3}}{\ref{#2}}{\ref{#3}}{}{}{}%
9865   }
9866 }{
9867   \ifdefequal{\@@@setcrefrange}{\LWR@orig@@@setcrefrange}{
9868     \renewcommand{\@@@setcrefrange}[3]{%
9869       #1{\ref{#2}}{\ref{#3}}{\ref{#2}}{\ref{#3}}{}{}{}%
9870     }
9871   }{
9872     \PackageWarning{lwarp-cleveref}{
9873       Unknown version of cleveref.
9874       \protect\crefrange\space will fail.
9875     }
9876   }
9877 }
9878

```

`\cpagerefFor` Redefinable word between “page(s)” and the page numbers.

```

9879 \newcommand*{\cpagerefFor}{for}

```

`\@@@setcpageref` `{\typeofref}` `{\label}`, where `typeofref` is “page” or “pages”

```

9880 \def\LWR@orig@@@setcpageref#1#2{% before v0.21
9881   \cref@getpageref{#2}{\@temppage}#1{\@temppage}{}}%
9882
9883 \def\LWR@orig@@@setcpageref#1#2{% as of v0.21
9884   \cpageref@getlabel{#2}{\@temppage}#1{\@temppage}{}}%
9885

```

```

9886 \ifdefequal{\@@setcpageref}{\LWR@orig@@setcpageref}{
9887     \renewcommand*{\@@setcpageref}[2]{%
9888         #1{\cpagerefFor\ \cref{#2}}{}{}%
9889     }
9890 }{
9891     \ifdefequal{\@@@setcpageref}{\LWR@orig@@@setcpageref}{
9892         \renewcommand*{\@@@setcpageref}[2]{%
9893             #1{\cpagerefFor\ \cref{#2}}{}{}%
9894         }
9895     }
9896     {
9897         \PackageWarning{lwarp-cleveref}{
9898             Unknown version of cleveref.
9899             \protect\cpageref\space will fail.
9900         }
9901     }
9902 }

9903 \def\LWR@orig@@setcpagerefrange#1#2#3{% before v0.21
9904     \cref@getpageref{#2}{\@pagea}%
9905     \cref@getpageref{#3}{\@pageb}%
9906     #1{\@pagea}{\@pageb}{}{}{}{}%
9907
9908 \def\LWR@orig@@@setcpagerefrange#1#2#3{% as of v0.21
9909     \cpageref@getlabel{#2}{\@pagea}%
9910     \cpageref@getlabel{#3}{\@pageb}%
9911     #1{\@pagea}{\@pageb}{}{}{}{}%
9912
9913 \ifdefequal{\@@setcpagerefrange}{\LWR@orig@@setcpagerefrange}{
9914     \renewcommand*{\@@setcpagerefrange}[3]{%
9915         #1{\cpagerefFor\ \cref{#2}}{\cref{#3}}{}{}{}{}%
9916     }
9917 }{
9918     \ifdefequal{\@@@setcpagerefrange}{\LWR@orig@@@setcpagerefrange}{
9919         \renewcommand*{\@@@setcpagerefrange}[3]{%
9920             #1{\cpagerefFor\ \cref{#2}}{\cref{#3}}{}{}{}{}%
9921         }
9922     }
9923     {
9924         \PackageWarning{lwarp-cleveref}{
9925             Unknown version of cleveref.
9926             \protect\cpagerefrange\space will fail.
9927         }
9928     }
9929 }
9930
9931 }% AfterEndPreamble

```

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.

```

9932 \LetLtxMacro\LWR@orig@label\label
9933 \RenewDocumentCommand{\label}{-}{\LWR@new@label}
9934
9935 \LetLtxMacro\LWR@orig@pageref\pageref
9936 \RenewDocumentCommand{\pageref}{-}{\LWR@new@pageref}
9937 \end{warpHTML}

```

## 87 picture environment

Env `picture` The picture environment is enclosed inside a `\lateximage`.

for HTML output: 9938 `\begin{warpHTML}`

Env `picture`


```

9939 \BeforeBeginEnvironment{picture}{\begin{lateximage}[(picture)]}
9940
9941 \AfterEndEnvironment{picture}{\end{lateximage}}
9942 \end{warpHTML}

```

## 88 Boxes and Minipages

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.

**in a span** There is limited support for minipages inside an HTML `<span>`. An HTML `<div>` cannot appear inside a `<span>`. While in a `<span>`, 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.

**size** When using `\linewidth`, `\textwidth`, and `\textheight`, widths and heights are scaled proportionally to a 6×9 inch text area.

**no-width minipages** A minipage of width exactly `\linewidth` is automatically given no HTML width.

**full-width minipages** A new macro `\minipagefullwidth` requests that the next minipage be generated without an HTML width attribute, allowing it to be the full width of the display rather than the fixed width given.

 **text alignment** Nested minipages adopt their parent’s text alignment in HTML, whereas in regular L<sup>A</sup>T<sub>E</sub>X PDF output they do not. Use a `flushleft` or similar environment in the child minipage to force a text alignment.

**for HTML output:** 9943 `\begin{warpHTML}`

## 88.1 Counters and lengths

**Ctrl LWR@minipagedepth** Used to only reset the line width at the outermost minipage.

```
9944 \newcounter{LWR@minipagedepth}
9945 \setcounter{LWR@minipagedepth}{0}
```

**Len \LWR@minipagewidth** Used to convert the width into printable units.

```
9946 \newlength{\LWR@minipagewidth}
```

**Len \LWR@minipageheight** Used to convert the height into printable units.

```
9947 \newlength{\LWR@minipageheight}
```

## 88.2 Footnote handling

Also see section 58 for other forms of footnotes. Minipage footnotes are gathered in section 58.5, and then placed into the document in section 88.3.

### 88.3 Minipage handling

Bool LWR@minipagefullwidth Should the next minipage have no HTML width?

```
9948 \newbool{LWR@minipagefullwidth}
9949 \boolfalse{LWR@minipagefullwidth}
```

\minipagefullwidth Requests that the next minipage have no width tag in HTML:

**for HTML output:** 9950 \newcommand\*{\minipagefullwidth}{\booltrue{LWR@minipagefullwidth}}  
9951 \end{warppHTML}

**for PRINT output:** 9952 \begin{warpprint}  
9953 \newcommand\*{\minipagefullwidth}{}  
9954 \end{warpprint}

**for HTML output:** 9955 \begin{warppHTML}

Bool LWR@minipagethispar Has a minipage been seen this paragraph? If true, prevents paragraph tags around horizontal space between minipages.

```
9956 \newbool{LWR@minipagethispar}
9957 \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.

```
9958 \NewDocumentEnvironment{LWR@HTML@minipage}{0{t} o 0{t} m}
9959 {%
9960 \LWR@traceinfo{minipage}%
```

Temporarily open a group, 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.

The following used to be an actual L<sup>A</sup>T<sub>E</sub>X minipage.

```
9961 \begingroup
```

Compute width, adjusted for frames:

```
9962 \setlength{\LWR@minipagewidth}{#4}%
9963 \ifthenelse{\cnttest{\value{LWR@minipagedepth}}{=}{0}}{0}{%
```

Only create a new page if not yet nested:

```
9964 \LWR@orignewpage%
```

Adjust virtual page size:

```
9965 \addtolength{\LWR@minipagewidth}{3em}% room for frames
9966 \setlength{\linewidth}{6in}%
9967 \setlength{\textwidth}{6in}%
9968 \setlength{\textheight}{9in}%
9969 }{}%
9970 \LWR@traceinfo{computed width is \LWR@printlength{\LWR@minipagewidth}}%
```

Compute height:

```
9971 \setlength{\LWR@minipageheight}{\textheight}% default unless specified
9972 \IfValueT{#2}{\setlength{\LWR@minipageheight}{#2}}%
```

Track nesting depth:

```
9973 \addtocounter{LWR@minipagedepth}{1}%
```

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.

```
9974 \ifbool{FormatWP}{\newline}{}%
9975 \LWR@stoppars%
```

If FormatWP, add a text frame:

```
9976 \ifbool{FormatWP}{%
9977
9978 \addtocounter{LWR@thisautoidWP}{1}%
9979 \LWR@htmltag{%
9980   div id="\LWR@print@mbox{autoidWP-\arabic{LWR@thisautoidWP}}" %
9981   class="wpminipage"%
9982 }%
9983
9984 }{}%
```

Create the <div> tag with optional alignment style:

```
9985 \LWR@traceinfo{minipage: creating div class}%
9986 \LWR@htmltag{div class="minipage" style="%
9987 \ifthenelse{\equal{#1}{t}}{\LWR@print@mbox{vertical-align:bottom} ; }{}%
9988 \ifthenelse{\equal{#1}{c}}{\LWR@print@mbox{vertical-align:middle} ; }{}%
9989 \ifthenelse{\equal{#1}{b}}{\LWR@print@mbox{vertical-align:top} ; }{}%
```

```

9990 \ifthenelse{\equal{#3}{t}}{\LWR@print@mbox{justify-content:flex-start} ; }{}%
9991 \ifthenelse{\equal{#3}{c}}{\LWR@print@mbox{justify-content:center} ; }{}%
9992 \ifthenelse{\equal{#3}{b}}{\LWR@print@mbox{justify-content:flex-end} ; }{}%
9993 \ifthenelse{\equal{#3}{s}}{\LWR@print@mbox{justify-content:space-between} ; }{}%

```

Print the width and optional height styles:

```

9994 \LWR@traceinfo{minipage: about to print the width of \LWR@printlength{\LWR@minipagewidth}}%
9995 \ifbool{\LWR@minipagefullwidth}%
9996 {\boolfalse{\LWR@minipagefullwidth}}%
9997 {%
9998     \ifthenelse{\lengthtest{#4}=\linewidth}%
9999     {}%
10000     {width:\LWR@printlength{\LWR@minipagewidth} ; }%
10001 }%
10002 \LWR@traceinfo{minipage: about to print the height}%
10003 \IfValueT{#2}{height:\LWR@printlength{\LWR@minipageheight} ; }%
10004 "%}

```

Finish with an empty line to start the contents on a new line.

```

10005
10006 % 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.

```

10007 \setlength{\linewidth}{#4}% the original width
10008 \setlength{\textwidth}{6in}%
10009 \setlength{\textheight}{9in}%

```

`\raggedright` cancels hyphenation, which will be done by HTML instead.

```

10010 \LWR@print@raggedright%

```

Set minipage footnotes:

```

10011 \def\@mpfn{mpfootnote}%
10012 \def\thempfn{\thempfootnote}\c@mpfootnote\z@%
10013 \let\@footnotetext\@mpfootnotetext%

```

Resume paragraph tag handling for the contents of the minipage:

```

10014 \LWR@startpars%
10015 \ifboolexpr{bool{FormatWP} and bool{WPMarkMinipages}}{%
10016
10017 === begin minipage ===

```

```

10018
10019 }{}%
10020 \LWR@traceinfo{minipage: finished starting the minipage}%
10021 }% finished \minipage
10022 {% \endminipage

```

Print pending minipage footnotes:

```

10023 \LWR@printpendingmpfootnotes%

```

End the environment with closing tag:

```

10024 \ifbool{FormatWP} and bool{WPMarkMinipages}}{}%
10025
10026 === end minipage ===
10027
10028 }{}%
10029 \LWR@stoppars%

```

The following used to be an actual L<sup>A</sup>T<sub>E</sub>X minipage.

```

10030 \endgroup%
10031
10032 \ifbool{FormatWP}{}%
10033
10034 \LWR@htmlelementend{div}%
10035
10036 }{}%
10037 \LWR@htmldivclassend{minipage}%
10038
10039 \addtocounter{LWR@minipagedepth}{-1}%
10040 \LWR@startpars%
10041 \ifbool{FormatWP}{\newline}{}%

```

Prevent paragraph tags around horizontal white space until the start of the next paragraph:

```

10042 \global\booltrue{LWR@minipagethispar}%
10043 \LWR@traceinfo{LWR@minipage: done}%
10044 }
10045
10046 \LWR@formattedenv{minipage}

```

## 88.4 \parbox, \mbox, \makebox, \framebox, \fbox, \raisebox

for HTML output:

`\parbox` [ $\langle pos \rangle$ ] [ $\langle height \rangle$ ] [ $\langle inner-pos \rangle$ ] [ $\langle width \rangle$ ] [ $\langle text \rangle$ ]

A parbox uses the minipage code:

```
10047 \NewDocumentCommand{\LWR@HTML@parbox}{0{t} o 0{t} m +m}
10048 {
10049 \LWR@traceinfo{parbox of width #4}%
10050 \begin{minipage}[#1][#2][#3]{#4}%
10051 #5
10052 \end{minipage}%
10053 }
10054
10055 \LWR@formatted{parbox}
```

`\mbox` [ $\langle text \rangle$ ] Nullified for HTML.

```
10056 \newcommand*{\LWR@HTML@mbox}[1]{#1}
10057
10058 \LWR@formatted{mbox}
```

`\makebox` ( $\langle \langle \rangle \rangle posn$ ) [ $\langle width \rangle$ ] [ $\langle pos \rangle$ ] [ $\langle text \rangle$ ]

```
10059 \NewDocumentCommand{\LWR@HTML@makebox}{d() o o m}{%
```

Check for the optional width:

```
10060 \IfValueTF{#2}%
10061 {%
```

Check for the horizontal text alignment. For stretched, the best HTML can do is justified alignment.

```
10062   {% scope
10063   \def\LWR@align{center}%
10064   \ifstrequal{#3}{l}{\def\LWR@align{left}}{}%
10065   \ifstrequal{#3}{r}{\def\LWR@align{right}}{}%
10066   \ifstrequal{#3}{s}{\def\LWR@align{justify}}{}%
```

To print the width argument:

```
10067   \setlength{\LWR@tempwidth}{#2}%
```

inline-block allows width and text-alignment to be used in a `<span>`.

```
10068   \InlineClass[%
10069   \LWR@print@mbox{display:inline-block} ; %
```

```

10070      \LWR@print@mbx{text-align}:\LWR@align\ ; %
10071      width:\LWR@printlength{\LWR@tempwidth}%
10072      ]%
10073      {makebox}%

10074      {#4}%
10075      }% scope
10076 }%

```

Without a width argument, the text is simply used inline:

```

10077 {#4}% no width
10078 }
10079
10080 \LWR@formatted{makebox}

```

`\framebox` [*<width>*] [*<pos>*] {*<text>*}

```

10081 \LetLtxMacro\LWR@origframebox\framebox
10082
10083 \NewDocumentCommand{\LWR@HTML@framebox}{o o m}{%
10084 \fbox{\makebox[#1] [#2] {#3}}}%
10085 }
10086
10087 \LWR@formatted{framebox}

```

`\LWR@forceminwidth` {*<legth>*}

Sets `\LWR@atleastonept` to be at least 1pt.

```

10088 \newlength{\LWR@atleastonept}
10089
10090 \newcommand*{\LWR@forceminwidth}[1]{%
10091 \setlength{\LWR@atleastonept}{#1}%
10092 \ifthenelse{%
10093   \lengthtest{\LWR@atleastonept>0pt}\AND%
10094   \lengthtest{\LWR@atleastonept<1pt}%
10095 }%
10096 {\setlength{\LWR@atleastonept}{1pt}}%
10097 {}%
10098 }

```

`\LWR@blackborderpadding` Prints the HTML attributes for a black border and padding.

`\LWR@forceminwidth` must be used first in order to set the border width.

```

10099 \newcommand*{\LWR@blackborderpadding}{%
10100 border:\LWR@printlength{\LWR@atleastonept} solid black ; %
10101 padding:\LWR@printlength{\fboxsep}%
10102 }

```

`\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:

```

10103 \newcommand{\LWR@HTML@fbox}[1]{%
10104 \LWR@traceinfo{HTML fbox}%
10105 \LWR@forceminwidth{\fboxrule}%
10106 \InlineClass[%
10107 \LWR@blackborderpadding%
10108 ]{fbox}{#1}
10109 }

```

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:

```

10110 \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 warppall.

**for HTML & PRINT:**

```

10111 \end{warppHTML}
10112 \begin{warppall}
10113 \let\fboxBlock\fbox
10114 \end{warppall}
10115 \begin{warppHTML}

```

**for HTML output:**    Next, an HTML version:

```

10116 \newcommand{\LWR@HTML@fboxBlock}[1]{%
10117 \LWR@forceminwidth{\fboxrule}%
10118 \begin{BlockClass}%
10119 \LWR@blackborderpadding%
10120 ]{fboxBlock}
10121 #1
10122 \end{BlockClass}
10123 }
10124
10125 \LWR@formatted{fboxBlock}
10126
10127 \end{warppHTML}

```

Env `fminipage` [*align*] [*height*] [*align*] {*width*}

Creates a framed HTML <div> around its contents.

**for HTML & PRINT:** Print version:

```
10128 \begin{warpall}
10129
10130 \newsavebox{\LWR@fminipagebox}
10131
10132 \NewDocumentEnvironment{LWR@print@fminipage}{0{t} o 0{t} m}
10133 {%
```

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:

```
10134 \IfValueTF{#3}%
10135 {\def\LWR@thisalign{#3}}
10136 {\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.

```
10137 \IfValueTF{#2}%
10138 {\minipage[#1][#2+2\fboxsep+2\fboxrule][\LWR@thisalign]{#4+2\fboxsep+2\fboxrule}}%
10139 {\minipage[#1]{#4+2\fboxsep+2\fboxrule}}%
```

Capture the contents of the environment:

```
10140 \begin{lrbox}{\LWR@fminipagebox}%
```

Nest the contents inside an inner minipage of the desired size:

```
10141 \IfValueTF{#2}%
10142 {\minipage[#1][#2][\LWR@thisalign]{#4}}%
10143 {\minipage[#1]{#4}}%
10144 }
10145 {%
```

Close the inner minipage and the LR box with the contents:

```
10146 \endminipage%
10147 \end{lrbox}%
```

Create a frame around the contents of the environment:

```
10148 \fbox{\usebox{\LWR@fminipagebox}}%
```

The entire thing is placed inside the outer minipage:

```

10149 \endminipage%
10150 }
10151
10152 \LetLtxMacro\fminipage\LWR@print@fminipage
10153 \LetLtxMacro\endfminipage\endLWR@print@fminipage
10154 % \newenvironment{fminipage}{\LWR@print@fminipage}{\endLWR@print@fminipage}
10155
10156 \end{warpall}

for HTML output: 10157 \begin{warpHTML}
10158
10159 \NewDocumentEnvironment{LWR@HTML@fminipage}{0{t} o 0{t} m}
10160 {%
10161 \LWR@traceinfo{fminipage #1 #2 #3 #4}%
10162 \LWR@forceminwidth{\fboxrule}%
10163 \setlength{\LWR@tempwidth}{#4}%
10164 \IfValueT{#2}{\setlength{\LWR@tempheight}{#2}}%

10165 \LWR@stoppars%

10166 \begin{BlockClass}[%
10167 \LWR@blackborderpadding ; %
10168 \IfValueT{#2}{height:\LWR@printlength{\LWR@tempheight} ; }%
10169 width:\LWR@printlength{\LWR@tempwidth}%
10170 ]{fminipage}%
10171 }
10172 {%
10173 \end{BlockClass}%

10174 \global\booltrue{LWR@minipagethispar}%
10175 \LWR@traceinfo{fminipage done}%
10176 }
10177
10178 \LWR@formattedenv{fminipage}

10179 \end{warpHTML}

\raisebox {<{raiselen}> [<{height}>] [<{depth}>] <{text}>}

10180 \begin{warpHTML}
10181
10182 \NewDocumentCommand{\LWR@HTML@raisebox}{m o o m}{%
```

```

10183 #4%
10184 }
10185
10186 \LWR@formatted{raisebox}

10187 \end{warpHTML}

```

## 89 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 52.8.

**for HTML output:** 10188 `\begin{warpHTML}`

`\emph` `{\textit}`

```

10189 \DeclareRobustCommand{\LWR@HTML@emph}[1]{%
10190     {%
10191         \itshape%
10192         \LWR@htmlspan{em}{#1}%
10193     }%
10194 }
10195 \LWR@formatted{emph}
10196
10197 \DeclareRobustCommand{\LWR@null@emph}[1]{#1}

```

`\textmd` `{\textit}`

```

10198 \DeclareRobustCommand{\LWR@HTML@textmd}[1]{%
10199     {%
10200         \mdseries%
10201         \InlineClass{font-weight:normal}{textmd}{#1}%

```

```

10202     }%
10203 }
10204 \LWR@formatted{textmd}
10205
10206 \DeclareRobustCommand{\LWR@null@textmd}[1]{#1}

```

`\textbf`  $\{\langle text \rangle\}$

```

10207 \DeclareRobustCommand{\LWR@HTML@textbf}[1]{%
10208     {%
10209         \bfseries%
10210         \LWR@htmlspan{b}{#1}%
10211     }%
10212 }
10213 \LWR@formatted{textbf}
10214
10215 \DeclareRobustCommand{\LWR@null@textbf}[1]{#1}

```

`\textrm`  $\{\langle text \rangle\}$

```

10216 \DeclareRobustCommand{\LWR@HTML@textrm}[1]{%
10217     {%
10218         \rmfamily%
10219         \InlineClass(font-family:serif){textrm}{#1}%
10220     }%
10221 }
10222 \LWR@formatted{textrm}
10223
10224 \DeclareRobustCommand{\LWR@null@textrm}[1]{#1}

```

`\textsf`  $\{\langle text \rangle\}$

```

10225 \DeclareRobustCommand{\LWR@HTML@textsf}[1]{%
10226     {%
10227         \sffamily%
10228         \InlineClass(font-family:sans){textsf}{#1}%
10229     }%
10230 }
10231 \LWR@formatted{textsf}
10232
10233 \DeclareRobustCommand{\LWR@null@textsf}[1]{#1}

```

`\texttt`  $\{\langle text \rangle\}$

```

10234 \DeclareRobustCommand{\LWR@HTML@texttt}[1]{%
10235     {%
10236         \ttfamily%

```

```

10237      \LWR@htmlspan{kbd}{#1}%
10238    }%
10239 }
10240 \LWR@formatted{texttt}
10241
10242 \DeclareRobustCommand{\LWR@null@texttt}[1]{#1}

```

`\textup`  $\{\langle text \rangle\}$

```

10243 \DeclareRobustCommand{\LWR@HTML@textup}[1]{%
10244   {%
10245     \upshape%
10246     \InlineClass(font-style:normal){textup}{#1}%
10247   }%
10248 }
10249 \LWR@formatted{textup}
10250
10251 \DeclareRobustCommand{\LWR@null@textup}[1]{#1}

```

`\textit`  $\{\langle text \rangle\}$

```

10252 \DeclareRobustCommand{\LWR@HTML@textit}[1]{%
10253   {%
10254     \itshape%
10255     \LWR@htmlspan{i}{#1}%
10256   }%
10257 }
10258 \LWR@formatted{textit}
10259
10260 \DeclareRobustCommand{\LWR@null@textit}[1]{#1}

```

`\textsc`  $\{\langle text \rangle\}$

```

10261 \DeclareRobustCommand{\LWR@HTML@textsc}[1]{%
10262   {%
10263     \scshape%
10264     \InlineClass(
10265       font-variant: small-caps ;
10266       font-variant-numeric: oldstyle-nums ;
10267     ){textsc}{#1}%
10268   }%
10269 }
10270 \LWR@formatted{textsc}
10271
10272 \DeclareRobustCommand{\LWR@null@textsc}[1]{#1}

```

`\textsl`  $\{\langle text \rangle\}$

```

10273 \DeclareRobustCommand{\LWR@HTML@textsl}[1]{%
10274     {%
10275         \slshape%
10276         \InlineClass(font-style:oblique){textsl}{#1}%
10277     }%
10278 }
10279 \LWR@formatted{textsl}
10280
10281 \DeclareRobustCommand{\LWR@null@textsl}[1]{#1}

```

`\textnormal`  $\{\langle text \rangle\}$

```

10282 \DeclareRobustCommand{\LWR@HTML@textnormal}[1]{\textmd{\textrm{\textup{#1}}}}
10283 \LWR@formatted{textnormal}
10284
10285 \DeclareRobustCommand{\LWR@null@textnormal}[1]{#1}

10286 \DeclareRobustCommand{\LWR@null@rmfamily}{\rmfamily}{}
10287 \DeclareRobustCommand{\LWR@null@sffamily}{\sffamily}{}
10288 \DeclareRobustCommand{\LWR@null@ttfamily}{\ttfamily}{}
10289 \DeclareRobustCommand{\LWR@null@bfseries}{\bfseries}{}
10290 \DeclareRobustCommand{\LWR@null@mdseries}{\mdseries}{}
10291 \DeclareRobustCommand{\LWR@null@upshape}{\upshape}{}
10292 \DeclareRobustCommand{\LWR@null@slshape}{\slshape}{}
10293 \DeclareRobustCommand{\LWR@null@scshape}{\scshape}{}
10294 \DeclareRobustCommand{\LWR@null@itshape}{\itshape}{}
10295 \DeclareRobustCommand{\LWR@null@normalfont}{\normalfont}{}

10296 \DeclareRobustCommand{\LWR@null@em}{\em}{}

```

`\LWR@nullfonts` Removes formatting during filename operations.



**Use only inside a group.**

The following are *not* made robust, since they must be expanded to their nullified versions.

```

10297 \newcommand*{\LWR@nullfonts}{%
10298 \LetLtxMacro\emph\LWR@null@emph%
10299 \LetLtxMacro\textmd\LWR@null@textmd%
10300 \LetLtxMacro\textbf\LWR@null@textbf%
10301 \LetLtxMacro\textrm\LWR@null@textrm%
10302 \LetLtxMacro\textsf\LWR@null@textsf%
10303 \LetLtxMacro\texttt\LWR@null@texttt%
10304 \LetLtxMacro\textup\LWR@null@textup%

```

```

10305 \LetLtxMacro\textit\LWR@null@textit%
10306 \LetLtxMacro\textsc\LWR@null@textsc%
10307 \LetLtxMacro\textsl\LWR@null@textsl%
10308 \LetLtxMacro\textnormal\LWR@null@textnormal%
10309 \LetLtxMacro\rmfamily\LWR@null@rmfamily%
10310 \LetLtxMacro\sffamily\LWR@null@sffamily%
10311 \LetLtxMacro\ttfamily\LWR@null@ttfamily%
10312 \LetLtxMacro\bfseries\LWR@null@bfseries%
10313 \LetLtxMacro\mdseries\LWR@null@mdseries%
10314 \LetLtxMacro\upshape\LWR@null@upshape%
10315 \LetLtxMacro\slshape\LWR@null@slshape%
10316 \LetLtxMacro\scshape\LWR@null@scshape%
10317 \LetLtxMacro\itshape\LWR@null@itshape%
10318 \LetLtxMacro\normalfont\LWR@null@normalfont%
10319 \LetLtxMacro\em\LWR@null@em%

```

```

10320 \renewcommand*{\,}{-}%
10321 \renewcommand*{\~}{-}%
10322 \renewcommand*{\newline}{ }%
10323 \renewcommand*{\textellipsis}{-}%

```

```

10324 \renewcommand*{\HTMLunicode}[1]{}%
10325 \renewcommand*{\HTMLentity}[1]{}%

```

Ampersand becomes “and”, which is a short word and is then removed from the filename.

```

10326 \renewcommand*{\&}{and}%

```

```

10327 \renewcommand{\textsuperscript}[1]{##1}%
10328 \renewcommand{\textsubscript}[1]{##1}%

```

```

10329 \renewcommand{\underline}[1]{##1}%

```

```

10330 \RenewDocumentCommand{\LWR@htmlspanclass}{o m +m}{##3}%
10331 \DeclareExpandableDocumentCommand{\InlineClass}{D{({})}{ } o m +m}{##4}%

```

Nullify math macros.

```

10332 \def\{##1\}{}%
10333 \def\[##1\]{}%
10334 \RenewDocumentCommand{\LWR@subsingledollar}{s m m m}{}%

```

Use the simpler form with `\texorpdfstring`:

```

10335 \let\texorpdfstring\relax%

```

```
10336 \newcommand{\texorpdfstring}[2]{##2}%
10337 }
```

Remembers the current font family, series, and shape.

```
10338 \newcommand*{\LWR@f@family}{rm}
10339 \newcommand*{\LWR@f@series}{md}
10340 \newcommand*{\LWR@f@shape}{up}
```

`\LWR@textcurrentfont`    `{\text}`

Prints the text with the current font choices. Avoids nesting repeated font selections.

```
10341 \newcounter{LWR@textcurrentfontdepth}
10342 \setcounter{LWR@textcurrentfontdepth}{0}
10343
10344 \newcommand*{\LWR@textcurrentfont}[1]{%
10345     \ifnumcomp{\value{LWR@textcurrentfontdepth}}{>}{0}%
10346         {%
10347             \addtocounter{LWR@textcurrentfontdepth}{1}%
10348             #1%
10349             \addtocounter{LWR@textcurrentfontdepth}{-1}%
10350         }%
10351     {%
10352         \addtocounter{LWR@textcurrentfontdepth}{1}%
10353         \InlineClass{%
10354             text\LWR@f@family\LWR@origtilde{}%
10355             text\LWR@f@series\LWR@origtilde{}%
10356             text\LWR@f@shape%
10357         }%
10358         {#1}%
10359         \addtocounter{LWR@textcurrentfontdepth}{-1}%
10360     }%
10361 }
```

Env    `LWR@blocktextcurrentfont`    Prints the contents with the current font choices.

```
10362 \newenvironment*{LWR@blocktextcurrentfont}{%
10363 \BlockClass{%
10364     text\LWR@f@family\LWR@origtilde{}%
10365     text\LWR@f@series\LWR@origtilde{}%
10366     text\LWR@f@shape%
10367 }%
10368 }{\endBlockClass}
```

`\mdseries`

```
10369 \renewrobustcmd*{\mdseries}{\renewcommand*{\LWR@f@series}{md}}
```

**\bfseries**

```
10370 \renewrobustcmd*{\bfseries}{\renewcommand*{\LWR@f@series}{bf}}
```

**\rmfamily**

```
10371 \renewrobustcmd*{\rmfamily}{\renewcommand*{\LWR@f@family}{rm}}
```

**\sffamily**

```
10372 \renewrobustcmd*{\sffamily}{\renewcommand*{\LWR@f@family}{sf}}
```

**\ttfamily**

```
10373 \renewrobustcmd*{\ttfamily}{\renewcommand*{\LWR@f@family}{tt}}
```

**\upshape**

```
10374 \renewrobustcmd*{\upshape}{\renewcommand*{\LWR@f@shape}{up}}
```

**\itshape**

```
10375 \renewrobustcmd*{\itshape}{\renewcommand*{\LWR@f@shape}{it}}
```

**\scshape**

```
10376 \renewrobustcmd*{\scshape}{\renewcommand*{\LWR@f@shape}{sc}}
```

**\slshape**

```
10377 \renewrobustcmd*{\slshape}{\renewcommand*{\LWR@f@shape}{sl}}
```

**\normalfont**

```
10378 \renewrobustcmd*{\normalfont}{\rmfamily\mdseries\upshape}
```

**\sp**  $\langle text \rangle$

For siunitx. Must work in math mode.

```
10379 \renewcommand{\sp}[1]{\text{<sup>#1</sup>}}
```

`\sb`  $\{\langle text \rangle\}$

For siunitx. Must work in math mode.

```
10380 \renewcommand{\sb}[1]{\text{<sub>#1</sub>}\{}}
```

`\textsuperscript`  $\{\langle text \rangle\}$

```
10381 \renewrobustcmd{\textsuperscript}[1]{\LWR@htmlspan{sup}\{#1\}}
```

`\@textsuperscript`  $\{\langle text \rangle\}$

```
10382 \renewcommand{\@textsuperscript}[1]{\LWR@htmlspan{sup}\{#1\}}
```

`\textsubscript`  $\{\langle text \rangle\}$

```
10383 \AtBeginDocument{
10384 \renewrobustcmd{\textsubscript}[1]{\LWR@htmlspan{sub}\{#1\}}
10385 }
```

`\@textsubscript`  $\{\langle text \rangle\}$

```
10386 \AtBeginDocument{
10387 \renewcommand{\@textsubscript}[1]{\LWR@htmlspan{sub}\{#1\}}
10388 }
```

`\up`  $\{\langle text \rangle\}$  Prints superscript.

This is `\let` at the beginning of the document in case some other package has changed the definition.

```
10389 \AtBeginDocument{\let\up\textsuperscript}
```

`\fup`  $\{\langle text \rangle\}$  Prints superscript.

Supports fmtcount package.

This is `\let` at the beginning of the document in case some other package has changed the definition.

```
10390 \AtBeginDocument{\let\fup\textsuperscript}
```

`\underline`  $\{\langle text \rangle\}$

```

10391 \renewcommand{\underline}[1]{%
10392     \InlineClass%
10393     (text-decoration:underline; text-decoration-skip: auto)%
10394     {\underline}{#1}%
10395 }

```

`\LWR@overline`    `{\text}`

```

10396 \newcommand{\LWR@overline}[1]{%
10397     \InlineClass%
10398     (text-decoration:overline; text-decoration-skip: auto)%
10399     {\overline}{#1}%
10400 }

```

`\LWR@currenttextcolor`    The color to use for text and `\rule`, defaulting to black:

```

10401 \newcommand*{\LWR@currenttextcolor}{black}

```

`\LWR@tempcolor`    The color converted to HTML colorspace.  
`\LWR@tempcolortwo`

```

10402 \newcommand*{\LWR@tempcolor}{}
10403 \newcommand*{\LWR@tempcolortwo}{}

```

`\LWR@findcurrenttextcolor`    Sets `\LWR@tempcolor` to the current color.

```

10404 \newcommand*{\LWR@findcurrenttextcolor}{%
10405 \renewcommand{\LWR@tempcolor}{black}%
10406 }

```

`\LWR@textcurrentcolor`    `{\text}` Like `\textcolor` but uses the current `\color` instead.

```

10407 \NewDocumentCommand{\LWR@textcurrentcolor}{m}{%
10408     \renewcommand*{\LWR@currenttextcolor}{black}%
10409     #1%
10410 }

```

```

10411 \end{warpHTML}

```

**for PRINT output:** 10412 `\begin{warpprint}`

`\LWR@textcurrentfont`    `{\text}`

Prints the text with the current font choices.

```

10413 \newcommand*{\LWR@textcurrentfont}[1]{#1}

```

Env LWR@blocktextcurrentfont Prints the contents with the current font choices.

```
10414 \newenvironment*{LWR@blocktextcurrentfont}{}{}
10415 \end{warpprint}
```

## 90 Skips, spaces, font sizes

for HTML output: 10416 \begin{warpHTML}

`\,` and `\thinspace` may be redefined by other packages, so are redefined `\AtBeginDocument` here.

Direct-formatting space commands become HTML entities:

```
10417 \AtBeginDocument{
10418 \renewrobustcmd*{\,}{\HTMLUnicode{202f}} % HTML thin non-breakable space
10419 \renewrobustcmd*{\thinspace}{\HTMLUnicode{202f}} % HTML thin non-breakable space
10420 \renewrobustcmd*{\negthinspace}{\HTMLUnicode{202f}} % HTML thin non-breakable space
10421 \renewrobustcmd*{~}{\HTMLentity{nbsp}}
10422 \renewrobustcmd*{\textellipsis}{\HTMLUnicode{2026}}
10423 }
```

Direct-formatting font sizes are ignored:

```
10424 \newrobustcmd*{\LWR@HTML@normalsize}{}
10425 \LWR@formatted{normalsize}
10426
10427 \newrobustcmd*{\LWR@HTML@small}{}
10428 \LWR@formatted{small}
10429
10430 \newrobustcmd*{\LWR@HTML@footnotesize}{}
10431 \LWR@formatted{footnotesize}
10432
10433 \newrobustcmd*{\LWR@HTML@scriptsize}{}
10434 \LWR@formatted{scriptsize}
10435
10436 \newrobustcmd*{\LWR@HTML@tiny}{}
10437 \LWR@formatted{tiny}
10438
10439 \newrobustcmd*{\LWR@HTML@large}{}
10440 \LWR@formatted{large}
10441
10442 \newrobustcmd*{\LWR@HTML@Large}{}
10443 \LWR@formatted{Large}
```

```

10444
10445 \newrobustcmd*{\LWR@HTML@LARGE}{-}
10446 \LWR@formatted{LARGE}
10447
10448 \newrobustcmd*{\LWR@HTML@huge}{-}
10449 \LWR@formatted{huge}
10450
10451 \newrobustcmd*{\LWR@HTML@Huge}{-}
10452 \LWR@formatted{Huge}

10453 \DeclareDocumentCommand{\onecolumn}{-}{-}
10454
10455 \DeclareDocumentCommand{\twocolumn}{0-}{-}
10456
10457 #1
10458
10459 }

```

`\hfill`

```

10460 \newcommand*{\LWR@HTML@hfill}{\quad}
10461 \LWR@formatted{hfill}

```

`\hrulefill`

```

10462 \newcommand*{\LWR@HTML@hrulefill}{\rule{1in}{1pt}}
10463 \LWR@formatted{hrulefill}

```

`\dotfill`

```

10464 \newcommand*{\LWR@HTML@dotfill}{\dots}
10465 \LWR@formatted{dotfill}

```

`\newpage`

```

10466 \renewcommand*{\newpage}{
10467
10468 }

```

`\newline` Uses the HTML `<br />` element.

```

10469 \newrobustcmd*{\LWR@newlinebr}{\unskip\LWR@htmltag{br /}\LWR@orignewline}%
10470 \LetLtxMacro\newline\LWR@newlinebr

```

`\` Redefined to `\LWR@endoffline` or `\LWR@tabularendoffline`.

`\LWR@endofline` \* [*len*]

`\` is assigned to `\LWR@endofline` at `\LWR@LwarpStart`.

Inside `tabular`, `\` is temporarily changed to `\LWR@tabularendofline`.

```
10471 \LetLtxMacro\LWR@origendofline\
10472 \NewDocumentCommand{\LWR@endofline}{s O{Opt}}
10473 {%
10474 \newline%

10475 \setlength{\LWR@templengthone}{#2}%
10476 \ifdimgreater{\LWR@templengthone}{0pt}{\newline}{}%
10477 }
```

`\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, 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 `\qqquad` until the end of the paragraph, when the closing `p` tag is created.

`\hspace`  
`\enskip`  
`\quad`  
`\qqquad`

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 `\qqquad`'s HTML output.

```
10478 \newcommand*{\LWR@minipagestartpars}{%
10479 \ifbool{LWR@minipagethispar}{\LWR@startpars}{}%
10480 }
```

`\LWR@minipagestoppars` Placed just after `\hspace`, `\quad`, or `\qqquad`'s HTML output.

```
10481 \newcommand*{\LWR@minipagestoppars}{%
10482 \ifbool{LWR@minipagethispar}{\LWR@stoppars}{}%
10483 }
```

`\quad` Handles special minipage & horizontal space interactions.

```

10484 \renewcommand*{\quad}{%
10485 \LWR@minipagestoppars%
10486 \HTMLUnicode{2001}%
10487 \LWR@minipagestartpars%
10488 }

```

`\qqquad` Handles special minipage & horizontal space interactions.

```

10489 \renewcommand*{\qqquad}{\quad\quad}

```

`\enskip` Handles special minipage & horizontal space interactions.

```

10490 \renewcommand*{\enskip}{%
10491 \LWR@minipagestoppars%
10492 \HTMLUnicode{2000}%
10493 \LWR@minipagestartpars%
10494 }

```

Len `\LWR@tempwidth` Used to compute span width, height, raise for `\hspace` and `\rule`:

```

Len \LWR@tempheight 10495 \newlength{\LWR@tempwidth}
Len \LWR@tempraise 10496 \newlength{\LWR@tempheight}
10497 \newlength{\LWR@tempraise}

```

```

\LWR@select@html@hspace * {\length} * {\length}
\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 `\qqquad`.

```

10498 \newcommand{\LWR@select@html@hspace}{%
10499 \RenewDocumentCommand{\hspace}{s m}{%
10500 \setlength{\LWR@tempwidth}{##2}%

```

If `\fill`, change to `\qqquad`:

```

10501 \ifnum\gluestretchorder\LWR@tempwidth>0%
10502 \setlength{\LWR@tempwidth}{2em}%
10503 \fi%

```

Only if the width is not zero:

```

10504 \ifdimcomp{\LWR@tempwidth}{=}{0pt}{\}{%

```

If had a minipage this paragraph, try to inline the white space without generating paragraph tags:

```
10505    \LWR@minipagestoppars%
```

Support the HTML thin wrappable space:

```
10506    \ifdimcomp{\LWR@tempwidth}{=}{.16667em}%
10507    {%
10508        \HTMLUnicode{2009}% thin breakable space
10509    }%
```

Print the span with the converted width. Not rounded.

```
10510    {%
10511        \LWR@htmltagc{%
10512            span style="width:\LWR@printlength{\LWR@tempwidth}; % extra space
10513                display:inline-block"%
10514        }%
```

If formatting for a word processor, approximate with a number of \quads, in case a span of a given width is not supported:

```
10515        \ifbool{FormatWP}{%
10516            \setlength{\LWR@templengthone}{\LWR@tempwidth}%
10517            \whiledo{\lengthtest{\LWR@templengthone>1em}}{%
10518                \quad%
10519                \addtolength{\LWR@templengthone}{-1em}%
10520            }%
10521        }{%}
```

Close the span:

```
10522        \LWR@htmltagc{/span}%
10523    }%
```

If had a minipage this paragraph, try to inline the white space without generating paragraph tags:

```
10524    \LWR@minipagestartpars%
10525 }% width not 0
10526 }%
10527 }
```

```
\LWR@select@html@nohspace * {\length}
\hspace
```

Used to disable \hspace while creating description \items.

```

10528 \newcommand{\LWR@select@html@nohspace}{%
10529     \RenewDocumentCommand{\hspace}{s m}{}%
10530 }

```

`\LWR@select@print@hspace`

```

10531 \newcommand*{\LWR@select@print@hspace}{%
10532     \renewrobustcmd\hspace{\@ifstar\@hspacer\@hspace}%
10533 }

```

`\hspace` \*  $\langle length \rangle$

Handles special minipage & horizontal space interactions.

```

10534 \LWR@select@html@hspace

```

`\LWR@vspace` \*  $\langle length \rangle$  Nullified vspace.

```

10535 \NewDocumentCommand{\LWR@HTML@vspace}{s m}{}
10536
10537 \LWR@formatted{vspace}

```

`\linebreak` [ $\langle num \rangle$ ] Inserts an HTML br tag.

```

10538 \renewcommand*{\linebreak}[1] [] {\newline}

```

`\nolinebreak` [ $\langle num \rangle$ ]

```

10539 \renewcommand*{\nolinebreak}[1] [] {}

```

`\pagebreak` [ $\langle num \rangle$ ] Starts a new paragraph.

```

10540 \renewcommand*{\pagebreak}[1] [] {
10541
10542 }

```

`\nepagebreak` [ $\langle num \rangle$ ]

```

10543 \renewcommand*{\nepagebreak}[1] [] {}

```

`\enlargethispage` \*  $\langle len \rangle$

```

10544 \RenewDocumentCommand{\enlargethispage}{s m}{}

```

`\clearpage`  
`\cleardoublepage`

```
10545 \renewcommand*\clearpage{}
10546 \renewcommand*\cleardoublepage{}
```

`\rule` [*<raise>*] [*<width>*] [*<height>*]

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.

```
10547 \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:

```
10548 \setlength{\LWR@tempwidth}{#2}%
```

If it's zero-width then skip the entire rule:

```
10549 \ifthenelse{\lengthtest{\LWR@tempwidth=0pt}}{
10550 {}}% zero- width
10551 {% non-zero width
```

If it's non-zero width, set a minimal thickness so that it more reliably shows in the browser:

```
10552 \ifthenelse{%
10553 \lengthtest{\LWR@tempwidth>0pt}\AND%
10554 \lengthtest{\LWR@tempwidth<1pt}}{
10555 }%
10556 {\setlength{\LWR@tempwidth}{1pt}}}%
```

Likewise with height:

```
10557 \setlength{\LWR@tempheight}{#3}%
10558 \ifthenelse{%
10559 \lengthtest{\LWR@tempheight>0pt}\AND%
10560 \lengthtest{\LWR@tempheight<1pt}}{
10561 }%
10562 {\setlength{\LWR@tempheight}{1pt}}}%
```

If had a minipage this paragraph, try to inline the rule without generating paragraph tags:

```
10563 \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  $\text{\LaTeX}$  code.

```
10564 \LWR@findcurrenttextcolor%
10565 \LWR@htmltagc{%
10566 span
10567 style="%
```

The background color is used to draw the filled rule. The color may be changed by `\textcolor`.

```
10568 \ifbool{FormatWP}{\background:\LWR@currenttextcolor ; }%
```

The width and height are printed, converted to PT:

```
10569 width:\LWR@printlength{\LWR@tempwidth} ; %
10570 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  $\text{\LaTeX}$  length allows a typical  $\text{\LaTeX}$  expression to be used as an argument for the raise, whereas printing the raise argument directly to HTML output without conversion to a  $\text{\LaTeX}$  length limits the allowable syntax. To do: A superior method would compute a ratio of  $\text{\LaTeX}$  ex height, then print that to HTML with an ex unit.

```
10571 \ifblank{#1}%
10572 {}%
10573 {%
10574 \setlength{\LWR@tempraise}{Opt-#1}%
10575 \setlength{\LWR@tempraise}{\LWR@tempraise*2}%
10576 \LWR@orignewline%
10577 -ms-transform: translate(0pt,\LWR@printlength{\LWR@tempraise}); %
10578 \LWR@orignewline%
10579 -webkit-transform: translate(0pt,\LWR@printlength{\LWR@tempraise}); %
10580 \LWR@orignewline%
10581 transform: translate(0pt,\LWR@printlength{\LWR@tempraise}); %
10582 \LWR@orignewline%
10583 }%
```

Display inline-block to place the span inline with the text:

```
10584 display:inline-block;"%
10585 }%
```

If formatting for a word processor, approximate with a number of underscores, in case a span of a given width is not supported:

```
10586 \ifbool{FormatWP}{%
```

```

10587         \setlength{\LWR@templengthone}{\LWR@tempwidth}%
10588         \whiledo{\lengthtest{\LWR@templengthone>1em}}{%
10589             \_{}%
10590             \addtolength{\LWR@templengthone}{-1em}%
10591         }%
10592     }{}%
```

Close the span:

```
10593     \LWR@htmltagc{/span}%
```

If had a minipage this paragraph, try to inline the white space without generating paragraph tags:

```

10594     \LWR@minipagestartpars%
10595 }% non-zero width
10596 }
10597
10598 \LWR@formatted{rule}

10599 \end{warpHTML}
```

## 91 \phantomsection

**for HTML output:** 10600 \begin{warpHTML}

`\phantomsection` Emulate the hyperref `\phantomsection` command, often used to insert the bibliography into the table of contents. Ignores `\ForceHTMLTOC`.

```

10601 \DeclareDocumentCommand{\phantomsection}{}{}%
10602 \begingroup%
10603 \boolfalse{LWR@forcinghtmltoc}%
10604 \section*{}%
10605 \endgroup%
10606 }

10607 \end{warpHTML}
```

## 92 \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 `\let` in `\LWR@LwarpStart`.

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.

## 92.1 HTML logos

for HTML output: 10608 `\begin{warpHTML}`

`\TeX`  $\mathrm{T}\mathrm{E}\mathrm{X}$

`latexlogo` is a css class used to properly typeset the E and A in  $\mathrm{L}\mathrm{A}\mathrm{T}\mathrm{E}\mathrm{X}$  and friends.

`latexlogofont` is a css class used to select the font for the rest of the logo in  $\mathrm{L}\mathrm{A}\mathrm{T}\mathrm{E}\mathrm{X}$ ,  $\mathrm{L}\mathrm{u}\mathrm{a}\mathrm{T}\mathrm{E}\mathrm{X}$ ,  $\mathrm{C}\mathrm{o}\mathrm{n}\mathrm{T}\mathrm{E}\mathrm{X}\mathrm{t}$ , etc.

```
10609 \LetLtxMacro\LWR@origTeX\TeX
10610
10611 \newrobustcmd*{\LWR@TeX}
10612 {%
10613   \InlineClass{latexlogofont}%
10614   {%
10615     \InlineClass{latexlogo}%
10616     {%
10617       T%
10618       \InlineClass{latexlogosub}{e}%
10619       X%
10620     }%
10621   }%
10622 }
```

`\LaTeX`  $\mathrm{L}\mathrm{A}\mathrm{T}\mathrm{E}\mathrm{X}$ ,  $\mathrm{L}\mathrm{A}\mathrm{T}\mathrm{E}\mathrm{X}\,2_{\epsilon}$   
`\LaTeXe`

```
10623 \LetLtxMacro\LWR@origLaTeX\LaTeX
10624
10625 \newrobustcmd*{\LWR@LaTeX}
10626 {%
10627   \InlineClass{latexlogofont}%
10628   {%
10629     \InlineClass{latexlogo}%
10630     {%
10631       L%
```

```

10632         \InlineClass{latexlogosup}{a}%
10633         T%
10634         \InlineClass{latexlogosub}{e}%
10635         X%
10636     }%
10637 }%
10638 }
10639
10640 \LetLtxMacro\LWR@origLaTeXe\LaTeXe
10641
10642 \renewrobustcmd*{\LaTeXe}
10643 {%
10644     \LaTeX%
10645     \InlineClass{latexlogofont}{%
10646         \InlineClass{latexlogotwoe}{%
10647             2%
10648             \InlineClass{latexlogotwoesub}{\HTMLUnicode{03B5}}%
10649         }%
10650     }%
10651 }

```

`\LuaTeX`    `LuaTeX`, `LuaATeX`  
`\LuaLaTeX`

```

10652 \newrobustcmd*{\LWR@LuaTeX}{\InlineClass{latexlogofont}{Lua}\TeX}
10653 \newrobustcmd*{\LWR@LuaLaTeX}{\InlineClass{latexlogofont}{Lua}\LaTeX}

```

`\XeTeX`    `XETeX`, `XEATeX`  
`\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 `XEATeX` and spaces `LaTeX` appropriately.

```

10654 \newrobustcmd*{\Xe}
10655     {%
10656         X%
10657         \InlineClass{xelatexlogosub}{\HTMLUnicode{18e}}%
10658     }
10659
10660 \newrobustcmd*{\LWR@XeTeX}{\InlineClass{xelatexlogo}{\Xe}\TeX}
10661
10662 \newrobustcmd*{\LWR@XeLaTeX}{\InlineClass{xelatexlogo}{\Xe}\LaTeX}

```

`\ConTeXt`    `ConTeXt`

```

10663 \newrobustcmd*{\LWR@ConTeXt}

```

```
10664 {\InlineClass{latexlogofont}{Con}\TeX{}}%
10665 \InlineClass{latexlogofont}{t}}
```

`\BibTeX`    $\text{\BibTeX}$ , *MakeIndex*

`\MakeIndex`

```
10666 \providerobustcmd*{\BibTeX}
10667 {\InlineClass{latexlogofont}{B\textsc{ib}}\TeX}
10668
10669 \newrobustcmd*{\MakeIndex}
10670 {\InlineClass{latexlogofont}{\textit{MakeIndex}}}
```

`\AmS`    $\mathcal{AMS}$

`amslogo` is a CSS class used for the  $\mathcal{AMS}$  logo.

```
10671 \AtBeginDocument{%
10672 \DeclareDocumentCommand{\AmS}{}
10673 {%
10674     \InlineClass{amslogo}{%
10675         \textit{%
10676             A%
10677             \InlineClass{latexlogosub}{M}%
10678             S%
10679         }%
10680     }%
10681 }%
10682 }
```

`\MiKTeX`    $\text{\MiKTeX}$

```
10683 \newrobustcmd*{\MiKTeX}{\InlineClass{latexlogofont}{MiK}\TeX}
```

`\LyX`    $\text{\LyX}$

`lyxlogo` is a CSS class used for the  $\text{\LyX}$  logo.

```
10684 \newrobustcmd*{\LyX}{\InlineClass{lyxlogo}{LyX}}
```

```
10685 \end{warpHTML}
```

## 92.2 Print logos

**for PRINT output:** 10686 `\begin{warpprint}`  
10687

```

10688 \newrobustcmd*{\XeTeXrevE}
10689     {\hspace{-.1667em}\raisebox{-.5ex}{E}\hspace{-.125em}}
10690
10691 \AtBeginDocument{
10692 \ifpackageloaded{graphics}{
10693     \renewrobustcmd*{\XeTeXrevE}
10694         {\hspace{-.1667em}\raisebox{-.5ex}{\reflectbox{E}}\hspace{-.125em}}
10695 }{
10696     \PackageWarning{lwarp}{Load graphicx or graphics
10697         for improved XeTeX logo}
10698 }
10699 }
10700
10701 \providerobustcmd*{\XeTeX}{\mbox{X\XeTeXrevE\TeX}}
10702 \providerobustcmd*{\XeLaTeX}{\mbox{X\XeTeXrevE\LaTeX}}
10703 \providerobustcmd*{\AmS}{%
10704     \leavevmode\hbox{$\mathcal A\kern-.2em\lower.376ex%
10705     \hbox{$\mathcal M$}\kern-.2em\mathcal S$}%
10706 }
10707 \newrobustcmd*{\LyX}{\textsf{LyX}}
10708 \providerobustcmd*{\LuaTeX}{\mbox{Lua\TeX}}
10709 \providerobustcmd*{\LuaLaTeX}{\mbox{Lua\LaTeX}}
10710 \providerobustcmd*{\BibTeX}{\mbox{B\textsc{ib}\TeX}}
10711 \providerobustcmd*{\MakeIndex}{\mbox{\textit{MakeIndex}}}
10712 \providerobustcmd*{\ConTeXt}{\mbox{Con\TeX{t}}}
10713 \providerobustcmd*{\MiKTeX}{\mbox{MiK\TeX}}
10714 \end{warpprint}

```

## 93 \AtBeginDocument, \AtEndDocument

**for HTML output:** 10715 \begin{warppHTML}

**\LWR@LwarpStart** Automatically sets up the HTML-related actions for the start and end of the document.

**\LWR@LwarpEnd**

```

10716 \AfterEndPreamble{\LWR@LwarpStart}
10717 \AtEndDocument{\LWR@LwarpEnd}

10718 \end{warppHTML}

```

## 94 KOMA-SCRIPT classes

Load patches to koma-script.

**for HTML output:** 10719 \begin{warpHTML}

```
10720 \@ifclassloaded{scrbook}{\RequirePackage{lwarp-patch-komascript}}{}
10721 \@ifclassloaded{scrartcl}{\RequirePackage{lwarp-patch-komascript}}{}
10722 \@ifclassloaded{scrreprt}{\RequirePackage{lwarp-patch-komascript}}{}

10723 \end{warpHTML}
```

## 95 MEMOIR class

Load patches to memoir.

**for HTML output:** 10724 \begin{warpHTML}

```
10725 \@ifclassloaded{memoir}{\RequirePackage{lwarp-patch-memoir}}{}

10726 \end{warpHTML}
```

## 96 bxjs\* classes

Load patches to bxjs\* classes.

**for HTML output:** 10727 \begin{warpHTML}

```
10728 \@ifclassloaded{bxjsarticle}{\RequirePackage{lwarp-geometry}}{}
10729 \@ifclassloaded{bxjsbook}{\RequirePackage{lwarp-geometry}}{}
10730 \@ifclassloaded{bxjsreport}{\RequirePackage{lwarp-geometry}}{}
10731 \@ifclassloaded{bxjsslide}{\RequirePackage{lwarp-geometry}}{}

10732 \end{warpHTML}
```

## 97 ltjs\* classes

Load patches to ltjs\* classes.

**for HTML output:** 10733 \begin{warpHTML}

```

10734 \@ifclassloaded{ltjsarticle}{\RequirePackage{lwarp-stfloats}}{}
10735 \@ifclassloaded{ltjsbook}{\RequirePackage{lwarp-stfloats}}{}
10736 \@ifclassloaded{ltjsreport}{\RequirePackage{lwarp-stfloats}}{}
10737 \@ifclassloaded{ltjspf}{\RequirePackage{lwarp-stfloats}}{}
10738 \@ifclassloaded{ltjsiyou}{\RequirePackage{lwarp-stfloats}}{}

10739 \end{warpHTML}

```

## 98 CTEXpatch

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: 10740 \begin{warpHTML}

\AtBeginDocument in case the user set FileSectionNames in the preamble.

```

10741 \AtBeginDocument{
10742   \@ifpackageloaded{ctexpatch}{%
10743     \def\@partcntformat#1{%
10744       \LWR@isolate{\CTEX@partname}~%
10745       \CTEX@part@aftername%
10746     }%
10747
10748     \def\@partnameformat{}
10749
10750     \def\@chapcntformat#1{%
10751       \LWR@isolate{\CTEX@chaptername}~%
10752       \CTEX@chapter@aftername%
10753     }%
10754   }{}
10755 }

10756 \end{warpHTML}

```

---

File 2 **lwarp-2in1.sty**

§ 99      Package **2in1**

Pkg    2in1    2in1 is ignored.

for HTML output:    1 \LWR@ProvidesPackageDrop{2in1}

---

File 3 **lwarp-2up.sty**

§ 100     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**

§ 101     Package **a4**

Pkg    a4    a4 is ignored.

for HTML output:    1 \LWR@ProvidesPackageDrop{a4}

---

```
2 \newcommand*{\WideMargins}{}

```

---

File 5 **lwarp-a4wide.sty**

§ 102     Package **a4wide**

Pkg   a4wide   a4wide is ignored.

for HTML output:    1 \LWR@ProvidesPackageDrop{a4wide}

---

File 6 **lwarp-a5comb.sty**

§ 103     Package **a5comb**

Pkg   a5comb   a5comb is ignored.

for HTML output:    1 \LWR@ProvidesPackageDrop{a5comb}


---

File 7 **lwarp-abstract.sty**

§ 104     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}

3 \AtBeginDocument{
4 \BeforeBeginEnvironment{abstract}{
5 \LWR@forcenewpage
6 \BlockClass{abstract}
7 }
8 \AfterEndEnvironment{abstract}{\endBlockClass}
9 }
10
11 \renewcommand{\@bsrunintitle}{%
12 \hspace*{\abstitlestitle}%
13 {\abstractnamefont%
14 \InlineClass{abstractrunintitle}{\abstractname}%
15 \@bslabeldelim}%
16 }
17
18 \@ifclassloaded{memoir}
19 {
20 \renewenvironment{abstract}{%
21 % \titlepage
22 \null\vfil
23 \@beginparpenalty\@lowpenalty
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{\abstitlestitle}%
37 \fi
38 \fi
39 \vspace{\abstitlestitle}%
40 \fi
41 \put@bsintoc%
42 \begin{@bstr@ctlist}\if@bsrunin\@bsrunintitle\fi\abstracttextfont}%
43 {\par\end{@bstr@ctlist}\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-accsupp.sty**

§ 105      Package **accsupp**

Pkg    accsupp    accsupp is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{accsupp}

2 \newcommand*{\BeginAccSupp}[1]{}
3 \newcommand*{\EndAccSupp}[1]{}

```

---

File 9 **lwarp-acro.sty**

§ 106      Package **acro**
*(Emulates or patches code by CLEMENS NIEDERBERGER.)*

Pkg    acro      acro is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{acro}

```

`\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 \cs_gset_protected:Npn \acro_write_short:nn #1#2
16 {

```


```

17 \mode_if_horizontal:F { \leavevmode }
18 \group_begin:
19 \bool_if:NTF \l__acro_custom_format_bool
20 { \l__acro_custom_format_tl }
21 { \l__acro_short_format_tl }
22 {\LWR@textcurrentfont{#2}}% lwarp
23 \group_end:
24 }
25
26 \cs_gset_protected:Npn \acro_write_alt:nn #1#2
27 {
28 \mode_if_horizontal:F { \leavevmode }
29 \group_begin:
30 \bool_if:NTF \l__acro_custom_format_bool
31 { \l__acro_custom_format_tl }
32 { \l__acro_alt_format_tl }
33 {\LWR@textcurrentfont{#2}}% lwarp
34 \group_end:
35 }
36
37 \cs_gset_protected:Npn \acro_write_long:nn #1#2
38 {
39 \mode_if_horizontal:F { \leavevmode }
40 \group_begin:
41 \bool_if:NTF \l__acro_custom_long_format_bool
42 { \l__acro_custom_long_format_tl }
43 { \use:n }
44 {
45 \use:x
46 {
47 \exp_not:n {#1}
48 {
49 \bool_if:NTF \l__acro_first_upper_bool
50 { \exp_not:N \l__acro_first_upper_case:n { \exp_not:n {
51 \LWR@textcurrentfont{#2}}% lwarp
52 } } }
53 { \exp_not:n {\LWR@textcurrentfont{#2}} }% lwarp
54 }
55 }
56 }
57 \group_end:
58 }
59 \ExplSyntaxOff

```

File 10 **lwarp-acronym.sty**§ 107 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}`

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 }
```

Modified for `cleveref` and `zref`:

```
8 \renewcommand*\AC@und@newl@bel[3]{%
9   \@ifundefined{#1@#3}%
10  {%
11    \global\expandafter\let\csname#2@#3\endcsname\@nnil
12    \global\expandafter\let\csname#2@#3@cref\endcsname\@nnil% lwarp
13  }%
14  {%
15    \global\expandafter\let\csname#1@#3\endcsname\relax
16    \global\expandafter\let\csname#1@#3@cref\endcsname\relax% lwarp
17    \global\expandafter\let\csname Z@R@#3\endcsname\relax% lwarp
18  }%
19 }
```

Modified for `cleveref` and `zref`:

```
20 \renewcommand*\AC@testdef[3]{%
21 \ifstrequal{#1}{Z@R}{-}{-}% lwarp
```

---

```

22 \@ifundefined{s@#2}\@secondoftwo\@firstofone
23 {%
24   \expandafter\ifx\csname s@#2\endcsname\empty
25   \expandafter\@firstofone
26   \else
27     \expandafter\xdef\csname s@#2\endcsname{%
28       \expandafter\expandafter
29       \expandafter\@gobble
30       \csname s@#2\endcsname
31     }%
32   \expandafter\@gobble
33   \fi
34 }%
35 {%
36   \@testdef{#1}{#2}{#3}%
37 }%
38 }% lwarp
39 }%
```

---

File 11 **lwarp-adjmulticol.sty**

§ 108     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}

2 \RequirePackage{multicol}

`adjmulticols` \* {\<numcols>} {\<left margi>} {\<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@mbox{margin-left:\LWR@printlength{\LWR@templengthone}} ; %
14 \LWR@print@mbox{margin-right:\LWR@printlength{\LWR@templengthtwo}}}%
15 ]{\LWR@mcolstype}%
16 }
17 {\endBlockClass}
```

---

## File 12 lwarp-addlines.sty

### \$ 109 Package addlines

*(Emulates or patches code by WILL ROBERTSON.)*

Pkg addlines addlines is emulated.

for HTML output:

```
1 \LWR@ProvidesPackageDrop{addlines}

2 \newcommand*\addlines[1][1]{%
3 \let\addline\addlines
4 \newcommand*\removelines[1][1]{%
5 \let\removeline\removelines
```

---

## File 13 lwarp-afterpage.sty

### \$ 110 Package afterpage

*(Emulates or patches code by DAVID CARLISLE.)*

Pkg afterpage Emulated.

for HTML output: Discard all options for lwarp-afterpage:

```
1 \LWR@ProvidesPackageDrop{afterpage}
```

---

```
2 \newcommand{\afterpage}[1]{#1}
```

---

File 14 **lwarp-algorithm2e.sty**

## § 111 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}

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@everyparnl\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 15 **lwarp-algorithmicx.sty**

## § 112 Package **algorithmicx**

*(Emulates or patches code by SZÁSZ JÁNOS.)*

Pkg algorithmicx algorithmicx is supported with minor adjustments.

**for HTML output:** 1 \LWR@ProvidesPackagePass{algorithmicx}

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 409.1.

**for HTML output:** 2 \begin{warpHTML}

```

3 \AtBeginEnvironment{algorithmic}{%
4 %
5 \let\origALG@doentity\ALG@doentity%
6 %
7 \renewcommand*{\ALG@doentity}{%
8 \origALG@doentity%
9 \LWR@htmltagc{%
10 span style="width:\LWR@printlength{\ALG@thistlm}; display:inline-block;"%
11 }%
12 \ifbool{FormatWP}{%
13 \setlength{\LWR@templengthone}{\the\ALG@thistlm}%
14 \whiledo{\lengthtest{\LWR@templengthone>1em}}{%
15 \quad%
16 \addtolength{\LWR@templengthone}{-1em}%
17 }%
18 }{}%
19 \LWR@htmltagc{/span}%
20 }%
21
22 \let\LWR@origComment\Comment%
```

---

```

23
24 \renewcommand{\Comment}[1]{%
25   \InlineClass{floatright}{\LWR@origComment{#1}}%
26 }%
27 }
28
29 \renewcommand\algorithmiccomment[1]{%
30 \hfill\HTMLUnicode{25B7} #1% white right triangle
31 }%

32 \end{warpHTML}

```

---

#### File 16 **lwarp-alltt.sty**

### § 113 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}

2 \AfterEndPreamble{
3 \LWR@traceinfo{Patching alltt.}
4 \AtBeginEnvironment{alltt}{%
5 \LWR@forcenewpage
6 \LWR@atbeginverbatim{3}{alltt}%
7 }
8 \AfterEndEnvironment{alltt}{%
9   \LWR@afterendverbatim{2}%
10 }
11 }

```

---

#### File 17 **lwarp-amsmath.sty**

### § 114 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}

```

Patches to allow `\eqref` inside a caption:

```
2 \def\maketag@@@#1{\text{#1}}
3 \def\tagform@#1{\maketag@@@{\ignorespaces#1\unskip}}}
```

Patches for  $\mathcal{AMS}$  math `\tag` macro to remember the first tag:

```
4 \ifbool{mathjax}{}{% not mathjax
5
6 \LetLtxMacro\LWR@origmake@df@tag@@\make@df@tag@@
7 \LetLtxMacro\LWR@origmake@df@tag@@@\make@df@tag@@@
8
9 \renewcommand*\make@df@tag@@[1]{%
10 \LWR@remembertag{#1}%
11 \LWR@origmake@df@tag@@{#1}%
12 }
13
14 \renewcommand*\make@df@tag@@@[1]{%
15 \LWR@remembertag{#1}%
16 \LWR@origmake@df@tag@@@{#1}%
17 }
18
19 }% not mathjax
```

The following  $\mathcal{AMS}$  environments are more easily patched in-place:

Env `multline`

```
20 \BeforeBeginEnvironment{multline}{
21
22 \ifboolexpr{bool{mathjax} or ( bool{FormatWP} and bool{WPMarkMath} ) }%
23 {
24   \LWR@syncmathjax
25   \booltrue{LWR@amsmultline}
26   \LWR@beginhideamsmath
27 }
28 {
29   \begin{BlockClass}{displaymathnumbered}
30   \LWR@newautoidanchor%
31   \booltrue{LWR@indisplaymathimage}%
32   \begin{lateximage}[\LWR@amsmathbodynumbered{multline}]
33 }
34 }
35
36 \AfterEndEnvironment{multline}{
37
38 \ifboolexpr{bool{mathjax} or ( bool{FormatWP} and bool{WPMarkMath} ) }%
39 {
```

```

40 \LWR@endhideamsmath
41 \boolfalse{LWR@amsmultline}
42 \LWR@addmathjax{multline}{\the\@envbody}
43 }
44 {\end{lateximage}\end{BlockClass}}
45
46 }

```

Env **multline\***

```

47 \BeforeBeginEnvironment{multline*}{
48
49 \ifboolexpr{bool{mathjax} or ( bool{FormatWP} and bool{WPMarkMath} ) }%
50 {
51 \LWR@syncmathjax
52 \booltrue{LWR@amsmultline}
53 \LWR@beginhideamsmath
54 }
55 {
56 \begin{BlockClass}{displaymath}
57 \LWR@newautoidanchor
58 \booltrue{LWR@indisplaymathimage}%
59 \begin{lateximage}[\LWR@amsmathbody{multline*}]
60 }
61 }
62
63 \AfterEndEnvironment{multline*}{
64
65 \ifboolexpr{bool{mathjax} or ( bool{FormatWP} and bool{WPMarkMath} ) }%
66 {
67 \LWR@endhideamsmath
68 \boolfalse{LWR@amsmultline}
69 \LWR@addmathjax{multline*}{\the\@envbody}
70 }
71 {\end{lateximage}\end{BlockClass}}
72
73 }
74

```

Env **gather**

```

75 \BeforeBeginEnvironment{gather}{
76
77 \ifboolexpr{bool{mathjax} or ( bool{FormatWP} and bool{WPMarkMath} ) }%
78 {
79 \LWR@syncmathjax
80 \boolfalse{LWR@amsmultline}
81 \LWR@beginhideamsmath

```

```

82 }
83 {
84   \begin{BlockClass}{displaymathnumbered}
85   \LWR@newautoidanchor%
86   \booltrue{LWR@indisplaymathimage}%
87   \begin{lateximage}[\LWR@amsmathbodynumbered{gather}]
88 }
89 }
90
91 \AfterEndEnvironment{gather}{
92
93 \ifboolexpr{bool{mathjax} or ( bool{FormatWP} and bool{WPMarkMath} ) }%
94 {
95   \LWR@endhideamsmath
96   \LWR@addmathjax{gather}{\the\@envbody}
97 }
98 {\end{lateximage}\end{BlockClass}}
99
100 }

```

Env **gather\***

```

101 \BeforeBeginEnvironment{gather*}{
102
103 \ifboolexpr{bool{mathjax} or ( bool{FormatWP} and bool{WPMarkMath} ) }%
104 {
105   \LWR@syncmathjax
106   \boolfalse{LWR@amsmultline}
107   \LWR@beginhideamsmath
108 }
109 {
110   \begin{BlockClass}{displaymath}
111   \LWR@newautoidanchor%
112   \booltrue{LWR@indisplaymathimage}%
113   \begin{lateximage}[\LWR@amsmathbody{gather*}]
114 }
115 }
116
117 \AfterEndEnvironment{gather*}{
118
119 \ifboolexpr{bool{mathjax} or ( bool{FormatWP} and bool{WPMarkMath} ) }%
120 {
121   \LWR@endhideamsmath
122   \LWR@addmathjax{gather*}{\the\@envbody}
123 }
124 {\end{lateximage}\end{BlockClass}}
125
126 }

```

Env align

```

127 \BeforeBeginEnvironment{align}{
128
129 \ifboolexpr{bool{mathjax} or ( bool{FormatWP} and bool{WPMarkMath} ) }%
130 {
131     \LWR@syncmathjax
132     \boolfalse{LWR@amsmultline}
133     \LWR@beginhideamsmath
134 }
135 {
136     \begin{BlockClass}{displaymathnumbered}
137     \LWR@newautoidanchor%
138     \booltrue{LWR@indisplaymathimage}%
139     \begin{lateximage}[\LWR@amsmathbodynumbered{align}]
140 }
141 }
142
143 \AfterEndEnvironment{align}{
144
145 \ifboolexpr{bool{mathjax} or ( bool{FormatWP} and bool{WPMarkMath} ) }%
146 {
147     \LWR@endhideamsmath
148     \LWR@addmathjax{align}{\the\@envbody}
149 }
150 {\end{lateximage}\end{BlockClass}}
151
152 }

```

Env align\*

```

153 \BeforeBeginEnvironment{align*}{
154
155 \ifboolexpr{bool{mathjax} or ( bool{FormatWP} and bool{WPMarkMath} ) }%
156 {
157     \LWR@syncmathjax
158     \boolfalse{LWR@amsmultline}
159     \LWR@beginhideamsmath
160 }
161 {
162     \begin{BlockClass}{displaymath}
163     \LWR@newautoidanchor%
164     \booltrue{LWR@indisplaymathimage}%
165     \begin{lateximage}[\LWR@amsmathbody{align*}]
166 }
167 }
168
169 \AfterEndEnvironment{align*}{
170

```

```

171 \ifboolexpr{bool{mathjax} or ( bool{FormatWP} and bool{WPMarkMath} ) }%
172 {
173     \LWR@endhideamsmath
174     \LWR@addmathjax{align*}{\the\@envbody}
175 }
176 {\end{lateximage}\end{BlockClass}}
177
178 }

```

Env **flalign**

```

179 \BeforeBeginEnvironment{flalign}{
180
181 \ifboolexpr{bool{mathjax} or ( bool{FormatWP} and bool{WPMarkMath} ) }%
182 {
183     \LWR@syncmathjax
184     \boolfalse{LWR@amsmultline}
185     \LWR@beginhideamsmath
186 }
187 {
188     \begin{BlockClass}{displaymathnumbered}
189     \LWR@newautoidanchor%
190     \booltrue{LWR@indisplaymathimage}%
191     \begin{lateximage}[\LWR@amsmathbodynumbered{flalign}]
192 }
193 }
194
195 \AfterEndEnvironment{flalign}{
196
197 \ifboolexpr{bool{mathjax} or ( bool{FormatWP} and bool{WPMarkMath} ) }%
198 {
199     \LWR@endhideamsmath
200     \LWR@addmathjax{flalign}{\the\@envbody}
201 }
202 {\end{lateximage}\end{BlockClass}}
203
204 }

```

Env **flalign\***

```

205 \BeforeBeginEnvironment{flalign*}{
206
207 \ifboolexpr{bool{mathjax} or ( bool{FormatWP} and bool{WPMarkMath} ) }%
208 {
209     \LWR@syncmathjax
210     \boolfalse{LWR@amsmultline}
211     \LWR@beginhideamsmath
212 }

```

```

213 {
214   \begin{BlockClass}{displaymath}
215   \LWR@newautoidanchor%
216   \booltrue{LWR@indisplaymathimage}%
217   \begin{lateximage}[\LWR@amsmathbody{flalign*}]
218 }
219 }
220
221 \AfterEndEnvironment{flalign*}{
222
223 \ifboolexpr{bool{mathjax} or ( bool{FormatWP} and bool{WPMarkMath} ) }%
224 {
225   \LWR@endhideamsmath
226   \LWR@addmathjax{flalign*}{\the\@envbody}
227 }
228 {\end{lateximage}\end{BlockClass}}
229
230 }

```

Env alignat

```

231 \BeforeBeginEnvironment{alignat}{
232
233 \ifboolexpr{bool{mathjax} or ( bool{FormatWP} and bool{WPMarkMath} ) }%
234 {
235   \LWR@syncmathjax
236   \boolfalse{LWR@amsmultline}
237   \LWR@beginhideamsmath
238 }
239 {
240   \begin{BlockClass}{displaymathnumbered}
241   \LWR@newautoidanchor%
242   \booltrue{LWR@indisplaymathimage}%
243   \begin{lateximage}[\LWR@amsmathbodynumbered{alignat}]
244 }
245 }
246
247 \AfterEndEnvironment{alignat}{
248
249 \ifboolexpr{bool{mathjax} or ( bool{FormatWP} and bool{WPMarkMath} ) }%
250 {
251   \LWR@endhideamsmath
252   \LWR@addmathjax{alignat}{\the\@envbody}
253 }
254 {\end{lateximage}\end{BlockClass}}
255
256 }

```

Env `alignat*`

```

257 \BeforeBeginEnvironment{alignat*}{
258
259 \ifboolexpr{bool{mathjax} or ( bool{FormatWP} and bool{WPMarkMath} ) }%
260 {
261   \LWR@syncmathjax
262   \boolfalse{LWR@amsmultline}
263   \LWR@beginhideamsmath
264 }
265 {
266   \begin{BlockClass}{displaymath}
267   \LWR@newautoidanchor%
268   \booltrue{LWR@indisplaymathimage}%
269   \begin{lateximage}[\LWR@amsmathbody{alignat*}]
270 }
271 }
272
273 \AfterEndEnvironment{alignat*}{
274
275 \ifboolexpr{bool{mathjax} or ( bool{FormatWP} and bool{WPMarkMath} ) }%
276 {
277   \LWR@endhideamsmath
278   \LWR@addmathjax{alignat*}{\the\@envbody}
279 }
280 {\end{lateximage}\end{BlockClass}}
281
282 }
```

---

File 18 `lwarp-amsthm.sty`

§ 115    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}{
2   \PackageError{lwarp}
3   {Package mdframed must be loaded after package amsthm.}
4   {%
5     Move \detokenize{\usepackage}{amsthm} before \detokenize{\usepackage}{mdframed}.
6     Package amsthm may be loaded by something else, which must also be moved
```

Table 14: 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.

```

7      before mdframed.%
8    }
9 }
10 {}

```

```

11 \LWR@ProvidesPackagePass{amsthm}

```

Storage for the style being used for new theorems:

```

12 \newcommand{\LWR@newtheoremstyle}{plain}

```

Patched to remember the style being used for new theorems:

```

13 \renewcommand{\theoremstyle}[1]{%
14   \ifundefined{th@#1}{%
15     \PackageWarning{amsthm}{Unknown theoremstyle ‘#1’}%
16     \thm@style{plain}%
17     \renewcommand{\LWR@newtheoremstyle}{plain}% lwarp
18   }{%
19     \thm@style{#1}%
20     \renewcommand{\LWR@newtheoremstyle}{#1}% lwarp
21   }%
22 }

```

Patched to remember the style for this theorem type:

```

23 \def\xnthm#1#2{%
24   \csedef{\LWR@thmstyle#2}{\LWR@newtheoremstyle}% lwarp
25   \let\@tempa\relax
26   \xp\@ifdefinable\csname #2\endcsname{%
27     \global\xp\let\csname end#2\endcsname\@endtheorem

```

```

28 \ifx *#1% unnumbered, need to get one more mandatory arg
29 \edef\@tempa##1{%
30 \gdef\@xp\@nx\csname#2\endcsname{%
31 \@nx\@thm{\@xp\@nx\csname th@\the\thm@style\endcsname}%
32 \}{##1}}}%
33 \else % numbered theorem, need to check for optional arg
34 \def\@tempa{\@oparg{\@ynthm{#2}}{}}}%
35 \fi
36 \AtBeginEnvironment{#2}{\edef\LWR@thisthmstyle{\@nameuse{LWR@thmstyle#2}}}% lwarp
37 }%
38 \@tempa
39 }

```

Patched to enclose with css:

```

40 \newcommand{\LWR@haveamsthmname}{
41 \renewcommand{\thmname}[1]{\InlineClass{amsthmname\LWR@thisthmstyle}{##1}}
42 }
43
44 \newcommand{\LWR@haveamsthmnumber}{
45 \renewcommand{\thmnumber}[1]{\InlineClass{amsthmnumber\LWR@thisthmstyle}{##1}}
46 }
47
48 \newcommand{\LWR@haveamsthmnote}{
49 \renewcommand{\thmnote}[1]{\InlineClass{amsthmnote\LWR@thisthmstyle}{##1}}
50 }
51
52 \LWR@haveamsthmname
53 \LWR@haveamsthmnumber
54 \LWR@haveamsthmnote

```

Patches for css:

```

55 \def\@begintheorem#1#2[#3]{%
56 \item[
57 % \deferred@thm@head{
58 % \the\thm@headfont \thm@indent
59 \@ifempty{#1}{\let\thmname\@gobble}{\LWR@haveamsthmname}% lwarp
60 \@ifempty{#2}{\let\thmnumber\@gobble}{\LWR@haveamsthmnumber}% lwarp
61 \@ifempty{#3}{\let\thmnote\@gobble}{\LWR@haveamsthmnote}% lwarp
62 \thm@swap\swappedhead\thmhead{#1}{#2}{#3}%
63 \the\thm@headpunct~
64 \thmheadnl % possibly a newline.
65 \hskip\thm@headsep
66 % }%
67 ]
68 \ignorespaces}

```

Patched for CSS:

```

69 \def\@thm#1#2#3{%
70   \ifhmode\unskip\unskip\par\fi
71   \normalfont
72   \LWR@forcenewpage% lwarp
73   \BlockClass{amsthmbody\LWR@thisthmstyle}% lwarp
74   \trivlist
75   \let\thmheadnl\relax
76   \let\thm@swap\@gobble
77   \thm@notefont{\fontseries\mddefault\upshape}%
78   \thm@headpunct{.}% add period after heading
79   \thm@headsep 5\p@ plus\p@ minus\p@\relax
80   \thm@space@setup
81   #1% style overrides
82   \@topsep \thm@preskip           % used by thm head
83   \@topsepadd \thm@postskip      % used by \@endparenv
84   \def\@tempa{#2}\ifx\@empty\@tempa
85     \def\@tempa{\@oparg{\@begintheorem{#3}{}} []}%
86   \else
87     \refstepcounter{#2}%
88     \def\@tempa{\@oparg{\@begintheorem{#3}{\csname the#2\endcsname}} []}%
89   \fi
90   \@tempa
91 }

```

cleveref patches \@thm to do \cref@thmoptarg if an optional argument is given. lwarp then patches \cref@thmoptarg \AtBeginDocument.

```

92 \AtBeginDocument{
93 \def\cref@thmoptarg[#1]#2#3#4{%
94   \ifhmode\unskip\unskip\par\fi%
95   \normalfont%
96   \LWR@forcenewpage% lwarp
97   \BlockClass{amsthmbody\LWR@thisthmstyle}% lwarp
98   \trivlist%
99   \let\thmheadnl\relax%
100  \let\thm@swap\@gobble%
101  \thm@notefont{\fontseries\mddefault\upshape}%
102  \thm@headpunct{.}% add period after heading
103  \thm@headsep 5\p@ plus\p@ minus\p@\relax%
104  \thm@space@setup%
105  #2% style overrides
106  \@topsep \thm@preskip           % used by thm head
107  \@topsepadd \thm@postskip      % used by \@endparenv
108  \def\@tempa{#3}\ifx\@empty\@tempa%
109    \def\@tempa{\@oparg{\@begintheorem{#4}{}} []}%
110  \else%
111    \refstepcounter[#1]{#3}% <<< cleveref modification

```

```

112      \def\@tempa{\@oparg{\@begintheorem{#4}{\csname the#3\endcsname}}{}}%
113      \fi%
114      \@tempa
115 }%
116 }% AtBeginDocument
117
118 \def\@endtheorem{\endtrivlist\endBlockClass\@endpefalse }

```

Proof QED symbol:

```

119 \AtBeginDocument{
120 \ifundefined{LWR@orig@openbox}{
121 \LetLtxMacro\LWR@orig@openbox\openbox
122 \LetLtxMacro\LWR@orig@blacksquare\blacksquare
123 \LetLtxMacro\LWR@orig@Box\Box
124
125 \def\openbox{\text{\HTMLUnicode{25A1}}}% UTF-8 white box
126 \def\blacksquare{\text{\HTMLUnicode{220E}}}% UTF-8 end-of-proof
127 \def\Box{\text{\HTMLUnicode{25A1}}}% UTF-8 white box
128
129 \appto\LWR@restoreorigformatting{%
130 \LetLtxMacro\openbox\LWR@orig@openbox%
131 \LetLtxMacro\blacksquare\LWR@orig@blacksquare%
132 \LetLtxMacro\Box\LWR@orig@Box%
133 }% appto
134 }{}% \ifundefined
135 }% AtBeginDocument

```

Patched for CSS:

```

136 \renewenvironment{proof}[1][\proofname]{\par
137 \LWR@forcenewpage% lwarp
138   \BlockClass{amsthmproof}% lwarp
139   \pushQED{\qed}%
140   \normalfont \topsep6\p@\@plus6\p@\relax
141   \trivlist
142   \item[
143     \InlineClass{amsthmproofname}{#1\@addpunct{.}}\ignorespaces% changes
144 ]{%
145   \InlineClass{theoremendmark}{\popQED}\endtrivlist%
146   \endBlockClass% lwarp
147   \@endpefalse
148 }

```

---

File 19 **lwarp-anonchap.sty**

§ 116     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 & other packages**

The code is shared by tocbibind.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{anonchap}

2 \newcommand{\simplechapter}[1][\@empty]{%
3   \def\@chapcntformat##1{%
4     #1~\csname the##1\endcsname\simplechapterdelim\protect\quad%
5   }%
6 }
7
8 \newcommand{\restorechapter}{%
9 \let\@chapcntformat\@seccntformat%
10 }
```

---

File 20 **lwarp-anysize.sty**

§ 117     Package **anysize**

*(Emulates or patches code by MICHAEL SALZENBERG, THOMAS ESSER.)*

Pkg    anysize    anysize is emulated.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{anysize}

2 \def\papersize#1#2{}
3 \def\marginsize#1#2#3#4{}
```


---

File 21 **lwarp-appendix.sty**

§ 118      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}

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 22 **lwarp-arabicfront.sty**

§ 119      Package **arabicfront**

Pkg    arabicfront    arabicfront is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{arabicfront}
```

---

File 23 **lwarp-array.sty**

§ 120      Package **array**

Pkg    array    array is used as-is for print output, and emulated for HTML.

for HTML output:    Remove the dummy macros:

```

1 \let\firstline\relax
2 \let\lastline\relax
3
4 \LWR@ProvidesPackagePass{array}

5 \newcommand*{\LWR@HTML@firstline}{\LWR@HTMLhline}%
6 \LWR@expandableformatted{firstline}
7
8 \newcommand*{\LWR@HTML@lastline}{\LWR@HTMLhline}%
9 \LWR@expandableformatted{lastline}

```

---

File 24 **lwarp-arydshln.sty**

§ 121      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 HTML output:    array is required to allow \newcolumn below.

```

1 \RequirePackage{array}

2 \LWR@ProvidesPackageDrop{arydshln}

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 \newcolumnntype{:}{|}%
21 \newcolumnntype{;}[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}}

```

---

File 25 **lwarp-asymptote.sty**

§ 122     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}

2 \BeforeBeginEnvironment{asy}{\begin{lateximage}[(-asymptote--\packagediagramname)]}
3 \AfterEndEnvironment{asy}{\end{lateximage}}
4
5 \xpatchcmd{\asyinclude}
6   {\begingroup}
7   {\begin{lateximage}[(-asymptote--\packagediagramname)]}
8   {}
9   {\LWR@patcherror{asymptote}{asyinclude-begingroup}}
10
11 \xpatchcmd{\asyinclude}
12   {\endgroup}
13   {\end{lateximage}}
14   {}
15   {\LWR@patcherror{asymptote}{asyinclude-endgroup}}
```

---

File 26 **lwarp-atbegshi.sty**

§ 123      Package **atbegshi**

*(Emulates or patches code by HEIKO OBERDIEK.)*

Pkg atbegshi      Emulated.

for HTML output:      Discard all options for lwarp-atbegshi:

```
1 \LWR@ProvidesPackageDrop{atbegshi}[2011/10/05]
```

---

```

2 \newcommand*\AtBeginShipout}[1]{}
3 \newbox\AtBeginShipoutBox
4 \newcommand*\AtBeginShipoutNext}[1]{}
5 \newcommand*\AtBeginShipoutFirst}[1]{}
6 \newcommand*\AtBeginShipoutDiscard[1]{}
7 \newcommand*\AtBeginShipoutInit[1]{}
8 \newcommand*\AtBeginShipoutAddToBox}[1]{}
9 \newcommand*\AtBeginShipoutAddToBoxForeground}[1]{}
10 \newcommand*\AtBeginShipoutUpperLeft}[1]{}
11 \newcommand*\AtBeginShipoutUpperLeftForeground}[1]{}
12 \newcommand*\AtBeginShipoutOriginalShipout}[1]{}
13 \def\AtBeginShipoutBoxWidth{0pt}
14 \def\AtBeginShipoutBoxHeight{0pt}
15 \def\AtBeginShipoutBoxDepth{0pt}
16

```

---

## File 27 `lwarp-attachfile.sty`

### § 124 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}`

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     \href{#1}{\LWR@attachfile@appearance}%
33 }

```

---

## File 28 lwarp-attachfile2.sty

### § 125 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}

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 \defLWR@attachfile@appearance{#1}%
42 }

```

A file annotation becomes a reference:

```

43 \DeclareRobustCommand{\atfi@insert@file@annot}[1]{%
44   \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 29 **lwarp-authblk.sty**

§ 126    Package **authblk**

*(Emulates or patches code by PATRICK W. DALY.)*

Pkg authblk authblk is patched for HTML.

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 65.8.

*(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 {Titling appends authblk's author macro, so authblk must be loaded first.}
5 }
6 {}
```

Load authblk:

```
7 \LWR@ProvidesPackagePass{authblk}
```

Patch to add a class for the affiliation:

```
8 \LetLtxMacro\LWRAB@affil\affil
9
10 \renewcommand{\affil}[2] [] {%
11 \LWRAB@affil[#1]{\protect\InlineClass{affiliation}{#2}}
12 }
```

Create an HTML break for an \authorcr:

```
13 \renewcommand*{\authorcr}{\protect\LWR@newlinebr}
```

---

File 30 **lwarp-axessibility.sty**

§ 127 Package **axessibility**

Pkg axessibility axessibility is ignored.

for HTML output: 

```
1 \LWR@ProvidesPackageDrop{axessibility}

2 \newcommand{\wrap}[1]{}
```

---

File 31 **lwarp-axodraw2.sty**

§ 128     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}

2 \BeforeBeginEnvironment{axopicture}{\begin{lateximage}[(-axopicture--\packagediagramname)]}
3
4 \AfterEndEnvironment{axopicture}{\end{lateximage}}
```


---

File 32 **lwarp-backref.sty**

§ 129     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}

Force the hyperref option:

2 \def\backref{}\let\backrefxxx\hyper@section@backref
```

---

File 33 **lwarp-balance.sty**

§ 130     Package **balance**

*(Emulates or patches code by PATRICK W. DALY.)*

Pkg    balance    Emulated.

**for HTML output:**

Discard all options for lwarp-balance:

```
1 \LWR@ProvidesPackageDrop{balance}

2 \newcommand*{\balance}{}
3 \newcommand*{\nobalance}{}

```

---

File 34 **lwarp-bibunits.sty**

§ 131    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}

2 \def\bu@bibdata{\BaseJobname}

```

---


File 35 **lwarp-bigdelim.sty**

§ 132    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{\{ }{2}{.25in}[left ] & c & d \\
\mrowcell & e & f \\
<empty> & g & h \\
\end{tabular}

```

---

```

<>      a      b

left {   c      d
      e      f

<>      g      h

```

---

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}

\ldelim {<1:delimiter>} {<2:#rows>} {<3:width>} [<4:text>]
\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}

```

---

File 36 **lwarp-bigstrut.sty**

§ 133 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}

2 \LetLtxMacro\LWR@origbigstrut\bigstrut
3
4 \renewcommand\bigstrut[1][x]{}
5
6 \appto\LWR@restoreorigformatting{%
7 \LetLtxMacro\bigstrut\LWR@origbigstrut%
8 }

```

---

File 37 **lwarp-bitpattern.sty**

§ 134      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}

2 \xpatchcmd{\bitpattern}
3   {\begingroup}
4   {\begin{lateximage}[(-bitpattern--\packagediagramname)]}
5   {}
6   {\LWR@patcherror{bitpattern}{bitpattern}}
7
8 \xpatchcmd{\bp@Done}
9   {\endgroup}
10  {\end{lateximage}}
11  {}
12  {\LWR@patcherror{bitpattern}{bp@Done}}

```

---

File 38 **lwarp-blowup.sty**

§ 135      Package **blowup**

Pkg    blowup    blowup is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{blowup}

2 \newcommand*\blowUp[1]{}

```

---

File 39 **lwarp-booklet.sty**

§ 136      Package **booklet**

*(Emulates or patches code by PETER WILSON.)*

Pkg    booklet    booklet is nullified.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{booklet}[2009/09/02]

```

2 \newdimen\pageseplength
3 \newdimen\pagesepwidth
4 \newdimen\pagesepoffset
5 \newif\ifsidebyside        \sidebysidetrue
6 \newif\ifuselandscape      \uselandscapefalse
7 \newif\ifprintoption       \printoptionfalse
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 40 **lwarp-bookmark.sty**

§ 137      Package **bookmark**

*(Emulates or patches code by HEIKO OBERDIEK.)*

Pkg    bookmark    bookmark is emulated.

**for HTML output:**    Discard all options for lwarp-bookmark:

```

1 \LWR@ProvidesPackageDrop{bookmark}

2 \newcommand*{\bookmarksetup}[1]{}
3 \newcommand*{\bookmarksetupnext}[1]{}
4 \newcommand*{\bookmark}[2][1]{}
5 \newcommand*{\bookmarkdefinestyle}[2]{}

```

---

```
6 \newcommand*{\bookmarkget}[1]{}
7 \newcommand{\BookmarkAtEnd}[1]{}

```

---

File 41 **lwarp-booktabs.sty**

§ 138     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.

for HTML output:    First, forget the placeholder macros:

```
1 \LetLtxMacro\toprule\relax
2 \LetLtxMacro\midrule\relax
3 \LetLtxMacro\cmidrule\cline
4 \LetLtxMacro\bottomrule\relax
5 \LetLtxMacro\addlinespace\relax
6 \LetLtxMacro\morecmidrules\relax
7 \LetLtxMacro\specialrule\relax
8
9 \LWR@ProvidesPackagePass{booktabs}

10 \DeclareDocumentCommand{\LWR@HTML@toprule}{o d()}%
11   {%
12     \IfValueTF{#1}%
13       {\LWR@docmidrule[#1] () {1-\arabic{LWR@tabletotalLaTeXcols}}}%
14       {%
15         \ifbool{FormatWP}%
16           {\LWR@docmidrule[#1] () {1-\arabic{LWR@tabletotalLaTeXcols}}}%
17           {\global\booltrue{LWR@doingtbrule}}%
18       }%
19   \LWR@getmynexttoken}
20
21 \LWR@expandableformatted{toprule}
22
23 \DeclareDocumentCommand{\LWR@HTML@midrule}{o d()}%
24   {%
25     \IfValueTF{#1}%
26       {\LWR@docmidrule[#1] () {1-\arabic{LWR@tabletotalLaTeXcols}}}%
27       {%
28         \ifbool{FormatWP}%
29           {\LWR@docmidrule[#1] () {1-\arabic{LWR@tabletotalLaTeXcols}}}%
30           {\addtocounter{LWR@hlines}{1}}%
31       }%
32   \LWR@getmynexttoken}

```

---

```

33
34 \LWR@expandableformatted{midrule}
35
36 \DeclareDocumentCommand{\LWR@HTML@cmidrule}{0{\LWR@cmidrulewidth} d() m}{%
37   \LWR@docmidrule[#1](#2){#3}%
38   \LWR@getmynexttoken%
39 }%
40
41 \LWR@expandableformatted{cmidrule}
42
43 \DeclareDocumentCommand{\LWR@HTML@bottomrule}{o d(){}}%
44   \IfValueTF{#1}%
45     {\LWR@docmidrule[#1](){1-\arabic{LWR@tabletotalLaTeXcols}}}%
46     {%
47       \ifbool{FormatWP}%
48         {\LWR@docmidrule[#1](){1-\arabic{LWR@tabletotalLaTeXcols}}}%
49         {\global\booltrue{LWR@doingtbrule}}%
50     }%
51   \LWR@getmynexttoken%
52 }%
53
54 \LWR@expandableformatted{bottomrule}
55
56 \DeclareDocumentCommand{\LWR@HTML@addlinespace}{o}{}%
57
58 \LWR@expandableformatted{addlinespace}
59
60 \DeclareDocumentCommand{\LWR@HTML@morecmidrules}{-}{}%
61
62 \LWR@expandableformatted{morecmidrules}
63
64 \DeclareDocumentCommand{\LWR@HTML@specialrule}{m m d(){}}%
65   {\LWR@docmidrule[#1](){1-\arabic{LWR@tabletotalLaTeXcols}}\LWR@getmynexttoken}%
66
67 \LWR@expandableformatted{specialrule}

```

---

File 42 **lwarp-bophook.sty**

§ 139     Package **bophook**

Pkg    bophook    bophook is ignored.

for HTML output:

```

1 \LWR@ProvidesPackageDrop{bophook}

2 \newcommand*{\AtBeginPage}[1]{}
3 \newcommand*{\PageLayout}[1]{}

```

---

File 43 **lwarp-boxedminipage2e.sty**

§ 140      Package **boxedminipage2e**
*(Emulates or patches code by SCOTT PAKIN.)*

Pkg   boxedminipage2e   boxedminipage2e is emulated.

**for HTML output:**   Discard all options for lwarp-boxedminipage2e:

```

1 \LWR@ProvidesPackageDrop{boxedminipage2e}

2 \newenvironment{boxedminipage}{%
3 \begin{BlockClass}{framebox}%
4 \minipage%
5 }
6 {
7 \endminipage%
8 \end{BlockClass}
9 }
```

---

File 44 **lwarp-breakurl.sty**

§ 141      Package **breakurl**
*(Emulates or patches code by VILAR CAMARA NETO.)*

Pkg   breakurl   breakurl is emulated.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{breakurl}

2 \LetLtxMacro\burl\url
3
4 \NewDocumentCommand{\LWR@burlaltb}{0}{ +m m}{%
5 \LWR@ensuredoingapar%
6 \LWR@subhyperref{#2}%
7 \LWR@subhyperref{#3}%
8 \endgroup% restore catcodes
9 }
10
11 \newrobustcmd*\burlalt{%
12 \begingroup%
13 \catcode'\#12%
```

---

```

14 \catcode'\%=12%
15 \catcode'\&=12%
16 \catcode'\~=12%
17 \catcode'\_ =12%
18 \LWR@burlaltb%
19 }
20
21 \LetLtxMacro\urlalt\burlalt

```


---


File 45 **lwarp-breqn.sty**

§ 142     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.

 **MATHJAX**    MathJax does not support breqn.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{breqn}

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- \mathimagename]
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*- \mathimagename]
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- \mathimagename]
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*- \mathimagename]
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- \mathimagename]
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*- \mathimagename]
67 }
68
69 \AfterEndEnvironment{dgroup*}{
70   \end{lateximage}\end{BlockClass}
71 }
```

---

File 46 **lwarp-bxpapersize.sty**

§ 143     Package **bxpapersize**

Pkg    `bxpapersize`    `bxpapersize` is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{bxpapersize}

2 \providecommand*\papersizesetup{\bxpapersizesetup}
3 \newcommand*\bxpapersizesetup[1]{}
```

---

File 47 **lwarp-bytefield.sty**

§ 144     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}

2 \BeforeBeginEnvironment{bytefield}{\begin{lateximage}[(-bytefield--\packagediagramname)]}
3
4 \AfterEndEnvironment{bytefield}{\end{lateximage}}
```

---

File 48 **lwarp-cancel.sty**

§ 145     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}
```

`\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`    `{\langle text \rangle}{\langle color \rangle}{\langle class \rangle}{\langle colorstyle \rangle}{\langle FormatWPstyle \rangle}`

Add colors if not empty:

```

12 \newcommand{\LWR@cancelcolor}[5]{%
13 \ifcsempy{#2}%
14 {\InlineClass(#5){#3}{#1}}%
15 {\LWR@htmlspanclass[#5;#4:\LWR@origpound\LWR@tempcolor]{#3}{#1}}%
16 }

```

`\cancel`    `{\langle text \rangle}`

```

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

```

---

File 49    **lwarp-canonicleayout.sty**

§ 146    Package    **canonicleayout**

Pkg    canonicleayout    canonicleayout is ignored.

**for HTML output:**    s1 \LWR@ProvidesPackageDrop{canonicleayout}

```

2 \newcommand*{\currentfontletters}{}
3 \newcommand*{\charactersperpage}{}

```

File 50 **lwarp-caption.sty**§ 147 Package **caption***(Emulates or patches code by AXEL SOMMERFELDT.)*

Pkg caption caption is patched for use by lwarp.

for HTML output:

```

1 \LWR@ProvidesPackagePass{caption}

2 \renewcommand\caption@ibox[3]{%
3   \@testopt{\caption@iiibox{#1}{#2}{#3}}{%
4     \wd\@tempboxa%
5     \linewidth% lwarp
6   }%
7 \LWR@traceinfo{caption@ibox: done}%
8 }

9 \long\def\caption@iiibox#1#2#3[#4]{%
10  \@testopt{\caption@iiiibox{#1}{#2}{#3}{#4}}\captionbox@hj@default
11 }

12 \long\def\caption@iiiibox#1#2#3#4[#5]#6{%
13   \setbox\@tempboxa\hbox{#6}%
14   \begingroup
15   #1*% set \caption@position
16   \caption@iftop{%
17     \LWR@traceinfo{caption@iiiibox top}%
18     \endgroup
19     \parbox[t]{#4}{%
20       #1\relax
21       \caption@setposition t%
22       \vbox{\caption#2{#3}}%
23       {\caption#2{#3}}% lwarp
24       \captionbox@hrule
25       \csname caption@hj@#5\endcsname
26       \unhbox\@tempboxa
27       #6% lwarp
28     }%
29   }{%
30     \LWR@traceinfo{caption@iiiibox bottom}%
31     \endgroup
32     \parbox[b]{#4}{%
33       #1\relax
34       \caption@setposition b%

```

```

35 %      \csname caption@hj@#5\endcsname
36 %      \unhbox\@tempboxa
37 %      #6% lwarp
38 %      \captionbox@hrule
39 %      \vtop{\caption#2{#3}}}%
40 %      {\caption#2{#3}}% lwarp
41 %      }%
42 %      }%
43 \LWR@traceinfo{caption@iiibox: done}%
44 }
45
46 \def\caption@caption{%
47   \caption@iftype
48   {%
49     \caption@checkgrouplevel\@empty\caption
50     \caption@star
51     {\caption@refstepcounter\@capttype}%
52     {\caption@dblarg{\@caption\@capttype}}}%
53   {\caption@Error{\noexpand\caption outside float}}%
54   \caption@gobble}%
55 }
56
57 \long\def\caption@@caption#1[#2]#3{%

58   \ifcaption@star \else
59     \caption@prepareanchor{#1}{#2}%
60     \memcaptioninfo{#1}{\csname the#1\endcsname}{#2}{#3}%
61     \@nameuse{nag@hascaptiontrue}%
62   \fi

63   \par
64   \caption@beginex{#1}{#2}{#3}%
65   \caption@setfloatcapt{%
66     \caption@boxrestore
67     \if@minipage
68       \@setminipage
69     \fi
70     \caption@normalsize
71     \ifcaption@star
72       \let\caption@makeanchor\@firstofone
73     \fi
74     \@makecaption{\csname fnum@#1\endcsname}%
75     {\ignorespaces\caption@makeanchor{#3}}\par
76     \caption@if@minipage\@minipagetrue\@minipagefalse}%
77   \caption@end%
78 }

```

\caption@@@make    {\caption label} {\caption text}

```

79 \renewcommand\caption@@make[2]{%
80 \LWR@startpars% lwarp
81 %   \sbox\@tempboxa{#1}%
82 %   \ifdim\wd\@tempboxa=\z@
83 %     \let\caption@lsep\relax
84 %   \fi
85 \caption@ifempty{#2}{%
86   \let\caption@lsep\@empty
87   \let\caption@tfmt\@firstofone
88 }%
89 \@setpar{\LWR@closeparagraph\@@par}% lwarp
90 \caption@applyfont
91 \caption@fmt
92   {\ifcaption@star\else
93     \begingroup
94       \captionlabelfont
95       #1%
96     \endgroup
97   \fi}%
98   {\ifcaption@star\else
99     \begingroup
100       \caption@iflf\captionlabelfont
101       \relax\caption@lsep
102     \endgroup
103   \fi}%
104   {\caption@textfont
105     \caption@ifstrut
106       {\vrule\@height\ht\strutbox\@width\z@}%
107       {}%
108     \nobreak\hskip\z@skip % enable hyphenation
109     \caption@tfmt{#2}
110   \LWR@ensuredoingapar% lwarp
111   \caption@ifstrut
112     {\ifhmode\@finalstrut\strutbox\fi}%
113     {}%
114   \par}}
115 \LWR@stoppars% lwarp
116 }

```

\caption@@make@ {<>} {<>}

```

117 \renewcommand{\caption@@make@}[2]{%
118   \caption@stepthecounter
119   \caption@beginhook
120   \caption@@make{#1}{#2}%
121   \caption@endhook
122 }

123 % \DeclareCaptionBox{none}{#2}

```

```

124 \DeclareCaptionBox{parbox}{%
125 #2%
126 }
127 \DeclareCaptionBox{colorbox}{%
128 #2%
129 }

```


---

## File 51 **lwarp-cases.sty**

### § 148 Package **cases**

*(Emulates or patches code by DONALD ARSENEAU.)*

Pkg **cases** **cases** is patched for use by lwarp.

 **MATHJAX** MathJax does not support cases.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{cases}

2 \BeforeBeginEnvironment{numcases}{
3   \begin{BlockClass}{displaymathnumbered}
4   \LWR@newautoidanchor%
5   \booltrue{LWR@indisplaymathimage}%
6   \begin{lateximage}[-cases- \mathimagename]
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- \mathimagename]
18 }
19
20 \AfterEndEnvironment{subnumcases}{
21   \end{lateximage}\end{BlockClass}
22 }

```

---

File 52 **lwarp-changebar.sty**

§ 149      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 53 **lwarp-changepage.sty**

§ 150      Package **changepage**
*(Emulates or patches code by PETER WILSON.)*

Pkg    **changepage**    changepage is emulated.

**for HTML output:**    Discard all options for lwarp-changepage:

```

1 \LWR@ProvidesPackageDrop{changepage}

2 \newif\ifoddpage
3 \DeclareRobustCommand{\checkoddpage}{\oddpagetrue}
4 \DeclareRobustCommand{\changetext}[5]{}
5 \DeclareRobustCommand{\changepage}[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 54 **lwarp-chngpage.sty**

§ 151    Package **chngpage**

*(Emulates or patches code by PETER WILSON.)*

Pkg    chngpage    chngpage is emulated.

for HTML output:    Discard all options for lwarp-chngpage:

```

1 \LWR@ProvidesPackageDrop{chngpage}
2 \LWR@origRequirePackage{lwarp-changepage}

```

---

File 55 **lwarp-chappg.sty**

§ 152    Package **chappg**

*(Emulates or patches code by ROBIN FAIRBAIRNS.)*

Pkg    chappg    chappg is emulated.

for HTML output:    1 \LWR@ProvidesPackageDrop{chappg}

```

2 \renewcommand{\pagenumbering}[2] [] {}
3 \providecommand{\chappgsep}{--}

```

---

File 56 **lwarp-chapterbib.sty**

§ 153    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}

```

2 \xdef\@savedjobname{\BaseJobname}
3 \let\@currentipfile\@savedjobname

```

File 57 **lwarp-chemfig.sty**§ 154 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--\packagediagramname)]
\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}

2 \LetLtxMacro\LWR@chemfig@origchemfig\chemfig
3
4 \DeclareDocumentCommand\chemfig{s O{} O{} m}{%
5   \begin{lateximage}[(-chemfig--\packagediagramname)]%
6   \IfBooleanTF{#1}{%
7     \LWR@chemfig@origchemfig*[#2][#3]{#4}%
8   }{%
9     \LWR@chemfig@origchemfig[#2][#3]{#4}%
10  }
11  \end{lateximage}%
12 }
13
14 \LetLtxMacro\LWR@chemfig@origCF@lewis@b\CF@lewis@b
15
16 \def\CF@lewis@b#1#2{%
17 \begin{lateximage}[(-chemfig--\packagediagramname)]%
18 \LWR@chemfig@origCF@lewis@b{#1}{#2}%
19 \end{lateximage}%
20 }
21
22 \pretol{\schemestart}{\begin{lateximage}[(-chemfig--\packagediagramname)]}
23 \apptol{\CF@schemestop}{\end{lateximage}}
24
25 \LetLtxMacro\LWR@chemfig@origchemleft\chemleft
```

---

```

26
27 \def\chemleft#1#2\chemright#3{%
28 \begin{lateximage}[(-chemfig--\packagediagramname)]%
29 \LWR@chemfig@origchemleft#1#2\chemright#3%
30 \end{lateximage}%
31 }
32
33 \LetLtxMacro\LWR@chemfig@origchemup\chemup
34
35 \def\chemup#1#2\chemdown#3{%
36 \begin{lateximage}[(-chemfig--\packagediagramname)]%
37 \LWR@chemfig@origchemup#1#2\chemdown#3%
38 \end{lateximage}%
39 }

```

---


File 58 **lwarp-chemformula.sty**

\$ 155    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}[2017/03/23]

2 \ExplSyntaxOn

`\ch`    Enclose in an inline svg image or MathJax. The `alt` tag 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 `\displaymath` other, 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 \cs_gset_protected:Npn \chemformula_chcpd:nn #1#2
24 {
25     \begingroup%
26     \boolfalse{mathjax}%
27     \LWR@subsingledollar*{% lwarp
28         \textbackslash{chcpd}\{\LWR@HTMLsanitize{#2}\}%
29     }{%
30         \protect\LWR@HTMLsanitize{\detokenize\expandafter{#1}}%
31     }{% original
32     \group_begin:
33         \tl_if_blank:nF {#2}
34         {
35             \keys_set:nn {chemformula} {#1}
36             \__chemformula_save_catcodes:
37             \__chemformula_sanitize:Nn
38             \l__chemformula_chemformula_tmpa_tl
39             {#2}
40             \__chemformula_input_compound_no_check:N
41             \l__chemformula_compound_tl
42             \l__chemformula_chemformula_tmpa_tl
43             \__chemformula_prepare_output:N \l__chemformula_compound_tl
44             \chemformula_write:V \l__chemformula_compound_tl

```

```

45     }
46   \group_end:
47   }
48   \endgroup
49 }

```

`\charrow` If standalone, appears in a regular `lateximage`.

```

50 \RenewDocumentCommand \charrow { mO{}O{} }
51 {
52   \begin{lateximage}[(-chemformula- charrow)]
53   \group_begin:
54     \chemformula_draw_arrow:nnn {#1} {#2} {#3}
55   \group_end:
56   \end{lateximage}
57 }

```

`\chname` If standalone, appears in a regular `lateximage`, hashed according to contents.

```

58 \RenewDocumentCommand \chname { R(){}R(){} }
59 {
60   \begin{lateximage}*[%
61     \textbackslash{}chname(\LWR@HTMLsanitize{#1})(\LWR@HTMLsanitize{#2})
62   ]%
63     \chemformula_chwritebelow:nn {#1} {#2}
64   \end{lateximage}
65 }

```

`\chlewis` Placed inline, hashed according to contents and options.

```

66 \RenewDocumentCommand \chlewis { O{}mm }
67 {
68   \begingroup%
69   \boolfalse{mathjax}%
70   \LWR@subsingledollar*\textbackslash{}chlewis\{#2\}\{#3\}%
71   {
72     \protect\LWR@HTMLsanitize{\detokenize\expandafter{#1}}%
73   }{
74     \chemformula_lewis:nnn {#1} {#2} {#3}
75   }
76   \endgroup%
77 }

```

lwarp redefines the `$` character, so special handling is required to escape math expressions inside `\ch`.

This boolean tracks a new kind of escaped math:

```

78 \bool_new:N      \l_chemformula_first_last_LWRdollar_bool

```

`\chemformula_input_escape_math`

Adds additional escaping for the new dollar definition:

```

79 \cs_gset_protected:Npn \__chemformula_input_escape_math:n #1
80   {
81     \__chemformula_first_last_math:n {#1}
82     \bool_if:NT \l__chemformula_first_last_dollar_bool
83       {
84         \bool_set_true:N \l__chemformula_first_last_math_bool
85         \__chemformula_read_escape_dollar:w #1 \q_nil
86       }
87     \bool_if:NT \l__chemformula_first_last_mathbraces_bool
88       {
89         \bool_set_true:N \l__chemformula_first_last_math_bool
90         \__chemformula_read_escape_mathbraces:w #1 \q_nil
91       }

```

Added by lwarp:

```

92     \bool_if:NT \l__chemformula_first_last_LWRdollar_bool%      lwarp
93     {
94       \bool_set_true:N \l__chemformula_first_last_math_bool% lwarp
95       \__chemformula_read_escape_LWRdollar:w #1 \q_nil%      lwarp
96     }
97   }

```

`\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.

```

98 \begingroup
99 \catcode'\$=\active
100
101 \cs_new_protected:Npn \__chemformula_read_escape_LWRdollar:w $#1$ \q_nil
102 {
103   \__chemformula_read_escape_math:n {#1}
104 }
105
106 \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 \$.

```

107 \cs_new_protected:Npn \__chemformula_bool_cs_set_if_first_last:NnNN #1#2#3#4
108 {
109   \int_zero:N \l__chemformula_tmpa_int
110   \int_zero:N \l__chemformula_tmpb_int
111   \int_set:Nn \l__chemformula_tmpa_int { \tl_count:n {#2} }
112   \tl_map_inline:nn {#2}
113   {
114     \int_incr:N \l__chemformula_tmpb_int
115     \int_compare:nT { \l__chemformula_tmpb_int = 1 }
116     {

```

At the start, the `cs_` version compares control sequences:

```

117       \ifdefstrequal{##1}{#3}% lwarp
118       {
119         \bool_set_true:N #1
120       }% lwarp
121       {}
122     }

```

At the end, compare more control sequences:

```

123       \int_compare:nT { \l__chemformula_tmpb_int = \l__chemformula_tmpa_int }
124       {
125         \ifdefstrequal{##1}{#4}
126         {}
127         {
128           \bool_set_false:N #1
129         }
130       }
131     }
132 }

```

`\chemformula_first_last_math`

Modified to check for the new meaning of \$ at first/last:

```

133 \cs_gset_protected:Npn \__chemformula_first_last_math:n #1
134 {
135   \bool_set_false:N \l__chemformula_first_last_math_bool
136   \bool_set_false:N \l__chemformula_first_last_dollar_bool
137   \bool_set_false:N \l__chemformula_first_last_LWRdollar_bool% lwarp
138   \bool_set_false:N \l__chemformula_first_last_mathbraces_bool
139   \__chemformula_bool_set_if_first_last:Nnnn
140   \l__chemformula_first_last_dollar_bool
141   {#1}
142   { $ } { $ }

```

```

143   \bool_if:NF \l__chemformula_first_last_dollar_bool
144   {
145     \__chemformula_bool_set_if_first_last:Nnnn
146     \l__chemformula_first_last_mathbraces_bool
147     {#1}
148     { \ ( } { \ ) }

```

Added by lwarp:

```

149     \bool_if:NF \l__chemformula_first_last_mathbraces_bool%   lwarp
150     {
151       \__chemformula_bool_cs_set_if_first_last:NnNN
152       \l__chemformula_first_last_LWRdollar_bool
153       {#1}
154       { \LWR@newsingledollar } { \LWR@newsingledollar }
155       }%   lwarp
156     }
157   }

```

```

158 \ExplSyntaxOff

```

---

File 59 **lwarp-chemgreek.sty**

§ 156    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}[2016/02/10]

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 60 **lwarp-chemmacros.sty**

§ 157     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}

SVG file hashing assumes that the relevant options are constant for the entire document.

§ 157.1   **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)-[@{c1,0.25}]}
\makepolymerdelims{5pt}[27pt]{op}{c1}
\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}

```

## § 157.2 Code

### § 157.3 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

```

### § 157.4 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`  $\{\langle space\ above\rangle\} \{\langle space\ below\rangle\}$

For HTML output, the above and below space is ignored, and a `lateximage` is used instead. For the print output version, see section [85](#).

```

12 \DeclareDocumentEnvironment{redoxreaction}{m m}
13 {\begin{lateximage}[(-chemmacros- redoxreaction)]}
14 {\end{lateximage}}

15 \ExplSyntaxOn

```

§ 157.5 **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

```

## § 157.6 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

```

## § 157.7 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 { 0{S} } {
183 \begin{lateximage}[\textbackslash{}Sconf{[]#1{}}]
184   \chemmacros_sconf:n {#1}
185 \end{lateximage}
186 }
187
188 \RenewDocumentCommand \Rconf { 0{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{}hapto\{#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

```

## § 157.8 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

```

## § 157.9 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   \chemmacros_leave_vmode:
286   \bool_if:NTF \l__chemmacros_phases_sub_bool
287   {
288     \ifnumequal{\value{LWR@lateximagedepth}}{0}
289     {
290       \textsubscript{ (#1) }
291     }
292     {
293       \chemformula_subscript:n { (#1) }
294     }
295   }

```

```

296     {
297       \skip_horizontal:N \l__chemmacros_phases_space_dim
298       \chemmacros_text:n { (#1) }
299     }
300   }
301
302 }{}% \@ifchemmacrosmoduleloaded
303 }% AtBeginDocument

```

## § 157.10 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

```

## § 157.11 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
```

## § 157.12 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
```

## § 157.13 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   \chemmacros_add_reaction_description:n {##1}
477   \__chemmacros_begin_reaction:
478   \chemmacros_reaction_read:nnw {#2} {#4}
```

```

479     }
480     {
481         \_chemmacros_end_reaction:
482     }
483 }
484 \cs_generate_variant:Nn \chemmacros_declare_reaction_env:nnnn {nnnV}
485
486 \RenewChemReaction {reaction} {equation}
487 \RenewChemReaction {reaction*} {equation*}
488 \RenewChemReaction {reactions} {align}
489 \RenewChemReaction {reactions*} {align*}
490
491 }{}% \@ifchemmacrosmoduleloaded
492 }% AtBeginDocument

```

## § 157.14 Redox

```

493 \AtBeginDocument{
494 \@ifchemmacrosmoduleloaded{redox}{
495 \PackageInfo{lwarp}{Patching~chemmacros~module~redox}
496
497 \NewDocumentCommand \LWR@chemmacros@ox { s m >{\SplitArgument{1}{,}}m }
498 {
499     \IfBooleanTF {#1}
500     { \chemmacros_ox:nnnn {#1} {#2} #3 }
501     { \chemmacros_ox:nnnn { } {#2} #3 }
502 }
503
504 \RenewDocumentCommand \ox { s O{ } m }
505 {
506     \begingroup
507     \boolfalse{mathjax}
508     \IfBooleanTF {#1}
509     {
510         \LWR@subsingledollar*{% yes hash
511             \textbackslash{}ox*\{\LWR@HTMLsanitize{#3}\}% alt
512         }{%
513             star \protect\LWR@HTMLsanitize{\detokenize\expandafter{#2}}}%
514         }{%
515             \LWR@chemmacros@ox* {#2} {#3}% contents
516         }%
517     }
518     {
519         \LWR@subsingledollar*{% yes hash
520             \textbackslash{}ox*\{\LWR@HTMLsanitize{#3}\}% alt
521         }{%
522             \protect\LWR@HTMLsanitize{\detokenize\expandafter{#2}}}%
523         }{%
524             \LWR@chemmacros@ox {#2} {#3}% contents
525         }%

```

```

526     }
527   \endgroup
528 }
529
530 }{}% \@ifchemmacrosmoduleloaded
531 }% AtBeginDocument

```

## § 157.15 Scheme

Fix for chemmacros as of v5.8b, when using newfloat and babel:

```

532 \AtBeginDocument{
533 \@ifchemmacrosmoduleloaded{scheme}{
534 \PackageInfo{lwarp}{Patching~chemmacros~module~scheme}
535
536 \ifdefstring{\schemename}{los}{
537 \SetupFloatingEnvironment{scheme}{
538 name = \chemmacros_translate:n {scheme-name}
539 }
540 }{}
541
542 }{}% \@ifchemmacrosmoduleloaded
543 }% AtBeginDocument

```

## § 157.16 Spectroscopy

```

544 \AtBeginDocument{
545 \@ifchemmacrosmoduleloaded{spectroscopy}{
546 \PackageInfo{lwarp}{Patching~chemmacros~module~spectroscopy}
547
548 \ChemCompatibilityTo{5.8}
549 \cs_gset_protected:Npn \__chemmacros_nmr_base:nn #1#2
550 {
551   \tl_if_blank:VF \g__chemmacros_nmr_element_coupled_tl
552   {
553     \tl_put_left:Nn \g__chemmacros_nmr_element_coupled_tl { \{ }
554     \tl_put_right:Nn \g__chemmacros_nmr_element_coupled_tl { \} }
555   }
556   \tl_put_left:Nn \g__chemmacros_nmr_element_coupled_tl {#2}
557   % \chemmacros_chemformula:n { ^{#1} }
558   \textsuperscript{#1}
559   \bool_if:NTF \l__chemmacros_nmr_parse_bool
560   { \chemformula_ch:nV {} \g__chemmacros_nmr_element_coupled_tl }
561   { \chemmacros_chemformula:V \g__chemmacros_nmr_element_coupled_tl }
562   \tl_use:N \l__chemmacros_nmr_element_method_connector_tl
563   \tl_use:N \l__chemmacros_nmr_method_tl
564 }
565 \EndChemCompatibility
566 \ChemCompatibilityFrom{5.8}

```

```

567 \cs_gset_protected:Npn \__chemmacros_nmr_base:nn #1#2
568 {
569   \group_begin:
570   \tl_use:N \l__chemmacros_nmr_base_format_tl
571   \tl_if_blank:VF \g__chemmacros_nmr_element_coupled_tl
572   {
573     \tl_put_left:Nn \g__chemmacros_nmr_element_coupled_tl { \{ }
574     \tl_put_right:Nn \g__chemmacros_nmr_element_coupled_tl { \} }
575   }
576   \tl_put_left:Nn \g__chemmacros_nmr_element_coupled_tl {#2}
577 %   \chemmacros_chemformula:n { ^{#1} }
578   \textsuperscript{#1}
579   \tl_if_blank:VF \g__chemmacros_nmr_element_coupled_tl
580   {
581     \bool_if:NTF \l__chemmacros_nmr_parse_bool
582     { \chemformula_ch:nV {} \g__chemmacros_nmr_element_coupled_tl }
583     { \chemmacros_chemformula:V \g__chemmacros_nmr_element_coupled_tl }
584   }
585   \tl_use:N \l__chemmacros_nmr_element_method_connector_tl
586   \tl_use:N \l__chemmacros_nmr_method_tl
587   \group_end:
588 }
589 \EndChemCompatibility
590
591
592 \cs_gset_protected:Npn \chemmacros_nmr_position:n #1
593 {
594   \chemmacros_chemformula:x
595   {
596     \exp_not:V \g__chemmacros_nmr_element_tl
597     \bool_if:NF \l__chemmacros_nmr_position_side_bool
598     {
599       \tl_if_eq:NnTF \l__chemmacros_nmr_position_tl {^}% lwarp
600       { \textsuperscript{\exp_not:n { {#1} }} }% lwarp
601       { \textsubscript{\exp_not:n { {#1} }} }% lwarp
602 %     \exp_not:V \l__chemmacros_nmr_position_tl
603 %     \exp_not:n { {#1} }
604     }
605   }
606   \bool_if:NT \l__chemmacros_nmr_position_side_bool
607   {
608     \tl_use:N \l__chemmacros_nmr_position_tl
609     \__chemmacros_nmr_position:n {#1}
610   }
611 }
612
613 \cs_gset_protected:Npn \__chemmacros_nmr_coupling:w (#1;#2)
614 {
615   \tl_set:Nn \l__chemmacros_nmr_coupling_bonds_tl
616   {

```

```

617     \l__chemmacros_nmr_coupling_bonds_pre_tl
618     #1
619     \l__chemmacros_nmr_coupling_bonds_post_tl
620   }
621   \bool_if:NTF \l__chemmacros_nmr_coupling_nuclei_sub_bool
622   {
623     \tl_set:Nn \l__chemmacros_nmr_coupling_nuclei_tl
624     {
625       \c_math_subscript_token
626       \textsubscript% lwarp
627       {
628         \l__chemmacros_nmr_coupling_nuclei_pre_tl
629         \chemmacros_chemformula:n {#2}
630         \l__chemmacros_nmr_coupling_nuclei_post_tl
631       }
632     }
633   }
634   {
635     \tl_set:Nn \l__chemmacros_nmr_coupling_nuclei_tl
636     {
637       \l__chemmacros_nmr_coupling_nuclei_pre_tl
638       \chemmacros_chemformula:n {#2}
639       \l__chemmacros_nmr_coupling_nuclei_post_tl
640     }
641   }
642   \__chemmacros_nmr_coupling_aux_i:w
643 }
644
645 \AfterEndPreamble{% After \AtBeginDocument
646 % \NMR{<num>,<elem>}{<num>,<unit>}[<solvent>] ALL arguments are optional
647 % \NMR* same but without ": $\delta$" at end
648 \cs_gset_protected:Npn \chemmacros_nmr:nnnn #1#2#3#4
649 {
650   \bool_if:NT \l__chemmacros_nmr_list_bool { \item \scan_stop: }
651   \group_begin:
652     \chemmacros_leave_vmode:
653     \bool_set_false:N \l__chemmacros_nmr_frequency_bool
654     \bool_set_false:N \l__chemmacros_nmr_solvent_bool
655     \tl_if_empty:nF {#3}
656     { \bool_set_true:N \l__chemmacros_nmr_frequency_bool }
657     \tl_if_empty:nF {#4}
658     { \bool_set_true:N \l__chemmacros_nmr_solvent_bool }
659     \bool_if:nT
660     {
661       \l__chemmacros_nmr_frequency_bool
662       ||
663       \l__chemmacros_nmr_solvent_bool
664     }
665     { \bool_set_true:N \l__chemmacros_nmr_delimiters_bool }
666     \bool_if:nT

```

```

667     {
668         \l__chemmacros_nmr_frequency_bool
669         &&
670         \l__chemmacros_nmr_solvent_bool
671     }
672     { \bool_set_true:N \l__chemmacros_nmr_comma_bool }
673     \tl_if_empty:nTF {#2}
674     {
675         \__chemmacros_nmr_nucleus:VV
676         \l__chemmacros_nmr_isotope_default_tl
677         \l__chemmacros_nmr_element_default_tl
678     }
679     { \__chemmacros_nmr_nucleus:w #2 \q_stop }
680     \mode_if_math:TF
681     {
682         \text
683         {
684             \group_begin:
685             \tl_use:N \l__chemmacros_nmr_format_tl
686             \LWR@textcurrentcolor{\LWR@textcurrentfont{% lwarp
687                 \__chemmacros_nmr_base:VV
688                 \g__chemmacros_nmr_isotope_tl
689                 \g__chemmacros_nmr_element_tl
690                 \bool_if:NT \l__chemmacros_nmr_delimiters_bool
691                 { ~ ( }
692                 \bool_if:NT \l__chemmacros_nmr_frequency_bool
693                 { \__chemmacros_nmr_frequency:n {#3} }
694                 \bool_if:NT \l__chemmacros_nmr_comma_bool
695                 { , ~ }
696                 \bool_if:NT \l__chemmacros_nmr_solvent_bool
697                 { \chemmacros_chemformula:n {#4} }
698                 \bool_if:NT \l__chemmacros_nmr_delimiters_bool
699                 { ) }
700                 \tl_if_blank:nT {#1} {::~}
701             }}% lwarp
702             \group_end:
703         }
704         \tl_if_blank:nT {#1}
705         {
706             \delta
707             \text { \l__chemmacros_nmr_delta_tl }
708             \bool_if:NT \l__chemmacros_nmr_use_equal_bool {=}
709         }
710     }
711     {
712         \group_begin:
713         \tl_use:N \l__chemmacros_nmr_format_tl
714         \LWR@textcurrentcolor{\LWR@textcurrentfont{% lwarp
715             \__chemmacros_nmr_base:VV
716             \g__chemmacros_nmr_isotope_tl

```

```

717         \g__chemmacros_nmr_element_tl
718     \bool_if:NT \l__chemmacros_nmr_delimiters_bool
719         {~(}
720     \bool_if:NT \l__chemmacros_nmr_frequency_bool
721         { \__chemmacros_nmr_frequency:n {#3} }
722     \bool_if:NT \l__chemmacros_nmr_comma_bool
723         {,~}
724     \bool_if:NT \l__chemmacros_nmr_solvent_bool
725         {
726         \bool_if:NTF \l__chemmacros_nmr_parse_bool

727 %             { \chemformula_ch:nn { } {#4} }% original
728             {\ch{#4}}% lwarp
729             {#4}
730         }
731     \bool_if:NT \l__chemmacros_nmr_delimiters_bool
732         {}}
733 }}% lwarp
734     \tl_if_blank:nT {#1} {:}
735     \group_end:
736     \tl_if_blank:nT {#1}
737     {
738         \tl_use:N \c_space_tl
739         \c_math_toggle_token
740         \delta
741         \c_math_toggle_token
742         \l__chemmacros_nmr_delta_tl
743         \bool_if:NT \l__chemmacros_nmr_use_equal_bool {~=}
744     }
745 }
746 \group_end:
747 }
748 }% AfterEndPreamble
749
750
751 \RenewDocumentCommand \chemmacros_data:w { smo }
752 {
753     \bool_if:NT \l__chemmacros_nmr_list_bool { \item }
754     {
755 %         \tl_use:N \l__chemmacros_nmr_format_tl #2
756         \tl_use:N \l__chemmacros_nmr_format_tl
757         \LWR@textcurrentcolor{\LWR@textcurrentfont{% lwarp
758             #2
759             \IfNoValueF {#3} { ~ ( #3 ) }
760             \IfBooleanT {#1} { \bool_if:NT \l__chemmacros_nmr_use_equal_bool { : } }
761         }}% lwarp
762     }
763     \IfBooleanF {#1} { \bool_if:NT \l__chemmacros_nmr_use_equal_bool { ~ = } }
764 }

```

```

765
766 }{}% \@ifchemmacrosmoduleloaded
767 }% AtBeginDocument

```

## § 157.17 Thermodynamics

```

768 \AtBeginDocument{
769 \@ifchemmacrosmoduleloaded{thermodynamics}{
770 \PackageInfo{lwarp}{Patching~chemmacros~module~thermodynamics}
771
772 \cs_gset_protected:Npn \chemmacros_state:nn #1#2
773 {
774   \group_begin:
775   \boolfalse{mathjax}
776   \chemmacros_set_keys:nn {thermodynamics} {#1}
777   \LWR@subsingledollar*{% yes hashing
778     \textbackslash{}state\{\LWR@HTMLSanitize{#2}\}% alt
779   }{%
780     chemmacros_state% add'l hashing
781     #1% options
782     LSP \tl_use:N \l__chemmacros_state_sp_left_tl% super/subscripts
783     LSB \tl_use:N \l__chemmacros_state_sb_left_tl
784     RSP \tl_use:N \l__chemmacros_state_sp_right_tl
785     RSB \tl_use:N \l__chemmacros_state_sb_right_tl
786   }
787   {
788     \LWR@origensuredmath{
789       \chemmacros_text:V \l__chemmacros_state_pre_tl
790       \c_math_superscript_token
791       { \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*.

```

792     \tl_if_empty:NTF \l__chemmacros_state_sb_left_tl
793     {}
794     {
795       \c_math_subscript_token
796       { \chemmacros_text:V \l__chemmacros_state_sb_left_tl }
797     }
798     #2
799     \c_math_superscript_token
800     { \chemmacros_text:V \l__chemmacros_state_sp_right_tl }
801     \tl_if_empty:NTF \l__chemmacros_state_sb_right_tl
802     {}
803     {
804       \c_math_subscript_token
805       { \chemmacros_text:V \l__chemmacros_state_sb_right_tl }
806     }

```

```

807         \chemmacros_text:V \l__chemmacros_state_post_tl
808     }
809 }
810 \group_end:
811 }
812 \cs_generate_variant:Nn \chemmacros_state:nn { nV }
813
814 \cs_gset_protected:Npn \chemmacros_declare_state:Nn #1#2
815 {
816     \chemmacros_define_keys:xn
817     {thermodynamics/\chemmacros_remove_backslash:N #1}
818     {
819         pre .meta:nn = {chemmacros/thermodynamics} { pre = ##1 } ,
820         post .meta:nn = {chemmacros/thermodynamics} { post = ##1 } ,
821         superscript-left .meta:nn = {chemmacros/thermodynamics} { superscript-left = ##1 } ,
822         superscript-right .meta:nn = {chemmacros/thermodynamics} { superscript-right = ##1 } ,
823         superscript .meta:n = { superscript-right = ##1 } ,
824         subscript-left .meta:nn = {chemmacros/thermodynamics} { subscript-left = ##1 } ,
825         subscript-right .meta:nn = {chemmacros/thermodynamics} { subscript-right = ##1 } ,
826         subscript .meta:n = { subscript-left = ##1 } ,
827         subscript-pos .choices:nn =
828             { left , right }
829             { \tl_set_eq:NN \l__chemmacros_state_sb_pos_tl \l_keys_choice_tl } ,
830         symbol .tl_set:N = \l__chemmacros_state_symbol_tl ,
831         unit .tl_set:N = \l__chemmacros_state_unit_tl
832     }
833 \DeclareDocumentCommand #1 { sO{}D(){}m }
834 {
835     \group_begin:
836     \chemmacros_set_keys:xn
837     {thermodynamics/\chemmacros_remove_backslash:N #1}
838     {#2}
839     \tl_if_blank:nF {##3}
840     {
841         \chemmacros_set_keys:nx {thermodynamics}
842         { subscript-\l__chemmacros_state_sb_pos_tl = \exp_not:n {##3} }
843     }
844     \chemmacros_state:nV {##2} \l__chemmacros_state_symbol_tl
845     \chemmacros_set_keys_groups:nnn {thermodynamics} {variables} {##2}
846     \IfBooleanF {##1} { = ~ \SI {##4} { \l__chemmacros_state_unit_tl } }
847     \group_end:
848 }
849 }

```

The pre-existing macros are redefined with the new definition:

```

850 \RenewChemState \enthalpy { symbol = H , unit = \kilo\joule\per\mole }
851 \RenewChemState \entropy { symbol = S , unit = \joule\per\kelvin\per\mole , pre = }
852 \RenewChemState \gibbs { symbol = G , unit = \kilo\joule\per\mole }
853

```

```

854 }{}% \@ifchemmacrosmoduleloaded
855 }% AtBeginDocument

856 \ExplSyntaxOff

```

File 61 **lwarp-chemnum.sty**

§ 158 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}

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 62 **lwarp-chkfloat.sty**

§ 159 Package **chkfloat**

Pkg chkfloat chkfloat is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{chkfloat}[2012/08/19]

---

File 63 **lwarp-cite.sty**

§ 160 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}

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{\textsuperscript{#1}}
9
10 \DeclareDocumentCommand\citepunct{}{\, \, \relax}

```

---

File 64 **lwarp-CJK.sty**

§ 161 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}

```

---

File 65 **lwarp-CJKutf8.sty**

§ 162    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}

```

---

File 66 **lwarp-clrdblpg.sty**

§ 163    Package **clrdblpg**

Pkg    clrdblpg    clrdblpg is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{clrdblpg}

```

---

File 67 **lwarp-cmdtrack.sty**

§ 164    Package **cmdtrack**

Pkg    cmdtrack    cmdtrack is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{cmdtrack}[2012/12/18]

2 \newcommand{\untrack}[1]{}

```

---

File 68 **lwarp-color.sty**

§ 165      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@ProvidesPackagePass{color}
2 \RequirePackage{xcolor}
```

---

File 69 **lwarp-colortbl.sty**

§ 166      Package **colortbl**

Pkg    colortbl    colortbl is emulated.

 **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 few placeholder definitions are forgotten first:

```
1 \let\rowcolor\relax
2
3 \LWR@ProvidesPackagePass{colortbl}
```

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 \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}{0{named} m o o}{%
11 \convertcolorspec{#1}{#2}{HTML}\LWR@rowHTMLcolor%
12 \LWR@getmynexttoken%
13 }
14
15 \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 \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 \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 \LWR@expandableformatted{arrayrulecolornexttoken}
```

```
\doublerulesepcolor [⟨model⟩] {⟨color⟩}
```

The version for use outside a tabular.

```
33 \newcommand{\LWR@HTML@doublerulesepcolor}[2] [named] {}
34
35 \LWR@expandableformatted{doublerulesepcolor}
```

`[<model>] {<color>}`

`\LWR@doublerulesepscolornexttoken` The version for use inside a tabular.

```
36 \newcommand{\LWR@HTML@doublerulesepscolornexttoken}[2] [named] {\LWR@getmynexttoken}
37
38 \LWR@expandableformatted{doublerulesepscolornexttoken}
```

---

## File 70 `lwarp-continue.sty`

### § 167 Package `continue`

Pkg `continue` `continue` is ignored.

**for HTML output:** `1 \LWR@ProvidesPackageDrop{continue}`

```
2 \newcommand*{\flagcont}{}
3 \newcommand*{\flagend}{}
4 \newcommand*{\flagword}{}
5 \newcommand*{\preflagword}{}
6 \newcommand*{\postflagword}{}
7 \newlength\contsep
8 \newlength\contdrop
```

---

## File 71 `lwarp-copyrightbox.sty`

### § 168 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}`

```
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 72 **lwarp-crop.sty**

\$ 169      Package **crop**

*(Emulates or patches code by MELCHIOR FRANZ.)*

Pkg    crop    Emulated.

**for HTML output:**    Discard all options for lwarp-crop:

```

1 \LWR@ProvidesPackageDrop{crop}

2 \newcommand*{\crop}[1] [] {}
3 \newcommand*{\cropdef}[6] [] {}

```

---

File 73 **lwarp-cuted.sty**

\$ 170      Package **cuted**

*(Emulates or patches code by SIGITAS TOLUŠIS.)*

Pkg    cuted    cuted is emulated.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{cuted}

2 \newenvironment{strip}{}{}
3 \newskip\stripsep
4 \def\oldcolsbreak#1{}

```

---

File 74 **lwarp-cutwin.sty**

§ 171      Package **cutwin**

*(Emulates or patches code by PETER WILSON AND ALAN HOENIG.)*

Pkg    cutwin    Emulated.

for HTML output:    Discard all options for lwarp-cutwin:

```

1 \LWR@ProvidesPackageDrop{cutwin}

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 75 **lwarp-dblfloatfix.sty**

§ 172      Package **dblfloatfix**

Pkg    dblfloatfix    dblfloatfix is ignored.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{dblfloatfix}

---

File 76 **lwarp-dblfnote.sty**

§ 173      Package **dblfnote**

*(Emulates or patches code by HIROSHI NAKASHIMA.)*

Pkg    dblfnote    dblfnote is emulated.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{dblfnote}

2 \newcounter{DFNsloppiness}  
3 \newdimen\DFNcolumnsep  
4 \newdimen\DFNcolumnwidth  
5 \def\DFNallowcbreak{  
6 \def\DFNinhibitcbreak{  
7 \def\DFNtrysingle{  
8 \def\DFNalwaysdouble{  
9 \def\DFNrulboth{  
10 \def\DFNruleleft{

---

File 77 **lwarp-dcolumn.sty**

§ 174      Package **dcolumn**

Pkg    dcolumn    dcolumn is emulated by the lwarp core.

1 \LWR@ProvidesPackageDrop{dcolumn}

§ 175 Package **diagbox**

```

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 79 **lwarp-dprogress.sty**

§ 176      Package **dprogress**

Pkg    dprogress    dprogress is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{dprogressbar}[2008/02/21]

File 80 **lwarp-draftcopy.sty**

§ 177 Package **draftcopy**

Pkg draftcopy draftcopy is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{draftcopy}

```

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 81 **lwarp-draftfigure.sty**

§ 178 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 82 **lwarp-draftwatermark.sty**

§ 179      Package **draftwatermark**
*(Emulates or patches code by SERGIO CALLEGARI.)*

Pkg   draftwatermark   draftwatermark is emulated.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{draftwatermark}

2 \newcommand{\SetWatermarkAngle}[1]{}
3 \newcommand{\SetWatermarkColor}[1]{}
4 \newcommand{\SetWatermarkLightness}[1]{}
5 \newcommand{\SetWatermarkFontSize}[1]{}
6 \newcommand{\SetWatermarkScale}[1]{}
7 \newcommand{\SetWatermarkHorCenter}[1]{}
8 \newcommand{\SetWatermarkVertCenter}[1]{}
9 \newcommand{\SetWatermarkText}[1]{}

```

---

File 83 **lwarp-easy-todo.sty**

§ 180      Package **easy-todo**
*(Emulates or patches code by JUAN RADA-VILELA.)*

Pkg   easy-todo   easy-todo is patched for use by lwarp.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{easy-todo}

\listoftodos   Modified to correct buggy use of \flushright.

2 \let\LWR@origlistoftodos\listoftodos
3
4 \renewcommand{\listoftodos}{%
5 \begingroup
6 \renewcommand{\flushright}{}
7 \LWR@origlistoftodos
8 \endgroup
9 }

\todoii   Modified to use \textcolor instead of \color.

```

---

```

10 \renewcommand{\todoii}[2]{%
11 \ifthenelse{\equal{\@todoobeyfinal}{true}}{%
12   \ifoptionfinal{\todoenable{false}}{\todoenable{true}}%
13 }{}%
14 \ifthenelse{\equal{\@todoenable}{true}}{%
15 \refstepcounter{todos}%
16 \noindent{%
17   \todocolor%
18   \LWR@textcurrentcolor{%
19     \normalfont\scriptsize{\bfseries{\thetodos.#1}}%
20   }%
21 }%
22 \addcontentsline{lod}{todos}{\protect{\thetodos. }\LWR@isolate{#2}}%
23 }{}%
24 }

```

---

File 84 **lwarp-ebook.sty**

§ 181     Package **ebook**

*(Emulates or patches code by JØRGEN STEENSGAARD.)*

Pkg    ebook    ebook is emulated.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{ebook}

2 \setcounter{secnumdepth}{0}
3 \setcounter{tocdepth}{2}
4
5 \providecommand{\pagefill}[1][0.001mm]{\noindent}
6
7 \providecommand{\ebook}{
8 \setcounter{secnumdepth}{0}
9 \setcounter{tocdepth}{2}
10 }

```

---

File 85 **lwarp-ellipsis.sty**

§ 182     Package **ellipsis**

*(Emulates or patches code by PETER J. HESLIN.)*

Pkg    ellipsis    ellipsis is emulated.

---

```

1 \LWR@ProvidesPackageDrop{ellipsis}
2
3 \newcommand{\ellipsisgap}{0.1em}
4
5 \newcommand*{\midwordellipsis}{\,\,\textellipsis\,}

```

---

File 86 **lwarp-emptypage.sty**

§ 183     Package **emptypage**

Pkg    emptypage    emptypage is ignored.

for HTML output:    Discard all options for lwarp-emptypage:

```

1 \LWR@ProvidesPackageDrop{emptypage}

```

---

File 87 **lwarp-endfloat.sty**

§ 184     Package **endfloat**

Pkg    endfloat    endfloat is ignored.

for HTML output:    1 \LWR@ProvidesPackageDrop{endfloat}

```

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{}

```

---

File 88 **lwarp-endheads.sty**

§ 185      Package **endheads**

Pkg    endheads    endheads is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{endheads}

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 \titleinnotesttrue
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 89 **lwarp-endnotes.sty**

§ 186      Package **endnotes**
*(Emulates or patches code by JOHN LAVAGNINO.)*

Pkg    endnotes    Used as-is.

[table of contents](#)    To place the endnotes in the TOC, use:

```

\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

```

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{endnotes}

2 \def\enoteformat{%
3 % \rightskip\z@ \leftskip\z@ \parindent=1.8em
4 \leavevmode
5 % \llap{
6 \makeenmark
7 % }
8 }
9
10 \def\@makeenmark{\hbox{\LWR@htmlspan{sup}{\normalfont\theenmark}}}
11 \def\makeenmark{\@makeenmark}

```

---

File 90 **lwarp-enumerate.sty**

§ 187     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}

---

File 91 **lwarp-enumitem.sty**

§ 188     Package **enumitem**

*(Emulates or patches code by JAVIER BEZOS.)*

Pkg    **enumitem**    enumitem is supported with minor adjustments.

**for HTML output:**    1 \LWR@ProvidesPackagePass{enumitem}

for HTML output: 2 \begin{warpHTML}

```
\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.

```
3 \let\LWR@enumitem@orignewlist\newlist
4
5 \renewcommand*{\newlist}[3]{%
6 \LWR@enumitem@orignewlist{#1}{#2}{#3}%
7 \AtBeginEnvironment{#1}{\@nameuse{LWR@#2start}}%
8 \AtEndEnvironment{#1}{\@nameuse{LWR@#2end}}%
9 }
10
11 \def\DrawEnumitemLabel{

12 \end{warpHTML}
```

---

File 92 lwarp-epigraph.sty

§ 189 Package **epigraph**

*(Emulates or patches code by PETER WILSON.)*

Pkg epigraph epigraph is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{epigraph}

```
2 \DeclareDocumentCommand{\qitem}{m m}
3 {
4 \begin{BlockClass}{qitem}
5 #1
6 \ifbool{FormatWP}
7 {\begin{BlockClass}[border-top:1px solid gray]{epigraphsource}}
8 {\begin{BlockClass}{epigraphsource}}
9 #2
10 \end{BlockClass}
11 \end{BlockClass}
12 }

13 \DeclareDocumentCommand{\epigraph}{m m}
14 {
```

```

15 \begin{LWR@BlockClassWP}{\LWR@print@mbbox{text-align:right}}{}{epigraph}
16 \qitem{#1}{#2}
17 \end{LWR@BlockClassWP}
18 }
19
20 \DeclareDocumentEnvironment{epigraphs}{}
21 {\LWR@BlockClassWP{\LWR@print@mbbox{text-align:right}}{}{epigraph}}
22 {\endLWR@BlockClassWP}

```

Use CSS to format epigraphs.

The following are null commands for source compatibility:

```

23 \newenvironment*{flushepinormal}{}{}

24 \@ifclassloaded{memoir}{
25 \setlength{\epigraphwidth}{.5\linewidth}
26 \renewcommand{\textflush}{flushepinormal}
27 \renewcommand{\epigraphhead}[2][0]{#2}
28 \renewcommand{\dropchapter}[1]{}
29 \renewcommand*{\undodrop}{}
30 }{% not memoir
31 \newlength{\epigraphwidth}
32 \setlength{\epigraphwidth}{.5\linewidth}
33 \newcommand{\textflush}{flushepinormal}
34 \newcommand{\epigraphflush}{flushright}
35 \newcommand{\sourceflush}{flushright}
36 \newcommand*{\epigraphsize}{\small}
37 \newlength{\epigraphrule}
38 \newlength{\beforeepigraphskip}
39 \newlength{\afterepigraphskip}
40 \newcommand{\epigraphhead}[2][0]{#2}
41 \newcommand{\dropchapter}[1]{}
42 \newcommand*{\undodrop}{}
43 }{% not memoir
44
45 \let\cleartoevenpage\relax% also in nextpage
46 \newcommand{\cleartoevenpage}[1][{}]{


```

---

File 93 **lwarp-epsfig.sty**

§ 190      Package **epsfig**

Pkg    **epsfig**    epsfig is emulated for use by lwarp.

    Only the L<sup>A</sup>T<sub>E</sub>X2e 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 94 **lwarp-epstopdf.sty**

§ 191 Package **epstopdf**

Pkg epstopdf Previous versions of lwarp had a nullified verison, 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}[2016/05/15]

---

File 95 **lwarp-epstopdf-base.sty**

§ 192 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  $\Rightarrow$  `lwarpmk pdftosvg <listofPDFfiles>`

to generate .svg versions.

**for HTML output:** `1 \LWR@ProvidesPackagePass{epstopdf-base}[2016/05/15]`

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 96 **lwarp-errata.sty**

§ 193 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}\textsuperscript{\@thefnmark}}
35      {}
36      {\LWR@patcherror{erratum}{eDelete}}
37
38 \xpatchcmd{\erratum}
39      {$_r^{\@thefnmark}$}
40 %      {\inlinemathother$_r^{\@thefnmark}$\inlinemathnormal}
41      {\textsubscript{r}\textsuperscript{\@thefnmark}}
42      {}
43      {\LWR@patcherror{erratum}{eReplace}}

```

Finish the current page's errata before closing and reloading the list:

```
44 \preto\PrintErrata{\LWR@orignewpage}
```

No longer defining math macros with the HTML \$:

```
45 \StopDefiningMath
```

---

File 97 **lwarp-eso-pic.sty**

§ 194     Package **eso-pic**

*(Emulates or patches code by ROLF NIEPRASCHK.)*

Pkg    eso-pic    eso-pic is emulated.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{eso-pic}

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][1]{}

```

---

File 98 **lwarp-everypage.sty**

§ 195      Package **everypage**

*(Emulates or patches code by SERGIO CALLEGARI.)*

Pkg    **everypage**    everypage is emulated.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{everypage}

```

2 \newcommand*{\AddEverypageHook}[1]{}
3 \newcommand*{\AddThispageHook}[1]{}

```

---

File 99 **lwarp-everyshi.sty**

§ 196      Package **everyshi**

*(Emulates or patches code by MARTIN SCHRÖDER.)*

Pkg    **everyshi**    Emulated.

**for HTML output:**    Discard all options for lwarp-everyshi:

```

1 \LWR@ProvidesPackageDrop{everyshi}

2 \newcommand*{\EveryShipout}[1]{}
3 \newcommand*{\AtNextShipout}[1]{}

```

---

File 100 **lwarp-extramarks.sty**

§ 197      Package **extramarks**

*(Emulates or patches code by PIET VAN OOSTRUM.)*

Pkg    extramarks    extramarks is emulated.

for HTML output:    Discard all options for lwarp-extramarks:

```
1 \LWR@ProvidesPackageDrop{extramarks}

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*{\firstleftmark}{}
12 \newcommand*{\lastrightmark}{}

```

---

File 101 **lwarp-fancybox.sty**

§ 198      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 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 loses `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.

 **`\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.

```
1 \LWR@ProvidesPackagePass{fancybox}
```

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\V@footnotetext%
6 \let\LWR@footnotetext\V@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@footnotes=\vbox\bgroup%

```

Add to any current footnotes:

```
11 \unvbox\LWR@footnotes%
```

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}}%

```

Append the footnote to the list:

```

22   \@makefnthtext{}%

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{Beqarray*}{\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  {\</c/r>} [\<t/c/b>]

66 \RenewDocumentEnvironment{Btrivlist}{m o}
67 {%
68   \begin{BlockClass}{Btrivlist}%
69   \tabular{#1}%
70 }
71 {%
72   \endtabular%
73   \end{BlockClass}%
74 }

```

Btrivlist is also neutralized when used inside a span:

```

75 \AtBeginEnvironment{LWR@nestspan}{%
76 \RenewDocumentEnvironment{Btrivlist}{m o}{-}{-}%
77 }

```

lwarp's handling of \item is patched to accept fancybox's optional arguments:

```

78 \let\LWRFB@origitemizeitem\LWR@itemizeitem
79 \let\LWRFB@origdescitem\LWR@descitem
80
81 \RenewDocumentCommand{\LWR@itemizeitem}{d()o}{%
82   \IfValueTF{#2}{%
83     \LWRFB@origitemizeitem[#2]%
84   }{%
85     \LWRFB@origitemizeitem%
86   }%
87 }
88
89 \RenewDocumentCommand{\LWR@descitem}{d()o}{%
90   \IfValueTF{#2}{%
91     \LWRFB@origdescitem[#2]~%
92   }{%

```

```

93      \LWRFB@origdescitem%
94    }%
95 }

96 \RenewDocumentCommand{\LWR@nestspanitem}{d()}{%
97 \if@newlist\else{\LWR@htmltagc{br /}}\fi%
98 \LWR@origitem%
99 }

```

The various boxed lists become regular lists:

```

100 \renewenvironment{Bitemize}[1] [] {\begin{itemize}}{\end{itemize}}
101 \renewenvironment{Benumerate}[1] [] {\begin{enumerate}}{\end{enumerate}}
102 \renewenvironment{Bdescription}[1] [] {\begin{description}}{\end{description}}

```

`\boxput` simply prints one then the other argument, side-by-side instead of above and behind:

```

103 \RenewDocumentCommand{\boxput}{s d() m m}{%
104 \IfBooleanTF{#1}{#3\quad#4}{#4\quad#3}%
105 }

```

Neutralized commands:

```

106 \RenewDocumentCommand{\fancyput}{s d() m}{%
107 \RenewDocumentCommand{\thisfancyput}{s d() m}{%
108
109 \RenewDocumentCommand{\fancypage}{m m}{%
110 \RenewDocumentCommand{\thisfancypage}{m m}{%
111
112 \def\LandScape#1{}
113 \def\endLandScape{}
114 \def\@Landscape#1#2#3{}
115 \def\endLandscape{}

```

Low-level patches for `UseVerbatim` and friends:

```

116 \let\LWRFB@UseVerbatim\UseVerbatim
117 \renewcommand*\UseVerbatim[1]{%
118 \LWR@atbeginverbatim{3}{Verbatim}%
119 \LWRFB@UseVerbatim{#1}%
120 \LWR@afterendverbatim{.5}%
121 }
122
123 \let\LWRFB@LUseVerbatim\LUseVerbatim
124
125 \renewcommand*\LUseVerbatim[1]{%

```

---

```

126 \LWR@atbeginverbatim{3}{LVerbatim}%
127 \noindent%
128 \LWRFB@LUseVerbatim{#1}%
129 \LWR@afterendverbatim{.5}%
130 }
131
132 \def\@BUseVerbatim[#1]#2{%
133 \LWR@atbeginverbatim{3}{BVerbatim}%
134 \LWRFB@LUseVerbatim{#2}%
135 \LWR@afterendverbatim{.5}%
136 }

```

---

File 102 **lwarp-fancyhdr.sty**

§ 199     Package **fancyhdr**

*(Emulates or patches code by PIET VAN OOSTRUM.)*

Pkg    fancyhdr    fancyhdr is nullified.

for HTML output:    Discard all options for lwarp-fancyhdr:

```

1 \LWR@ProvidesPackageDrop{fancyhdr}

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*{\fancyheadoffset}[2] [] {}
15 \newcommand*{\fancyfootoffset}[2] [] {}
16 \newcommand*{\fancyhfoffset}[2] [] {}
17 \newcommand*{\iffloatpage}[2] {#2}
18 \newcommand*{\ifftopfloat}[2] {#2}
19 \newcommand*{\iffbotfloat}[2] {#2}

```

---

File 103 **lwarp-fancyref.sty**

§ 200      Package **fancyref**

Pkg   fancyref   fancyref is emulated.

for HTML output:    1 \LWR@ProvidesPackagePass{fancyref}

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 }

```

Modified to ignore the page number and varioref.

```

8 \renewcommand*{\@f@ref}[4]{%
9   \ifundefined{#1r@#2@#3}{%
10     \PackageError{fancyref}{%
11       \backslashchar#1ref\space format ‘#2’
12       undefined\MessageBreak
13       for label type ‘#3’}%
14   }{%
15     The format ‘#2’ was not defined for the label type
16     ‘#3’\MessageBreak
17     and the \backslashchar#1ref\space command. Perhaps
18     you have only misspelled its name.\MessageBreak
19     Otherwise you will have to define it with
20     \protect\new#1reformat\MessageBreak
21     prior to using it.%
22   }%
23 }{%
24   \fancyrefhook{%
25     \@nameuse{#1r@#2@#3}%
26     {\ref{#3\fancyrefargdelim#4}}}%
27 %     {\pageref{#3\fancyrefargdelim#4}}% original
28 %     {\@fancyref@page@ref{#3\fancyrefargdelim#4}}% original
29   }% lwarp
30   }% lwarp
31 }%

```

```

32 }%
33 }%

```

---

File 104 **lwarp-fancytabs.sty**

§ 201 Package **fancytabs**

Pkg fancytabs fancytabs is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{fancytabs}

2 \newcommand{\fancysub}[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 105 **lwarp-fancyvrb.sty**

§ 202 Package **fancyvrb**

*(Emulates or patches code by TIMOTHY VAN ZANDT.)*

Pkg fancyvrb fancyvrb is supported with some patches.

⚠ **\VerbatimFootnotes** If using fancybox or fancyvrb with \VerbatimFootnotes, and using footnotes in a  
 ⚠ **sectioning or** sectioning command or display math, use \footnotemark and \footnotetext:  
**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 \RequirePackage{xcolor}% for \convertcolorspec
2
3 \LWR@ProvidesPackagePass{fancyvrb}
```

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@footnotes=\vbox\bgroup%
```

Add to any current footnotes:

```
15 \unvbox\LWR@footnotes%
```

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}}}%

```

Append the footnote to the list:

```

26    \@makefntext{}%

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   \LWR@atbeginverbatim[\LWR@FVstyle]{0}{verbatim}%
53   \FV@BVerbatimBegin#1\FV@BVerbatimEnd%
54   \LWR@afterendverbatim{0}%
55 }

```

`\LWR@FVstyle` Holds the style of the verbatim.

```

56 \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.

```

57 \newcommand*{\LWR@fvstartnone}{%
58 \LWR@traceinfo{fvstartnone}%
59 % \hbox to\z@{
60 \LWR@atbeginverbatim[\LWR@FVstyle]{0}{verbatim}%
61 % }%
62 }
63
64 \newcommand*{\LWR@fvendnone}{%
65 \LWR@traceinfo{fvendnone}%
66 % \hbox to\z@{
67 \LWR@afterendverbatim{0}%
68 % }%
69 }
70
71 \newcommand*{\LWR@fvstartsingle}{%
72 \LWR@traceinfo{fvstartsingle}%
73 \LWR@fvstartnone%
74 \FV@BeginListFrame@Single%
75 }
76
77 \newcommand*{\LWR@fvendsingle}{%
78 \LWR@traceinfo{fvendsingle}%
79 \FV@endListFrame@Single%
80 \LWR@fvendnone%
81 }
82
83 \newcommand*{\LWR@fvstartline}{%
84 \LWR@traceinfo{fvstartline}%
85 \LWR@fvstartnone%
86 % \setlength{\LWR@templengthone}{\baselineskip}%
87 \FV@BeginListFrame@Lines%
88 % \setlength{\baselineskip}{\LWR@templengthone}%
89 % \setlength{\baselineskip}{5pt}%
90 }
91
92 \newcommand*{\LWR@fvendline}{%
93 \LWR@traceinfo{fvendline}%
94 \FV@endListFrame@Lines%
95 \LWR@fvendnone%
96 }

```

The following patches select the start/left/right/end behaviors depending on frame. Original code is from the fancyvrb package.

```

97 \newcommand*{\LWR@FVfindbordercolor}{%

```

```

98 \FancyVerbRuleColor%
99 \LWR@findcurrenttextcolor%
100 \color{black}%
101 }
102
103 % border width of \FV@FrameRule
104 \newcommand*{\LWR@FVborderstyle}[1]{%
105 padding#1: \strip@pt\dimexpr \FV@FrameSep\relax\relax pt ; %
106 \LWR@FVfindbordercolor %
107 border#1: \strip@pt\dimexpr \FV@FrameRule\relax\relax pt %
108 solid \LWR@origpound\LWR@tempcolor ; %
109 }
110
111 \def\FV@Frame@none{%
112 \renewcommand*{\LWR@FVstyle}{\LWR@currenttextcolorstyle}%
113 \let\FV@BeginListFrame\LWR@fvstartnone%
114 \let\FV@LeftListFrame\relax%
115 \let\FV@RightListFrame\relax%
116 \let\FV@endListFrame\LWR@fvendnone}
117
118 \FV@Frame@none% default values
119
120 \def\FV@Frame@single{%
121 \renewcommand*{\LWR@FVstyle}{\LWR@currenttextcolorstyle\LWR@FVborderstyle{}}%
122 \let\FV@BeginListFrame\LWR@fvstartsingle%
123 \let\FV@LeftListFrame\FV@LeftListFrame@Single%
124 \let\FV@RightListFrame\FV@RightListFrame@Single%
125 \let\FV@endListFrame\LWR@fvendsingle}
126
127 \def\FV@Frame@lines{%
128 \renewcommand*{\LWR@FVstyle}{%
129   \LWR@currenttextcolorstyle\LWR@FVborderstyle{-top}\LWR@FVborderstyle{-bottom}}%
130 }%
131 \let\FV@BeginListFrame\LWR@fvstartline%
132 \let\FV@LeftListFrame\relax%
133 \let\FV@RightListFrame\relax%
134 \let\FV@endListFrame\LWR@fvendline}
135
136 \def\FV@Frame@topline{%
137 \renewcommand*{\LWR@FVstyle}{\LWR@currenttextcolorstyle\LWR@FVborderstyle{-top}}%
138 \let\FV@BeginListFrame\LWR@fvstartline%
139 \let\FV@LeftListFrame\relax%
140 \let\FV@RightListFrame\relax%
141 \let\FV@endListFrame\LWR@fvendnone}
142
143 \def\FV@Frame@bottomline{%
144 \renewcommand*{\LWR@FVstyle}{\LWR@currenttextcolorstyle\LWR@FVborderstyle{-bottom}}%
145 \let\FV@BeginListFrame\LWR@fvstartnone%
146 \let\FV@LeftListFrame\relax%
147 \let\FV@RightListFrame\relax%

```

```

148 \let\FV@EndListFrame\LWR@fvendline}
149
150 \def\FV@Frame@leftline{%
151 \renewcommand*{\LWR@FVstyle}{\LWR@currenttextcolorstyle\LWR@FVborderstyle{-left}}}%
152 % To define the \FV@FrameFillLine macro (from \FV@BeginListFrame)
153 \ifx\FancyVerbFillColor\relax%
154 \let\FV@FrameFillLine\relax%
155 \else%
156 \@tempdima\FV@FrameRule\relax%
157 \multiply\@tempdima-\tw@%
158 \edef\FV@FrameFillLine{%
159 {\noexpand\FancyVerbFillColor{\vrule\@width\number\@tempdima sp}}%
160 \kern-\number\@tempdima sp}}}%
161 \fi%
162 \let\FV@BeginListFrame\LWR@fvstartnone%
163 \let\FV@LeftListFrame\FV@LeftListFrame@Single%
164 \let\FV@RightListFrame\relax%
165 \let\FV@EndListFrame\LWR@fvendnone}

```

Adds the optional label to the top and bottom edges. Original code is from the fancyvrb package.

```

166 \def\FV@SingleFrameLine#1{%
167 % \hbox to\z@{%
168 % \kern\leftmargin
169 \ifnum#1=\z@\relax
170 \let\FV@Label\FV@LabelBegin
171 \else
172 \let\FV@Label\FV@LabelEnd
173 \fi
174 \ifx\FV@Label\relax
175 % \FancyVerbRuleColor{\vrule \@width\linewidth \@height\FV@FrameRule}%
176 \else
177 \ifnum#1=\z@
178 % \setbox\z@\hbox{\strut\enspace\FV@LabelBegin\enspace\strut}%
179 \ifx\FV@LabelPositionTopLine\relax
180 \else
181 \LWR@FVfindbordercolor
182 \LWR@htmltagc{%
183 div class="fancyvrblabel" % extra space
184 style="color: \LWR@origpound\LWR@tempcolor"%
185 }
186 \LWR@print@textrm{\FV@LabelBegin}% \textrm preserves emdash
187 \LWR@htmltagc{/div}
188 \fi
189 \else
190 % \setbox\z@\hbox{\strut\enspace\FV@LabelEnd\enspace\strut}%
191 \ifx\FV@LabelPositionBottomLine\relax
192 \else

```

```

193      \LWR@FVfindbordercolor
194
195      \LWR@htmltagc{%
196          div class="fancyvrblabel" % extra space
197              style="color: \LWR@origpound\LWR@tempcolor"%
198      }
199      \LWR@print@textrm{\FV@LabelEnd}
200      \LWR@htmltagc{/div}
201      \fi
202  \fi
203  \fi
204 %    \hss
205 %    }
206 }

```

Processes each line, adding optional line numbers. Original code is from the fancyvrb package.

```

207 \def\FV@ListProcessLine#1{%
208   \hbox to \hsize{%
209 %     \kern\leftmargin
210     \hbox to \VerbatimHTMLWidth {%
211       \ifcvoid\FV@LeftListNumber}{\kern 2.5em}%
212       \FV@LeftListNumber%
213 %     \FV@LeftListFrame
214     \FancyVerbFormatLine{#1}%
215     \hss%
216 %     \FV@RightListFrame
217     \FV@RightListNumber%
218   }%
219   \hss% required to avoid underfull hboxes
220 }
221 }

```

Env BVerbatim

```

222 \AtBeginEnvironment{BVerbatim}
223 {%
224 \LWR@forcenewpage% instead of \preto
225 \LWR@atbeginverbatim{0}{bverbatim}%
226 }
227
228 \AfterEndEnvironment{BVerbatim}
229 {%
230 \LWR@afterendverbatim{0}%
231 }

```

End of the modifications to make at the end of the preamble:

```
232 } % \AfterEndPreamble
```

---

File 106 **lwarp-figcaps.sty**

§ 203      Package **figcaps**

*(Emulates or patches code by PATRICK W. DALY.)*

Pkg    figcaps    Emulated.

**for HTML output:**    Discard all options for lwarp-figcaps:

```
1 \LWR@ProvidesPackageDrop{figcaps}

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 107 **lwarp-figsize.sty**

§ 204      Package **figsize**

*(Emulates or patches code by ANTHONY A. TANBAKUCHI.)*

Pkg    figsize    figsize is emulated.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{figsize}

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 108 **lwarp-fix2col.sty**

§ 205     Package **fix2col**

Pkg    fix2col    fix2col is ignored.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{fix2col}


---

File 109 **lwarp-fixme.sty**

§ 206     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}

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]{\hypertocfloat{1}{fixme}{lox}{#1}{#2}}

```

Other modifications:

---

```

6 \def\FXFaceInlineHTMLStyle{font-weight:bold}
7
8 \renewcommand*\FXLayoutInline[3]{ %
9 \InlineClass[\FXFaceInlineHTMLStyle]{fixmeinline}%
10   {\@fxtxtstd{#1}{#2}{#3}}%
11 }
12
13 \def\FXFaceEnvHTMLStyle{font-weight:bold}
14
15 \renewcommand*\FXEnvLayoutPlainBegin[2]{%
16 \BlockClass[\FXFaceEnvHTMLStyle]{fixmebold}
17 \ignorespaces#2 \fxnotename{#1}: \ignorespaces}
18
19 \renewcommand*\FXEnvLayoutPlainEnd[2]{\endBlockClass}
20
21 \renewcommand*\FXEnvLayoutSignatureBegin[2]{%
22 \BlockClass[\FXFaceEnvHTMLStyle]{fixmebold}
23 \fxnotename{#1}: \ignorespaces}
24
25 \renewcommand*\FXEnvLayoutSignatureEnd[2]{\@fxsignature{#2}\endBlockClass}
26
27 \def\FXFaceSignatureHTMLStyle{font-style:italic}
28
29 \DeclareRobustCommand*\@fxsignature[1]{%
30 \ifthenelse{\equal{#1}{}}%
31 {}%
32 { -- {\InlineClass[\FXFaceSignatureHTMLStyle]{fixmesignature}{#1}}}%
33 }
34
35
36 \def\FXFaceTargetHTMLStyle{font-style:italic}
37
38 \renewcommand\FXTargetLayoutPlain[2]{%
39   \InlineClass[\FXFaceTargetHTMLStyle]{fixmetarget}{#2}%
40 }

```

---

File 110 **lwarp-fixmetodonotes.sty**

§ 207      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}

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 111 **lwarp-flafter.sty**

§ 208    Package **flafter**

Pkg flafter flafter is ignored.

for HTML output:    1 \LWR@ProvidesPackageDrop{flafter}  
                       2 \providecommand\fl@trace[1]{}

---

File 112 **lwarp-flippdf.sty**

§ 209    Package **flippdf**

Pkg flippdf flippdf is ignored.

for HTML output:    1 \LWR@ProvidesPackageDrop{flippdf}[2006/06/30]  
                       2 \newcommand\FlipPDF{}  
                       3 \newcommand\UnFlipPDF{}

---

File 113 **lwarp-float.sty**

§ 210    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]

\listof See section 74.2 for the \listof command.

\LWR@floatstyle The default float style:

```
2 \newcommand*{\LWR@floatstyle}{plain}
```

\newfloat {\langle 1: type \rangle} {\langle 2: placement \rangle} {\langle 3: ext \rangle} [\langle 4: within \rangle]

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 \csedef{\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%
```

Likewise, newfloat also creates \l@<type>, but float does not, so remove it here:

```
10 \cslet{l@#1}\relax%
11 }
```

\floatname {\langle type \rangle} {\langle name \rangle}

Sets the text name of the float, such as “Figure”.

```
12 \NewDocumentCommand{\floatname}{m +m}{%
13   \SetupFloatingEnvironment{#1}{name=#2}%
14 }
```

```
\floatplacement  {\langle type \rangle} {\langle placement \rangle}
Float placement is ignored.

15 \newcommand*{\floatplacement}[2]{%
16   \SetupFloatingEnvironment{#1}{placement=#2}%
17 }
```

```
\floatstyle  {\langle style \rangle}
Remember the style for future floats:

18 \newcommand{\floatstyle}[1]{%
19   \def\LWR@floatstyle{#1}%
20 }
```

```
\restylefloat  * {\langle type \rangle}
Remember the style for this float:

21 \NewDocumentCommand{\restylefloat}{s m}{%
22   \csedef\LWR@floatstyle@#2{\LWR@floatstyle}%
23 }
```

---

File 114 **lwarp-floatflt.sty**

§ 211     Package **floatflt**

*(Emulates or patches code by MATS DAHLGREN.)*

Pkg floatflt Emulated.

for HTML output: Discard all options for lwarp-floatflt:

```
1 \LWR@ProvidesPackageDrop{floatflt}
```

```
Env  [⟨⟩] offset {\langle type \rangle} {\langle width \rangle} Borrowed from the lwarp version of keyfloat:

2 \NewDocumentEnvironment{KFLTfloatflt@marginfloat}{0{-1.2ex} m m}
3 {%
4 \setlength{\LWR@templengthone}{#3}%
5 \LWR@BlockClassWP{%
6   float:right; %
7   width:\LWR@printlength{\LWR@templengthone}; % extra space
8   margin:10pt%
9 }{%
10  width:\LWR@printlength{\LWR@templengthone}%
11 }%
```

```

12 {marginblock}%
13 \captionsetup{type=#2}%
14 }
15 {%
16 \endLWR@BlockClassWP%
17 }

```

```

Env floatingfigure  [<placement>] [<width>]

18 \DeclareDocumentEnvironment{floatingfigure}{o m}
19   {\begin{KFLTfloatflt@marginfloat}{figure}{#2}}
20   {\end{KFLTfloatflt@marginfloat}}

```

```

Env floatingtable  [<placement>]

21 \DeclareDocumentEnvironment{floatingtable}{o}
22   {\begin{KFLTfloatflt@marginfloat}{table}{1.5in}}
23   {\end{KFLTfloatflt@marginfloat}}

```

---

File 115 **lwarp-floatpag.sty**

§ 212     Package **floatpag**

*(Emulates or patches code by VYTAS STATULEVIČIUS AND SIGITAS TOLUŠIS.)*

Pkg floatpag     Emulated.

**for HTML output:**     Discard all options for lwarp-floatpag:

```

1 \LWR@ProvidesPackageDrop{floatpag}

2 \newcommand*{\floatpagestyle}[1]{}
3 \newcommand*{\rotfloatpagestyle}[1]{}
4 \newcommand*{\thisfloatpagestyle}[1]{}

```

---

File 116 **lwarp-floatrow.sty**

§ 213     Package **floatrow**

*(Emulates or patches code by OLGA LAPKO.)*

Pkg floatrow     floatrow is emulated.

**for HTML output:**     1 \LWR@ProvidesPackageDrop{floatrow}

- ⚠ **Misplaced alignment tab character &** Use `\StartDefiningTabulars` and `\StopDefiningTabulars` before and after defining macros using `\ttabbox` with a tabular inside. See section 9.9.
- ⚠ **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.
- ⚠ **`\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.

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 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`     $\langle 1 \text{ command} \rangle$   $\langle 2 \text{ captype} \rangle$   $[\langle 3 \text{ preamble} \rangle]$   $[\langle 4 \text{ default width} \rangle]$

Preamble and default width are ignored.

```

57 \NewDocumentCommand{\newfloatcommand}{m m o o}{%
58 \@namedef{#1}{
59 \floatbox{#2}
60 }
61 }

```

`\renewfloatcommand`     $\langle 1 \text{ command} \rangle$   $\langle 2 \text{ captype} \rangle$   $[\langle 3 \text{ preamble} \rangle]$   $[\langle 4 \text{ default width} \rangle]$

Preamble and default width are ignored.

```

62 \NewDocumentCommand{\renewfloatcommand}{m m o o}{%
63 \@namedef{#1}{%
64 \floatbox{#2}
65 }
66 }

```

`\ffigbox`     $[\langle width \rangle]$   $[\langle height \rangle]$   $[\langle vposn \rangle]$   $\langle caption \text{ commands} \rangle$   $\langle contents \rangle$

```

67 \newfloatcommand{\ffigbox}{figure}[\nocapbeside][

```

`\ttabbox`     $[\langle width \rangle]$   $[\langle height \rangle]$   $[\langle vposn \rangle]$   $\langle caption \text{ commands} \rangle$   $\langle contents \rangle$

```

68 \newfloatcommand{\ttabbox}{table}[\captop][\FBwidth]

```

`\fcapside`     $[\langle width \rangle]$   $[\langle height \rangle]$   $[\langle vposn \rangle]$   $\langle caption \text{ commands} \rangle$   $\langle contents \rangle$

```

69 \newfloatcommand{\fcapside}{figure}[\capbeside][

```

Env    `floatrow`     $[\langle numfloats \rangle]$

The row of floats is placed into a `<div>` of class `floatrow`.

```

70 \newenvironment*{floatrow}[1][2]

```

```

71 {
72 \LWR@forcenewpage
73 \BlockClass{floatrow}

```

While inside the floatrow, divide the \linewidth by the number of floats.

```

74 \booltrue{LWR@infloatrow}
75 \setlength{\linewidth}{6in/#1}
76 }
77 {
78 \boolfalse{LWR@infloatrow}
79 \endBlockClass
80 }

```

Keys for \DeclareNewFloatType:

```

81 \newcommand*{\LWR@frowkeyplacement}{}
82 \newcommand*{\LWR@frowkeyname}{}
83 \newcommand*{\LWR@frowkeyfileext}{}
84 \newcommand*{\LWR@frowkeywithin}{}
85 \newcommand*{\LWR@frowkeycapstyle}{}
86
87 \define@key{frowkeys}{placement}{}%
88 \define@key{frowkeys}{name}{\renewcommand{\LWR@frowkeyname}{#1}}%
89 \define@key{frowkeys}{fileext}{\renewcommand{\LWR@frowkeyfileext}{#1}}%
90 \define@key{frowkeys}{within}{\renewcommand{\LWR@frowkeywithin}{#1}}%
91 \define@key{frowkeys}{relatedcapstyle}{}%

```

\DeclareNewFloatType {<type>} {<options>}

Use \listof{type}{Title} to print a list of the floats.

```

92 \newcommand*{\DeclareNewFloatType}[2]{%

```

Reset key values:

```

93 \renewcommand*{\LWR@frowkeyplacement}{}%
94 \renewcommand*{\LWR@frowkeyname}{}%
95 \renewcommand*{\LWR@frowkeyfileext}{}%
96 \renewcommand*{\LWR@frowkeywithin}{}%
97 \renewcommand*{\LWR@frowkeycapstyle}{}%

```

Read new key values:

```

98 \LWR@traceinfo{about to setkeys frowkeys}%
99 \setkeys{frowkeys}{#2}%
100 \LWR@traceinfo{finished setkeys frowkeys}%

```

Create a new float with optional [within]:

```

101 \ifthenelse{\equal{\LWR@frowkeywithin}{} }%
102 {%
103     \LWR@traceinfo{about to newfloat #1 \LWR@frowkeyplacement\ %

```

```

104      \LWR@frowkeyfileext}%
105  \newfloat{#1}{\LWR@frowkeyplacement}{\LWR@frowkeyfileext}%
106 }%
107 {%
108   \LWR@traceinfo{about to newfloat #1\ \LWR@frowkeyplacement\ %
109     \LWR@frowkeyfileext\ \LWR@frowkeywithin}%
110   \newfloat{#1}{\LWR@frowkeyplacement}%
111   {\LWR@frowkeyfileext}[\LWR@frowkeywithin]%
112   \LWR@traceinfo{finished newfloat #1}%
113 }%

```

Rename the float if a name was given:

```

114 \ifthenelse{\equal{\LWR@frowkeyname}{}}{%
115 {}%
116 {\floatname{#1}{\LWR@frowkeyname}}%
117 }

```

Not used:

```

118 \newcommand{\buildFBBBOX}[2]{}
119 \newcommand*{\CenterFloatBoxes}{}
120 \newcommand*{\TopFloatBoxes}{}
121 \newcommand*{\BottomFloatBoxes}{}
122 \newcommand*{\PlainFloatBoxes}{}
123
124 \newcommand{\capsubrowsettings}{}
125
126 \NewDocumentCommand{\RawFloats}{o o}{}

```

`\RawCaption`     $\langle text \rangle$

To be used inside a minipage or parbox.

```

127 \newcommand{\RawCaption}[1]{#1}

```

`\floatfoot`     $\langle text \rangle$

Places additional text inside a float, inside a CSS <div> of class floatfoot.

```

128 \NewDocumentCommand{\floatfoot}{s +m}{%
129 \begin{BlockClass}{floatfoot}
130 #2
131 \end{BlockClass}
132 }

```

Used to compute `\linewidth`.

```

133 \newbool{\LWR@insubfloatrow}
134 \boolfalse{\LWR@insubfloatrow}

```

Env subfloatrow [ $\langle num\_floats \rangle$ ]

```
135 \newenvironment*{subfloatrow}[1][2]
136 {
```

The row of floats is placed into a <div> of class floatrow:

```
137 \LWR@forcenewpage
138 \BlockClass{floatrow}
```

While inside the floatrow, LWR@insubfloatrow is set true, which tells \floatbox to use \subfigure or \subtable.

```
139 \begingroup
140 \booltrue{LWR@insubfloatrow}
141 }
142 {
143 \endgroup
144 \endBlockClass
145 \boolfalse{LWR@insubfloatrow}
146 }
```

---

File 117 **lwarp-fltrace.sty**

§ 214 Package **fltrace**

Pkg fltrace fltrace is ignored.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{fltrace}

2 \def\tracefloats{}
3 \def\tracefloatsoff{}
4 \def\tracefloatvals{}
```

---

File 118 **lwarp-flushend.sty**

§ 215 Package **flushend**

*(Emulates or patches code by SIGITAS TOLUŠIS.)*

Pkg flushend Emulated.

**for HTML output:** Discard all options for lwarp-flushend:

```
1 \LWR@ProvidesPackageDrop{flushend}
```

---

```

2 \newcommand*{\flushend}{}
3 \newcommand*{\raggedend}{}
4 \newcommand*{\flushcolsend}{}
5 \newcommand*{\raggedcolsend}{}
6 \newcommand*{\atColsBreak}[1]{}
7 \newcommand*{\atColsEnd}[1]{}
8 \newcommand*{\showcolsendrule}{}

```

---

File 119 **lwarp-fnbreak.sty**

§ 216     Package **fnbreak**

Pkg    fnbreak    fnbreak is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{fnbreak}

2 \newcommand*{\fnbreakverbose}{}
3 \newcommand*{\fnbreaknonverbose}{}
4 \newcommand*{\fnbreaklabel}{}
5 \newcommand*{\fnbreaknolabel}{}

```

---

File 120 **lwarp-fncychap.sty**

§ 217     Package **fncychap**

*(Emulates or patches code by ULF A. LINDGREN.)*

Pkg    fncychap    fncychap is emulated.

**for HTML output:**    Discard all options for lwarp-fncychap:

```

1 \LWR@ProvidesPackageDrop{fncychap}

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 121 **lwarp-fnlineno.sty**

§ 218     Package **fnlineno**

Pkg    **fnlineno**    fnlineno is ignored.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{fnlineno}

---

File 122 **lwarp-fnpos.sty**

§ 219     Package **fnpos**

*(Emulates or patches code by HIROSHI NAKASHIMA.)*

Pkg    **fnpos**        fnpos is emulated.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{fnpos}

```

2 \newcommand*{\makeFNbottom}{}
3 \newcommand*{\makeFNmid}{}
4 \newcommand*{\makeFNbelow}{}
5 \newcommand*{\makeFNabove}{}

```

---

File 123 **lwarp-fontenc.sty**

§ 220     Package **fontenc**

Pkg    **fontenc**    If using pdf<sup>La</sup>TEX, 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}`

---

File 124 **lwarp-footmisc.sty**

§ 221 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}
```

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`:

```
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 125 **lwarp-footnote.sty**

## § 222 Package **footnote**

*(Emulates or patches code by MARK WOODING.)*

Pkg **footnote** footnote is used with minor patches.

**for HTML output:** 1 \LWR@ProvidesPackagePass{footnote}

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   \fn@prefntext%
17   \ignorespaces%
18 }

```

Removed print-version formatting, added closing paragraph tag:

```

19 \def\fn@endfntext{%
20     \LWR@htmltagc{/\LWR@tagregularparagraph}%
21     \LWR@orignewline%
22     \fn@postfntext%
23 \egroup%
24 \begingroup%
25     \let\@makefntext\@empty%
26     \let\@finalstrut\@gobble%
27     \LetLtxMacro\rule\@gobbletwo% *8* also the optional argument?
28     \@footnotetext{\unvbox\z@}%
29 \endgroup%
30 }

```

These have been redefined, so re-\let them again:

```

31 \let\endfootnote\fn@endfntext
32 \let\endfootnotetext\endfootnote

```

---

File 126 **lwarp-footnotehyper.sty**

§ 223     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}

```

---

File 127 **lwarp-footnpag.sty**

§ 224     Package **footnpag**

Pkg   footnpag   footnpag is ignored.

**for HTML output:**     1 \LWR@ProvidesPackageDrop{footnpag}


---

File 128 **lwarp-forest.sty**

§ 225      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}

2 \BeforeBeginEnvironment{forest}{\begin{lateximage}[forest]}
3
4 \AfterEndEnvironment{forest}{\end{lateximage}}
5
6 \RenewDocumentCommand{\Forest}{s D(){} m}{-%
7   \forest@config{#2}%
8   \IfBooleanTF{#1}{-%
9     \PackageError{lwarp-forest}{%
10      {Starred \Forest is not supported}%
11      {Lwarp uses an environment for images, but \Forest* cannot work in an environment.}}%
12     \let\forest@next\forest@env%
13   }{\let\forest@next\forest@group@env}%
14   \begin{lateximage}[forest]%      lwarp
15   \forest@next{#3}%
16   \end{lateximage}%              lwarp
17 }
```

---

File 129 **lwarp-framed.sty**

§ 226      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}
2 \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}{\Opt}{\Opt}{\Opt}{\Opt}{\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}}{\}% 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}}{\}% 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 {\langle frame cmd no split \rangle} {\langle frame cmd split \rangle}

95 \renewcommand*\fb@put@frame[2]{%
96 \relax%
97 \@tempboxa%
98 }

```

---

File 130 **lwarp-ftnright.sty**

§ 227    Package **ftnright**

Pkg    ftnright    ftnright is ignored.

for HTML output:    Discard all options for lwarp-ftnright:

```
1 \LWR@ProvidesPackageDrop{ftnright}
```

---

File 131 **lwarp-fullminipage.sty**

§ 228    Package **fullminipage**

Pkg    fullminipage    fullminipage is nullified.

for HTML output:    1 \LWR@ProvidesPackageDrop{fullminipage}[2014/07/06]

```
2 \newenvironment{fullminipage}[1][{}]{}
```

---

File 132 **lwarp-fullpage.sty**

§ 229    Package **fullpage**

Pkg    fullpage    fullpage is ignored.

for HTML output:    Discard all options for lwarp-fullpage:

```
1 \LWR@ProvidesPackageDrop{fullpage}[1994/06/01]
```

---

File 133 **lwarp-fullwidth.sty**

§ 230     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}

2 \newenvironment*{fullwidth}[1][ ]{%
3 \minipagefullwidth%
4 \minipage{\linewidth}%
5 }
6 {%
7 \endminipage%
8 }
```

---

File 134 **lwarp-fwlw.sty**

§ 231     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 135 **lwarp-geometry.sty**

§ 232     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@ProvidesPackageDrop{geometry}

2 \renewcommand*{\geometry}[1]{}
3 \renewcommand*{\newgeometry}[1]{}
4 \renewcommand*{\restoregeometry}{}
5 \renewcommand*{\savegeometry}[1]{}
6 \renewcommand*{\loadgeometry}[1]{}

```

---

File 136 lwarp-glossaries.sty

§ 233 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` command.


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 \LWR@ProvidesPackagePass{glossaries}
3 \setupglossaries{nonumberlist}
4 \setglossarystyle{index}

```

Patched to fix TOC pointing to the previous page:

```

5 \renewcommand*{\@p@glossarysection}[2]{%
6   \glsclearpage
7   \phantomsection
8   \ifdefempty\@glossarysecstar
9   {%
10    \csname\@glossarysec\endcsname{#2}%
11  }%
12  {%

```

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:

```

13    \csname\@glossarysec\endcsname*{#2}%

```

```

14   \@gls@toc{#1}{\@@glossarysec}% Moved after the previous line.
15   }%
16   \@@glossaryseclabel
17 }

```

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`.

```

18 \newcommand*{\LWR@comp@glossaryname}{\translate{Glossary}}
19
20 \ifdefstrequal{\glossaryname}{\LWR@comp@glossaryname}{
21   \translatelet\LWR@translatetemp{Glossary}
22   \edef\glossaryname{\LWR@translatetemp}
23 }{}
24
25 \newcommand*{\LWR@comp@acronymname}{\translate{Acronym}}
26
27 \ifdefstrequal{\acronymname}{\LWR@comp@acronymname}{
28   \translatelet\LWR@translatetemp{Acronym}
29   \edef\acronymname{\LWR@translatetemp}
30 }{}
31
32 \newcommand*{\LWR@comp@glssymbolsgroupname}{\translate{Symbols (glossaries)}}
33
34 \ifdefstrequal{\glssymbolsgroupname}{\LWR@comp@glssymbolsgroupname}{
35   \translatelet\LWR@translatetemp{Symbols (glossaries)}
36   \edef\glssymbolsgroupname{\LWR@translatetemp}
37 }{}
38
39 \newcommand*{\LWR@comp@glsnumbersgroupname}{\translate{Numbers (glossaries)}}
40
41 \ifdefstrequal{\glsnumbersgroupname}{\LWR@comp@glsnumbersgroupname}{
42   \translatelet\LWR@translatetemp{Numbers (glossaries)}
43   \edef\glsnumbersgroupname{\LWR@translatetemp}
44 }{}

```

---

File 137 **lwarp-graphics.sty**

§ 234    Package **graphics**

*(Emulates or patches code by D. P. CARLISLE.)*

Pkg    **graphics**    graphics is emulated.

for HTML output:    1 \LWR@ProvidesPackagePass{graphics}

### § 234.1 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
```

### § 234.2 Length conversions and graphics options



**whitespace**

A scaled image in  $\text{\LaTeX}$  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}
```

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:

```
31 \define@key{igraph}{width}{%
32 \setlength{\LWR@igwidth}{#1}%
33 \ifthenelse{\lengthtest{\LWR@igwidth > 0pt}}{%
34 {%
```

Default to use the converted fixed length given:

```
35 \renewcommand*{\LWR@igwidthstyle}{width:\LWR@printlength{\LWR@igwidth}}%
```

If ex or em dimensions were given, use those instead:

```
36 \IfEndWith{#1}{ex}%
37 {\renewcommand*{\LWR@igwidthstyle}{width:#1}}% yes ex
38 {}% not ex
39 \IfEndWith{#1}{em}%
40 {\renewcommand*{\LWR@igwidthstyle}{width:#1}}% yes em
41 {}% not em
42 \IfEndWith{#1}{\}%
43 {\renewcommand*{\LWR@igwidthstyle}{width:#1}}% yes percent
44 {}% not percent
45 \IfEndWith{#1}{px}%
46 {\renewcommand*{\LWR@igwidthstyle}{width:#1}}% yes px
47 {}% not px
48 }{}% end of length > 0pt
49 }
```

If an optional height was given, set an HTML style:

```
50 \define@key{igraph}{height}{%
51 \setlength{\LWR@igheight}{#1}%
52 \ifthenelse{\lengthtest{\LWR@igheight > 0pt}}{%
53 {%
```

Default to use the converted fixed length given:

```
54 \renewcommand*{\LWR@igheightstyle}{%
55 height:\LWR@printlength{\LWR@igheight} % extra space
56 }%
```

If ex or em dimensions were given, use those instead:

```
57 \IfEndWith{#1}{ex}%
58 {\renewcommand*{\LWR@igheightstyle}{height:#1}}% yes ex
```

```

59    {}% not ex
60    \IfEndWith{#1}{em}%
61    {\renewcommand*{\LWR@igheightstyle}{height:#1}}% yes em
62    {}% not em
63    \IfEndWith{#1}{\}%
64    {\renewcommand*{\LWR@igheightstyle}{height:#1}}% yes percent
65    {}% not percent
66    \IfEndWith{#1}{px}%
67    {\renewcommand*{\LWR@igheightstyle}{height:#1}}% yes px
68    {}% not px
69 }{}% end of length > 0pt
70 }

```

Handle origin key:

```

71 \define@key{igraph}{origin}[c]{%
72     \renewcommand*{\LWR@igorigin}{#1}%
73 }

```

Handle angle key:

```

74 \define@key{igraph}{angle}{\renewcommand*{\LWR@igangle}{#1}}

```

Handle class key:

```

75 \define@key{igraph}{class}{\renewcommand*{\LWR@igclass}{#1}}
76

```

It appears that `graphicx` does not have separate keys for `xscale` and `yscale`. `scale` adjusts both at the same time.

```

77 \define@key{igraph}{scale}{%
78     \renewcommand*{\LWR@igxscale}{#1}%
79     \renewcommand*{\LWR@igyscale}{#1}%
80 }

```

Numerous ignored keys:

```

81 \define@key{igraph}{bb}{}
82 \define@key{igraph}{bblx}{}
83 \define@key{igraph}{bblly}{}
84 \define@key{igraph}{bburx}{}
85 \define@key{igraph}{bbury}{}
86 \define@key{igraph}{natwidth}{}
87 \define@key{igraph}{natheight}{}
88 \define@key{igraph}{hiresbb}[true]{}
89 \define@key{igraph}{viewport}{}
90 \define@key{igraph}{trim}{}

```

```

91 \define@key{igraph}{totalheight}{}
92 \define@key{igraph}{keepaspectratio}[true]{}
93 \define@key{igraph}{clip}[true]{}
94 \define@key{igraph}{draft}[true]{}
95 \define@key{igraph}{type}{}
96 \define@key{igraph}{ext}{}
97 \define@key{igraph}{read}{}
98 \define@key{igraph}{command}{}

```

New in v1.1a:

```

99 \define@key{igraph}{quite}{}
100 \define@key{igraph}{page}{}
101 \define@key{igraph}{pagebox}{}
102 \define@key{igraph}{interpolate}[true]{}

```

New in v1.1b:

```

103 \define@key{igraph}{decodearray}{}

```

### § 234.3 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.

```

104 \newcommand*{\LWR@rotstyle}[2]{%
105   #1transform:rotate(-#2deg);
106 }

```

`\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.

```

107 \newcommand*{\LWR@scalestyle}[3]{%
108   #1transform:scale(#2,#3);
109 }

```

## § 234.4 `\includegraphics`

Bool `LWR@infloatrow` Used to compute `\linewidth`.

```
110 \newbool{LWR@infloatrow}
111 \boolfalse{LWR@infloatrow}
```

`\LWR@opacity` For HTML, used only for `\includegraphics`.

`\LWR@opacity` may be set by the transparent package.

```
112 \def\LWR@opacity{1}
```

`\LWR@imagesizebox` Used to determine the actual image size if needed.

```
113 \newsavebox{\LWR@imagesizebox}
```

`\LWR@HTML@Gin@setfile` `{\langle w \rangle}{\langle h \rangle}{\langle filename \rangle}` Sets the parsed filename for HTML output.

```
114 \newcommand*{\LWR@HTML@Gin@setfile}[3]{%
115   \xdef\LWR@parsedfilename{#3}%
116 }
```

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`.

```
117 \AtBeginDocument{
118 \define@key{Gin}{class}{}
119 }
```

`\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.

```
120 \AtBeginDocument{
121 \ifpackageloaded{epstopdf}
122 {
123   \newcommand*{\LWR@replaceEPSSVG}{}
124 }{%
125   \newcommand*{\LWR@replaceEPSSVG}{%
126     \StrSubstitute{\LWR@tempone}{.eps}{.svg}[\LWR@tempone]%
127     \StrSubstitute{\LWR@tempone}{.EPS}{.SVG}[\LWR@tempone]%
128   }
129 }%
130 }
```

```
\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.

```
131 \NewDocumentCommand{\LWR@includegraphicsb}{s o o m}
132 {%
```

Start the image tag on a new line, allow PDF output word wrap:

```
133 \LWR@origtilde \LWR@orignewline%
```

Temporarily compute `\linewidth`, `\textwidth`, `\textheight` arguments with a 6x9 inch size until the next `\endgroup`.

```
134 \begingroup%
135 \ifthenelse{\cnttest{\value{LWR@minipagedepth}}{=}{0}}{%
136 {%
137   \ifbool{LWR@infloatrow}%
138   {}
139   {% not in a minipage or a floatrow:
140     \setlength{\linewidth}{6in}%
141     \setlength{\textwidth}{6in}%
142     \setlength{\textheight}{9in}%
143   }%
144 }{}}%
```

For correct em sizing during the width and height conversions:

```
145 \large%
```

Reset some defaults, possibly will be changed below if options were given:

```
146 \setlength{\LWR@igwidth}{0pt}%
147 \setlength{\LWR@igheight}{0pt}%
148 \renewcommand*{\LWR@igwidthstyle}{}%
149 \renewcommand*{\LWR@igheightstyle}{}%
150 \renewcommand*{\LWR@igorigin}{}%
151 \renewcommand*{\LWR@igangle}{}%
152 \renewcommand*{\LWR@igxscale}{1}%
153 \renewcommand*{\LWR@igyscale}{1}%
154 \renewcommand*{\LWR@igclass}{inlineimage}%
```

If #3 is empty, only one optional argument was given, thus graphicx syntax:

```

155 \IfValueF{#3}{%
156   \IfValueTF{#2}%
157     {\setkeys{igraph}{#2}}%
158     {\setkeys{igraph}{}}%
159 }%

```

Fully expand and detokenize the filename, changing the file extension to .svg if necessary.

```

160 \begingroup%
161 \LetLtxMacro\Gin@setfile\LWR@HTML@Gin@setfile%
162 \edef\LWR@tempone{#4}%
163 \StrSubstitute{\LWR@tempone}{.pdf}{.svg}[\LWR@tempone]%
164 \StrSubstitute{\LWR@tempone}{.PDF}{.SVG}[\LWR@tempone]%
165 \LWR@replaceEPS SVG%
166 \xdef\LWR@parsedfilename{\LWR@tempone}%
167 \Gininclude@graphics{\detokenize\expandafter{\LWR@tempone}}%
168 \endgroup%
169 \filename@parse{\LWR@parsedfilename}%
170 \LWR@traceinfo{\LWR@parsedfilename is \LWR@parsedfilename}%
171 % \LWR@sanitize{\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:

```

172 \ifbool{FormatWP}{%
173   \begingroup%
174   \LWR@restoreorigformatting%
175   \ifpdf%
176     \appto\LWR@restoreorigformatting{%
177       \DeclareGraphicsExtensions{.pdf,.PDF,.gif,.GIF,.png,.PNG,.jpg,.JPG,.jpeg,.JPEG}%
178     }%
179   \else% \ifpdf
180     \ifXeTeX%
181       \appto\LWR@restoreorigformatting{%
182         \DeclareGraphicsExtensions{.pdf,.PDF,.gif,.GIF,.png,.PNG,.jpg,.JPG,.jpeg,.JPEG}%
183       }%
184     \else%
185       \appto\LWR@restoreorigformatting{%
186         \DeclareGraphicsExtensions{.eps,.EPS,.gif,.GIF,.png,.PNG,.jpg,.JPG,.jpeg,.JPEG}%
187       }%
188     \fi%
189   \fi% \ifpdf
190   \define@key{Gin}{angle}{}%
191   \IfBooleanTF{#1}%
192   {% starred
193     \IfValueTF{#3}%

```

```

194      {%
195      \global\sbox{\LWR@imagesizebox}{\LWR@originincludegraphics* [#2] [#3] {#4}}%
196      }%
197      {%
198      \IfValueTF{#2}%
199      {%
200      \global\sbox{\LWR@imagesizebox}{\LWR@originincludegraphics* [#2] {#4}}%
201      }{%
202      \global\sbox{\LWR@imagesizebox}{\LWR@originincludegraphics* {#4}}%
203      }%
204      }%
205      }% starred
206      {% not starred
207      \IfValueTF{#3}%
208      {%
209      \global\sbox{\LWR@imagesizebox}{\LWR@originincludegraphics [#2] [#3] {#4}}%
210      }%
211      {%
212      \IfValueTF{#2}%
213      {%
214      \global\sbox{\LWR@imagesizebox}{\LWR@originincludegraphics [#2] {#4}}%
215      }{%
216      \global\sbox{\LWR@imagesizebox}{\LWR@originincludegraphics {#4}}%
217      }%
218      }%
219      }% not starred
220      \endgroup%
221      \settowidth{\LWR@igwidth}{\usebox{\LWR@imagesizebox}}%
222      \global\renewcommand*{\LWR@igwidthstyle}{width:\LWR@printlength{\LWR@igwidth}}%
223      \settoheight{\LWR@igheight}{\usebox{\LWR@imagesizebox}}%
224      \global\renewcommand*{\LWR@igheightstyle}{height:\LWR@printlength{\LWR@igheight}}%
225      }{}% FormatWP

```

Create the HTML reference with the graphicspath, filename, extension, alt tag, style, and class.

The \LWR@origtilde adds space between tags in case this is being done inside a \savebox where \newline has no effect.

```

226 \LWR@traceinfo{\LWR@includegraphicsb: about to create href}%
227 \href{\LWR@parsedfilename}%
228 {% start of href
229 \LWR@traceinfo{\LWR@includegraphicsb: about to LWR@htmltag}%
230 \LWR@htmltag{% start of image tags
231 img src="%
232 \detokenize\expandafter{\LWR@parsedfilename}%
233 " \LWR@orignewline%

```

Only include a style tag if a width, height, angle, or scale was given:

```

234 \ifthenelse{
235   \NOT\equal{\LWR@igwidthstyle}{}} \OR
236   \NOT\equal{\LWR@igheightstyle}{}} \OR
237   \NOT\equal{\LWR@igorigin}{}} \OR
238   \NOT\equal{\LWR@igangle}{}} \OR
239   \NOT\equal{\LWR@igxscale}{1}} \OR
240   \NOT\equal{\LWR@igyscale}{1}}
241 }%
242 {%
243   \LWR@origtilde{} style="%
244   \ifthenelse{\NOT\equal{\LWR@igwidthstyle}{}}{%
245     {\LWR@igwidthstyle; }}{%
246   \ifthenelse{\NOT\equal{\LWR@igheightstyle}{}}{%
247     {\LWR@igheightstyle; }}{%
248   \ifthenelse{\NOT\equal{\LWR@igorigin}{}}{%
249     {%
250       \LWR@origtilde{} transform-origin: \LWR@originnames{\LWR@igorigin}; %
251       \LWR@orignewline%
252     }{%
253   \ifthenelse{\NOT\equal{\LWR@igangle}{}}{%
254     {%
255       \LWR@rotstyle{-ms-}{\LWR@igangle} % extra space
256       \LWR@rotstyle{-webkit-}{\LWR@igangle} % extra space
257       \LWR@rotstyle-}{\LWR@igangle }%
258     }{%
259   \ifthenelse{%
260     \NOT\equal{\LWR@igxscale}{1}}\OR%
261     \NOT\equal{\LWR@igyscale}{1}}%
262   }%
263   {%
264     \LWR@scalestyle{-ms-}{\LWR@igxscale}{\LWR@igyscale} % extra space
265     \LWR@scalestyle{-webkit-}{\LWR@igxscale}{\LWR@igyscale} % extra space
266     \LWR@scalestyle-}{\LWR@igxscale}{\LWR@igyscale}%
267   }{} % extra space
268   %
269   \ifthenelse{\NOT\equal{\LWR@opacity}{1}}{%
270     {opacity:\LWR@opacity; }}{%
271     %
272     " \LWR@orignewline%
273 }{}%
```

Set the class:

```

274 \LWR@origtilde{} class="\LWR@igclass" \LWR@orignewline%
275 }% end of image tags
276 }% end of href
```

Return to original page size and font size:

```
277 \endgroup
278 \LWR@traceinfo{LWR@includegraphicsb done}%
279 }
```

`\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.

```
280 \AtBeginDocument{
281
282 \LWR@traceinfo{Patching includegraphics.}
283
284 \LetLtxMacro\LWR@originincludegraphics\includegraphics
285
286 \renewcommand*{\includegraphics}
287 {%
```

This graphic should trigger an HTML paragraph even if alone, so ensure that are doing paragraph handling:

```
288 \LWR@traceinfo{includegraphics}%
289 \LWR@ensuredoingapar%
290 \LWR@includegraphicsb%
291 }% includegraphics
292 }% AtBeginDocument
```

## § 234.5 Boxes

`\LWR@rotboxorigin` Holds the origin key letters.

```
293 \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:

```
294 \newcommand*{\LWR@originname}[1]{%
295 \ifthenelse{\equal{#1}{t}}{top}{}%
296 \ifthenelse{\equal{#1}{b}}{bottom}{}%
297 \ifthenelse{\equal{#1}{c}}{center}{}%
298 \ifthenelse{\equal{#1}{l}}{left}{}%
299 \ifthenelse{\equal{#1}{r}}{right}{}%
300 }
```

`\LWR@originnames`  $\{\langle letters \rangle\}$

Given one- or two-letter L<sup>A</sup>T<sub>E</sub>X origin key values, translate into HTML origin words:

```
301 \newcommand*{\LWR@originnames}[1]{%
302 \StrChar{#1}{1}[\LWR@strresult]%
303 \LWR@originname{\LWR@strresult}
304 \StrChar{#1}{2}[\LWR@strresult]%
305 \LWR@originname{\LWR@strresult}
306 }
```

Handle the origin key for `\rotatebox`:

```
307 \define@key{krotbox}{origin}{%
308 \renewcommand*{\LWR@rotboxorigin}{#1}%
309 }
```

These keys are ignored:

```
310 \define@key{krotbox}{x}{}
311 \define@key{krotbox}{y}{}
312 \define@key{krotbox}{units}{}

```

`\rotatebox`  $[\langle keyval list \rangle] \{\langle angle \rangle\} \{\langle text \rangle\}$

```
313 \AtBeginDocument{
```

The HTML version:

```
314 \NewDocumentCommand{\LWR@HTML@rotatebox}{0{} m +m}{%
```

Reset the origin to “none-given”:

```
315 \renewcommand*{\LWR@rotboxorigin}{}

```

Process the optional keys, which may set `\LWR@rotateboxorigin`:

```
316 \setkeys{krotbox}{#1}%

```

Select inline-block so that HTML will transform this span:

```
317 \LWR@htmltagc{span style="display: inline-block; %
```

If an origin was given, translate and print the origin information:

```
318 \ifthenelse{\NOT\equal{\LWR@rotboxorigin}{} }{%
319 {transform-origin: \LWR@originnames{\LWR@rotboxorigin};\LWR@origtilde}{}%

```

Print the rotation information:

```
320 \LWR@rotstyle{-ms-}{#2} % extra space
321 \LWR@rotstyle{-webkit-}{#2} % extra space
322 \LWR@rotstyle{}{#2} % extra space
323 "}\LWR@orignewline%
```

Print the text to be rotated:

```
324 \begin{LWR@nestspan}%
325 #3%
```

Close the span:

```
326 \LWR@htmltagc{/span}%
327 \end{LWR@nestspan}%
328 }
```

The high-level interface:

```
329 \LWR@formatted{rotatebox}
330
331 }% AtBeginDocument
```

`\scalebox`  $\{\langle h\text{-scale}\rangle\} [\langle v\text{-scale}\rangle] \{\langle text\rangle\}$

```
332 \AtBeginDocument{
```

The HTML version:

```
333 \NewDocumentCommand{\LWR@HTML@scalebox}{m o m}{%
```

Select inline-block so that HTML will transform this span:

```
334 \LWR@htmltagc{span style="display: inline-block; %
```

Print the scaling information:

```
335 \LWR@scalestyle{-ms-}{#1}{\IfNoValueTF{#2}{#1}{#2}} % extra space
336 \LWR@scalestyle{-webkit-}{#1}{\IfNoValueTF{#2}{#1}{#2}} % extra space
337 \LWR@scalestyle{}{#1}{\IfNoValueTF{#2}{#1}{#2}} % extra space
338 "}%
```

Print the text to be scaled:

```
339 \begin{LWR@nestspan}%
340 #3%
```

Close the span:

```
341 \LWR@htmltagc{/span}%
342 \end{LWR@nestspan}%
343 }
```

The high-level interface:

```
344 \LWR@formatted{scalebox}
345
346 }% AtBeginDocument
```

`\reflectbox`     $\{\langle text \rangle\}$

```
347 \AtBeginDocument{
348
349 \newcommand{\LWR@HTML@reflectbox}[1]{%
350 \scalebox{-1}[1]{#1}%
351 }% \reflectbox
352
353 \LWR@formatted{reflectbox}
354
355 }% AtBeginDocument
```

`\resizebox`     $\{\langle h-length \rangle\} \{\langle v-length \rangle\} \{\langle text \rangle\}$

Simply prints its text argument.

```
356 \AtBeginDocument{
357
358 \NewDocumentCommand{\LWR@HTML@resizebox}{s m m m}{%
359 #4%
360 }
361
362 \LWR@formatted{resizebox}
363
364 }% AtBeginDocument
```

---

File 138    **lwarp-graphicx.sty**

\$ 235    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}[2017/06/01]

---

File 139 **lwarp-grffile.sty**

§ 236 Package **grffile**

 **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.

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}

---

File 140 **lwarp-grid.sty**

§ 237 Package **grid**

Pkg grid grid is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{grid}

2 \newenvironment\*{gridenv}{}{}

---

File 141 **lwarp-grid-system.sty**

§ 238 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{\gridssystem@finishcell}{\hspace{\gridssystem@cellsep}}
```

---

File 142 **lwarp-gridset.sty**

§ 239     Package **gridset**

Pkg    gridset    gridset is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{gridset}

2 \newcommand*{\gridbase}{}
3 \newcommand*{\gridinterval}{}
4 \newcommand*{\savepos}[1]{}
5 \newcounter{gridcnt}
6 \newcommand*{\vskipnextgrid}{}
7 \newcommand*{\thegridinfo}[1]{}
8 \newcommand*{\theposinfo}[1]{}
9 \newcommand*{\theypos}[1]{}

```

---

File 143 **lwarp-hang.sty**

§ 240     Package **hang**

*(Emulates or patches code by ANDREAS NOLDA.)*

Pkg    hang     hang is emulated.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{hang}

2 \newlength{\hangingindent}
3 \setlength{\hangingindent}{1em}
4 \newlength{\hangleleftmargin}
5 \setlength{\hangleleftmargin}{0em}
6
7 \newcommand*{\LWR@findhangleleftmargin}{%
```

---

```

8 \setlength{\LWR@templengthone}{\hangingleftmargin}%
9 \addtolength{\LWR@templengthone}{\hangingindent}%
10 }
11
12 \newenvironment{hangingpar}
13 {
14     \LWR@findhangingleftmargin%
15     \BlockClass[%
16         \LWR@print@mbbox{margin-left:\LWR@printlength{\LWR@templengthone}} ; %
17         \LWR@print@mbbox{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@mbbox{list-style-type:none;} % extra space
30             \LWR@print@mbbox{%
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 144 **lwarp-hanging.sty**

§ 241    Package **hanging**

Pkg    hanging    hanging is emulated.

for HTML output:    1 \LWR@ProvidesPackageDrop{hanging}

```

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@mbbox{margin-left:\LWR@printlength{#1}} ; %
14        \LWR@print@mbbox{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 145 **lwarp-hypcap.sty**

§ 242     Package **hypcap**

Pkg   hypcap   hypcap is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{hypcap}

2 \newcommand*{\capstart}{}
3 \newcommand*{\hypcapSPACE}{}
4 \newcommand*{\hypcapPredef}[1]{}
5 \newcommand*{\capstartfalse}{}
6 \newcommand*{\capstarttrue}{}

```

---

File 146 **lwarp-hypdestopt.sty**

§ 243     Package **hypdestopt**

Pkg   hypdestopt   hypdestopt is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{hypdestopt}

```

---

File 147 **lwarp-hypernat.sty**

§ 244     Package **hypernat**

Pkg   hypernat   hypernat is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{hypernat}

```

---

File 148 **lwarp-hyperref.sty**

§ 245     Package **hyperref**

*(Emulates or patches code by SEBASTIAN RAHTZ, HEIKO OBERDIEK.)*

Pkg hyperref hyperref is emulated.

for HTML output:

```

1% \LWR@ProvidesPackageDrop{hyperref}
2\typeout{Using the lwarp html version of package 'hyperref', discarding options.}
3\typeout{   Are not using ProvidesPackage, so that other packages}
4\typeout{   do not attempt to patch lwarp's version of 'hyperref'.}
5% \ProvidesPackage{lwarp-#1-#2}
6\DeclareOption*{}
7\ProcessOptions\relax

8\newcommand*{\hypersetup}[1]{}
9\newcommand*{\hyperbaseurl}[1]{}

```

\hyperimage    {\langle URL \rangle} {\langle alt text \rangle}

Insert an image with alt text:

```

10\NewDocumentCommand{\LWR@hyperimageb}{m +m}{%
11\LWR@ensuredoingapar%
12\def\LWR@templink{#1}%
13\@onelevel@sanitize\LWR@templink%
14\LWR@htmltag{img src="\LWR@templink" alt="#2" class="hyperimage"}%
15\LWR@ensuredoingapar%
16\endgroup%
17}
18
19\newrobustcmd*{\hyperimage}{%
20\begingroup%
21\catcode'\#=12%
22\catcode'\%=12%
23\catcode'\&=12%
24\catcode'\~=12%
25\catcode'\_ =12%
26\LWR@hyperimageb%
27}
28

```

\hyperdef    {\langle 1: category \rangle} {\langle 2: name \rangle} {\langle 3: text \rangle}

Creates an HTML anchor to `category.name` with the given text.

```

29 \NewDocumentCommand{\LWR@hyperdefb}{m m +m}{%
30 \LWR@ensuredoingapar%
31 \LWR@sublabel{#1.#2}%
32 #3%
33 \endgroup%
34 }
35
36 \newcommand*{\hyperdef}{%
37 \begingroup%
38 \catcode'\#=12%
39 \catcode'\%=12%
40 \catcode'\&=12%
41 \catcode'\~=12%
42 \catcode'\_ =12%
43 \LWR@hyperdefb%
44 }
45

```

`\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.

```

46 \newcommand{\LWR@hyperreffinish}[1]{%
47 \begingroup%
48 \RenewDocumentCommand{\ref}{}{\LWR@ref@ignorestar}%
49 #1%
50 \endgroup%
51 \LWR@htmltag{/a}%
52 }
53
54 \newcommand*{\LWR@hyperrefbb}[3]{%
55 \LWR@htmltag{%
56   a href="%
57     \detokenize\expandafter{#1}\LWR@hashmark%
58     \detokenize\expandafter{#2}.\detokenize\expandafter{#3}%
59   "%
60 }%
61 \endgroup%
62 \LWR@hyperreffinish%
63 }
64
65 \newrobustcmd*{\LWR@hyperrefb}{%
66 \begingroup%
67 \catcode'\#=12%
68 \catcode'\%=12%
69 \catcode'\&=12%
70 \catcode'\~=12%
71 \catcode'\_ =12%

```

```
72 \LWR@hyperrefbb%
73 }
```

`\LWR@hyperrefc` [*label*] {*text*}

Creates text as an HTML link to the L<sup>A</sup>T<sub>E</sub>X label.

```
74
75 \NewDocumentCommand{\LWR@hyperrefcb}{0{label}}{%
76 \LWR@startref{#1}%
77 \endgroup%
78 \LWR@hyperreffinish%
79 }
80
81 \newcommand*{\LWR@hyperrefc}{%
82 \begingroup%
83 \catcode'\#=12%
84 \catcode'\%=12%
85 \catcode'\&=12%
86 \catcode'\~=12%
87 \catcode'\_ =12%
88 \LWR@hyperrefcb%
89 }
```

`\hyperref` {*1: URL*} {*2: category*} {*3: name*} {*4: text*} — or —  
[*1: label*] {*2: text*}

```
90 \DeclareRobustCommand*\hyperref{%
91 \LWR@ensuredoingapar%
92 \@ifnextchar[\LWR@hyperrefc\LWR@hyperrefb%
93 }
```

`\hypertarget` {*name*} {*text*}

Creates an anchor to name with the given text.

```
94 \NewDocumentCommand{\LWR@hypertargetb}{m +m}{%
95 \label{LWR-ht-#1}%
96 #2%
97 \endgroup%
98 }
99
100 \newcommand*{\hypertarget}{%
101 \begingroup%
102 \catcode'\#=12%
103 \catcode'\%=12%
104 \catcode'\&=12%
105 \catcode'\~=12%
106 \catcode'\_ =12%
107 \LWR@hypertargetb%
```

108 }

`\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`.

```
109 \DeclareDocumentCommand{\LWR@hyperlinkb}{m}{%
110 \LWR@hyperrefcb[LWR-ht-#1]%
111 }
112
113 \DeclareDocumentCommand{\hyperlink}{-}{%
114 \LWR@ensuredoingapar%
115 \begingroup%
116 \catcode'\# =12%
117 \catcode'\% =12%
118 \catcode'\& =12%
119 \catcode'\~ =12%
120 \catcode'\_ =12%
121 \LWR@hyperlinkb%
122 }
```

`\autoref`     $* \{\langle label \rangle\}$

For HTML, `\cleveref` is used instead.

```
123 \NewDocumentCommand{\autoref}{s m}{%
124 \IfBooleanTF{#1}{\ref{#2}}{\cref{#2}}%
125 }
```

`\autopageref`     $\{\langle label \rangle\}$

For HTML, `\cleveref` is used instead.

```
126 \NewDocumentCommand{\autopageref}{s m}{%
127 \IfBooleanTF{#1}{\cpageref{#2}}{\cref{#2}}%
128 }
```

`\pdfstringdef`     $\{\langle macroname \rangle\} \{\langle \textit{TeXstring} \rangle\}$

```
129 \newcommand{\pdfstringdef}[2]{}
```

`\pdfbookmark`     $[\langle level \rangle] \{\langle text \rangle\} \{\langle name \rangle\}$

```
130 \newcommand{\pdfbookmark}[3][{}]{}
```

`\currentpdfbookmark`     $\{\langle text \rangle\} \{\langle name \rangle\}$

```
131 \newcommand{\currentpdfbookmark}[2]{}
```

`\subpdfbookmark`     $\{\langle text \rangle\} \{\langle name \rangle\}$

132 `\newcommand{\subpdfbookmark}[2]{}`

`\belowpdfbookmark`     $\{\langle text \rangle\} \{\langle name \rangle\}$

133 `\newcommand{\belowpdfbookmark}[2]{}`

`\texorpdfstring`     $\{\langle TEXstring \rangle\} \{\langle PDFstring \rangle\}$

134 `\newcommand{\texorpdfstring}[2]{\#1}`

`\hypercalcbp`     $\{\langle dimen \rangle\}$     From hyperref.

135 `\def\hypercalcbp#1{%`

136 `\strip@pt\dimexpr 0.99626401\dimexpr(#1)\relax\relax`

137 `}%`

`\Acrobatmenu`     $\{\langle menuoption \rangle\} \{\langle text \rangle\}$

138 `\newcommand{\Acrobatmenu}[2]{}`

`\TextField`     $[\langle parameters \rangle] \{\langle label \rangle\}$

139 `\DeclareRobustCommand{\TextField}[2][{}]`

`\CheckBox`     $[\langle parameters \rangle] \{\langle label \rangle\}$

140 `\DeclareRobustCommand{\CheckBox}[2][{}]`

`\ChoiceMenu`     $[\langle parameters \rangle] \{\langle label \rangle\} \{\langle choices \rangle\}$

141 `\DeclareRobustCommand{\ChoiceMenu}[3][{}]`

`\PushButton`     $[\langle parameters \rangle] \{\langle label \rangle\}$

142 `\DeclareRobustCommand{\PushButton}[2][{}]`

`\Submit`     $[\langle parameters \rangle] \{\langle label \rangle\}$

143 `\DeclareRobustCommand{\Submit}[2][{}]`

`\Reset`     $[\langle parameters \rangle] \{\langle label \rangle\}$

144 `\DeclareRobustCommand{\Reset}[2][{}]`

---

```

\Gauge    [\parameters] {\label}
145 \DeclareRobustCommand{\Gauge}[2] [] {}

\LayoutTextField    {\label} {\field}
146 \newcommand*{\LayoutTextField}[2] {}

\LayoutChoiceField    {\label} {\field}
147 \newcommand*{\LayoutChoiceField}[2] {}

\LayoutCheckField    {\label} {\field}
148 \newcommand*{\LayoutCheckField}[2] {}

\MakeRadioField    {\width} {\height}
149 \newcommand*{\MakeRadioField}[2] {}

\MakeCheckField    {\width} {\height}
150 \newcommand*{\MakeCheckField}[2] {}

\MakeTextField    {\width} {\height}
151 \newcommand*{\MakeTextField}[2] {}

\MakeChoiceField    {\width} {\height}
152 \newcommand*{\MakeChoiceField}[2] {}

\MakeFieldButton    {\text}
153 \newcommand{\MakeFieldButton}[1] {}

```

---

File 149 **lwarp-hyperxmp.sty**

§ 246     Package **hyperxmp**

Pkg   hyperxmp   Emulated.

for HTML output:

Discard all options for lwarp-hyperxmp:

```
1 \LWR@ProvidesPackageDrop{hyperxmp}
```

---

File 150 **lwarp-hyphenat.sty**

§ 247    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}

2 \LetLtxMacro\LWRHYNAT@origtextnhtt\textnhtt
3 \LetLtxMacro\LWRHYNAT@originhttfamily\nhttfamily
4 \LetLtxMacro\LWRHYNAT@orignohyphens\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@orignohyphens%
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 151 **lwarp-idxlayout.sty**

§ 248      Package **idxlayout**

*(Emulates or patches code by THOMAS TITZ.)*

Pkg    idxlayout    Emulated.

for HTML output:    Discard all options for lwarp-idxlayout:

```

1 \LWR@ProvidesPackageDrop{idxlayout}

2 \newcommand{\LWR@indexprenote}{}
3
4 \pretolprintindex{
5
6 \LWR@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 152 **lwarp-ifoddpagel.sty**

§ 249      Package **ifoddpagel**

*(Emulates or patches code by MARTIN SCHARRER.)*

Pkg    ifoddpagel    ifoddpagel is emulated.

for HTML output:    Discard all options for lwarp-ifoddpagel:

```

1 \LWR@ProvidesPackageDrop{ifoddpagel}

```

---

```

2 \newif\ifoddpage
3
4 \newif\ifoddpageoroneside
5
6 \DeclareRobustCommand{\checkoddpage}{\oddpagetrue\oddpageoronesidetrue}
7
8 \def\oddpage@page{1}
9
10 \def\@ifoddpage{%
11     \expandafter\@firstoftwo
12 }
13
14 \def\@ifoddpageoroneside{%
15     \expandafter\@firstoftwo
16 }

```

---

File 153 **lwarp-imakeidx.sty**

§ 250     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 9.5.15 for how to setup *lwarpmk* to process the indexes with imakeidx, both with and without shell escape.

**for HTML output:**     1 \LWR@ProvidesPackagePass{imakeidx}

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@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{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{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 {\file} {\entry} {\page}
\imki@wrindexentryunique {\file} {\entry} {\page}

```

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   \LWR@new@label{LWR@index-\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   \LWR@new@label{LWR@index-\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@showidxentry{#1}{#2}%
81   \@esphack%
82 }
83
84 \def\imki@wrindexunique#1#2{%
85   \imki@wrindexentryunique{#1}{#2}{\thepage}%
86   \endgroup\imki@showidxentry{#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`    `{\langle user options \rangle}`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@maybeaddtotoc
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 154 **lwarp-indentfirst.sty**

§ 251     Package **indentfirst**

Pkg   indentfirst   indentfirst is ignored.

Discard all options for lwarp-indentfirst:

**for HTML output:**     1 \LWR@ProvidesPackageDrop{indentfirst}

---

File 155 **lwarp-index.sty**

§ 252     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}

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}%
23     \LWR@new@label{LWRindex-\arabic{LWR@autoindex}}%
24     \begingroup%
25   }
26   {}
27   {\LWR@patcherror{index}{@wrindex}}

```

\AtBeginDocument lwarp core \lets \@wrindex to \LWR@wrindex. Since the index package has been loaded, \let to its version instead:

```

28 \let\LWR@index@wrindex\@wrindex
29
30 \AtBeginDocument{
31 \let\@wrindex\LWR@index@wrindex
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 156 **lwarp-intopdf.sty**

§ 253    Package **intopdf**

Pkg    intopdf    intopdf is emulated.

The MIME type and description are ignored for now.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{intopdf}

2 \NewDocumentCommand{\attachandlink}{m o m m}{%
3   \href{#1}{#4}%
4 }
```


---

File 157 **lwarp-keyfloat.sty**

§ 254    Package **keyfloat**

*(Emulates or patches code by BRIAN DUNN.)*

Pkg    keyfloat    keyfloat is supported with minor adjustments.

 **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}
```

After keyfloat has loaded:

```

2 \AtBeginDocument{

3 \RenewDocumentCommand{\KFLT@onefigureimage}{}
4 {%
5 \LWR@traceinfo{KFLT@onefigureimage}%
6 % \begin{lrbox}{\KFLT@envbox}%
7 \ifthenelse{\NOT\equal{\KFLT@lw}{}}{%
8 {\includegraphics%
9 [scale=\KFLT@s,width=\KFLT@imagewidth]{\KFLT@i}}%
10 {% not linewidth
11 \ifthenelse{\dimtest{\KFLT@w}{>}{Opt}}%
```

---

```

12 {% width is given
13 \ifthenelse{\dimtest{\KFLT@h}{>}{0pt}}%
14 {% w and h
15 \includegraphics%
16 [scale=\KFLT@s,%
17 width=\KFLT@imagewidth,height=\KFLT@h]{\KFLT@i}%
18 }% w and h
19 {% only w
20 \includegraphics%
21 [scale=\KFLT@s,width=\KFLT@imagewidth]{\KFLT@i}%
22 }% only w
23 }% width is given
24 {% width is not given
25 \ifthenelse{\dimtest{\KFLT@h}{>}{0pt}}%
26 {\includegraphics%
27 [scale=\KFLT@s,height=\KFLT@h]{\KFLT@i}}%
28 {\includegraphics%
29 [scale=\KFLT@s]{\KFLT@i}}%
30 }% width is not given
31 }% not linewidth
32 % \end{lrbox}%
33 % \unskip%
34 % \KFLT@findenvboxwidth%
35 % \begin{turn}{\KFLT@r}%
36 % \KFLT@frame{\usebox{\KFLT@envbox}}%
37 % \unskip%
38 % \end{turn}%
39 \LWR@traceinfo{\KFLT@onefigureimage: done}%
40 }

41 \RenewDocumentEnvironment{\KFLT@boxinner}{-}
42 {%
43 \LWR@traceinfo{\KFLT@boxinner}%
44 \LWR@stoppars%
45 }
46 {
47 \LWR@startpars%
48 \LWR@traceinfo{\KFLT@boxinner: done}%
49 }

50 \DeclareDocumentEnvironment{\KFLT@marginfloat}{0{-1.2ex} m}
51 {%
52 \LWR@BlockClassWP{float:right; width:2in; margin:10pt}{-}{marginblock}%
53 \captionsetup{type=#2}%
54 }
55 {%
56 \endLWR@BlockClassWP%
57 }

```

---

```

58 \DeclareDocumentEnvironment{marginfigure}{o}
59   {\begin{KFLT@marginfloat}{figure}}
60   {\end{KFLT@marginfloat}}
61
62 \DeclareDocumentEnvironment{margintable}{o}
63   {\begin{KFLT@marginfloat}{table}}
64   {\end{KFLT@marginfloat}}
65
66 \DeclareDocumentEnvironment{keywrap}{m +m}
67   {%
68   \LWR@ensuredoingapar%
69   \setlength{\LWR@templengthone}{#1}%
70   \begin{LWR@BlockClassWP}{%
71     float:right; width:\LWR@printlength{\LWR@templengthone}; % extra space
72     margin:10pt%
73   }%
74   width:\LWR@printlength{\LWR@templengthone}%
75   }%
76   {marginblock}%
77   \setlength{\linewidth}{.95\LWR@templengthone}%
78   #2%
79   \end{LWR@BlockClassWP}%
80 }
81 {%
82 }

83 }% AtBeginDocument

```

---

File 158 **lwarp-layaureo.sty**

\$ 255    Package **layaureo**

    Pkg    layaureo    layaureo is ignored.

for HTML output:    1 \LWR@ProvidesPackageDrop{layaureo}[2004/09/16]

---

File 159 **lwarp-layout.sty**

\$ 256    Package **layout**

*(Emulates or patches code by KENT MCPHERSON, JOHANNES BRAAMS, HIDEO UMEKI.)*

    Pkg    layout    layout is emulated.

**for HTML output:** Discard all options for lwarp-layout:

```
1 \LWR@ProvidesPackageDrop{layout}
2 \NewDocumentCommand{\layout}{s}{}
```

---

File 160 **lwarp-leading.sty**

\$ 257    Package **leading**

Pkg    leading    leading is ignored.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{leading}[2008/12/11]  
2 \newcommand\leading[1]{}

---

File 161 **lwarp-letterspace.sty**

\$ 258    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}
2 \newcommand*\lsstyle{}
3 \newcommand\textls[2] [] {}
4 \def\textls#1#{}
5 \newcommand*\lslig[1]{#1}
```

---

File 162 **lwarp-lettrine.sty**

\$ 259    Package **lettrine**

*(Emulates or patches code by DANIEL FLIPO.)*

Pkg    lettrine    Emulated.

for HTML output: Discard all options for lwarp-lettrine:

```
1 \LWR@ProvidesPackageDrop{lettrine}
```

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 163 **lwarp-lineno.sty**

§ 260 Package **lineno**

(Emulates or patches code by STEPHAN I. BÖTTCHER.)

Pkg lineno lineno is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{lineno}

```
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=\fbboxrule

```

---

```

104
105 \newdimen\bframesep
106 \bframesep=\fboxsep
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 164 **lwarp-lips.sty**

§ 261     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}
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 165 **lwarp-listings.sty**

§ 262      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.

for HTML output: 1 \begin{warpHTML}

2 \LWR@ProvidesPackagePass{listings}

Force flexible columns. Fixed columns inserts spaces in the PDF output.

3 \lst@column@flexible

Patches to embed listings inside pre tags:

4 \let\LWR@origlst@Init\lst@Init

5 \let\LWR@origlst@DeInit\lst@DeInit

6

7 \let\LWR@origlsthkEveryPar\lsthk@EveryPar

8

9 \renewcommand{\l@lstlisting}[2]{\hypertocfloat{1}{lstlisting}{101}{#1}{#2}}

\lstset {\langle options \rangle}

Use the listings literate option to replace HTML entities:

10 \def\lstset#1{\endgroup%

11 % \ifx\@empty#1%

12 % \@empty%

13 % \else%

14 \setkeys{lst}{%

15 #1%

16 ,literate=%

17 {<}{\HTMLentity{lt}}{4}%

18 {>}{\HTMLentity{gt}}{4}%

19 {\&}{\HTMLentity{amp}}{5}%

20 }%

21 % \fi%

22 }

\lst@Init {\langle backslash-processing \rangle} Done at the start of a listing.

```
23 \renewcommand{\lst@Init}[1]{%
```

Perform the listings initialization:

```
24 \LWR@traceinfo{\lst@Init}%
25 \renewcommand*{\@capttype}{\lstlisting}%
26 \let\lst@aboveskip\z@\let\lst@belowskip\z@%
27 \gdef\lst@boxpos{t}%
28 \let\lst@frame\@empty
29   \let\lst@frametshape\@empty
30   \let\lst@framershape\@empty
31   \let\lst@framebshape\@empty
32   \let\lst@frameishape\@empty
33 \lstframe@\lst@frameround ffff\relax%
34 \lst@multicols\@empty%
35 \LWR@origlst@Init{#1}\relax%
```

Avoids extra horizontal space:

```
36 \def\lst@framei{r}%
37 \LWR@traceinfo{finished origlst@Init}%
38 \lst@ifdisplaystyle%
```

Creating a display.

Disable line numbers, produce the <pre>, then reenable line numbers.

```
39 \LWR@traceinfo{About to create verbatim.}%
40 \let\lsthk@EveryPar\relax%
41 \LWR@forcenewpage
42 \LWR@atbeginverbatim{2}{programlisting}%
43
44 \let\lsthk@EveryPar\LWR@origlsthkEveryPar%
45 \else%
```

Inline, so open a <span>:

```
46 \ifbool{\LWR@verbtags}{\LWR@htmltag{span class="inlineprogramlisting"}}{}%
47 \fi%
48 }
49
```

`\lst@DeInit`      Done at the end of a listing.

```
50 \renewcommand*{\lst@DeInit}{%
51 \lst@ifdisplaystyle%
```

Creating a display.

Disable line numbers, produce the </pre>, then reenable line numbers:

```
52 \let\lsthk@EveryPar\relax%
53 \LWR@afterendverbatim{0}%
54 \let\lsthk@EveryPar\LWR@origlsthkEveryPar%
```

```
55 \else%
```

Inline, so create the closing `</span>`:

```
56 \ifbool{LWR@verbtags}{\noindent\LWR@htmltag{</span>}}{}%
57 \fi%
```

Final listings deinit:

```
58 \LWR@origlst@DeInit%
59 }
```

```
\lst@MakeCaption {</b>}
```

This is called BOTH at the top and at the bottom of each listing.

Patched for lwarp.

```
60 \def\lst@MakeCaption#1{%
61 \LWR@traceinfo{MAKING CAPTION at #1}%
62 \lst@ifdisplaystyle
63 \LWR@traceinfo{making a listings display caption}%
64 \ifx #1t%
65 \ifx\lst@@caption\@empty\expandafter\lst@HRefStepCounter \else
66 \expandafter\refstepcounter
67 \fi {lstlisting}%
68 \LWR@traceinfo{About to assign label: !\lst@label!}%
69 % \ifx\lst@label\@empty\else
70 % \label{\lst@label}\fi
71 \LWR@traceinfo{Finished assigning the label.}%
72 \let\lst@arg\lst@intname \lst@ReplaceIn\lst@arg\lst@filenamerpl
73 \global\let\lst@name\lst@arg \global\let\lstname\lst@name
74 \lst@ifnolol\else
75 \ifx\lst@@caption\@empty
76 \ifx\lst@caption\@empty
77 \ifx\lst@intname\@empty \else \def\lst@temp{ }%
78 \ifx\lst@intname\lst@temp \else
```

This code places a contents entry for a non-float. This would have to be modified for lwarp:

```
79 \LWR@traceinfo{addcontents lst@name: -\lst@name-}%
80 % \addcontentsline{lol}{lstlisting}{\lst@name}
81 \fi\fi
82 \fi
83 \else
```

This would have to be modified for lwarp:

```
84 \LWR@traceinfo{addcontents lst@@caption: -\lst@@caption-}%
85 \addcontentsline{lol}{lstlisting}%
86 {\protect\numberline{\thelstlisting}%
87 {\protect\ignorespaces \LWR@isolate{\lst@@caption} \protect\relax}}%
88 \fi
```

```

89      \fi
90      \fi
91      \ifx\lst@caption\@empty\else
92 \LWR@traceinfo{\lst@caption not empty}%
93      \lst@ifsubstring #1\lst@captionpos
94      {\begingroup
95 \LWR@traceinfo{at the selected position}%

```

These space and box commands are not needed for HTML output:

```

96 %      \let\@vskip\vskip
97 %      \def\vskip{\afterassignment\lst\vskip \@tempskipa}%
98 %      \def\lst\vskip{\nobreak\@vskip\@tempskipa\nobreak}%
99 %      \par\@parboxrestore\normalsize\normalfont % \noindent (AS)
100 %      \ifx #1t\allowbreak \fi
101      \ifx\lst@title\@empty

```

New lwarp code to create a caption:

```

102      \lst@makecaption\fnnum\lstlisting{\ignorespaces \lst@caption}
103      \else

```

New lwarp code to create a title:

```

104 %      \lst@maketitle\lst@title % (AS)
105 \LWR@traceinfo{Making title: \lst@title}%
106 \begin{BlockClass}{\lstlistingtitle}% lwarp
107 \lst@maketitle\lst@title% lwarp
108 \end{BlockClass}% lwarp
109      \fi
110 \LWR@traceinfo{About to assign label: !\lst@label!}%
111      \ifx\lst@label\@empty\else
112 \leavevmode% gets rid of bad space factor error
113 \GetTitleStringExpand{\lst@caption}%
114 \edef\LWR@lntemp{\GetTitleStringResult}%
115 \edef\@currentlabelname{\detokenize\expandafter{\LWR@lntemp}}%
116 \label{\lst@label}\fi
117 \LWR@traceinfo{Finished assigning the label.}%

```

Not needed for lwarp:

```

118 %      \ifx #1b\allowbreak \fi
119      \endgroup}{}%
120      \fi
121 \LWR@traceinfo{end of making a listings display caption}%
122 \else
123 \LWR@traceinfo{INLINE}%
124 \fi
125 \LWR@traceinfo{DONE WITH CAPTION at #1}%
126 }

```

[line numbers](#) Patched to keep left line numbers outside of the left margin, and place right line

numbers in a field `\VerbatimHTMLWidth` wide.

```
127 \lst@Key{numbers}{none}{%
128   \let\lst@PlaceNumber\@empty
129   \lstKV@SwitchCases{#1}%
130   {none&\%
131     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.

```
132 %           \LWR@origllap{
133             \LWR@orignormalfont%
134             \lst@numberstyle{\the\lstnumber}\kern\lst@numbersep%
135 %           }
136   }\%
137   right&\def\lst@PlaceNumber{\LWR@origrlap{\LWR@orignormalfont
138             \kern 6in \kern\lst@numbersep
139             \lst@numberstyle{\the\lstnumber}}}%
140   }\PackageError{Listings}{Numbers #1 unknown}\@ehc}

141 \end{warpHTML}
```

---

File 166 `lwarp-longtable.sty`

§ 263    Package **longtable**

*(Emulates or patches code by DAVID CARLISLE.)*

Pkg `longtable`    `longtable` is emulated.

for HTML output:    `1 \LWR@ProvidesPackageDrop{longtable}`

⚠ Misplaced `\noalign`    `Longtable \endhead, \endfoot, and \endlastfoot` rows are not used for HTML, and these rows should be disabled. Use

```
\warpprintonly{row contents}
```

instead of

```
\begin{warpprint} ... \end{warpprint}
```


Doing so helps avoid “Misplaced `\noalign`.” when using `\begin{warpprint}`.

Keep the `\endfirsthead` row, which is still relevant to HTML output.

⚠ `\kill`    `\kill` is ignored, place a `\kill` line inside

```
\begin{warpprint} ... \end{warpprint}
```

or place it inside `\warpingprintonly`.

 **lateximage** `longtable` is not supported inside a `lateximage`.

See:

<http://tex.stackexchange.com/questions/43006/why-is-input-not-expandable>

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 thrown away.

```
2 \newenvironment{longtable*}[2][{}]{%
3 \LWR@floatbegin{table}%
4 \setcaptiontype{LTcaption}%
5 \caption@setoptions{longtable}%
6 \caption@setoptions{@longtable}%
7 \caption@LT@setup%
8 \booltrue{LWR@starredlongtable}%
9 \let\captionlistentry\LWR@LTcaptionlistentry%
10 \LWR@tabular{#2}
11 }
12 {\endLWR@tabular\LWR@floatend}
13
14 \newenvironment{longtable}[2][{}]{%
15 \LWR@floatbegin{table}%
16 \setcaptiontype{LTcaption}%
17 \caption@setoptions{longtable}%
18 \caption@setoptions{@longtable}%
19 \caption@LT@setup%
20 \refstepcounter{LTcaption}%
21 \let\captionlistentry\LWR@LTcaptionlistentry%
22 \LWR@tabular{#2}
23 }
24 {\endLWR@tabular\LWR@floatend}
25
```

Provided for compatibility, but ignored:

```
26 \newcounter{LTchunksize}
27 \def\endhead{\LWR@tabularendoffline}% throws away options //[dim] and //*
28 \def\endfirsthead{\LWR@tabularendoffline}
29 \def\endfoot{\LWR@tabularendoffline}
```

---

```

30 \def\endlastfoot{\LWR@tabularendoffline}
31 \newcommand\tabularnewline{\LWR@tabularendoffline}
32 \newcommand{\setlongtables}{}% Obsolete command, does nothing.
33 \newlength{\LTleft}
34 \newlength{\LTRight}
35 \newlength{\LTpre}
36 \newlength{\LTpost}
37 \newlength{\LTcapwidth}

38 \LetLtxMacro\LWR@origkill\kill
39 \renewcommand*{\kill}{\LWR@tabularendoffline}
40 \appto\LWR@restoreorigformatting{%
41 \LetLtxMacro\kill\LWR@origkill%
42 }

```

---

File 167 **lwarp-lscape.sty**

\$ 264      Package **lscape**

*(Emulates or patches code by D. P. CARLISLE.)*

Pkg    **lscape**    lscape is emulated.

**for HTML output:**    Discard all options for lwarp-lscape.

```

1 \LWR@ProvidesPackageDrop{lscape}

2 \newenvironment*{landscape}{}{}

```

---

File 168 **lwarp-ltablex.sty**

\$ 265      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{tabularx}
2
3 \LWR@ProvidesPackageDrop{ltablex}
4
5 \DeclareDocumentEnvironment{tabularx}{m o m}

```

---

```

6 {\longtable{#3}}
7 {\endlongtable}
8
9 \DeclareDocumentEnvironment{tabularx*}{m o m}
10 {\longtable{#3}}
11 {\endlongtable}
12
13 \newcommand*{\keepXColumns}{}
14 \newcommand*{\convertXColumns}{}

```

---

File 169 **lwarp-ltcaption.sty**

§ 266      Package **ltcaption**

*(Emulates or patches code by AXEL SOMMERFELDT.)*

Pkg    ltcaption    ltcaption is emulated.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{ltcaption}

\LTcaptype is already defined by lwarp.

longtable\* is already defined by lwarp-longtable.

```

2 \newlength{\LTcapskip}
3 \newlength{\LTcapleft}
4 \newlength{\LTcapright}
5 \newcommand*{\LTcapmarginsfalse}{}

```

---

File 170 **lwarp-ltxgrid.sty**

§ 267      Package **ltxgrid**

Pkg    ltxgrid    ltxgrid is ignored.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{ltxgrid}

```

2 \newcommand*{\onecolumngrid}{}
3 \newcommand*{\twocolumngrid}{}
4 \newcommand*{\removestuff}{}
5 \newcommand*{\addstuff}[2]{}
6 \newcommand*{\replacestuff}[2]{}


```

---

File 171 **lwarp-ltxtable.sty**

§ 268     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 \LWR@ProvidesPackageDrop{ltxtable}

\LTXtable    {\width} {\file}  
               2 \newcommand\*{\LTXtable}[2]{%  
               3 \input{#2}%  
               4 }

---

File 172 **lwarp-lua-check-hyphen.sty**

§ 269     Package     **lua-check-hyphen**

Pkg    lua-check-hyphen    lua-check-hyphen is ignored.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{lua-check-hyphen}

              2 \newcommand\*{\LuaCheckHyphen}[1]{}

---

File 173 **lwarp-lua-visual-debug.sty**

§ 270     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 174 **lwarp-luacolor.sty**

§ 271 Package **luacolor**

Pkg luacolor luacolor is ignored.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{luacolor}
2 \newcommand{\luacolorProcessBox}[1]{}
```

---

File 175 **lwarp-luatodonotes.sty**

§ 272 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}
```

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@todototoc\todototoc
10
11 \renewcommand*\todototoc{%
12 \phantomsection%
13 \LWRTODONOTES@orig@todototoc%
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\LWRTODONOTES@orig@todocommon\@todocommon
64

```

---

```

65 \RenewDocumentCommand{\@todocommon}{m m}{%
66 \begingroup%
67 \renewcommand*\phantomsection{}%
68 \LWRTODONOTES@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 176 **lwarp-magaz.sty**

§ 273      Package **magaz**

Pkg    magaz    magaz is emulated.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{magaz}

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 177 **lwarp-makeidx.sty**

§ 274    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}

\@wrindex is redefined \AtBeginDocument by the lwarp core.

\printindex

```
2 \preto\printindex{%
3   \LWR@orignewpage%
4   \LWR@startpars%
5 }
```

---

File 178 **lwarp-marginfit.sty**

§ 275    Package **marginfit**

Pkg **marginfit**    marginfit is ignored.

**for HTML output:**    Discard all options for lwarp-marginfit:

```
1 \LWR@ProvidesPackageDrop{marginfit}
```

---

File 179 **lwarp-marginfix.sty**

§ 276    Package **marginfix**

*(Emulates or patches code by STEPHEN HICKS.)*

Pkg **marginfix**    Emulated.

**for HTML output:**    Discard all options for lwarp-marginfix:

```
1 \LWR@ProvidesPackageDrop{marginfix}
```

---

```

2 \newcommand*\margin skip}[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 180 **lwarp-marginnote.sty**

§ 277     Package **marginnote**

*(Emulates or patches code by MARKUS KOHM.)*

Pkg    marginnote    Emulated.

**for HTML output:**    Discard all options for lwarp-marginnote:

```

1 \LWR@ProvidesPackageDrop{marginnote}

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{}

```

---

File 181 **lwarp-mcaption.sty**

§ 278     Package **mcaption**

*(Emulates or patches code by STEPHAN HENNIG.)*

Pkg    mcaption    mcaption is nullified.

**for HTML output:**    Discard all options for lwarp-mcaption:

---

```

1 \LWR@ProvidesPackageDrop{mcaption}

2 \newenvironment{marginap}{\marginap}{\marginap}
3 \newcommand*{\marginapalign}{\marginapalign}
4 \newlength{\marginapsep}

```

---

File 182 **lwarp-mdframed.sty**


§ 279    Package    **mdframed**

*(Emulates or patches code by MARCO DANIEL, ELKE SCHUBERT.)*

Pkg    mdframed    mdframed is loaded with options forced to `framemethod=none`.

§ 279.1    **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.

## § 279.2 Package loading

for HTML output:

```
1 \RequirePackage{xcolor}% for \convertcolorspec
2
3 \LWR@ProvidesPackageDrop{mdframed}
```

Do not require Tikz or pstricks:

```
4 \LWR@origRequirePackage[framemethod=none]{mdframed}
```

## § 279.3 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  \@nmbbrlistfalse%
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
```

## § 279.4 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 }
```

## § 279.5 Color and length HTML conversion

\LWR@mdfprintcolor     $\{\langle mdffcolorkey \rangle\}$

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     $\{\langle mdflengthkey \rangle\}$

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 }
```

## § 279.6 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}%
```

Turn off paragraph handling during the generation of the encapsulating tags:

```
48 \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 endcode settings, which do not properly nest the <div> inside the mdframed environment.

```
49 \LWR@htmltagc{div class="%
50 mdframed%
51 \ifdefstring{\LWR@mdthisenv}{mdframed}{\LWR@mdthisenv}%
```

```
52 " \LWR@orignewline
53 style=" \LWR@orignewline
```

Convert and print the background color:

```
54 background: \LWR@mdfprintcolor{backgroundcolor} ; \LWR@orignewline
```

Convert and print the border color and width:

```
55 border: \LWR@mdfprintlength{linewidth} solid
56 \LWR@mdfprintcolor{linecolor} ; \LWR@orignewline
```

Convert and print the border radius:

```
57 border-radius: \LWR@mdfprintlength{roundcorner} ; \LWR@orignewline
```

Convert and print the shadow:

```
58 \ifbool{mdf@shadow}{%
59   box-shadow:
60     \LWR@mdfprintlength{shadowsize}
61     \LWR@mdfprintlength{shadowsize}
62     \LWR@mdfprintlength{shadowsize}
63     \LWR@mdfprintcolor{shadowcolor} ;
64 }
65 {box-shadow: none ;}
66 \LWR@orignewline
```

```
67 "}
68 % \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:

```
69 \LWR@select@print@hspace%
70 \renewcommand*{\rule}{\LWR@print@rule}
71 \LetLtxMacro\makebox\LWR@print@makebox%

72 \LWR@startpars%
73 \LWR@traceinfo{\LWR@mdframedstart done}%
74 }
```

`\LWR@mdframedend`    Actions after an mdframe ends.

After closing the <div>, globally restore to the default environment type:

```
75 \newcommand*{\LWR@mdframedend}{
76 \LWR@traceinfo{\LWR@mdframedend start}%
```

Close the custom <div>:

```
77 \LWR@htmldivclassend{\LWR@mdthisenv}
```

Reset future custom class to the default:

```
78 \gdef\LWR@mdthisenv{mdframed}
```

Resume paragraph handling:

```
79 \LWR@startpars%
80 \LWR@traceinfo{LWR@mdframedend done}%
81 }
```

## § 279.7 Mdfamed environment

```
82 \renewenvironment{mdframed}[1][{}]{%
83   \color@begingroup%
84   \mdfsetup{userdefinedwidth=\linewidth,#1}%
85   \mdf@startcode%
86   \mdf@preenvsetting%
87   \ifdefempty{\mdf@firstframetitle}{}%
88     {\let\mdf@frametitlesave\mdf@frametitle%
89      \let\mdf@frametitle\mdf@firstframetitle%
90      }%
91   \ifvmode\nointerlineskip\fi%
92   \ifdefempty{\mdf@frametitle}{}%
93     {\mdfframedtitleenv{\mdf@frametitle}%
94      \mdf@@frametitle@use%
95      }%
96   \mdf@trivlist{\mdf@skipabove@length}%%
97   \mdf@settings%
98   \mdf@lrbox{\mdf@splitbox@one}%
99   \mdf@startinnercode%
100 }%
101 {%
102 %   \mdf@@ignorelastdescenders%
103 %   \par%
104 %   \unskip\ifvmode\nointerlineskip\hrule \@height\z@ \@width\hsize\fi%
105 %   \ifmdf@footnoteinside%
106 %     \def\mdf@reserveda{%
107 %       \mdf@footnoteoutput%
108 %       \mdf@endinnercode%
109 %       \endmdf@lrbox%
110 %       \ifdefempty{\mdf@frametitle}{}%
111 %         {\mdfframedtitleenv{\mdf@frametitle}\mdf@@frametitle@use}%
112 %       \detected@mdf@put@frame
113 %     }%
114 %   \else%
115 %     \def\mdf@reserveda{%
116 %       \mdf@endinnercode%
117 %       \endmdf@lrbox%
118 %       \ifdefempty{\mdf@frametitle}{}%
119 %         {\mdfframedtitleenv{\mdf@frametitle}\mdf@@frametitle@use}%
120 %       \detected@mdf@put@frame%
121 %       \mdf@footnoteoutput%
122 %     }%
123 %   \fi%
```

```

124 \mdf@reserveda%
125 \aftergroup\endmdf@trivlist%
126 \color@endgroup%
127 \mdf@endcode%
128 }

```

\mdf@footnoteoutput

```

129 \renewrobustcmd*\mdf@footnoteoutput{%
130 \LWR@printpendingmpfootnotes%
131 }

```

## § 279.8 Titles and subtitles

\mdfframedtitleenv {<title>}

Place the title inside a <div> of class mdfframedtitle:

```

132 \newlength{\LWR@titleroundcorner}
133
134 \renewrobustcmd\mdfframedtitleenv[1]{%
135 \LWR@traceinfo{\LWR@mdfframedtitleenv start}%

```

Open a <div> with a custom class and custom style:

```

136 \begin{BlockClass}[%

```

Convert and print the title background color:

```

137 background:
138 \LWR@mdfprintcolor{frametitlebackgroundcolor}
139 ; \LWR@orignewline

```

Convert and print the title rule:

```

140 \ifbool{mdf@frametitlerule}{%
141 border-bottom:
142 \LWR@mdfprintlength{frametitlerulewidth}
143 solid
144 \LWR@mdfprintcolor{frametitlerulecolor}
145 ; \LWR@orignewline
146 }{}%

```

Finish the custom style and the opening <div> tag:

```

147 ]{mdfframedtitle}%

```

Print the title inside the <div>:

```

148 \mdf@frametitlefont{\LWR@textcurrentfont{#1}}%

```

Close the <div>:

```

149 \end{BlockClass}%
150 \LWR@traceinfo{\LWR@mdfframedtitleenv end}%
151 }

```

`\LWR@mdfsubtitlecommon`    `{\sub -or- subsub} [\langle options \rangle] {\langle title \rangle}`

Common code for `\LWR@mdfsubtitle` and `\LWR@mdfsubsubtitle`.

Encapsulate the subtitle inside a `<div>` of class `mdframedsubtitle`:

```
152 \NewDocumentCommand{\LWR@mdfsubtitlecommon}{m o m}
153 {% the following empty line is required
154
155 \LWR@traceinfo{\LWR@mdframedsubtitlecommon start}%
```

Open a `<div>` with a custom class and custom style:

```
156 \begin{BlockClass}{%
```

Convert and print the background color:

```
157 background:
158 \LWR@mdfprintcolor{\#1titlebackgroundcolor}
159 ; \LWR@orignewline
```

Convert and print the above line:

```
160 \ifbool{mdf@#1titleaboveline}{%
161     border-top:
162     \LWR@mdfprintlength{\#1titleabovelinewidth}
163     solid
164     \LWR@mdfprintcolor{\#1titleabovelinecolor}
165     ; \LWR@orignewline
166 }{}%
```

Convert and print the below line:

```
167 \ifbool{mdf@#1titlebelowline}{%
168     border-bottom:
169     \LWR@mdfprintlength{\#1titlebelowlinewidth}
170     solid
171     \LWR@mdfprintcolor{\#1titlebelowlinecolor}
172     ; \LWR@orignewline
173 }{}%
```

Finish the custom style and the opening `<div>` tag:

```
174 ]{mdframed#1title}%
```

Perform the original subtitle action:

```
175 \IfNoValueTF{#2}
176 {\@nameuse{\LWR@origmdf#1title}{\csuse{mdf@#1titlefont}{\LWR@textcurrentfont{#3}}}}%
177 {\@nameuse{\LWR@origmdf#1title}[#2]{\csuse{mdf@#1titlefont}{\LWR@textcurrentfont{#3}}}}%
```

Close the `<div>`:

```
178 \end{BlockClass}%
179 \LWR@traceinfo{\LWR@mdframedsubtitlecommon end}%
180 }
```

```
\LWR@mdfsubsubtitle  [\<options>] {\<title>}

181 \newcommand*{\LWR@mdfsubsubtitle}{\%
182 \LWR@mdfsubsubtitlecommon{sub}\%
183 }
184 \let\mdfsubsubtitle\LWR@mdfsubsubtitle
```

```
\LWR@mdfsubsubsubtitle  [\<options>] {\<title>}

185 \newcommand*{\LWR@mdfsubsubsubtitle}{\%
186 \LWR@mdfsubsubsubtitlecommon{subsub}\%
187 }
188 \let\mdfsubsubsubtitle\LWR@mdfsubsubsubtitle
```

### § 279.9 New environments

`\LWR@mdthisenv` Stores the environment of the frame about to be created:

```
189 \newcommand*{\LWR@mdthisenv}{mdframed}
```

`\newmdenv` `[\<options>] {\<env-name>}`

Modified from the original to remember the environment.

```
190 \renewrobustcmd*\newmdenv[2] [] {\%
191 \newenvironment{#2}\%
192 {\%
193 \mdfsetup{#1}\%
194 \renewcommand*{\LWR@mdthisenv}{md#2}\%
195 \begin{mdframed}\%
196 }
197 {\end{mdframed}}\%
198 }
```

`\surroundwithmdframed` `[\<options>] {\<environment>}`

Modified from the original to remember the environment.

```
199 \renewrobustcmd*\surroundwithmdframed[2] [] {\%
200 \BeforeBeginEnvironment{#2}\%
201 \renewcommand*{\LWR@mdthisenv}{md#2}\%
202 \begin{mdframed}[#1]\%
203 \AfterEndEnvironment{#2}\end{mdframed}}\%
204 }
```

`\mdtheorem` `[\<mdframed-options>] {\<envname>} [\<numberedlike>] {\<caption>} [\<within>]`

Modified from the original to remember the environment.

```
205 \DeclareDocumentCommand{\mdtheorem}{ O{} m o m o }%
```

```

206 {\ifcsdef{#2}%
207   {\mdf@PackageWarning{Environment #2 already exists\MessageBreak}}%
208   {%
209     \IfNoValueTF {#3}%
210     {%#3 not given -- number relationship
211       \IfNoValueTF {#5}%
212       {%#3+#5 not given
213         \@definecounter{#2}%
214         \expandafter\xdef\csname the#2\endcsname{\@thmcounter{#2}}%
215         \newenvironment{#2}[1] [] {%
216           \refstepcounter{#2}%
217           \ifstrepty{##1}%
218             {\let\@temptitle\relax}%
219             {%
220               \def\@temptitle{\mdf@theoremseparator%
221                 \mdf@theoremspace%
222                 \mdf@theoremtitlefont%
223                 \LWR@textcurrentfont{##1}}% lwarp
224               \mdf@thm@caption{#2}{\csname the#2\endcsname}{##1}}%
225             }%
226             \begin{mdframed}[#1,frametitle={\strut#4\ \csname the#2\endcsname%
227               \@temptitle}}}%
228             {\end{mdframed}}%
229             \newenvironment{#2*}[1] [] {%
230               \ifstrepty{##1}{\let\@temptitle\relax}{\def\@temptitle{: \ ##1}}%
231               \begin{mdframed}[#1,frametitle={\strut#4\@temptitle}}}%
232               {\end{mdframed}}%
233             }%
234             {%#5 given -- reset counter
235             \@definecounter{#2}\@newctr{#2}[#5]%
236             \expandafter\xdef\csname the#2\endcsname{\@thmcounter{#2}}%
237             \expandafter\xdef\csname the#2\endcsname{%
238               \expandafter\noexpand\csname the#5\endcsname \@thmcountersep%
239               \@thmcounter{#2}}%
240             \newenvironment{#2}[1] [] {%
241               \refstepcounter{#2}%
242               \ifstrepty{##1}%
243                 {\let\@temptitle\relax}%
244                 {%
245                   \def\@temptitle{\mdf@theoremseparator%
246                     \mdf@theoremspace%
247                     \mdf@theoremtitlefont%
248                     \LWR@textcurrentfont{##1}}% lwarp
249                   \mdf@thm@caption{#2}{\csname the#2\endcsname}{##1}}%
250                 }
251               \begin{mdframed}[#1,frametitle={\strut#4\ \csname the#2\endcsname%
252                 \@temptitle}}}%
253               {\end{mdframed}}%
254             \newenvironment{#2*}[1] [] {%
255               \ifstrepty{##1}%

```

```

256         {\let\@temptitle\relax}%
257     {%
258         \def\@temptitle{\mdf@theoremseparator%
259             \mdf@theoremspace%
260             \mdf@theoremtitlefont%
261             \LWR@textcurrentfont{##1}}% lwarp
262         \mdf@thm@caption{#2}{\csname the#2\endcsname}{##1}}%
263     }%
264     \begin{mdframed}[#1,frametitle={\strut#4\@temptitle}]]%
265     {\end{mdframed}}%
266 }%
267 }%
268 {%#3 given -- number relationship
269     \global\@namedef{the#2}{\@nameuse{the#3}}%
270     \newenvironment{#2}[1][]{%
271         \refstepcounter{#3}%
272         \ifstrepty{##1}%
273             {\let\@temptitle\relax}%
274             {%
275                 \def\@temptitle{\mdf@theoremseparator%
276                     \mdf@theoremspace%
277                     \mdf@theoremtitlefont%
278                     \LWR@textcurrentfont{##1}}% lwarp
279                 \mdf@thm@caption{#2}{\csname the#2\endcsname}{##1}}%
280             }
281         \begin{mdframed}[#1,frametitle={\strut#4\ \csname the#2\endcsname%
282             \@temptitle}]]%
283             {\end{mdframed}}%
284         \newenvironment{#2*}[1][]{%
285             \ifstrepty{##1}{\let\@temptitle\relax}{\def\@temptitle{: \ ##1}}%
286             \begin{mdframed}[#1,frametitle={\strut#4\@temptitle}]]%
287             {\end{mdframed}}%
288         }%
289     \BeforeBeginEnvironment{#2}{\renewcommand*\LWR@mdthisenv{\md#2}}% lwarp
290     \BeforeBeginEnvironment{#2*}{\renewcommand*\LWR@mdthisenv{\md#2}}% lwarp
291 }%
292 }

```

`\newmdtheoremenv` [*1: mdframed-options*] {*2: envname*} [*3: numberedlike*] {*4: caption*} [*5: within*]

Modified from the original to remember the environment.

```

293 \DeclareDocumentCommand\newmdtheoremenv{0}{m o m o }{%
294     \ifboolexpr{ test {\IfNoValueTF {#3}} and test {\IfNoValueTF {#5}} }%
295         {\newtheorem{#2}{#4}}%
296         {%
297             \IfValueT{#3}{\newtheorem{#2}[#3]{#4}}%
298             \IfValueT{#5}{\newtheorem{#2}{#4}[#5]}%
299         }%

```

---

```

300 \BeforeBeginEnvironment{#2}{%
301 \renewcommand*{\LWR@mdthisenv}{md#2}%
302 \begin{mdframed}[#1]}%
303 \AfterEndEnvironment{#2}{%
304 \end{mdframed}}%
305 }

```

---

File 183 **lwarp-memhfixc.sty**

§ 280     Package **memhfixc**

Pkg    memhfixc    memhfixc is ignored.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{memhfixc}

---

File 184 **lwarp-metalogo.sty**

§ 281     Package **metalogo**

*(Emulates or patches code by ANDREW GILBERT MOSCHOU.)*

Pkg    metalogo    metalogo is emulated.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{metalogo}

```

2 \newcommand\setlogokern[2]{}
3 \newcommand\setlogodrop[2][XeTeX]{}
4 \newcommand\setLaTeXa[1]{}
5 \newcommand\setLaTeXee[1]{}
6 \newcommand\seteverylogo[1]{}
7 \newcommand\everylogo[1]{}

```

---

File 185 **lwarp-mhchem.sty**

§ 282     Package **mhchem**

*(Emulates or patches code by MARTIN HENSEL.)*

Pkg    mhchem    mhchem is patched for use by lwarp.

mhchem expressions are converted to svg math. Inline expressions use hashed filenames to allow reuse, and assume that any mhchem options are global.

⚠ **MATHJAX and mhchem** The MATHJAX mhchem extension is not yet used. If MATHJAX is used for math in the rest of the document, lwarp converts standalone mhchem expressions into svg math images, but expressions inside math must be placed between `\displaymathother` and `\displaymathnormal`:

```
\displaymathother
\[ \ce{ ... } \]      ...      $ \ce { ... } $
\displaymathnormal
```

⚠ **nested math** When producing HTML output, lwarp does not support the use of nested dollar signs in mhchem expressions.

For some examples from the mhchem manual, change as follows:

|  |       |
|--|-------|
| <code>\$\ce{NaOH(aq,\$\infty)}\$</code>          | % old |
| <code>\$\ce{NaOH(aq,\infty)}\$</code>            | % new |
| <code>\$\ce{Fe(CN)_{\frac{6}{2}}}\$</code>       | % old |
| <code>\$\ce{Fe(CN)_{\frac{6}{2}}}\$</code>       | % new |
| <code>\$\ce{NO_{x}}\$</code>                     | % old |
| <code>\$\ce{NO_x}\$</code>                       | % new |
| <code>\$\ce{NO_{x}}\$</code>                     | % old |
| <code>\$\ce{NO_{x}}\$</code>                     | % new |
| <code>\$\ce{\$cis\$-[PtCl2(NH3)2]}\$</code>      | % old |
| <code>\$\ce{\mathit{cis}-[PtCl2(NH3)2]}\$</code> | % new |

for HTML output: `1 \LWR@ProvidesPackagePass{mhchem}`

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 \begin{lateximage}*[ \textbackslash{}ce\{\LWR@HTMLsanitize{#1}\} ]%
5 \LWR@mhchem@origce{#1}%
6 \end{lateximage}%
7 \endgroup%
8 \addtocounter{LWR@mhchem@cedepth}{-1}%
9 }
```

Only set math shift if outer depth:

```
10 \newcounter{LWR@mhchem@cedepth}
11 \setcounter{LWR@mhchem@cedepth}{0}
```

The new `\ce`. Sets math shift then continues.

```
12 \renewcommand{\ce}{%
13 \begingroup%
14 \ifnumequal{\value{LWR@mhchem@cedepth}}{0}{%
15   \catcode'\$=3% math shift
16 }{}%
17 \addtocounter{LWR@mhchem@cedepth}{1}%
18 \LWR@mhchem@HTML@ce%
19 }
```

The original definition of `\cesplit`:

```
20 \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.

```
21 \newcommand*{\LWR@mhchem@HTML@cesplit}[2]
22 {%
23 \begin{lateximage}*[ \textbackslash{}cesplit\{\LWR@HTMLsanitize{#2}\} ]%
24 \LWR@mhchem@origcesplit{#1}{#2}%
25 \end{lateximage}%
26 \endgroup%
27 }
```

Only set math shift if outer depth:

```
28 \newcounter{LWR@mhchem@cesplitdepth}
29 \setcounter{LWR@mhchem@cesplitdepth}{0}
```

The new `\cesplit`. Sets math shift then continues.

```
30 \renewcommand{\cesplit}{%
31 \begingroup%
32 \ifnumequal{\value{LWR@mhchem@cesplitdepth}}{0}{%
33   \catcode'\$=3% math shift
34 }{}%
35 \addtocounter{LWR@mhchem@cesplitdepth}{1}%
36 \LWR@mhchem@HTML@cesplit%
37 }
```

Resore originals inside a lateximage:

```
38 \appto\LWR@restoreorigformatting{%
39 \LetLtxMacro\ce\LWR@mhchem@origce%
40 \LetLtxMacro\cesplit\LWR@mhchem@origcesplit%
41 }
```

File 186 **lwarp-microtype.sty**

§ 283 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}

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 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 187 **lwarp-midfloat.sty**

§ 284    Package **midfloat**

*(Emulates or patches code by SIGITAS TOLUŠIS.)*

Pkg midfloat midfloat is emulated.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{midfloat}

```

2 \newenvironment{strip}[1] [] {}{}
3 \newskip\stripsep

```

---

File 188 **lwarp-midpage.sty**

§ 285    Package **midpage**

Pkg midpage midpage is ignored.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{midpage}

```

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 189 **lwarp-morefloats.sty**

§ 286    Package **morefloats**

Pkg morefloats morefloats is ignored.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{morefloats}

---

File 190 **lwarp-moreverb.sty**

§ 287     Package **moreverb**

*(Emulates or patches code by ROBIN FAIRBAIRNS.)*

Pkg moreverb moreverb is supported with some patches.

**for HTML output:**

```

1 \begin{warpHTML}

2 \LWR@ProvidesPackagePass{moreverb}

3 \BeforeBeginEnvironment{verbatim}{%
4 \LWR@forcenewpage
5 \LWR@atbeginverbatim{3}{Verbatim}%
6 }
7 \AfterEndEnvironment{verbatim}{%
8 \LWR@afterendverbatim{1}%
9 }
10
11
12 \LetLtxMacro\LWRMV@orig@verbatiminput\@verbatiminput
13
14 \renewcommand{\@verbatiminput}[2] [] {%
15 \LWR@forcenewpage
16 \LWR@atbeginverbatim{3}{Verbatim}%
17 \LWRMV@orig@verbatiminput[#1]{#2}%
18 \LWR@afterendverbatim{1}%
19 }
20
21 \BeforeBeginEnvironment{listing}{%
22 \LWR@forcenewpage
23 \LWR@atbeginverbatim{3}{programlisting}%
24 }
25
26 \AfterEndEnvironment{listing}{%
27 \LWR@afterendverbatim{1}%
28 }
29
30 \BeforeBeginEnvironment{listingcont}{%
31 \LWR@forcenewpage
32 \LWR@atbeginverbatim{3}{programlisting}%
33 }
34
35 \AfterEndEnvironment{listingcont}{%
```

---

```

36 \LWR@afterendverbatim{1}%
37 }

38 \LetLtxMacro\LWRMV@@listinginput\@listinginput
39
40 \renewcommand{\@listinginput}[3][]{
41 \LWR@forcenewpage
42 \LWR@atbeginverbatim{3}{programlisting}%
43 \LWRMV@@listinginput[#1]{#2}{#3}%
44 \LWR@afterendverbatim{1}%
45 }
46
47
48 \renewenvironment*{boxedverbatim}
49 {
50 \LWR@forcenewpage
51 \LWR@atbeginverbatim{3}{boxedverbatim}%
52 \verbatim%
53 }
54 {
55 \endverbatim%
56 \LWR@afterendverbatim{1}%
57 }

58 \end{warpHTML}

```

---

File 191 **lwarp-mparhack.sty**

§ 288     Package **mparhack**

Pkg mparhack Ignored.

**for HTML output:** Discard all options for lwarp-mparhack:

```
1 \LWR@ProvidesPackageDrop{mparhack}
```

---

File 192 **lwarp-multicol.sty**

§ 289     Package **multicol**

*(Emulates or patches code by FRANK MITTELBACH.)*

Pkg multicol multicol is emulated.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{multicol}[2015/09/13]

Multicols are converted into a 1–3 column display, browser-supported.

The optional multicols heading is placed inside a <div> of class multicolsheading.

The content is placed inside a <div> of class multicols.

```
2 \begin{warpHTML}
```

```
Env multicols * {\numcols} [heading]
```

```
3 \NewDocumentEnvironment{multicols}{s m o}
```

HTML <div> class to contain everything:

```
4 {
5 \LWR@forcenewpage
6 \BlockClass{multicols}
```

Optional HTML <div> class for the heading:

```
7 \IfValueT{#3}{\begin{BlockClass}{multicolsheading}#3\end{BlockClass}}}
```

When done with the environment, close the <div>:

```
8 {\endBlockClass}
```

Emulated null functions which are not used in HTML:

```
9 \newcommand*{\columnbreak}{}
10 \newcommand*{\RLmulticolcolumns}{}
11 \newcommand*{\LRmulticolcolumns}{}
12
13 \newlength{\premulticols}
14 \newlength{\postmulticols}
15 \newlength{\multicolsep}
16 \newlength{\multicolbaselineskip}
17 \newlength{\multicoltolerance}
18 \newlength{\multicolpretolerance}
19 \newcommand*{\columnseprulecolor}{\normalcolor}
20 \newcounter{columnbadness}
21 \newcounter{finalcolumnbadness}
22 \newcounter{collectmore}
23 \newcounter{unbalance}
24 \newlength{\multicolovershoot}
25 \newlength{\multicolundershoot}

26 \end{warpHTML}
```

---

File 193 **lwarp-multirow.sty**

§ 290     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.

In a lateximage, the original print-mode versions are temporarily restored by `\LWR@restoreorigformatting`.

See section 71.23 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}
```

`\LWR@multirowborder`    Set to left or right to create a thick border for the cell, for use by bigdelim:

```
3 \newcommand{\LWR@multirowborder}{}%
```

§ 290.1    **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 \LWR@maybenewtablerow%
8 \LWR@tabularleftedge%
```

Print the start of a new table data cell:

```
9 \LWR@htmltag{td rowspan="#2" %
```

The vertical alignment, if given:

```
10 \IfValueT{#1}{%
11 \ifstrequal{#1}{b}{style="\LWR@print@mbbox{vertical-align:bottom}" }{}%
12 \ifstrequal{#1}{t}{style="\LWR@print@mbbox{vertical-align:top}" }{}%
13 }%
```

The left/right border, if given:

```
14 \ifdefined\LWR@multirowborder\{}{\%
15 style="\LWR@print@mbbox{border-\LWR@multirowborder:} 2px dotted black ; \%
16 \LWR@print@mbbox{padding-\LWR@multirowborder:} 2px" \%
17 }%
```

A class adds the column spec and the rule:

```
18 class="td%
```

Append this column's spec:

```
19 \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.

```
20 \LWR@addcmidruletrim%
21 \LWR@addleftmostbartag%
22 \LWR@printbartag{\arabic{\LWR@tableLaTeXcolindex}}%
23 "%
```

```
24 \LWR@tdstartstyles%
25 \LWR@addcmidrulewidth%
26 \LWR@addcdashline%
27 \LWR@addtabularrulecolors%
28 \LWR@tdendstyles%
29 }%
```

The column's < spec:

```
30 \LWR@getexparray{\LWR@colbeforespec}{\arabic{\LWR@tableLaTeXcolindex}}%
```

While printing the text, redefine \\\ to generate a new line

```
31 \begingroup\LetLtxMacro{\}\{\LWR@endofline}\#6\endgroup%
32 \LWR@stoppars%
33 \global\boolfalse{\LWR@intabularmetadata}%
34 \renewcommand{\LWR@multirowborder}\{}%
35 \LWR@traceinfo{*** LWR@HTML@multirow done}%
36 }%
37
38 \LWR@formatted{multirow}
```

## § 290.2 Combined multicolumn and multirow

⚠ `\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}[Opt]{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:

⚠ **empty cells**

```
... & \multicolumnrow{2}{c}[c]{3}[0]{1in}[Opt]{Text} & ...
... & \mcolrowcell & \mcolrowcell & ...
... & \mcolrowcell & \mcolrowcell & ...
```

**vposn** Note that recent versions of `multirow` include a new optional `vposn` argument.

```
\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`.

```
39 \AtBeginDocument{
40
41 \NewExpandableDocumentCommand{\LWR@HTML@multicolumnrow}{m m O{} m O{} m O{} +m}{%
```

Figure out how many extra HTML columns to add for @ and ! columns:

```
42 \LWR@tabularhtmlcolumns{\arabic{\LWR@tableLaTeXcolindex}}{\#1}
```

Create the multicolumn/multirow tag:

```
43 \begingroup%
44 \LetLtxMacro{\}\{\LWR@endofline}%
45 \LWR@domulticolumn[#3][#4]{#1}{\arabic{\LWR@tabhtmlcoltotal}}{\#2}{\#8}%
46 \endgroup%
```

Move to the next L<sup>A</sup>T<sub>E</sub>X column:

```
47 \addtocounter{LWR@tableLaTeXcolindex}{#1}%
48 \addtocounter{LWR@tableLaTeXcolindex}{-1}%
```

Skip any trailing @ or ! columns for this cell:

```
49 \global\booltrue{LWR@skipatbang}%
50 }
51
52 \LWR@expandableformatted{multicolumnrow}
53
54 }% \AtBeginDocument
```

---

File 194 **lwarp-multitoc.sty**

§ 291     Package **multitoc**

Pkg   multitoc   multitoc is ignored.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{multitoc}

2 \newcommand{\multicolumntoc}{2}
3 \newcommand{\multicolumnlot}{2}
4 \newcommand{\multicolumnlof}{2}
5 \newcommand*{\immediateaddtocontents}[2]{}
```

---

File 195 **lwarp-musicography.sty**

§ 292     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, since the HTML fonts tend not to be the correct size. 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. Copy/paste into a text editor works well.

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{musicography}[2018/05/21]
```

```

2 \RenewDocumentCommand{\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 \RenewDocumentCommand{\musStemmedNote}{ m }{%
9 \begin{lateximage}%
10 \musSymbol{0.05em}{0.5ex}{0.2em}{#1\musStem}%
11 \end{lateximage}%
12 }
13
14 \RenewDocumentCommand{\musFlaggedNote}{ m m }{%
15 \begin{lateximage}%
16 \musSymbol{0.05em}{0.5ex}{0pt}{#1\musStem}%
17 \musSymbol{0pt}{0pt}{0.9em}{#2}%
18 \end{lateximage}%
19 }
20
21 \RenewDocumentCommand{\musDottedNote}{ m }{%
22 \begin{lateximage}%
23 #1\musDot%
24 \end{lateximage}%
25 }
26
27 \RenewDocumentCommand{\musMeter}{ m m }{%
28 \begin{lateximage}* [#1/#2] [#1#2]%
29 \musStack{#1}{#2}\kern0.05em%
30 \end{lateximage}%
31 }
32
33 \RenewDocumentCommand{\meterCplus}{ m }{%
34 \begin{lateximage}* [C#1]%
35 \meterC{}\kern-0.7pt#1%
36 \end{lateximage}%
37 }
38
39 \RenewDocumentCommand{\meterC}{ }{%
40 \begin{lateximage}* [C]%
41 \musSymbolMeter{\symbol{83}}%
42 \end{lateximage}%
43 }
44
45 \RenewDocumentCommand{\meterCutC}{ }{%
46 \begin{lateximage}* [C|]%
47 \musSymbolMeter{\symbol{82}}%
48 \end{lateximage}%
49 }
50
51 \RenewDocumentCommand{\meterCThreeTwo}{ }{%

```

---

```

52 \begin{lateximage}* [C3/2]%
53 \meterCplus{\musStack{3}{2}}%
54 \end{lateximage}%
55 }
56
57 \RenewDocumentCommand{\musFlat}      {}{\HTMLUnicode{266D}}
58 \RenewDocumentCommand{\musDoubleFlat} {}{\HTMLUnicode{1D12B}}
59 \RenewDocumentCommand{\musSharp}      {}{\HTMLUnicode{266F}}
60 \RenewDocumentCommand{\musDoubleSharp}{}{\HTMLUnicode{1D12A}}
61 \RenewDocumentCommand{\musNatural}    {}{\HTMLUnicode{266E}}
62
63 \RenewDocumentCommand{\musWhole}{}{\HTMLUnicode{1D15D}}
64 \RenewDocumentCommand{\musHalf}{}{\HTMLUnicode{1D15E}}
65 \RenewDocumentCommand{\musQuarter}{}{\HTMLUnicode{1D15F}}
66 \RenewDocumentCommand{\musEighth}{}{\HTMLUnicode{1D160}}
67 \RenewDocumentCommand{\musSixteenth}{}{\HTMLUnicode{1D161}}
68
69 \RenewDocumentCommand{\musWholeDotted}{}{\HTMLUnicode{1D15D}\HTMLUnicode{1D16D}}
70 \RenewDocumentCommand{\musHalfDotted}{}{\HTMLUnicode{1D15E}\HTMLUnicode{1D16D}}
71 \RenewDocumentCommand{\musQuarterDotted}{}{\HTMLUnicode{1D15F}\HTMLUnicode{1D16D}}
72 \RenewDocumentCommand{\musEighthDotted}{}{\HTMLUnicode{1D160}\HTMLUnicode{1D16D}}
73 \RenewDocumentCommand{\musSixteenthDotted}{}{\HTMLUnicode{1D161}\HTMLUnicode{1D16D}}

```

---

File 196 **lwarp-nameref.sty**

§ 293     Package **nameref**

Pkg    **nameref**    **nameref** is emulated by **lwarp**.

**for HTML output:**    Discard all options for **lwarp-nameref**:

```

1 \typeout{Using the lwarp html version of package ‘nameref’, discarding options.}
2 \typeout{   Are not using ProvidesPackage, so that other packages}
3 \typeout{   do not attempt to patch lwarp’s version of ‘nameref’..}
4 \DeclareOption*{}
5 \ProcessOptions\relax

```

---

File 197 **lwarp-natbib.sty**

§ 294     Package **natbib**

*(Emulates or patches code by PATRICK W. DALY.)*

Pkg    **natbib**    **natbib** is patched for use by **lwarp**.

```

11 \let\LWRNB@origsetcitestyle\setcitestyle
12
13 \renewcommand{\setcitestyle}[1]{%
14 \LWRNB@origsetcitestyle{#1}%
15 \LWRNB@patchnatbibopenclose%
16 }

```

```
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 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 199 **lwarp-needspace.sty**

§ 296      Package **needspace**

*(Emulates or patches code by PETER WILSON.)*

Pkg    **needspace**    needspace is not used during HTML conversion.

**for HTML output:**    Discard all options for lwarp-needspace:

```

1 \LWR@ProvidesPackageDrop{needspace}
2
3 \DeclareDocumentCommand{\needspace}{m}{}
4 \DeclareDocumentCommand{\Needspace}{s m}{}

```

---

File 200 **lwarp-nextpage.sty**

§ 297     Package **nextpage**

*(Emulates or patches code by PETER WILSON.)*

Pkg **nextpage**   nextpage is nullified.

**for HTML output:**   Discard all options for lwarp-nextpage.

```
1 \LWR@ProvidesPackageDrop{nextpage}

2 \DeclareDocumentCommand{\cleartoevenpage}{o}{}
3 \DeclareDocumentCommand{\movetoevenpage}{o}{}
4 \DeclareDocumentCommand{\cleartooddpage}{o}{}
5 \DeclareDocumentCommand{\movetooddpage}{o}{}

```

---

File 201 **lwarp-nicefrac.sty**

§ 298     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 \CustomizeMathJax{\newcommand{\nicefrac}[3][\]{#2/#3}}

```

---

File 202 **lwarp-nonfloat.sty**

\$ 299    Package **nonfloat**

*(Emulates or patches code by KAI RASCHER.)*

Pkg   nonfloat   nonfloat is emulated.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{nonfloat}

2 \LetLtxMacro\topcaption\caption
3 \newcommand{\figcaption}{\def@captype{figure}\caption}
4 \newcommand{\tabcaption}{\def@captype{table}\topcaption}
5 \newenvironment{narrow}[2]{\{ }\}

```

---

File 203 **lwarp-nonumonpart.sty**

\$ 300    Package **nonumonpart**

Pkg   nonumonpart   nonumonpart is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{nonumonpart}

```

---

File 204 **lwarp-nopageno.sty**

\$ 301    Package **nopageno**

Pkg   nopageno   nopageno is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{nopageno}

```

---

File 205 **lwarp-notespages.sty**

§ 302      Package **notespages**

Pkg    notespages    notespages is ignored.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{notespages}

2 \newcommand\*{\npnotesname}{}  
 3 \newcommand\*{\npnotestext}{}  
 4 \newcommand\*{\remainingtextheight}{}  
 5 \newdimen\remainingtextheight  
 6 \newcommand\*{\notestitletext}{}  
 7 \newcommand\*{\notesareatext}{}  
 8 \newcommand\*{\npnpinfo}[1]{}  
 9 \newcommand\*{\tracingnppmarks}{}  
 10 \newcommand\*{\notespage}[1] [] {}  
 11 \newcommand\*{\notespages}[1] [] {}  
 12 \newcommand\*{\notesfill}[1] [] {}  
 13 \newcommand\*{\setnotespages}[1] {}  
 14 \newcommand\*{\definenotesoption}[2] {}  
 15 \newcommand\*{\definenotesstyle}[2] {}  
 16 \newcommand\*{\definetitlestyle}[2] {}  
 17 \newcommand\*{\nppatchchapter}[1] {}  
 18 \newcommand\*{\npunpatchchapter}{}  


---

File 206 **lwarp-nowidow.sty**

§ 303      Package **nowidow**

*(Emulates or patches code by RAPHAËL PINSON.)*

Pkg    nowidow    nowidow is not used during HTML conversion.

Discard all options for lwarp-nowidow:

**for HTML output:**    1 \LWR@ProvidesPackageDrop{nowidow}

2 \newcommand\*{\nowidow}[1] [] {}  
 \setnowidow    [*<lines>*]  
 \nowidow    [*<lines>*]

```
3 \newcommand*{\setnowidow}[1] [] {}

\noclub  [⟨lines⟩]
\setnoclub [⟨lines⟩]

4 \newcommand*{\noclub}[1] [] {}
5 \newcommand*{\setnoclub}[1] [] {}
```

File 207 `lwarp-ntheorem.sty`

§ 304

Package

ntheorem

*(Emulates or patches code by WOLFGANG MAY, ANDREAS SCHEDLER.)*

Pkg ntheorem ntheorem is patched for use by lwarp.

Table 15: 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.

§ 304.1

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.

⚠ Equation numbering

ntheorem has a bug with equation numbering in  $\mathcal{A}\mathcal{M}\mathcal{S}$  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.

§ 304.2

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
3
4 \newbool{LWR@theoremmarks}
5 \boolfalse{LWR@theoremmarks}
6
7 \DeclareOption{thmmarks}{
8 \booltrue{LWR@theoremmarks}
9 \newif\ifsetendmark\setendmarktrue
10 }
11
12
13 \newbool{LWR@theoremamsthm}
14 \boolfalse{LWR@theoremamsthm}
15
16 \DeclareOption{amsthm}{\booltrue{LWR@theoremamsthm}}
17
18
19 \DeclareOption{amsmath}{}
20 \DeclareOption{hyperref}{}
21
22 \LWR@ProvidesPackagePass{ntheorem}

```

### § 304.3 Remembering the theorem style

Storage for the style being used for new theorems.

```

23 \newcommand{\LWR@newtheoremstyle}{plain}

24 \AtBeginDocument{
25 \ifpackageloaded{cleveref}{
26 \gdef\@thm#1#2#3{%
27   \if@thmmarks
28     \stepcounter{end\InTheoType ctr}%
29   \fi
30   \renewcommand{\InTheoType}{#1}%
31   \if@thmmarks
32     \stepcounter{curr#1ctr}%
33     \setcounter{end#1ctr}{0}%
34   \fi
35   \refstepcounter[#1]{#2}% <<< cleveref modification
36   \theorem@prework
37   \LWR@forcenewpage% lwarp
38   \BlockClass{theorembody#1}%\LWR@thisthmstyle% lwarp
39   \trivlist % latex's \trivlist, calling latex's \@trivlist unchanged
40   \ifuse@newframeskips % cf. latex.ltx for topsepadd: \@trivlist

```

---

```

41 \ifthm@inframe
42 \thm@topsep\theoremframepreskipamount
43 \thm@topsepadd\theoremframepostskipamount
44 \else
45 \thm@topsep\theorempreskipamount
46 \thm@topsepadd\theorempostskipamount
47 \fi
48 \else% oldframeskips
49 \thm@topsep\theorempreskipamount
50 \thm@topsepadd \theorempostskipamount
51 \ifvmode\advance\thm@topsepadd\partopsep\fi
52 \fi
53 \@topsep\thm@topsep
54 \@topsepadd\thm@topsepadd
55 \advance\linewidth -\theorem@indent
56 \advance\linewidth -\theorem@rightindent
57 \advance\@totalleftmargin \theorem@indent
58 \parshape \@ne \@totalleftmargin \linewidth
59 \@ifnextchar[{\@ythm{#1}{#2}{#3}}{\@xthm{#1}{#2}{#3}}
60 }
61 }{% not @ifpackageloaded{cleveref}
62 \gdef\@thm#1#2#3{%
63 \if@thmmarks
64 \stepcounter{end\InTheoType ctr}%
65 \fi
66 \renewcommand{\InTheoType}{#1}%
67 \if@thmmarks
68 \stepcounter{curr#1ctr}%
69 \setcounter{end#1ctr}{0}%
70 \fi
71 \refstepcounter{#2}%
72 \theorem@prework
73 \LWR@forcenewpage% lwarp
74 \BlockClass{theorembody#1}%\LWR@thisthmstyle% lwarp
75 \trivlist % latex's \trivlist, calling latex's \@trivlist unchanged
76 \ifuse@newframeskips % cf. latex.ltx for topsepadd: \@trivlist
77 \ifthm@inframe
78 \thm@topsep\theoremframepreskipamount
79 \thm@topsepadd\theoremframepostskipamount
80 \else
81 \thm@topsep\theorempreskipamount
82 \thm@topsepadd\theorempostskipamount
83 \fi
84 \else% oldframeskips
85 \thm@topsep\theorempreskipamount
86 \thm@topsepadd \theorempostskipamount
87 \ifvmode\advance\thm@topsepadd\partopsep\fi
88 \fi
89 \@topsep\thm@topsep
90 \@topsepadd\thm@topsepadd

```

```

91 \advance\linewidth -\theorem@indent
92 \advance\linewidth -\theorem@rightindent
93 \advance\@totalleftmargin \theorem@indent
94 \parshape \@ne \@totalleftmargin \linewidth
95 \ifnextchar[{\@ythm{#1}{#2}{#3}}{\@xthm{#1}{#2}{#3}}
96 }
97 }
98 }% AtBeginDocument

```

Patched to remember the style being used for new theorems:

```

99 \gdef\theoremstyle#1{%
100   \@ifundefined{th@#1}{\@warning
101     {Unknown theoremstyle ‘#1’. Using ‘plain’}%
102     \theorem@style{plain}
103     \renewcommand{\LWR@newtheoremstyle}{plain}% lwarp
104     }%
105   {
106     \theorem@style{#1}
107     \renewcommand{\LWR@newtheoremstyle}{#1}% lwarp
108   }
109 }

```

Patched to remember the style for this theorem type, and set it later when the environment is started.

```

110
111 \gdef\@xnthm#1#2[#3]{%
112   \ifthm@tempif
113     \csedef{LWR@thmstyle#1}{LWR@newtheoremstyle}% lwarp
114     \expandafter\@ifundefined{c@#1}%
115       {\@definecounter{#1}}{}%
116     \@newctr{#1}[#3]%
117     \expandafter\xdef\csname the#1\endcsname{%
118       \expandafter\noexpand\csname the#3\endcsname \@thmcountersep
119       {\noexpand\csname\the\theoremnumbering\endcsname{#1}}}%
120     \expandafter\gdef\csname mkheader@#1\endcsname
121       {\csname setparms@#1\endcsname
122        \@thm{#1}{#1}{#2}
123       }%
124     \global\@namedef{end#1}{\@endtheorem}
125     \AtBeginEnvironment{#1}{\edef\LWR@thisthmstyle{\@nameuse{LWR@thmstyle#1}}}% lwarp
126   \fi
127 }
128
129 \gdef\@ynthm#1#2{%
130   \ifthm@tempif
131     \csedef{LWR@thmstyle#1}{LWR@newtheoremstyle}% lwarp
132     \expandafter\@ifundefined{c@#1}%

```

```

133     {\@definecounter{#1}}}%
134     \expandafter\xdef\csname the#1\endcsname
135     {\noexpand\csname\the\theoremnumbering\endcsname{#1}}%
136     \expandafter\gdef\csname mkheader@#1\endcsname
137     {\csname setparms@#1\endcsname
138     \@thm{#1}{#1}{#2}
139     }%
140     \global\@namedef{end#1}{\@endtheorem}
141     \AtBeginEnvironment{#1}{\edef\LWR@thisthmstyle{\@nameuse{LWR@thmstyle#1}}}% lwarp
142 \fi
143 }
144
145 \gdef\@othm#1[#2]#3{%
146   \@ifundefined{c@#2}{\@nocounterr{#2}}%
147   {\ifthm@tempif
148     \csedef{LWR@thmstyle#1}{\LWR@newtheoremstyle}% lwarp
149     \global\@namedef{the#1}{\@nameuse{the#2}}%
150     \expandafter\protected@xdef\csname num@addtheoremline#1\endcsname{%
151       \noexpand\@num@addtheoremline{#1}{#3}}%
152     \expandafter\protected@xdef\csname nonum@addtheoremline#1\endcsname{%
153       \noexpand\@nonum@addtheoremline{#1}{#3}}%
154     \theoremkeyword{#3}%
155     \expandafter\protected@xdef\csname #1Keyword\endcsname
156     {\the\theoremkeyword}%
157     \expandafter\gdef\csname mkheader@#1\endcsname
158     {\csname setparms@#1\endcsname
159     \@thm{#1}{#2}{#3}
160     }%
161     \global\@namedef{end#1}{\@endtheorem}
162     \AtBeginEnvironment{#1}{\edef\LWR@thisthmstyle{\@nameuse{LWR@thmstyle#1}}}% lwarp
163 \fi}
164 }

```

#### § 304.4 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.

```

165 \newcommand{\LWR@inctheorem}{%
166 \addtocounter{LWR@thisautoid}{1}%
167 \LWR@stoppars%
168 \LWR@htmltag{a id="\LWR@print@mbbox{autoid-\arabic{LWR@thisautoid}}"}\LWR@htmltag{/a}%
169 \LWR@startpars%
170 }

```

### § 304.5 `\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>`.

```

171 \gdef\newtheoremstyle#1#2#3{%
172   \expandafter\@ifundefined{th@#1}%
173   {\expandafter\gdef\csname th@#1\endcsname{%
174     \def\@begintheorem###1###2{%
175       \LWR@intheorem% lwarp
176       #2}%
177     \def\@opargbegintheorem###1###2###3{%
178       \LWR@intheorem% lwarp
179       #3}%
180   }%
181   }%
182 {\PackageError{\basename}{Theorem style #1 already defined}\@eha}
183 }
```

### § 304.6 **Standard styles**

```

184 \renewtheoremstyle{plain}%
185   {\item[
186     \InlineClass{theoremheaderplain}{##1\ ##2\theorem@separator}]}%
187   {\item[
188     \InlineClass{theoremheaderplain}{##1\ ##2\ (##3)\theorem@separator}]}
189
190 \renewtheoremstyle{break}%
191   {\item[
192     \InlineClass{theoremheaderbreak}{##1\ ##2\theorem@separator}\newline
193   ]}%
194   {\item[
195     \InlineClass{theoremheaderbreak}%
196     {##1\ ##2\ (##3)\theorem@separator}\newline
197   ]}
198
199 \renewtheoremstyle{change}%
200   {\item[
201     \InlineClass{theoremheaderchange}{##2\ ##1\theorem@separator}]}%
202   {\item[
203     \InlineClass{theoremheaderchange}{##2\ ##1\ (##3)\theorem@separator}]}
204
205 \renewtheoremstyle{changebreak}%
206   {\item[
```

---

```

207     \InlineClass{theoremheaderchangebreak}%
208     {##2\ ##1\theorem@separator}\newline
209   ]}%
210 {\item[
211     \InlineClass{theoremheaderchangebreak}%
212     {##2\ ##1\ (##3)\theorem@separator}\newline
213   ]}
214
215 \renewtheoremstyle{margin}%
216 {\item[
217     \InlineClass{theoremheadermargin}{##2 \quad ##1\theorem@separator}
218   ]}%
219 {\item[
220     \InlineClass{theoremheadermargin}{##2 \quad ##1\ (##3)\theorem@separator}
221   ]}
222
223 \renewtheoremstyle{marginbreak}%
224 {\item[
225     \InlineClass{theoremheadermarginbreak}%
226     {##2 \quad ##1\theorem@separator}\newline
227   ]}%
228 {\item[
229     \InlineClass{theoremheadermarginbreak}%
230     {##2 \quad ##1\ (##3)\theorem@separator}\newline
231   ]}
232
233 \renewtheoremstyle{nonumberplain}%
234 {\item[
235     \InlineClass{theoremheaderplain}{##1\theorem@separator}]]}%
236 {\item[
237     \InlineClass{theoremheaderplain}{##1\ (##3)\theorem@separator}]]}
238
239 \renewtheoremstyle{nonumberbreak}%
240 {\item[
241     \InlineClass{theoremheaderbreak}{##1\theorem@separator}\newline
242   ]}%
243 {\item[
244     \InlineClass{theoremheaderbreak}{##1\ (##3)\theorem@separator}\newline
245   ]}
246
247 \renewtheoremstyle{empty}%
248 {\item[]}%
249 {\item[
250     \InlineClass{theoremheaderplain}{##3}]]}
251
252 \renewtheoremstyle{emptybreak}%
253 {\item[]}%
254 {\item[
255     \InlineClass{theoremheaderplain}{##3}] \ \newline}

```

### § 304.7 Additional objects

The following manually adjust the css for the standard configuration objects which are not a purely plain style:

```
256 \ifbool{LWR@ntheoremamsthm}{-}{%
```

Upright text via CSS:

```
257   \newtheoremstyle{plainupright}%
258   {\item[
259     \InlineClass{theoremheaderplain}{##1\ ##2\theorem@separator}]}%
260   {\item[
261     \InlineClass{theoremheaderplain}{##1\ ##2\ (##3)\theorem@separator}]}
```

Upright text and small caps header via CSS:

```
262   \newtheoremstyle{nonumberplainuprightsc}%
263   {\item[
264     \InlineClass{theoremheadersc}{##1\theorem@separator}]}%
265   {\item[
266     \InlineClass{theoremheadersc}{##1\ (##3)\theorem@separator}]}
267 }% not amsthm
```

### § 304.8 Renewed standard configuration

The following standard configuration is renewed using the new css:

```
268 \ifbool{LWR@ntheoremamsthm}{-}{%

269 \ifx\thm@usestd\@undefined
270 \else
271   \theoremnumbering{arabic}
272   \theoremstyle{plain}
273   \RequirePackage{latexsym}
274   \theoremsymbol{\Box}
275   \theorembodyfont{\itshape}
276   \theoremheaderfont{\normalfont\bfseries}
277   \theoremseparator{}
278   \renewtheorem{Theorem}{Theorem}
279   \renewtheorem{theorem}{Theorem}
280   \renewtheorem{Satz}{Satz}
281   \renewtheorem{satz}{Satz}
282   \renewtheorem{Proposition}{Proposition}
283   \renewtheorem{proposition}{Proposition}
284   \renewtheorem{Lemma}{Lemma}
285   \renewtheorem{lemma}{Lemma}
286   \renewtheorem{Korollar}{Korollar}
```

```

287 \renewtheorem{korollar}{Korollar}
288 \renewtheorem{Corollary}{Corollary}
289 \renewtheorem{corollary}{Corollary}
290
291 \theoremstyle{plainupright}
292 \theorembodyfont{\upshape}
293 \theoremsymbol{\HTMLUnicode{25A1}}% UTF-8 white box
294 \renewtheorem{Example}{Example}
295 \renewtheorem{example}{Example}
296 \renewtheorem{Beispiel}{Beispiel}
297 \renewtheorem{beispiel}{Beispiel}
298 \renewtheorem{Bemerkung}{Bemerkung}
299 \renewtheorem{bemerkung}{Bemerkung}
300 \renewtheorem{Anmerkung}{Anmerkung}
301 \renewtheorem{anmerkung}{Anmerkung}
302 \renewtheorem{Remark}{Remark}
303 \renewtheorem{remark}{Remark}
304 \renewtheorem{Definition}{Definition}
305 \renewtheorem{definition}{Definition}
306
307 \theoremstyle{nonumberplainuprightsc}
308 \theoremsymbol{\HTMLUnicode{220E}}% UTF-8 end-of-proof
309 \renewtheorem{Proof}{Proof}
310 \renewtheorem{proof}{Proof}
311 \renewtheorem{Beweis}{Beweis}
312 \renewtheorem{beweis}{Beweis}
313 \qedsymbol{\HTMLUnicode{220E}}% UTF-8 end-of-proof
314
315 \theoremsymbol{}
316 \fi
317 }% not amsthm

```

### § 304.9 amsthm option

Only if the amsthm option was given:

```

318 \ifbool{LWR@theoremamsthm}{
319
320 \gdef\th@plain{%
321 \def\theorem@headerfont{\normalfont\bfseries}\itshape%
322 \def\@begintheorem##1##2{%
323 \LWR@intheorem% lwarp
324 \item[
325 \InlineClass{theoremheaderplain}{##1\ ##2.}
326 ]}%
327 \def\@opargbegintheorem##1##2##3{%
328 \LWR@intheorem% lwarp
329 \item[
330 \InlineClass{theoremheaderplain}{##1\ ##2\ (##3).}

```

```

331     ]}}
332
333 \gdef\th@nonumberplain{%
334 \def\theorem@headerfont{\normalfont\bfseries}\itshape%
335 \def\@begintheorem##1##2{%
336     \LWR@intheorem% lwarp
337     \item[
338 \InlineClass{theoremheaderplain}{##1.}
339     ]}%
340 \def\@opargbegintheorem##1##2##3{%
341     \LWR@intheorem% lwarp
342     \item[
343 \InlineClass{theoremheaderplain}{##1\ (#3).}
344     ]}}
345
346 \gdef\th@definition{%
347 \def\theorem@headerfont{\normalfont\bfseries}\normalfont%
348 \def\@begintheorem##1##2{%
349     \LWR@intheorem% lwarp
350     \item[
351 \InlineClass{theoremheaderdefinition}{##1\ ##2.}
352     ]}%
353 \def\@opargbegintheorem##1##2##3{%
354     \LWR@intheorem% lwarp
355     \item[
356 \InlineClass{theoremheaderdefinition}{##1\ ##2\ (#3).}
357     ]}}
358
359 \gdef\th@nonumberdefinition{%
360 \def\theorem@headerfont{\normalfont\bfseries}\normalfont%
361 \def\@begintheorem##1##2{%
362     \LWR@intheorem% lwarp
363     \item[
364 \InlineClass{theoremheaderdefinition}{##1.}
365     ]}%
366 \def\@opargbegintheorem##1##2##3{%
367     \LWR@intheorem% lwarp
368     \item[
369 \InlineClass{theoremheaderdefinition}{##1\ (#3).}
370     ]}}
371
372 \gdef\th@remark{%
373 \def\theorem@headerfont{\itshape}\normalfont%
374 \def\@begintheorem##1##2{%
375     \LWR@intheorem% lwarp
376     \item[
377 \InlineClass{theoremheaderremark}{##1\ ##2.}
378     ]}%
379 \def\@opargbegintheorem##1##2##3{%
380     \LWR@intheorem% lwarp

```

---

```

381     \item[
382   \InlineClass{theoremheaderremark}{##1\ ##2\ (##3).}
383     ]}]
384
385 \gdef\th@nonumberremark{%
386   \def\theorem@headerfont{\itshape}\normalfont%
387   \def\@begintheorem##1##2{%
388     \LWR@inctheorem% lwarp
389     \item[
390   \InlineClass{theoremheaderremark}{##1.}
391     ]}%
392   \def\@opargbegintheorem##1##2##3{%
393     \LWR@inctheorem% lwarp
394     \item[
395   \InlineClass{theoremheaderremark}{##1\ (##3).}
396     ]}]
397
398 \gdef\th@proof{%
399   \def\theorem@headerfont{\normalfont\bfseries}\itshape%
400   \def\@begintheorem##1##2{%
401     \LWR@inctheorem% lwarp
402     \item[
403   \InlineClass{theoremheaderproof}{##1.}
404     ]}%
405   \def\@opargbegintheorem##1##2##3{%
406     \LWR@inctheorem% lwarp
407     \item[
408   \InlineClass{theoremheaderproof}{##1\ (##3).}
409     ]}]
410
411
412
413 \newcounter{proof}%
414 \if@thmmarks
415   \newcounter{currproofctr}%
416   \newcounter{endproofctr}%
417 \fi
418
419 \gdef\proofSymbol{\openbox}
420
421 \newcommand{\proofname}{Proof}
422
423 \newenvironment{proof}[1][\proofname]{
424   \th@proof
425   \def\theorem@headerfont{\itshape}%
426   \normalfont
427   \theoremsymbol{\HTMLUnicode{220E}}% UTF-8 end-of-proof
428   \@thm{proof}{proof}{#1}
429 }%
430 {\@endtheorem}

```

```

431
432 }{}% amsthm option

```

### § 304.10 **Ending a theorem**

Patched for CSS:

```

433 \let\LWR@origendtheorem\@endtheorem
434 \renewcommand{\@endtheorem}{%
435 \ifbool{LWR@theoremmarks}{%
436   \ifsetendmark%
437   \InlineClass{theoremendmark}{\csname\InTheoType Symbol\endcsname}%
438   \setendmarkfalse%
439   \fi%
440 }{}%
441 \LWR@origendtheorem% also does \@endtrivlist
442 \ifbool{LWR@theoremmarks}{\global\setendmarktrue}{}%
443 \endBlockClass%
444 }

```

### § 304.11 **\NoEndMark**

```

445 \gdef\NoEndMark{\global\setendmarkfalse}

```

### § 304.12 **List-of**

Redefined to reuse the float mechanism to add list-of-theorem links:

```

\thm@thmline {\langle 1: printed type\rangle} {\langle 2: \#\rangle} {\langle 3: optional\rangle} {\langle 4: page\rangle}

446 \renewcommand{\thm@@thmline@noname}[4]{%
447 \hypertocfloat{1}{theorem}{thm}{#2 #3}{}%
448 }
449
450 \renewcommand{\thm@@thmline@name}[4]{%
451 \hypertocfloat{1}{theorem}{thm}{#1 #2 #3}{}%
452 }

```

This was redefined by ntheorem when loaded, so it is now redefined for lwarp:

```

453 \def\thm@@thmline{\thm@@thmline@name}

```

Patch for CSS:

```

454 \def\listtheorems#1{
455 \LWR@htmlclass{nav}{lohtm}%
456 \begingroup
457 \c@tocdepth=-2%

```

```

458 \def\thm@list{#1}\thm@processlist
459 \endgroup
460 \LWR@html@elementclassend{nav}{lothm}%
461 }

```

### § 304.13 Symbols

Proof QED symbol:

```

462 \newcommand{\qed}{\qquad\the\qedsymbol}
463
464 \AtBeginDocument{
465 \ifundefined{LWR@orig@openbox}{
466 \LetLtxMacro\LWR@orig@openbox\openbox
467 \LetLtxMacro\LWR@orig@blacksquare\blacksquare
468 \LetLtxMacro\LWR@orig@Box\Box
469
470 \def\openbox{\text{\HTMLUnicode{25A1}}}% UTF-8 white box
471 \def\blacksquare{\text{\HTMLUnicode{220E}}}% UTF-8 end-of-proof
472 \def\Box{\text{\HTMLUnicode{25A1}}}% UTF-8 white box
473
474 \appto\LWR@restoreorigformatting{%
475 \LetLtxMacro\openbox\LWR@orig@openbox%
476 \LetLtxMacro\blacksquare\LWR@orig@blacksquare%
477 \LetLtxMacro\Box\LWR@orig@Box%
478 }% \appto
479 }{}% \ifundefined
480 }% \AtBeginDocument

```

### § 304.14 Cross-referencing

`\thref {<label>}`

```

481 \newcommand*{\thref}[1]{\cref{#1}}

```

---

File 208 **lwarp-octave.sty**

### § 305 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 209 **lwarp-overpic.sty**

§ 306    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 [83.2](#) for the print-mode version of `\overpicfontsize` and `\overpicfontskip`.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{overpic}

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 210 **lwarp-pagegrid.sty**

§ 307    Package **pagegrid**

Pkg    pagegrid    pagegrid is ignored.

for HTML output:    1 \LWR@ProvidesPackageDrop{pagegrid}  
                          2 \newcommand\*{\pagegridsetup}[1]{}

---

File 211 **lwarp-pagenote.sty**

§ 308    Package **pagenote**

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

for HTML output:    1 \DeclareOption{page}{}  
                          2 \LWR@ProvidesPackagePass{pagenote}

---

File 212 **lwarp-pagesel.sty**

§ 309    Package **pagesel**

Pkg    pagesel    pagesel is ignored.

for HTML output:    1 \LWR@ProvidesPackageDrop{pagesel}

---

File 213 **lwarp-paralist.sty**

§ 310    Package **paralist**

*(Emulates or patches code by BERND SCHANDL.)*

Pkg    paralist    paralist is supported with minor changes.

for HTML output:    1 \LWR@ProvidesPackagePass{paralist}

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 214 **lwarp-parnotes.sty**

§ 311 Package **parnotes**

*(Emulates or patches code by CHELSEA HUGHES.)*

Pkg parnotes parnotes is supported with some patches.

for HTML output:

```
1 \LWR@ProvidesPackagePass{parnotes}

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 }

```

---

File 215 **lwarp-parskip.sty**

§ 312    Package **parskip**

Pkg    parskip    parskip is ignored.

for HTML output:    Discard all options for lwarp-parskip.

```
1 \LWR@ProvidesPackageDrop{parskip}
```

---

File 216 **lwarp-pbox.sty**

§ 313    Package **pbox**

*(Emulates or patches code by SIMON LAW.)*

Pkg    pbox    pbox is emulated.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{pbox}

2 \NewDocumentCommand{\pbox}{0{t} o 0{t} m +m}{%
3 \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 217 **lwarp-pdfcomment.sty**

§ 314     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][{}]{%
6 \newcommand{\pdfreetextcomment}[2][{}]{%
7 \newcommand{\pdfsquarecomment}[2][{}]{%
8 \newcommand{\pdfcirclecomment}[2][{}]{%
9 \newcommand{\pdflinecomment}[2][{}]{%
10 \newcommand{\pdftooltip}[3][{}]{%
11 \newcommand{\pdfcommentsetup}[2][{}]{%
12 \newcommand{\listofpdfcomments}[1][{}]{%
13 \newcommand{\setliststyle}[1]{%
14 \newcommand{\defineliststyle}[2]{%
15 \newcommand{\defineavatar}[2]{%
16 \newcommand{\definestyle}[2]{%

```

---

File 218 **lwarp-pdfscape.sty**

§ 315     Package **pdfscape**

Pkg   pdfscape   pdfscape is ignored.

**for HTML output:** Discard all options for lwarp-pdflandscape:

```
1 \LWR@ProvidesPackageDrop{pdflandscape}
```

---

File 219 **lwarp-pdfmarginpar.sty**

§ 316 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 220 **lwarp-pdfpages.sty**

§ 317 Package **pdfpages**

*(Emulates or patches code by ANDREAS MATTHIAS.)*

Pkg pdfpages pdfpages is patched for use by lwarp.

Option link and linkname work:

---

```
\hyperlink{<filename>.pdf.<pagenubmer>}{some text}
\hyperlink{<linkname>.<pagenubmer>}{some text}
```

---

Options which make no sense in HTML are disabled.

**for HTML output:** 1 \LWR@ProvidesPackagePass{pdfpages}

Disable option which have no meaning for HTML output:

```
2 \define@key{pdfpages}{fitpaper}[false]{}
3 \define@key{pdfpages}{landscape}[false]{}
4 \define@key{pdfpages}{openright}[false]{}
5 \define@key{pdfpages}{signature}{}
6 \define@key{pdfpages}{signature*}{}

```

```

7 \define@key{pdfpages}{booklet}[false]{}
8 \define@key{pdfpages}{rotateoversize}[false]{}
9 \define@key{pdfpages}{doublepages}[false]{}
10 \define@key{pdfpages}{doublepagestwist}[false]{}
11 \define@key{pdfpages}{doublepagestwistodd}[false]{}
12 \define@key{pdfpages}{doublepagestwist*}[false]{}
13 \define@key{pdfpages}{doublepagestwistodd*}[false]{}
14 \define@key{pdfpages}{duplicatepages}[2]{}
15 \define@key{pdfpages}{thread}[false]{}
16 \define@key{pdfpages}{threadname}{}
17 \define@key{pdfpages}{linkfit}{}
18 \define@key{pdfpages}{linktodoc}[false]{}
19 \define@key{pdfpages}{linktodocfit}{}
20 \define@key{pdfpages}{linkfilename}{}
21 \define@key{pdfpages}{survey}[false]{}
22 \define@key{pdfpages}{survey-nolink}[false]{}
23 \define@key{pdfpages}{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 \ifdefined\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 a reasonable paper size.

```

65 \xpretocmd{\includepdf}{%
66   \begingroup%
67   \setlength{\paperwidth}{8in}%
68   \setlength{\paperheight}{10.5in}%
69 }{}{}
70
71 \xapptocmd{\includepdf}{%
72   \endgroup%
73 }{}{}

```

\includepdfmerge Patched to set a reasonable paper size.

```

74 \xpretocmd{\includepdfmerge}{%
75   \begingroup%
76   \setlength{\paperwidth}{8in}%
77   \setlength{\paperheight}{10.5in}%
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 221    **lwarp-pdfprivacy.sty**

§ 318    Package    **pdfprivacy**

Pkg   pdfprivacy   pdfprivacy is ignored.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{pdfprivacy}

---

File 222    **lwarp-pdfrender.sty**

§ 319    Package    **pdfrender**

Pkg   pdfrender   pdfrender is ignored.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{pdfrender}

```

2 \newcommand*{\pdfrender}[1]{}
3 \newcommand{\textpdfrender}[2]{#2}

```

---

File 223    **lwarp-pdfsync.sty**

§ 320    Package    **pdfsync**

*(Emulates or patches code by J. LAURENS.)*

Pkg   pdfsync   Emulated.

**for HTML output:**    Discard all options for lwarp-pdfsync:

```

1 \LWR@ProvidesPackageDrop{pdfsync}

2 \newcommand*{\pdfsync}{}
3 \newcommand*{\pdfsyncstart}{}
4 \newcommand*{\pdfsyncstop}{}

```


---

File 224 **lwarp-pdftricks.sty**

§ 321 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}`

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 225 **lwarp-pdfx.sty**

§ 322 Package **pdfx**

Pkg pdfx pdfx is ignored.


**for HTML output:** `1 \LWR@ProvidesPackageDrop{pdfx}`

---

File 226 **lwarp-pfnote.sty**

§ 323    Package **pfnote**

Pkg    pfnote    pfnote is emulated.

 **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}

---

File 227 **lwarp-phfqit.sty**

§ 324    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}

```

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 228 **lwarp-placeins.sty**

§ 325    Package **placeins**

*(Emulates or patches code by DONALD ARSENEAU.)*

Pkg placeins placeins is not used during HTML conversion.

Discard all options for lwarp-placeins:

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{placeins}
2 \newcommand*{\FloatBarrier}{}

```

---

File 229 **lwarp-prelim2e.sty**

§ 326 Package **prelim2e**

*(Emulates or patches code by MARTIN SCHRÖDER.)*

Pkg prelim2e Emulated.

**for HTML output:** Discard all options for lwarp-prelim2e:

```
1 \LWR@ProvidesPackageDrop{prelim2e}
2 \newcommand{\PrelimText}{}
3 \newcommand{\PrelimTextStyle}{}
4 \newcommand{\PrelimWords}{}

```

---

File 230 **lwarp-prettyref.sty**

§ 327 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}
2 \newreformat{fig}{Figure \ref{#1}}
3 \newreformat{tab}{Table \ref{#1}}

```

---

File 231 **lwarp-preview.sty**

§ 328 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 232 **lwarp-psfrag.sty**

§ 329      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--\packagediagramname)]%
4 }
5
6 \AfterEndEnvironment{psfrags}{\end{lateximage}}

```

---

File 233 **lwarp-psfragx.sty**

§ 330      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--\packagediagramname)]%
4   \mbox{\pfx@overpix{#1}{#2}\endpfx@overpix}%
5   \end{lateximage}%
6 }
7
8 \def\@@@overpix[#1]<#2>[#3]#4{%
9   \begin{lateximage}[(-psfragx--\packagediagramname)]%
10  \pfx@overpix{#1,ovpfgd={#2},ovpbgd={#3}}{#4}%
11 }
12
13 \def\endoverpix{%
14   \endpfx@overpix%
15   \end{lateximage}%
16 }

```

---

File 234 **lwarp-pst-eps.sty**

§ 331 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}

```

2 \renewenvironment{TeXtoEPS}{}{}
3 \renewcommand{\PSTtoEPS}[3][{}]{

```

---


File 235 **lwarp-pstool.sty**

§ 332 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}`

Each image is placed inside a `lateximage` to capture the results of `psfrag`.

```

2 \renewcommand\pstool@alwaysprocess[3][\{%
3   \begin{lateximage}[(-pstool--\packagediagramname)]%
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--\packagediagramname)]%
12   \includegraphics{#2.pdf}%
13   \end{lateximage}%
14 }
```


---

File 236 `lwarp-pstricks.sty`

§ 333 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}`

```

2 \BeforeBeginEnvironment{pspicture}{\begin{lateximage}[(pspicture)]}
3 \AfterEndEnvironment{pspicture}{\end{lateximage}}
```

---

File 237 **lwarp-quotchap.sty**

§ 334     Package **quotchap**

*(Emulates or patches code by KARSTEN TINNEFELD, JAN KLEVER.)*

Pkg    quotchap    quotchap is emulated.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{quotchap}

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]{\begin{BlockClass}{qauthor}{#1}\end{BlockClass}}
```

\qsetcnfont is ignored:

```
23 \newcommand{\qsetcnfont}[1]{}
```

---

File 238 **lwarp-quoting.sty**

§ 335     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}

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}}
9   {}
10  {\LWR@patcherror{imakeidx}{endquoting}}
```

---

File 239 **lwarp-ragged2e.sty**

§ 336     Package **ragged2e**

*(Emulates or patches code by MARTIN SCHRÖDER.)*

Pkg    ragged2e    ragged2e is not used during HTML conversion.

Discard all options for lwarp-ragged2e:

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{ragged2e}

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 240 **lwarp-realscripts.sty**

## § 337 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@ProvidesPackageDrop{realscripts}

2 \let\realsuperscript\textsuperscript
3 \let\realsubscript\textsubscript
4
5 \let\fakesuperscript\textsuperscript
6 \let\fakesubscript\textsubscript
7
8 \newlength{\subsupersep}
9
10 \newcommand*\LWR@realscriptsalign{}
11
12 \newcommand*\LWR@setrealscriptsalign[1]{%
13 \renewcommand*\LWR@realscriptsalign{}%
14 \ifthenelse{\equal{#1}{c}}{%
15   \renewcommand{\LWR@realscriptsalign}{\LWR@print@mbbox{text-align:center} ; }%
16 }{}%

```

---

```

17 \ifthenelse{\equal{#1}{r}}{%
18   \renewcommand{\LWR@realscriptsalign}{\LWR@print@mbox{text-align:right} ; }%
19 }{}%
20 }
21
22 \DeclareDocumentCommand \textsubsuperscript {s O{1} mm} {%
23   \LWR@setrealscriptsalign{#2}%
24   \InlineClass[\LWR@realscriptsalign]{supsubscript}{%
25     \textsuperscript{#4}\textsubscript{#3}%
26   }%
27 }
28
29 \DeclareDocumentCommand \textsupersubscript {s O{1} mm} {%
30   \LWR@setrealscriptsalign{#2}%
31   \InlineClass[\LWR@realscriptsalign]{supsubscript}{%
32     \textsubscript{#4}\textsuperscript{#3}%
33   }%
34 }

```

---

File 241 **lwarp-refcheck.sty**

§ 338     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\checkunlbl{}
9 \def\ignoreunlbl{}
10 \newcommand*{\refcheckxrdoc}[2] [] {}

```

---

File 242 **lwarp-register.sty**

§ 339     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}[2018/11/10]

2 \xpatchcmd{\register}
3   {\centering}
4   {\begin{center}\begin{lateximage}[(-register--\packagediagramname)]}
5   {}
6   {\LWR@patcherror{register}{register}}
7
8 \xpatchcmd{\endregister}
9   {\leftskip}
10  {%
11      \end{lateximage}\end{center}%
12      \leftskip%
13  }%
14  {}
15  {\LWR@patcherror{register}{endregister}}
16
17 \expandafter\xapptocmd\csname register*\endcsname
18   {\begin{center}\begin{lateximage}[(-register--\packagediagramname)]}
19   {}
20   {\LWR@patcherror{register}{register*}}
21
22 \expandafter\xpatchcmd\csname endregister*\endcsname
23   {\leftskip}
24   {%
25      \end{lateximage}\end{center}%
26      \leftskip%
27   }%
28   {}
29   {\LWR@patcherror{register}{endregister*}}
30
31 \setlength{\regWidth}{5in}

```

---

File 243 **lwarp-relsize.sty**

§ 340     Package **relsize**

*(Emulates or patches code by DONALD ARSENEAU, BERNIE COSELL, MATT SWIFT.)*

Pkg    relsize    relsize is patched for use by lwarp.

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.

for HTML output:

```

1 \LWR@ProvidesPackagePass{relsize}

2 \let\LWR@origrelsize\relsize
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\relsize\LWR@origrelsize%
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@relsizetemp}
21
22 \renewcommand*{\relsize}[1]{%
23 \renewcommand*{\larger}[1][1]{%
24 \renewcommand*{\smaller}[1][1]{%
25 \renewcommand*{\relscale}[1]{%
26
27 \renewcommand*{\textlarger}[2][1]{%
28 \setcounter{LWR@relsizetemp}{100+(#1*20)}%
29 \InlineClass[font-size:\arabic{LWR@relsizetemp}\%]{\textlarger}{#2}%
30 }
31
32 \renewcommand*{\textsmaller}[2][1]{%
33 \setcounter{LWR@relsizetemp}{100-(#1*20)}%
34 \InlineClass[font-size:\arabic{LWR@relsizetemp}\%]{\textsmaller}{#2}%
35 }
36
37 \renewcommand*{\textscale}[2]{%
38 \setcounter{LWR@relsizetemp}{100*\real{#1}}%
39 \InlineClass[font-size:\arabic{LWR@relsizetemp}\%]{\textscale}{#2}%
40 }

```

---

File 244 **lwarp-repeatindex.sty**

§ 341      Package **repeatindex**

Pkg repeatindex repeatindex is emulated for lwarp.

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 245 **lwarp-resizegather.sty**

§ 342     Package **resizegather**

Pkg `resizegather`     `resizegather` is ignored.

**for HTML output:**     1 \LWR@ProvidesPackageDrop{resizegather}

                          2 \newcommand\*{\resizegathersetup}[1]{}

---

File 246 **lwarp-romanbar.sty**

§ 343     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}

                          2 \DeclareRobustCommand{\Roman@bar}[1]{% #1 is in Roman, i.e. MMXII

                          3 \InlineClass[%

                          4     text-decoration: overline underline ;

                          5 ]{romanbar}{#1}%

                          6 }

---

File 247 **lwarp-romanbarpagenumber.sty**

§ 344     Package **romanbarpagenumber**

Pkg `romanbarpagenumber`     `romanbarpagenumber` is ignored.

**for HTML output:**     1 \LWR@ProvidesPackageDrop{romanbarpagenumber}

---

File 248 **lwarp-rotating.sty**

§ 345     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}

2 \LetLtxMacro\sidewaystable\table  
 3 \let\endsidewaystable\endtable  
 4  
 5 \LetLtxMacro\sidewaysfigure\figure  
 6 \let\endsidewaysfigure\endfigure  
 7  
 8 \newenvironment\*{sideways}{\{}}{\}  
 9 \newenvironment\*{turn}[1]{\{}}{\}  
 10 \newenvironment\*{rotate}[1]{\{}}{\}  
 11 \NewDocumentCommand{\turnbox}{m +m}{#2}  
 12 \let\rotcaption\caption  
 13 \let\@makerotcaption\@makecaption

---

File 249 **lwarp-rotfloat.sty**

§ 346     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}

\newfloat    {\langle 1: type \rangle} {\langle 2: placement \rangle} {\langle 3: ext \rangle} [\langle 4: within \rangle]

Emulates the \newfloat command from the float package. Sideways floats are \let to the same as regular floats.

“placement” is ignored.

```

4 \RenewDocumentCommand{\newfloat}{m m m o}{%
5 \IfValueTF{#4}%
6 {%
7   \DeclareFloatingEnvironment[fileext=#3,within=#4]{#1}%
8 }%
9 {%
10  \DeclareFloatingEnvironment[fileext=#3]{#1}%
11 }%
12 \csletcs{sideways#1}{#1}%
13 \csletcs{endsideways#1}{end#1}%

```

Remember the float style:

```

14 \csedef{LWR@floatstyle@#1}{\LWR@floatstyle}%
15 \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:

```

16 \cslet{listof#1s}\relax%
17 \cslet{listof#1es}\relax%
18 \cslet{listofsideways#1s}\relax%
19 \cslet{listofsideways#1es}\relax%
20 }

```

---

File 250 **lwarp-rviewport.sty**

§ 347     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 251 **lwarp-savetrees.sty**

§ 348     Package **savetrees**

Pkg    savetrees    Emulated.

for HTML output:    Discard all options for lwarp-savetrees:

```
1 \LWR@ProvidesPackageDrop{savetrees}
```

---

File 252 **lwarp-scalefnt.sty**

§ 349     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 253 **lwarp-schemata.sty**

§ 350     Package **schemata**

*(Emulates or patches code by CHARLES P. SCHAUUM.)*

Pkg    schemata    schemata is patched for use by lwarp.

for HTML output:    1 \LWR@ProvidesPackagePass{schemata}

```
2 \LetLtxMacro\LWR@schemata@origschema\schemata
3 \LetLtxMacro\LWR@schemata@origSchema\Schema
4
5 \renewcommand{\schemata}[3][open]{%
6 \begin{lateximage}%
7 \LWR@print@normalsize
8 \LWR@schemata@origschema[#1]{#2}{#3}%
9 \end{lateximage}%

```

---

```

10 }
11
12 \renewcommand{\Schema}[5][open]{%
13 \begin{lateximage}%
14 \LWR@print@normalsize
15 \LWR@schemata@origSchema[#1]{#2}{#3}{#4}{#5}%
16 \end{lateximage}%
17 }

```

---

File 254 **lwarp-scrextend.sty**

§ 351     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}

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 \AtBeginDocument{
14 \let\LWR@maketitle\maketitle
15 \DeclareDocumentCommand{\maketitle}{o}{\LWR@maketitle}
16 }
17
18 \DeclareDocumentCommand{\extratitle}{m}{}
19 \DeclareDocumentCommand{\titlehead}{m}{}
20 \DeclareDocumentCommand{\subject}{m}{}
21 \DeclareDocumentCommand{\publishers}{m}{\published{#1}}
22 \DeclareDocumentCommand{\uppertitleback}{m}{}
23 \DeclareDocumentCommand{\lowertitleback}{m}{}
24 \DeclareDocumentCommand{\dedication}{m}{}
25
26 \DeclareDocumentCommand{\ifthispageodd}{m m}{#1}
27

```

```

28 \DeclareDocumentCommand{\titlepagestyle}{-}{-}
29
30 \DeclareDocumentCommand{\cleardoublepageusingstyle}{m}{-}
31 \DeclareDocumentCommand{\cleardoubleemptypage}{-}{-}
32 \DeclareDocumentCommand{\cleardoubleplainpage}{-}{-}
33 \DeclareDocumentCommand{\cleardoublestandardpage}{-}{-}
34 \DeclareDocumentCommand{\cleardoubleoddpage}{-}{-}
35 \DeclareDocumentCommand{\cleardoubleoddpageusingstyle}{m}{-}
36 \DeclareDocumentCommand{\cleardoubleoddemptypage}{-}{-}
37 \DeclareDocumentCommand{\cleardoubleoddplainpage}{-}{-}
38 \DeclareDocumentCommand{\cleardoubleoddstandardpage}{-}{-}
39 \DeclareDocumentCommand{\cleardoubleevenpage}{-}{-}
40 \DeclareDocumentCommand{\cleardoubleevenpageusingstyle}{m}{-}
41 \DeclareDocumentCommand{\cleardoubleevenemptypage}{-}{-}
42 \DeclareDocumentCommand{\cleardoubleevenplainpage}{-}{-}
43 \DeclareDocumentCommand{\cleardoubleevenstandardpage}{-}{-}
44
45 \DeclareDocumentCommand{\multiplefootnoteseparator}{-}{-%
46   \begingroup\let\thefootnotemark\multfootsep\makefnmark\endgroup
47 }
48
49 \DeclareDocumentCommand{\multfootsep}{-}{,}
50
51 \DeclareDocumentCommand{\footref}{m}{-%
52   \begingroup
53     \unrestored@protected@xdef\@thefnmark{\ref{#1}}%
54   \endgroup
55   \@footnotemark
56 }
57
58 \DeclareDocumentCommand{\deffootnote}{o m m}{-}
59 \DeclareDocumentCommand{\deffootnotemark}{m}{-}
60 \DeclareDocumentCommand{\setfootnoterule}{o m}{-}
61 \DeclareDocumentCommand{\raggedfootnote}{-}{-}
62
63 \DeclareDocumentCommand{\dictum}{o m}{
64   \begin{LWR@BlockClassWP}{\LWR@print@mbox{text-align:right}}{-}{dictum}
65     #2
66     \IfValueT{#1}
67     {
68       \ifbool{FormatWP}
69       {\begin{BlockClass}[\LWR@print@mbox{border-top:} 1px solid gray]{dictumauthor}}
70       {\begin{BlockClass}{dictumauthor}}
71       \dictumauthorformat{#1}
72       \end{BlockClass}
73     }
74   \end{LWR@BlockClassWP}
75 }
76
77 \DeclareDocumentCommand{\dictumwidth}{-}{-}

```

```

78 \DeclareDocumentCommand{\dictumauthorformat}{m}{(#1)}
79 \DeclareDocumentCommand{\dictumrule}{}{}
80 \DeclareDocumentCommand{\raggeddictum}{}{}
81 \DeclareDocumentCommand{\raggeddictumtext}{}{}
82 \DeclareDocumentCommand{\raggeddictumauthor}{}{}
83
84 \DeclareDocumentEnvironment{labeling}{o m}
85 {%
86 \def\sc@septestext{#1}%
87 \list{}{}%
88 \let\makelabel\labelinglabel%
89 }
90 {
91 \endlist
92 }
93
94 \DeclareDocumentCommand{\labelinglabel}{m}{%
95 #1 \quad \sc@septestext%
96 }
97
98 \let\addmargin\relax
99 \let\endaddmargin\relax
100 \cslet{addmargin*}{\relax}
101 \cslet{endaddmargin*}{\relax}
102
103 \NewDocumentEnvironment{addmargin}{s O{} m}
104 {
105 \setlength{\LWR@templelengthtwo}{#3}
106 \ifblank{#2}
107 {
108   \begin{BlockClass}[
109     \LWR@print@mbx{margin-left:\LWR@printlength{\LWR@templelengthtwo}} ;
110     \LWR@print@mbx{margin-right:\LWR@printlength{\LWR@templelengthtwo}}
111   ]{addmargin}
112 }
113 {
114   \setlength{\LWR@templelengthone}{#2}
115   \begin{BlockClass}[
116     \LWR@print@mbx{margin-left:\LWR@printlength{\LWR@templelengthone}} ;
117     \LWR@print@mbx{margin-right:\LWR@printlength{\LWR@templelengthtwo}}
118   ]{addmargin}
119 }
120 }
121 {\end{BlockClass}}

```

Ref to create a starred environment:

[https://tex.stackexchange.com/questions/45401/  
use-the-s-star-argument-with-newdocumentenvironment](https://tex.stackexchange.com/questions/45401/use-the-s-star-argument-with-newdocumentenvironment)

---

```

122
123 \ExplSyntaxOn
124 \cs_new:cpn {addmargin*} {\addmargin*}
125 \cs_new_eq:cN {endaddmargin*} \endaddmargin
126 \ExplSyntaxOff
127
128 \DeclareDocumentCommand{\marginline}{m}{\marginpar{#1}}

```

---

File 255 **lwarp-scrhack.sty**

§ 352    Package **scrhack**

Pkg    scrhack    scrhack is ignored.

for HTML output:    1 \LWR@ProvidesPackageDrop{scrhack}

---

File 256 **lwarp-scrlayer.sty**

§ 353    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}

```

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*{\layervalign}{\}
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 \DeclareDocumentCommand{\GenericMarkFormat}{}{}
58 \newcommand*{\@mkleft}[1]{}
59 \newcommand*{\@mkright}[1]{}
60 \newcommand*{\@mkdouble}[1]{}
61 \newcommand*{\@mkboth}[2]{}
62 \newcommand*{\scrlayerInitInterface}[1]{}
63 \newcommand{\scrlayerAddToInterface}[3]{}
64 \newcommand{\scrlayerAddCsToInterface}[3]{}
65 \newcommand{\scrlayerOnAutoRemoveInterface}[2]{}

```

---

File 257 **lwarp-scrlayer-notecolumn.sty**

§ 354     Package **scrlayer-notecolumn**

*(Emulates or patches code by MARKUS KOHM.)*

Pkg    scrlayer-notecolumn    scrlayer-notecolumn is emulated.

 **Not fully tested!** [Please send bug reports!](#)

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{scrlayer-notecolumn}

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 258 **lwarp-scrlayer-scrpage.sty**

§ 355     Package **scrlayer-scrpage**

*(Emulates or patches code by MARKUS KOHM.)*

Pkg    scrlayer-scrpage    scrlayer-scrpage is emulated.

 **Not fully tested!** [Please send bug reports!](#)

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{scrlayer-scrpage}

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{\automark}{s o m}{}
22 \DeclareDocumentCommand{\manualmark}{}{}
23 \DeclareDocumentCommand{\MakeMarkcase}{m}{#1}
24 \DeclareDocumentCommand{\GenericMarkFormat}{}{}
25 \newcommand*{\defpairofpagestyles}[3] [] {}
26 \newcommand*{\newpairofpagestyles}[3] [] {}
27 \newcommand*{\renewpairofpagestyles}[3] [] {}
28 \newcommand*{\providepairofpagestyles}[3] [] {}
29 \newcommand*{\clearmainofpairofpagestyles}
30 \newcommand*{\clearplainofpairofpagestyles}
31 \newcommand*{\clearpairofpagestyles}
32 \NewDocumentCommand{\deftriplepagestyle}{m o o m m m m m m}{}
33 \NewDocumentCommand{\newtriplepagestyle}{m o o m m m m m m}{}
34 \NewDocumentCommand{\renewtriplepagestyle}{m o o m m m m m m}{}
35 \NewDocumentCommand{\providetriplespagestyle}{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 259 **lwarp-section.sty**

§ 356 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\hdsi{\huge}\else
4 \def\chsize{\huge}\def\hdsi{\Huge}
5 \fi
6 \let\ttsi\LARGE
7 \let\ausi\large
8 \let\dasizelarge

```

---

```

9 \let\seclsize\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\nmidot{}
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 260 **lwarp-sectionbreak.sty**

§ 357 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}

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 261 **lwarp-sectsty.sty**

§ 358      Package **sectsty**

*(Emulates or patches code by ROWLAND McDONNELL.)*

Pkg    sectsty    sectsty is emulated.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{sectsty}

```

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 262 **lwarp-semantic-markup.sty**

§ 359      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 263 **lwarp-setspace.sty**

§ 360    Package **setspace**

*(Emulates or patches code by ROBIN FAIRBAIRNS.)*

Pkg    **setspace**    **setspace** is not used during HTML conversion.

Discard all options for lwarp-setspace:

for HTML output:

```
1 \LWR@ProvidesPackageDrop{setspace}
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 264 **lwarp-shadow.sty**

§ 361     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}

2 \newdimen\sboxsep
3 \newdimen\sboxrule
4 \newdimen\sdim
5
6 \newcommand{\shabox}[1]{%
7 \InlineClass{shabox}{#1}%
8 }
```

---

File 265 **lwarp-showidx.sty**

§ 362     Package **showidx**

Pkg   showidx   showidx is ignored.

for HTML output:   Discard all options for lwarp-showidx:

```
1 \LWR@ProvidesPackageDrop{showidx}
```

\@wrindex is redefined \AtBeginDocument by the lwarp core.

---

File 266 **lwarp-showkeys.sty**

§ 363     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}

2 \NewDocumentCommand{\showkeys}{s}{}

```

---

File 267 **lwarp-sidecap.sty**

§ 364     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}

```

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 268 **lwarp-sidenotes.sty**

§ 365      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 \captionsetup{type=#2}%
```

---

```

28 }
29 {%
30 \endLWR@BlockClassWP%
31 }
32
33 \RenewDocumentEnvironment{marginfigure}{o}
34   {\begin{KFLTsidenotes@marginfloat}{figure}}
35   {\end{KFLTsidenotes@marginfloat}}
36
37 \RenewDocumentEnvironment{margintable}{o}
38   {\begin{KFLTsidenotes@marginfloat}{table}}
39   {\end{KFLTsidenotes@marginfloat}}

```

The following were changed by sidenotes, and now are reset back to their lwarp-supported originals:

Restoring the definition from the  $\text{\LaTeX}2_{\epsilon}$  `article.cls` source:

```

40 \renewenvironment{figure*}
41     {\@dblfloat{figure}}
42     {\end@dblfloat}
43
44 \renewenvironment{table*}
45     {\@dblfloat{table}}
46     {\end@dblfloat}

```

---

File 269 **lwarp-SIunits.sty**

§ 366    Package **Slunits**

*(Emulates or patches code by MARCEL HELDOORN.)*

Pkg    SIunits    Slunits is patched for use by lwarp.

It is recommended to use `\unit` where possible, which combines the entire expression into a single `lateximage`, and adds the `alt` tag containing the  $\text{\LaTeX}$  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 to “(`<\mathimagenam>`)”, which defaults to “(math image)”.

**for HTML output:**    1 \LWR@ProvidesPackagePass{SIunits}

Patched for copy/paste with the HTML `alt` tag:

```

2 \DeclareRobustCommand{\unit}[2]{%
3 \@inunitcommandtrue%    original

```

---

```

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   \LWR@origensuredmath{% lwarp modification
12     \SI@fstyle{#1}@qsk\period@active{#2}}% original
13  }%
14}% contents
15 \inunitcommandfalse% original
16 }

```

---

File 270 **lwarp-siunitx.sty**

§ 367 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.

**NOTE:** As of this writing, the siunitx extension for MATHJAX is not currently hosted at any public CDN, thus siunitx is not usable with MATHJAX unless a local copy of this extension is created first.

 **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.

**for HTML output:**

```

1 \RequirePackage{xcolor}% for \convertcolorspec
2
3 \LWR@ProvidesPackagePass{siunitx}

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   {
80     \__siunitx_unit_output_pre_print:

```

For parse-numbers=false:

```

81 % \__siunitx_print:nn { number } { \ensuremath {#1} }
82 \LWR@subsingledollar{% lwarp
83   \textbackslash( \LWR@HTMLsanitize{#1} \textbackslash)% lwarp
84   }{siunitx}{%
85     \__siunitx_print:nn { number } {%
86       \LWR@origensuredmath{#1}%
87     }%
88   }% lwarp

89 \__siunitx_unit_output_print:
90 }
91 \group_end:% lwarp
92 }
93 %

```

For quotients, the fraction code is replaced by the symbol code:

```

94 \cs_undefine:N \__siunitx_number_output_quotient_fraction:
95 \cs_new_protected:Npn \__siunitx_number_output_quotient_fraction: {

```

```

96 \bool_set_true:N \l__siunitx_number_compound_bool
97 \__siunitx_number_output_quotient_aux_i:
98 \tl_set_eq:NN \l__siunitx_number_out_tl
99   \l__siunitx_number_numerator_tl
100 \tl_put_right:NV \l__siunitx_number_out_tl \l__siunitx_output_quotient_tl
101 \tl_put_right:NV \l__siunitx_number_out_tl
102   \l__siunitx_number_denominator_tl
103 \__siunitx_number_output_single_aux:
104 }

```

For units, the fraction code is replaced by the symbol code:

```

105 \cs_undefine:N \__siunitx_unit_format_fraction_fraction:
106 \cs_new_protected:Npn \__siunitx_unit_format_fraction_fraction: {
107   \__siunitx_unit_format_fraction_symbol_aux:
108   \int_compare:nNnT { \l__siunitx_unit_denominator_int } > { 1 }
109     {
110       \bool_if:NT \l__siunitx_unit_denominator_bracket_bool
111         {
112           \tl_put_left:NV \l__siunitx_unit_denominator_tl \l__siunitx_bracket_open_tl
113           \tl_put_right:NV \l__siunitx_unit_denominator_tl \l__siunitx_bracket_close_tl
114         }
115       }
116   \tl_set_eq:NN \l__siunitx_unit_tl \l__siunitx_unit_numerator_tl
117   \tl_put_right:NV \l__siunitx_unit_tl \l__siunitx_per_symbol_tl
118   \tl_put_right:NV \l__siunitx_unit_tl \l__siunitx_unit_denominator_tl
119 }

120 \cs_undefine:N \__siunitx_angle_print_astronomy_aux:
121 \cs_new_protected:Npn \__siunitx_angle_print_astronomy_aux: {
122   \prop_get:NnNT \l__siunitx_number_out_prop { mantissa-integer }
123   \l__siunitx_tmpa_tl
124   { \__siunitx_print:nV { number } \l__siunitx_tmpa_tl }
125   \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}% lwarp
126   {% lateximage
127   \hbox_set:Nn \l__siunitx_angle_marker_box
128     {
129       \__siunitx_print:nn { number } { { \l__siunitx_output_decimal_tl } }
130     }
131   \hbox_set:Nn \l__siunitx_angle_unit_box
132     {
133       \__siunitx_print:nV { unit } \l__siunitx_unit_tl
134       \skip_horizontal:n { -\scriptspace }
135     }
136   \__siunitx_angle_print_astronomy_aux:n { marker }
137   \__siunitx_angle_print_astronomy_aux:n { unit }
138   \hbox_set:Nn \l__siunitx_angle_marker_box
139     {
140       \box_use:N \l__siunitx_angle_marker_box

```

```

141     \box_use:N \l__siunitx_angle_unit_box
142   }
143   \dim_compare:nNnTF
144     { \l__siunitx_angle_marker_dim } > { \l__siunitx_angle_unit_dim }
145     { \__siunitx_angle_print_astronomy_marker: }
146     { \__siunitx_angle_print_astronomy_unit: }
147   }% lateximage
148   {% not a lateximage
149     \__siunitx_print:nV { unit } \l__siunitx_unit_tl
150     \__siunitx_print:nn { number } { { \l__siunitx_output_decimal_tl } }
151   }% not a lateximage
152   \prop_get:NnNT \l__siunitx_number_out_prop { mantissa-decimal }
153   \l__siunitx_tmpa_tl
154   { \__siunitx_print:nV { number } \l__siunitx_tmpa_tl }
155 }

156 \RenewDocumentCommand \num { o m } {
157   \leavevmode
158   \group_begin:% lwarp
159     \LetLtxMacro\@ensuredmath\LWR@origensuredmath% lwarp
160     \LetLtxMacro\mbox\LWR@print@mbox% lwarp
161     \bool_set_false:N \l__siunitx_font_set_bool
162     \IfNoValueF {#1}
163       { \keys_set:nn { siunitx } {#1} }
164     \__siunitx_number_output:n {#2}
165   \group_end:% lwarp
166 }

167
168 \RenewDocumentCommand \numrange { o m m } {
169   \leavevmode
170   \group_begin:% lwarp
171     \LetLtxMacro\@ensuredmath\LWR@origensuredmath% lwarp
172     \LetLtxMacro\mbox\LWR@print@mbox% lwarp
173     \bool_set_false:N \l__siunitx_font_set_bool
174     \IfNoValueF {#1}
175       { \keys_set:nn { siunitx } {#1} }
176     \__siunitx_range_numbers:nn {#2} {#3}
177   \group_end:% lwarp
178 }

179
180 \RenewDocumentCommand \ang { o > { \SplitArgument { 2 } { ; } } m } {
181   \group_begin:% lwarp
182     \LetLtxMacro\@ensuredmath\LWR@origensuredmath% lwarp
183     \LetLtxMacro\mbox\LWR@print@mbox% lwarp
184     \IfNoValueF {#1}
185       { \keys_set:nn { siunitx } {#1} }
186     \__siunitx_angle_output:nnn #2
187   \group_end:% lwarp
188 }

```

---

```

189
190 \RenewDocumentCommand \si { o m } {
191   \leavevmode
192   \group_begin:% lwarp
193   \LetLtxMacro\@ensuredmath\LWR@origensuredmath% lwarp
194   \LetLtxMacro\mbox\LWR@print@mbox% lwarp
195   \bool_set_false:N \l__siunitx_font_set_bool
196   \IfNoValueTF {#1}
197     { \__siunitx_unit_output:nn {#2} { } }
198     {
199       \keys_set:nn { siunitx } {#1}
200       \__siunitx_unit_output:nn {#2} {#1}
201     }
202   \group_end:% lwarp
203 }
204
205
206 \RenewDocumentCommand{\SIrange}{o m m m}
207 {%
208   \leavevmode
209   \group_begin:% lwarp
210   \LetLtxMacro\@ensuredmath\LWR@origensuredmath% lwarp
211   \LetLtxMacro\mbox\LWR@print@mbox% lwarp
212   \bool_set_false:N \l__siunitx_font_set_bool
213   \IfNoValueTF {#1}
214     { \__siunitx_range_unit:nnnn {#4} { } {#2} {#3} }
215     {
216       \keys_set:nn { siunitx } {#1}
217       \__siunitx_range_unit:nnnn {#4} {#1} {#2} {#3}
218     }
219   \group_end:% lwarp
220 }
221
222 \ExplSyntaxOff

```

---

File 271 **lwarp-soul.sty**

§ 368      Package **soul**

*(Emulates or patches code by MELCHIOR FRANZ.)*

Pkg    soul    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 \ifcsempy{#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]{}

```

Set colors:

```

55 \newcommand*\setulcolor}[1]{\renewcommand{\LWR@soululcolor}{#1}}
56 \newcommand*\setstcolor}[1]{\renewcommand{\LWR@soulstcolor}{#1}}
57 \newcommand*\sethlcolor}[1]{\renewcommand{\LWR@soulhlcolor}{#1}}

```

Long versions of the user-level macros:

```

58 \let\textso\so
59 \let\textul\ul
60 \let\texthl\hl
61 \let\textcaps\caps

```

---

File 272 **lwarp-soulpos.sty**

§ 369    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}

```

---

```

4 \NewDocumentCommand{\ulposdef}{m o m}{}
5
6 \newdimen\ulwidth
7
8 \newcommand\ifulstartttype[1]{%
9 \expandafter\@secondoftwo%
10 }
11
12 \newcommand\ifulendtype[1]{%
13 \expandafter\@secondoftwo%
14 }
15
16 \newcommand{\ulstartttype}{0}
17 \newcommand{\ulendtype}{0}
18 \newcommand\ulpostolerance{0}%

```

---

File 273 **lwarp-soulutf8.sty**

§ 370    Package **soulutf8**

Pkg    soulutf8    soulutf8 is emulated.

lwarp's HTML output naturally supports UTF-8 encoding.

for HTML output:    1 \LWR@ProvidesPackageDrop{soulutf8}

---

File 274 **lwarp-splitidx.sty**

§ 371    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 448.17 in the `lwarp-patch-memoir` package for the `\@@wrsindexhyp` macro as an example.

for HTML output:

```

1 \LWR@ProvidesPackagePass{splitidx}

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@verbinde\@onelevel@sanitize\@tempa\fi
16       \@wrindex{\@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}%
23     \LWR@new@label{LWR@index-\arabic{LWR@autoindex}}%
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 275 **lwarp-srcltx.sty**

§ 372    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 276 **lwarp-srctex.sty**

§ 373    Package **srctex**

Pkg    srctex    srctex is ignored.

for HTML output:    1 \LWR@ProvidesPackageDrop{srctex}[2006/11/12]  
                      2 \LWR@origRequirePackage{lwarp-srcltx}

---

File 277 **lwarp-stabular.sty**

§ 374     Package **stabular**

*(Emulates or patches code by SIGITAS TOLUŠIS.)*

Pkg stabular stabular is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{stabular}

Env stabular [ $\langle vpos \rangle$ ] [ $\langle colspec \rangle$ ]

```
2 \newenvironment{stabular}[2][c]
3 {
4 \begin{tabular}[#1]{#2}
5 \renewcommand{\noalign}[1]{ }
6 }
7 {\end{tabular}}
```

Env stabular [ $\langle width \rangle$ ] [ $\langle vpos \rangle$ ] [ $\langle colspec \rangle$ ]

```
8 \NewDocumentEnvironment{stabular*}{m o m}
9 {
10 \begin{tabular}[#2]{#3}
11 \renewcommand{\noalign}[1]{ }
12 }
13 {\end{tabular}}
```

---

File 278 **lwarp-stfloats.sty**

§ 375     Package **stfloats**

Pkg stfloats stfloats is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{stfloats}

stfloats may have been preloaded by a ltjs\* 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 279 **lwarp-subfig.sty**

§ 376 Package **subfig**

(Emulates or patches code by STEVEN DOUGLAS COCHRAN.)

Pkg subfig subfig is supported and patched by lwarp.

 **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.

In the document source, use `\hfill` and `\hspace* subfig>inline` 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}
```

`\sf@@@subfloat` `{\langle 1 type\rangle} [\langle 2 LOF entry\rangle] [\langle 3 caption\rangle] {\langle 4 contents\rangle}`

The outer minipage allows side-by-side subfloats with `\hfill` between.

```
2 \long\def\sf@@@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 widthOpt heightOpt depthOpt
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@\@captype}\m@ne
92     \fi
93 \end{minipage}% lwarp
94 \LWR@startpars% lwarp
95 \endgroup\ignorespaces%
96 }%

```

`\sf@subcaption`     $\{\langle 1 \text{ type} \rangle\} \{\langle 2 \text{ LOF entry} \rangle\} \{\langle 3 \text{ caption} \rangle\}$

```

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{\@captype}}{\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 %     }
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 %          \hb@xt@\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\@capttype\space
179 \ifundefined{thechapter}}{\@nameuse{thechapter}\space}%
180 \@nameuse{p@sub\@capttype}%
181 \@nameuse{thesub\@capttype}.)}}

```

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  [{\keys/values}] {\float name}}

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  {\text} {\pagenum}}

192 \renewcommand{\l@subfigure}[2]{\hypertocfloat{2}{subfigure}{lof}{#1}{#2}}

\l@subtable  {\text} {\pagenum}}

193 \renewcommand{\l@subtable}[2]{\hypertocfloat{2}{subtable}{lot}{#1}{#2}}

```

---

File 280 **lwarp-subfigure.sty**

§ 377     Package **subfigure**

Pkg   subfigure   subfigure is emulated by subfig.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{subfigure}
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 281 **lwarp-supertabular.sty**

§ 378     Package **supertabular**

*(Emulates or patches code by JOHANNES BRAAMS, THEO JURRIENS.)*

Pkg supertabular supertabular is emulated.

for HTML output: 1 \LWR@ProvidesPackageDrop{supertabular}

⚠ Misplaced alignment     For \tablefirsthead, etc., enclose them as follows:  
tab character &

```
\StartDefiningTabulars
\tablefirsthead
...
\StopDefiningTabulars
```

See section 9.9.

⚠ 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 \LWR@traceinfo{supertabular done}%
50 }
51
52 \NewDocumentEnvironment{mpsupertabular}{s o m}
53 {\minipage{\linewidth}\supertabular{#3}}
54 {\endsupertabular\endminipage}

```

---

File 282 **lwarp-syntonly.sty**

§ 379     Package **syntonly**

*(Emulates or patches code by FRANK MITTELBACH, RAINER SCHÖPF.)*

Pkg    syntonly    Emulated.

**for HTML output:**    Discard all options for lwarp-syntonly:

```

1 \LWR@ProvidesPackageDrop{syntonly}

2 \newif\ifsyntax@
3 \syntax@false

```

---

```

4
5 \newcommand*{\syntaxonly}{}
6
7 \@onlypreamble\syntaxonly

```

---

File 283 **lwarp-tables.sty**

§ 380     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\extrarulessep

```

---

File 284 **lwarp-tabularx.sty**

§ 381     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}

2 \DeclareDocumentEnvironment{tabularx}{m o m}
3 {\tabular{#3}}
4 {\endtabular}
5
6 \DeclareDocumentEnvironment{tabularx*}{m o m}
7 {\tabular{#3}}
8 {\endtabular}

```

---

File 285 **lwarp-tabulary.sty**

§ 382      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}

2 \NewDocumentEnvironment{tabulary}{m o m}
3 {\tabular{#3}}
4 {\endtabular}
5
6 \NewDocumentEnvironment{tabulary*}{m o m}
7 {\tabular{#3}}
8 {\endtabular}
9
10 \newdimen\tymin
11 \newdimen\tymax
12 \def\tyformat{}
```

---

File 286 **lwarp-textarea.sty**

§ 383      Package **textarea**

*(Emulates or patches code by ALEXANDER I. ROZHENKO.)*

Pkg    textarea    textarea is ignored.

for HTML output:    1 \LWR@ProvidesPackageDrop{textarea}

```

2 \newcommand\StartFromTextArea{}
3 \newcommand\StartFromHeaderArea{}
4 \newcommand*\RestoreTextArea{}
5 \newcommand*\ExpandTextArea[1][*]{}
6 \let\NCC@restoretextarea\@empty
```

---

File 287 **lwarp-textcomp.sty**


§ 384    Package **textcomp**

(Emulates or patches code by FRANK MITTELBACH, ROBIN FAIRBAIRNS, WERNER LEMBERG.)

Pkg    textcomp    textcomp is patched for use by lwarp.

§ 384.1    **Limitations**

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

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

§ 384.2    **Package loading**

**for HTML output:**    1 \LWR@ProvidesPackagePass{textcomp}

§ 384.3    **HTML symbols**

For HTML, use HTML entities or direct Unicode, depending on the engine.

\AtBeginDocument improves support for Lua<sup>A</sup>T<sub>E</sub>X and X<sub>Y</sub>L<sup>A</sup>T<sub>E</sub>X.

§ 384.3.1    **pdf<sup>A</sup>L<sub>A</sub>T<sub>E</sub>X 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@textinterrobangdown}{\HTMLUnicode{2E18}}
18 \newcommand*{\LWR@HTML@textperthousand}{\HTMLUnicode{2030}}
19 \newcommand*{\LWR@HTML@textpertenthousand}{\HTMLUnicode{2031}}
20 \newcommand*{\LWR@HTML@textbaht}{\HTMLUnicode{0E3F}}
21 \newcommand*{\LWR@HTML@textdiscount}{\%}
22 \newcommand*{\LWR@HTML@textservicemark}{\HTMLUnicode{2120}}
23 \else

```

### § 384.3.2 X<sub>3</sub>LaTeX and LuaLaTeX symbols

NOTE: Some of the following do not print well in the listing. Consult the .dtx or .sty file for the actual characters.

```

24 \newcommand*{\LWR@HTML@textdegree}{°}
25 \newcommand*{\LWR@HTML@textcelsius}{°C}
26 \newcommand*{\LWR@HTML@textohm}{Ω}
27 \newcommand*{\LWR@HTML@textmu}{μ}
28 \newcommand*{\LWR@HTML@textlquill}{{} }
29 \newcommand*{\LWR@HTML@textrquill}{{} }
30 \newcommand*{\LWR@HTML@textcircledP}{@}
31 \newcommand*{\LWR@HTML@texttwelveudash}{--}% emdash
32 \newcommand*{\LWR@HTML@textthreequartersemdash}{--}% emdash
33 \newcommand*{\LWR@HTML@textmho}{Ω}
34 \newcommand*{\LWR@HTML@textnaira}{₦}
35 \newcommand*{\LWR@HTML@textpeso}{₱}
36 \newcommand*{\LWR@HTML@textrecipe}{℞}
37 \newcommand*{\LWR@HTML@textinterrobangdown}{‽}
38 \newcommand*{\LWR@HTML@textperthousand}{‰}
39 \newcommand*{\LWR@HTML@textpertenthousand}{‱}
40 \newcommand*{\LWR@HTML@textbaht}{฿}
41 \newcommand*{\LWR@HTML@textdiscount}{\%}
42 \newcommand*{\LWR@HTML@textservicemark}{™}
43 \fi
44
45 \LWR@formatted{textdegree}
46 \LWR@formatted{textcelsius}
47 \LWR@formatted{textohm}
48 \LWR@formatted{textmu}
49 \LWR@formatted{textlquill}
50 \LWR@formatted{textrquill}
51 \LWR@formatted{textcircledP}
52 \LWR@formatted{texttwelveudash}
53 \LWR@formatted{textthreequartersemdash}
54 \LWR@formatted{textmho}
55 \LWR@formatted{textnaira}
56 \LWR@formatted{textpeso}
57 \LWR@formatted{textrecipe}
58 \LWR@formatted{textinterrobangdown}
59 \LWR@formatted{textperthousand}

```

```

60 \LWR@formatted{textpertenthousand}
61 \LWR@formatted{textbaht}
62 \LWR@formatted{textdiscount}
63 \LWR@formatted{textservicemark}

```

#### § 384.4 HTML diacritics

For HTML, Unicode diacritical marks are used:

```

64 \newcommand*{\LWR@HTML@capitalcedilla}[1]{\#1\HTMLUnicode{0327}}
65 \newcommand*{\LWR@HTML@capitalogonek}[1]{\#1\HTMLUnicode{0328}}
66 \newcommand*{\LWR@HTML@capitalgrave}[1]{\#1\HTMLUnicode{0300}}
67 \newcommand*{\LWR@HTML@capitalacute}[1]{\#1\HTMLUnicode{0301}}
68 \newcommand*{\LWR@HTML@capitalcircumflex}[1]{\#1\HTMLUnicode{0302}}
69 \newcommand*{\LWR@HTML@capitaltilde}[1]{\#1\HTMLUnicode{0303}}
70 \newcommand*{\LWR@HTML@capitaldieresis}[1]{\#1\HTMLUnicode{0308}}
71 \newcommand*{\LWR@HTML@capitalhungarumlaut}[1]{\#1\HTMLUnicode{30B}}
72 \newcommand*{\LWR@HTML@capitalring}[1]{\#1\HTMLUnicode{30A}}
73 \newcommand*{\LWR@HTML@capitalcaron}[1]{\#1\HTMLUnicode{30C}}
74 \newcommand*{\LWR@HTML@capitalbreve}[1]{\#1\HTMLUnicode{306}}
75 \newcommand*{\LWR@HTML@capitalmacron}[1]{\#1\HTMLUnicode{304}}
76 \newcommand*{\LWR@HTML@capitaldotaccent}[1]{\#1\HTMLUnicode{307}}

```

`\textcircled` becomes a span with a rounded border. `\providecommand` is used to avoid conflict with xunicode.

```

77 \providecommand*{\LWR@HTML@textcircled}[1]{%
78 \InlineClass[border: 1px solid \LWR@currenttextcolor]{textcircled}{\#1}%
79 }
80
81 \LWR@formatted{capitalcedilla}
82 \LWR@formatted{capitalogonek}
83 \LWR@formatted{capitalgrave}
84 \LWR@formatted{capitalacute}
85 \LWR@formatted{capitalcircumflex}
86 \LWR@formatted{capitaltilde}
87 \LWR@formatted{capitaldieresis}
88 \LWR@formatted{capitalhungarumlaut}
89 \LWR@formatted{capitalring}
90 \LWR@formatted{capitalcaron}
91 \LWR@formatted{capitalbreve}
92 \LWR@formatted{capitalmacron}
93 \LWR@formatted{capitaldotaccent}
94 \LWR@formatted{textcircled}
95
96 }% AtBeginDocument

```

---

File 288 **lwarp-textfit.sty**

§ 385     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}

2 \newsavebox{\LWR@textfitbox}
3
4 \newcommand*{\LWR@textfitscale}[2]{%
5 \setlength{\LWR@templengthone}{#1}%
6 \setlength{\LWR@templengthone}{%
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 \settowidth{\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 289 **lwarp-textpos.sty**

§ 386     Package **textpos**

*(Emulates or patches code by NORMAN GRAY.)*

Pkg    textpos    textpos is emulated.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{textpos}
```

---

```

2 \NewDocumentEnvironment{textblock}{m r()}{\}{}
3 \NewDocumentEnvironment{textblock*}{m o r()}{\}{}
4 \newcommand*\TPGrid{[3] []{}}
5 \NewDocumentCommand{\TPMargin}{s o}{\}
6 \newcommand*\textblockcolour{[1]{}}
7 \newcommand*\textblockrulecolour{[1]{}}
8 \newcommand*\textblockcolor{[1]{}}
9 \newcommand*\textblockrulecolor{[1]{}}
10 \newcommand*\tekstblokkulur{[1]{}}
11 \newcommand*\tekstblokrulekulur{[1]{}}
12 \newlength{\TPHorizModule}
13 \newlength{\TPVertModule}
14 \newlength{\TPboxrulesize}
15 \newcommand{\textblocklabel}[1]{\}
16 \newcommand*\showtextsize{\}
17 \newcommand{\textblockorigin}[2]{\}

```

---

File 290 **lwarp-theorem.sty**

§ 387      Package **theorem**

*(Emulates or patches code by FRANK MITTELBACH.)*

Pkg    theorem    theorem is patched for use by lwarp.

---

Table 16: 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}

### § 387.1    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      \theoremstyle{plain}%
7      \renewcommand{\LWR@newtheoremstyle}{plain}% lwarp
8      }%
9      {%
10     \theoremstyle{#1}%
11     \renewcommand{\LWR@newtheoremstyle}{#1}% lwarp
12     }%
13     \begingroup
14     \csname th@the\theoremstyle \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}

```

## § 387.2 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   {\@ythm{#1}{#2}}%
149   {\@begintheorem{#2}{\csname the#1\endcsname}\ignorespaces}}
150
151 \gdef\@endtheorem{%
152 \endtrivlist
153 \endBlockClass
154 }

```

---

File 291 **lwarp-thinsp.sty**

§ 388     Package **thinsp**

Pkg    thinsp    thinsp is emulated.

for HTML output:    1 \LWR@ProvidesPackageDrop{thinsp}

```

2 \AtBeginDocument{
3 \let\thinthinspace\relax% defined by some packages
4 \newcommand*{\thinthinspace}{\thinspace}
5 }
6
7 \newcommand*{\stretchthinspace}{\thinspace}
8 \newcommand*{\stretchthinthinspace}{\thinthinspace}
9 \newcommand*{\stretchnegthinspace}{\negthinspace}

```

---

File 292 **lwarp-threadcol.sty**

§ 389     Package **threadcol**

Pkg    threadcol    threadcol is ignored.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{threadcol}

2 \newcommand{\setthreadname}[1]{}

```

---

File 293 **lwarp-threeparttable.sty**

§ 390     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}

```

\LWR@printtablenote    {<text>}

Prints the table note item header inside a CSS class of tnoteitemheader.

```
2 \newcommand{\LWR@printtablenote}[1]{\InlineClass{tnoteitemheader}{#1}}

```

Env    threeparttable    [*<alignment>*] To emulate threeparttable:

```
3 \newenvironment*{threeparttable}[1][b]{}{}

```

Env    tablenotes        [*<options>*]

```
4 \newenvironment*{tablenotes}[1] []
5 {%
6 \LWR@forcenewpage
7 \BlockClass{tnotes}%
8 \ltx@ifpackageloaded{enumitem}{%
9 \setlist[description]{format=\LWR@printtablenote}%
10 }{}%
11 \description%
12 }
13 {%
14 \enddescription%
15 \endBlockClass%
16 }

```

\tnote    {<text>}

```
17 \newcommand{\tnote}[1]{\LWR@htmlspan{sup}{#1}}

```

## File 294 lwarp-thumb.sty

§ 391 Package **thumb**

Pkg thumb thumb is ignored.

```
for HTML output: 1 \LWR@ProvidesPackageDrop{thumb}

2 \newcommand*{\Overviewpage}{}
3 \newlength{\thumbheight}
4 \newlength{\thumbwidth}
```

File 295 `lwarp-thumbs.sty`

§ 392 Package **thumbs**

Pkg thumbs thumbs is ignored.

```

for HTML output: 1 \LWR@ProvidesPackageDrop{thumbs}

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 296 lwarp-tikz.sty

§ 393 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}%
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 \LetLtxMacro\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
21 \def\pgfutil@font@tiny{\LWR@printtiny}
22 \def\pgfutil@font@scriptsize{\LWR@printscriptsize}
23 \def\pgfutil@font@footnotesize{\LWR@printfootnotesize}
24 \def\pgfutil@font@small{\LWR@printsmall}
25 \def\pgfutil@font@normalsize{\LWR@printnormalsize}
26 \def\pgfutil@font@large{\LWR@printlarge}
27 \def\pgfutil@font@Large{\LWR@printLarge}
28 \def\pgfutil@font@huge{\LWR@printhuge}
29 \def\pgfutil@font@Huge{\LWR@printHuge}
30
31 \def\pgfutil@font@itshape{\LWR@origitshape}
32 \def\pgfutil@font@bfseries{\LWR@origbfseries}
33
34 \def\pgfutil@font@normalfont{\LWR@orignormalfont}

```

---

File 297 **lwarp-titles.sty**

§ 394     Package **titles**

*(Emulates or patches code by JAVIER BEZOS.)*

Pkg    titles    titles is loaded and used by lwarp during HTML output. All user options and macros are ignored and disabled.

Discard all options for lwarp-titles:

**for HTML output:**    1 \LWR@ProvidesPackageDrop{titles}

\pagestyle and \thispagestyle are already disabled in the lwarp code.

```

\newpagestyle    {\langle name \rangle} [\langle style \rangle] {\langle commands \rangle}
2 \NewDocumentCommand{\newpagestyle}{m o m}{\}

```

```

\renewpagestyle    {\langle name \rangle} [\langle style \rangle] {\langle commands \rangle}
3 \NewDocumentCommand{\renewpagestyle}{m o m}{\}

```

```

\sethead    [\langle el \rangle] [\langle ec \rangle] [\langle er \rangle] {\langle ol \rangle} {\langle oc \rangle} {\langle or \rangle}
4 \NewDocumentCommand{\sethead}{o o o m m m}{\}

```

```

\setfoot    [\langle el \rangle] [\langle ec \rangle] [\langle er \rangle] {\langle ol \rangle} {\langle oc \rangle} {\langle or \rangle}
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]{}

\setfootrule {\<length>}
10 \newcommand*{\setfootrule}[1]{}

\makeheadrule
11 \newcommand*{\makeheadrule}{}

\makefootrule
12 \newcommand*{\makefootrule}{}

\setmarkboth {\<code>}
13 \newcommand{\setmarkboth}[1]{}

\widenhead
14 \NewDocumentCommand{\widenhead}{s o o m m}{}

\bottitlemarks
15 \newcommand*{\bottitlemarks}{}

\toptitlemarks
16 \newcommand*{\toptitlemarks}{}

\firsttitlemarks
```

---

```

17 \newcommand*{\firsttitlemarks}{}

\nexttitlemarks
18 \newcommand*{\nexttoptitlemarks}{}

\outertitlemarks
19 \newcommand*{\outertitlemarks}{}

\innertitlemarks
20 \newcommand*{\innertitlemarks}{}

\newtitlemark * {\langle name \rangle}
21 \NewDocumentCommand{\newtitlemark}{s m}{}

\pretitlemark * {\langle section \rangle} {\langle text \rangle}
22 \NewDocumentCommand{\pretitlemark}{s m m}{}

\ifsamemark {\langle group \rangle} {\langle command \rangle} {\langle true \rangle} {\langle false \rangle}
23 \newcommand{\ifsamemark}[4]{}

\setfloathead * [\langle. \rangle] [\langle. \rangle] [\langle. \rangle] {\langle. \rangle} {\langle. \rangle} {\langle. \rangle} {\langle extra \rangle} [\langle which \rangle]
24 \NewDocumentCommand{\setfloathead}{s o o o m m m m m}{}

\setfloatfoot * [\langle. \rangle] [\langle. \rangle] [\langle. \rangle] {\langle. \rangle} {\langle. \rangle} {\langle. \rangle} {\langle extra \rangle} [\langle which \rangle]
25 \NewDocumentCommand{\setfloatfoot}{s o o o m m m m m}{}

\nextfloathead * [\langle. \rangle] [\langle. \rangle] [\langle. \rangle] {\langle. \rangle} {\langle. \rangle} {\langle. \rangle} {\langle extra \rangle} [\langle which \rangle]
26 \NewDocumentCommand{\nextfloathead}{s o o o m m m m m}{}

\nextfloatfoot * [\langle. \rangle] [\langle. \rangle] [\langle. \rangle] {\langle. \rangle} {\langle. \rangle} {\langle. \rangle} {\langle extra \rangle} [\langle which \rangle]
27 \NewDocumentCommand{\nextfloatfoot}{s o o o m m m m m}{}

\newmarkset {\langle markset \rangle}
28 \newcommand{\newmarkset}[1]{}

```

---

```

\newextramark * {\<markset>} {\<macro-name>}
29 \NewDocumentCommand{\newextramarkset}{s m m}{}

\botextramarks {\<markset>}
30 \newcommand{\botextramarks}[1]{}

\topextramarks {\<markset>}
31 \newcommand{\topextramarks}[1]{}

\firstextramarks {\<markset>}
32 \newcommand{\firstextramarks}[1]{}

\nextramarks {\<markset>}
33 \newcommand{\nextttopextramarks}[1]{}

\outerextramarks {\<markset>}
34 \newcommand{\outerextramarks}[1]{}

\innerextramarks {\<markset>}
35 \newcommand{\innerextramarks}[1]{}

```

---

File 298 **lwarp-titleref.sty**

§ 395     Package **titleref**

Pkg    titleref    titleref is emulated.

```

for HTML output: 1 \LWR@ProvidesPackageDrop{titleref}
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 299 **lwarp-titlesec.sty**

§ 396      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 \LWR@ProvidesPackageDrop{titlesec}

```
\titlelabel    {\langle label-format \rangle}
               2 \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]
               3 \newcommand\titleformat{%
               4    \@ifstar{\ttl@format@s}%
               5        {\ttl@format@i}}
               6 \newcommand{\ttl@format@s}[1]{ }
               7 \NewDocumentCommand{\ttl@format@i}{m o m m m o}{ }
```

```
\chaptertitlename
               8 \@ifundefined{@chapapp}{\let\@chapapp\chaptername}{ }
               9 \newcommand\chaptertitlename{\@chapapp}
```

```
\titlespacing   * {\langle command \rangle} {\langle left \rangle} {\langle before \rangle} {\langle after \rangle} [\langle right \rangle]
               10 \NewDocumentCommand{\titlespacing}{s m m m m o}{ }
```

```
\filright
               11 \newcommand*{\filright}{ }
```

```
\filcenter
               12 \newcommand*{\filcenter}{ }
```

`\filleft`

13 `\newcommand*\filleft{}\{}`

`\fillast`

14 `\newcommand*\fillast{}\{}`

`\filinner`

15 `\newcommand*\filinner{}\{}`

`\filouter`

16 `\newcommand*\filouter{}\{}`

`\wordsep`

17 `\newcommand\wordsep{\fontdimen\tw@\font \@plus`  
18 `\fontdimen\thr@@\font \@minus \fontdimen4\font}`

`\titleline` \* [*⟨align⟩*] {*⟨material⟩*}

19 `\NewDocumentCommand{\titleline}{s o m}\{}`

`\titlerule` [*⟨height⟩*]

20 `\providecommand*\titlerule{\@ifstar{\ttl@row}{\ttl@rule}}`  
21 `\newcommand*\{\ttl@rule}[1] []\{}`  
22 `\newcommand*\{\ttl@row}[2] []\{}`

`\iftitlemeasuring` {*⟨true⟩*} {*⟨false⟩*}

23 `\newcommand{\iftitlemeasuring}[2]\{#2}`

`\assignpagestyle` {*⟨command⟩*} {*⟨pagestyle⟩*}

24 `\newcommand{\assignpagestyle}[2]\{#2}`

`\titleclass` {*⟨name⟩*} [*⟨startlevel⟩*] {*⟨class⟩*} [*⟨cmd⟩*]

25 `\NewDocumentCommand{\titleclass}{m o m o}`

---

File 300 **lwarp-titletoc.sty**

§ 397     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}

\dottedcontents    {\<section>} [\<left>] {\<above>} {\<label>} {\<leader>}  
                      2 \NewDocumentCommand{\dottedcontents}{m o m m m}{}

\titlecontents    \* {\<section>} [\<left>] {\<above>} {\<numbered>} {\<numberless>} {\<filler>} [\<below  
                      or begin>] [\<separator>] [\<end>]  
                      3 \newcommand{\titlecontents}{\@ifstar{\ttl@tcstar}{\ttl@tcnostar}}  
                      4 \NewDocumentCommand{\ttl@tcstar}{m o m m m o o o}{}  
                      5 \NewDocumentCommand{\ttl@tcnostar}{m o m m m m o}{}  
                      6 \newcommand{\titlecontents}{\@ifstar{\ttl@tcstar}{\ttl@tcnostar}}

\contentsmargin    [\<correction>] {\<right>}  
                      6 \newcommand{\contentsmargin}[2] [] {}

\thecontentslabel    7 \newcommand\*{\thecontentslabel}{thecontentslabel}

\thecontentspage    8 \newcommand\*{\thecontentspage}{thecontentspage}

\contentslabel    [\<format>] {\<space>}  
                      9 \newcommand{\contentslabel}[2] [] {\thecontentslabel}

\contentspage    [\<format>]  
                      10 \newcommand{\contentspage}[1] [] {\thecontentspage}

---

|                              |   |
|------------------------------|---|
| <code>\contentspush</code>   | <code>{\langle text \rangle}</code>   |
|                              | 11 <code>\newcommand{\contentspush}[1] {}</code>  |
| <code>\contentsuse</code>    | <code>{\langle name \rangle} {\langle text \rangle}</code>  |
|                              | 12 <code>\newcommand{\contentsuse}[2] {}</code>   |
| <code>\startcontents</code>  | <code>[\langle name \rangle]</code>   |
|                              | 13 <code>\newcommand*{\startcontents}[1] [] {}</code>   |
| <code>\stopcontents</code>   | <code>[\langle name \rangle]</code>   |
|                              | 14 <code>\newcommand*{\stopcontents}[1] [] {}</code>  |
| <code>\resumecontents</code> | <code>[\langle name \rangle]</code>   |
|                              | 15 <code>\newcommand*{\resumecontents}[1] [] {}</code>  |
| <code>\printcontents</code>  | <code>[\langle name \rangle] {\langle prefix \rangle} {\langle start \rangle} {\langle code \rangle}</code> |
|                              | 16 <code>\newcommand{\printcontents}[4] [] {}</code>  |
| <code>\startlist</code>      | <code>[\langle name \rangle] {\langle list \rangle}</code>  |
|                              | 17 <code>\newcommand{\startlist}[2] [] {}</code>  |
| <code>\stoplist</code>       | <code>[\langle name \rangle] {\langle list \rangle}</code>  |
|                              | 18 <code>\newcommand{\stoplist}[2] [] {}</code>   |
| <code>\resumelist</code>     | <code>[\langle name \rangle] {\langle list \rangle}</code>  |
|                              | 19 <code>\newcommand{\resumelist}[2] [] {}</code>   |
| <code>\printlist</code>      | <code>[\langle name \rangle] {\langle list \rangle} {\langle prefix \rangle} {\langle code \rangle}</code>  |
|                              | 20 <code>\newcommand{\printlist}[4] [] {}</code>  |

---

File 301 **lwarp-titling.sty**

§ 398      Package **titling**

*(Emulates or patches code by PETER WILSON.)*

Pkg titling

**package support** lwrap 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.



**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 65.8.

The various titling footnote restyling commands have no effect.

Pass all options to lwrap-titling:

**for HTML output:** 1 \LWR@ProvidesPackagePass{titling}

**\@bsmttitleempty** Patch \@bsmttitleempty:

```
2 \let\LWR@orig@bsmttitleempty\@bsmttitleempty
3 \renewcommand*{\@bsmttitleempty}{%
4 \LWR@orig@bsmttitleempty%
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
25 \pretitle{}
26 \posttitle{}
27
28 \preauthor{}
29 \postauthor{}
30
31 \predate{}
32 \postdate{}

```

`\LWR@maketitlesetup` Patches `\thanks` macros.

```

33 \renewcommand*{\LWR@maketitlesetup}{%

```

Redefine the footnote mark:

```

34 \def\@makefnmark{\textsuperscript{\@thefnmark}}

\thefootnote ⇒ \nameuse{arabic}{footnote}, or
\thefootnote ⇒ \nameuse{fnsymbol}{footnote}

```

Redefine the footnote text:

```

35 \long\def\@makefntext##1{%

```

Make the footnote mark and some extra horizontal space for the tags:

```

36 \makethanksmark~%

\makethanksmark ⇒ \thanksfootmark ⇒ \tamark ⇒
\@thefnmark ⇒ \itshape a (or similar)

```

Print the text:

```

37 ##1%
38 }% \@makefntext
39 }

```

`\thanksfootmark`

```

40 \renewcommand{\thanksfootmark}{%
41 %   \hb@xt@\thanksmarkwidth{\hfil\normalfont%
42       \thanksscript{%
43           \thanksfootpre \tamark \thanksfootpost%
44       }%
45 %   }%
46 }

```

`\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.

```

47 \renewcommand*\maketitle{%

```

An HTML titlepage <div> is used for all classes.

```

48 \begin{titlepage}

```

Select which kind of footnote marks to use:

```

49 \@bsmarkseries

```

Set up special patches:

```

50 \LWR@maketitlesetup

```

Typeset the title, etc:

```

51 \@maketitle

```

Immediately generate any `\thanks` footnotes:

```

52 \@thanks

```

Close the HTML titlepage div:

```

53 \end{titlepage}

```

Reset the footnote counter:

```
54 \@bscontmark
55 }
```

`\@maketitle` Typesets the title, etc. Patched for HTML.

```
56 \DeclareDocumentCommand{\@maketitle}{-}{%
57   \maketitlehooka
58   {
59     \LWR@stoppars\LWR@htmltag{\LWR@tagtitle}
60     \@bsprefixtitle \@title \@bsprefixtitle
61     \LWR@htmltag{\LWR@tagtitleend}\LWR@startpars
62   }
63   \maketitlehookb
64   {
65     \begin{BlockClass}{author}
66     \renewcommand{\and}{\and}
67     \end{BlockClass}
68     \begin{BlockClass}{oneauthor}
69   }
70     \begin{BlockClass}{oneauthor}
71     \@bsprefixauthor \@author \@bsprefixauthor
72     \end{BlockClass}
73     \end{BlockClass}
74   }
75   \maketitlehookc
76   {
77     \begin{BlockClass}{titledate}
78     \@bsprefixdate \@date \@bsprefixdate
79     \end{BlockClass}
80   }
81   \maketitlehookd
82 }
```

`\LWR@titlingmaketitle` `\maketitle` for use inside an HTML titlingpage environment.

```
83 \renewcommand*{\LWR@titlingmaketitle}{%
```

Keep pending footnotes out of the title block:

```
84 \@thanks
```

Select which kind of footnote marks to use:

```
85 \@bsmarkseries
```

Set up special patches:

```
86 \LWR@maketitlesetup
```

Typeset the title, etc:

```
87 \@maketitle
```

Immediately generate any \thanks footnotes:

```
88 \@thanks
```

Reset the footnote counter:

```
89 \@bscontmark
90 }
```

`\thanksmarkseries`  $\{ \langle series \rangle \}$

Sets the type of footnote marks used by \thanks, where type is ‘arabic’, ‘roman’, ‘fnsymbol’, etc.

```
91 \renewcommand{\thanksmarkseries}[1]{%
92 \def\@bsmarkseries{\renewcommand{\thefootnote}{\@nameuse{#1}{footnote}}}%
93 }
```

Set default titlepage thanks footnote marks. See section [65.7](#).

```
94 \@ifclassloaded{memoir}{
95   \thanksmarkseries{arabic}
96 }{% not memoir
97 \if@titlepage
98   \thanksmarkseries{arabic}
99 \else
100  \thanksmarkseries{fnsymbol}
101 \fi
102 }% not memoir
```

---

File 302 **lwarp-tocbasic.sty**

§ 399     Package **tocbasic**

*(Emulates or patches code by MARKUS KOHM.)*

Pkg    tocbasic    tocbasic is patched for use by 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}

2 \DeclareDocumentCommand{\usetocbasicnumberline}{o}{-}
3 \DeclareDocumentCommand{\DeclareTOCStyleEntry}{o m m}{-}
4 \DeclareDocumentCommand{\DeclareTOCEntryStyle}{m o m}{-}
5 \DeclareDocumentCommand{\DefineTOCEntryOption}{m o m}{-}
6 \DeclareDocumentCommand{\DefineTOCEntryBooleanOption}{m o m m m}{-}
7 \DeclareDocumentCommand{\DefineTOCEntryCommandOption}{m o m m m}{-}
8 \DeclareDocumentCommand{\DefineTOCEntryIfOption}{m o m m m}{-}
9 \DeclareDocumentCommand{\DefineTOCEntryLengthOption}{m o m m m}{-}
10 \DeclareDocumentCommand{\DefineTOCEntryNumberOption}{m o m m m}{-}
11 \DeclareDocumentCommand{\CloneTOCEntryStyle}{m m}{-}
12 \DeclareDocumentCommand{\TOCEntryStyleInitCode}{m m}{-}
13 \DeclareDocumentCommand{\TOCEntryStyleStartInitCode}{m m}{-}

```

---

File 303 **lwarp-tocbibind.sty**

\$ 400 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}

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\protect\quad%
36   }%
37 }
38
39 \DeclareDocumentCommand{\restorechapter}{-}{%
40 \let\@chapcntformat\@secntformat%
41 }

```

---

File 304 **lwarp-tocenter.sty**

\$ 401    Package **tocenter**

Pkg    tocenter    tocenter is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{tocenter}

2 \NewDocumentCommand{\ToCenter}{s o m m}{-}
3 \NewDocumentCommand{\FromMargins}{s o m m m}{-}

```

---

File 305 **lwarp-tocloft.sty**

\$ 402    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}

\tocloftpagestyle {\langle style \rangle}
2 \newcommand{\tocloftpagestyle}[1] {}

\cftmarktoc
3 \newcommand*{\cftmarktoc}{}

\cfttoctitlefont
4 \newcommand*{\cfttoctitlefont}{}

\cftaftertoctitle
5 \newcommand*{\cftaftertoctitle}{}

6 \newlength{\cftbeforetoctitleskip}
7 \newlength{\cftaftertoctitleskip}

\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{\cftpartinindent}
28 \LWR@providelength{\cftpnumwidth}
29 \providecommand*{\cftpfont}{}
30 \providecommand*{\cftpnum}{}
31 \providecommand*{\cftpnumalign}{} 
```

```

32 \providecommand*\cftpafternumb{}
33 \providecommand*\cftpafterleader{}
34 \providecommand*\cftpafterdotsep{1}
35 \providecommand*\cftpafterpagefont{}
36 \providecommand*\cftpafterpnum{}

```

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*\cftchapdotsep{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 [\langle within \rangle] {\langle counter \rangle} {\langle ext \rangle} {\langle level-1 \rangle}

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\cftwhatismynname{#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 306 **lwarp-tocstyle.sty**

§ 403    Package **tocstyle**

Pkg    tocstyle    tocstyle is ignored.

 **Not fully tested!** [Please send bug reports!](#)

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{tocstyle}

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 307 **lwarp-todo.sty**

§ 404    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}

```

---

```

2 \renewcommand\todoitem[2]{%
3   \refstepcounter{todo}%
4   \item[%
5     \HTMLUnicode{2610} \quad
6     \ref{todopage:\thetodo}
7   ] : {\todoformat\ifx#1\todomark\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\todomark\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 308 **lwarp-todonotes.sty**

§ 405     Package **todonotes**

*(Emulates or patches code by HENRIK SKOV MIDTIBY.)*

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}

2 \if@todonotes@disabled
3 \else
4
5 \newcommand{\ext@todo}{tdo}
6
7 \renewcommand{\l@todo}[2]{\hypertocfloat{1}{\todo}{l@do}{#1}{#2}}

8 \let\LWRTODONOTES@orig@todototoc\todototoc
9
10 \renewcommand*{\todototoc}{%
11 \phantomsection%
12 \LWRTODONOTES@orig@todototoc%
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 309 **lwarp-tram.sty**

§ 406     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}

2 \newenvironment{tram}[1] []%
3   {\BlockClass[background:lightgray]{tram}}
4   {\endBlockClass}
```

---

File 310 **lwarp-transparent.sty**

§ 407    Package **transparent**

*(Emulates or patches code by HEIKO OBERDIEK.)*

Pkg    transparent    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:**    Discard all options for lwarp-transparent:

```
1 \LWR@ProvidesPackageDrop{transparent}

2 \newcommand*{\transparent}[1]{\edef\LWR@opacity{#1}}
3
4 \newcommand*{\texttransparent}[2]{%
5 \begingroup%
6 \transparent{#1}%
7 \InlineClass[opacity: #1]{transparent}{#2}%
8 \endgroup%
9 }
```

---

File 311 **lwarp-trimclip.sty**

§ 408    Package **trimclip**

Pkg    trimclip    trimclip is nullified.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{trimclip}

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 312 **lwarp-trivfloat.sty**

§ 409      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{\exemplename}{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}
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.

for HTML output:    3 \begin{warpHTML}

---

```

4 \AtBeginDocument{\DeclareDocumentCommand{\tfl@chapter@fix}{m m}{}}

5 \end{warpHTML}

```

### § 409.1 Combining \newfloat, \trivfloat, and algorithmicx

**for HTML & PRINT:** `6 \begin{warpall}`

**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

```

---

```

7 \end{warpall}

```

---

### File 313 lwarp-turnthepage.sty

### § 410 Package turnthepage

Pkg turnthepage turnthepage is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{turnthepage}

2 \newcommand{\turnthepage}{}

```

---

### File 314 lwarp-twoup.sty

### § 411 Package twoup

Pkg twoup twoup is ignored.

**for HTML output:**

```
1 \LWR@ProvidesPackageDrop{twoup}[2007/02/26]

2 \newcommand{\cleartolastpage}{}


```

---

File 315 **lwarp-typearea.sty**

§ 412 Package **typearea**

*(Emulates or patches code by MARKUS KOHM.)*

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}

2 \DeclareDocumentCommand{\typearea}{o m}{}
3 \DeclareDocumentCommand{\recalc\typearea}{}{}
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 316 **lwarp-ulem.sty**

§ 413 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
42 \NewDocumentCommand{\LWR@HTML@dashuline}{+m}{%
43  \InlineClass%
44    (%
45      text-decoration:underline;%
46      text-decoration-skip: auto;%
47      text-decoration-style:dashed%
48    )%
49    {dashuline}{\LWR@isolate{#1}}%
50 }
51 \LWR@formatted{xout}

```

```

52
53 \NewDocumentCommand{\LWR@HTML@dotuline}{+m}{%
54   \InlineClass%
55   (%
56     text-decoration:underline;%
57     text-decoration-skip: auto;%
58     text-decoration-style: dotted%
59   )%
60   {dotuline}{\LWR@isolate{#1}}}%
61 }
62 \LWR@formatted{dotuline}

```

Nullified/emulated macros:

```

63 \NewDocumentCommand{\LWR@HTML@markoverwith}{m}{}
64 \LWR@formatted{markoverwith}
65
66 \NewDocumentCommand{\LWR@HTML@ULon}{+m}{\uline{#1}\egroup}
67 \LWR@formatted{ULon}

```

---

#### File 317 **lwarp-underscore.sty**

### \$ 414 Package **underscore**

Pkg **underscore** underscore is ignored.

**for HTML output:** 1 \LWR@ProvidesPackageDrop{underscore}

---

#### File 318 **lwarp-units.sty**

### \$ 415 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 \CustomizeMathJax{\newcommand{\unit}[2] [] {#1 #2}}
26 \CustomizeMathJax{\newcommand{\unitfrac}[3] [] {#1 #2/#3}}

```

---

File 319 **lwarp-unitsdef.sty**

§ 416      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}

2 \renewcommand{\unitvaluesep}{\,%}
3
4 \renewcommand{\unittimes}{\@@setunitsepfalse\HTMLunicode{22c5}}% \cdot
5
6 \renewunit{\arcmin}{%
7   \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%

```

---

```

8      {\ensuremath{{}^{\sim}\prime}}}%
9      {\HTMLUnicode{2032}}}% prime
10 }
11
12 \renewunit{\arcsec}{%
13   \ifnumcomp{\value{LWR@lateximagedepth}}{>}{0}%
14     {\ensuremath{{}^{\sim}\prime\prime}}}%
15     {\HTMLUnicode{2033}}}% dbl prime
16 }
17
18 \renewrobustcmd{\SI}[2]{%
19   \begingroup%
20     \let\unit@@xspace\relax%
21     \unitSIdet\selectfont%
22     \LWR@textcurrentfont{#1#2}% lwarp
23   \endgroup%
24 }
```

---

File 320 **lwarp-upref.sty**

\$ 417    Package **upref**

    Pkg upref Ignored.

for HTML output: Discard all options for lwarp-upref:

```
1 \LWR@ProvidesPackageDrop{upref}
```

---

File 321 **lwarp-url.sty**

\$ 418    Package **url**

*(Emulates or patches code by DONALD ARSENEAU.)*

    Pkg url url is patched for use by lwarp.

for HTML output: 1 \LWR@ProvidesPackagePass{url}

url uses math mode to print its string inside a group, so the original meaning of math is restored first.

```

2 \LetLtxMacro\LWR@url@origUrl@FormatString\Url@FormatString
3
4 \renewcommand*{\Url@FormatString}{%
```

---

```

5    \InlineClass{verbatim}{%
6        \LWR@restoreorigformatting%
7        \LWR@url@origUrl@FormatString%
8    }%
9}

```

---

## File 322 **lwarp-ospace.sty**

### \$ 419 Package **ospace**

Pkg `ospace` `ospace` is ignored.

**for HTML output:** `1 \LWR@ProvidesPackageDrop{ospace}`

---

## File 323 **lwarp-verse.sty**

### \$ 420 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}
```

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

Len `\vleftmargini`

Len `\HTMLvleftskip`

Len `\HTMLleftmargini`

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.

 **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.

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  
 Cls `memoir` `\flagverse` command. Do not allow them to go into the left margin, which would  
 cause *pdfcrop* to crop the entire page further to the left:  
 Len `\vleftskip`

```
7 \ifdef{\vleftskip}{%
8 \setlength{\vleftskip}{\HTMLvleftskip}
9 \setlength{\leftmargini}{\HTMLleftmargini}
10 }{}
11 \LWR@forcenewpage
12 \LWR@atbeginverbatim{3}{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{1}%
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 324 **lwarp-vertbars.sty**

§ 421    Package **vertbars**

*(Emulates or patches code by PETER WILSON.)*

Pkg    vertbars    vertbars is emulated.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{vertbars}

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 325 **lwarp-vmargin.sty**

§ 422    Package **vmargin**

Pkg    vmargin    vmargin is ignored.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{vmargin}

```

---

```

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 326 **lwarp-vowel.sty**

§ 423      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}

```

2 \renewenvironment{vowel}[1][
3   {%
4     \begin{lateximage}[(-vowel--\packagediagramname)]%
5     \@vowel[#1]%
6   }
7   {%
8     \@@vowel%
9     \end{lateximage}%
10  }

```

---

File 327 **lwarp-vpe.sty**

§ 424 Package **vpe**

Pkg vpe vpe is ignored.

for HTML output: 1 \LWR@ProvidesPackageDrop{vpe}[2012/04/18]

---

File 328 **lwarp-vwcol.sty**

§ 425 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}

Factored from \vwcol. Each is given a style tag to append to the final style.

```
\LWR@vwcol@addrule {\langle style tag \rangle}
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 }

\LWR@vwcol@addrule {\langle style tag \rangle}
8 \newcommand*{\LWR@vwcol@addrule}[1]{%
9   \appto{\LWR@vwcolstyle}{%
10    #1: %
11    \LWR@printlength{\vwcol@sep} ; %
12  }%
13 }
```

Env vwcol `{\langle key/values \rangle}`

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 \par\noindent%
16 \vwcolsetup{#1}%
```

Begin with no style:

```
17 \newcommand*{\LWR@vwcolstyle}{{}
```

presep and postsep are created with HTML margins:

```
18 \if@vwcol@presep
19   \appto{\LWR@vwcolstyle}{margin-left: 1em ; padding-left: .5em ; }
20 \fi
21 \if@vwcol@postsep
22   \appto{\LWR@vwcolstyle}{margin-right: 1em ; padding-right: .5em ; }
23 \fi
```

sep becomes column-gap:

```
24 \ifdimgreater{\vwcol@sep}{1sp}{
25   \LWR@vwcol@addgap{column-gap}
26   \LWR@vwcol@addgap{-moz-column-gap}
27   \LWR@vwcol@addgap{-webkit-column-gap}
28 }{}
```

rule become column-rule, while prerule and postrule become HTML borders:

```
29 \convertcolorspec{named}{\vwcol@rulecol}{HTML}\LWR@vwcol@rulecolor%
30 \ifdimgreater{\vwcol@rule}{0pt}{
31   \ifdimless{\vwcol@rule}{1pt}{
32     \setlength{\vwcol@rule}{1pt}
33   }{
34     \LWR@vwcol@addrule{column-rule}
35     \LWR@vwcol@addrule{-moz-column-rule}
36     \LWR@vwcol@addrule{-webkit-column-rule}
37     \if@vwcol@prerule\LWR@vwcol@addrule{border-left}\fi
38     \if@vwcol@postrule\LWR@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 }

```

---

File 329 **lwarp-wallpaper.sty**

§ 426     Package **wallpaper**

*(Emulates or patches code by MICHAEL H.F. WILKINSON.)*

Pkg wallpaper wallpaper is emulated.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{wallpaper}

```

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 330 **lwarp-watermark.sty**

§ 427     Package **watermark**

*(Emulates or patches code by ALEXANDER I. ROZHENKO.)*

Pkg    watermark    watermark is emulated.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{watermark}

2 \newcommand\watermark[1]{}
3 \newcommand\leftwatermark[1]{}
4 \newcommand\rightwatermark[1]{}
5 \newcommand\thiswatermark[1]{}
6 \newcommand\thispageheading[1]{}

```

---

File 331 **lwarp-widows-and-orphans.sty**

§ 428     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\WaOsetup{m}{}
3 \NewDocumentCommand\WaOparameters{}{}
4 \NewDocumentCommand\WaOignorenext{}{}

```

---

File 332 **lwarp-wrapfig.sty**

§ 429      Package **wrapfig**

*(Emulates or patches code by DONALD ARSENEAU.)*

Pkg    wrapfig    wrapfig is emulated.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{wrapfig}

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 }
22
23
24 \NewDocumentEnvironment{wrapfigure}{o m o m}
25 {%
26 \LWR@subwrapfigure{#2}{#4}%
27 \captionsetup{type=figure}%
28 }
29 {%
30 \endLWR@BlockClassWP%
31 }
32
33
34 \NewDocumentEnvironment{wraptable}{o m o m}
35 {%
36 \LWR@subwrapfigure{#2}{#4}%

```

---

```

37 \captionsetup{type=table}%
38 }
39 {%
40 \endLWR@BlockClassWP%
41 }
42
43
44 \NewDocumentEnvironment{wrapfloat}{m o m o m}
45 {%
46 \LWR@subwrapfigure{#3}{#5}%
47 \captionsetup{type=#1}%
48 }
49 {%
50 \endLWR@BlockClassWP%
51 }
52
53 \newlength{\wrapoverhang}

```

---

File 333 **lwarp-xbmks.sty**

§ 430     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 334 **lwarp-xcolor.sty**

§ 431     Package **xcolor**

*(Emulates or patches code by DR. UWE KERN.)*

Pkg    xcolor    xcolor is supported by lwarp.

### § 431.1 Limitations

|  |   |
|--|---|
| <code>\colorboxBlock</code> and <code>\fcolorboxBlock</code> | <code>\colorboxBlock</code> and <code>\fcolorboxBlock</code> are provided for increased HTML compatibility, and they are identical to <code>\colorbox</code> and <code>\fcolorbox</code> in print mode. In HTML mode they place their contents into a <code>&lt;div&gt;</code> instead of a <code>&lt;span&gt;</code> . These <code>&lt;div&gt;</code> s are set to <code>display: inline-block</code> so adjacent <code>\colorboxBlock</code> s appear side-by-side in HTML, although text is placed before or after each. |
|  | Print-mode definitions for <code>\colorboxBlock</code> and <code>\fcolorboxBlock</code> are created by lwarp's core if xcolor is loaded.  |
| <code>background: none</code>                                | <code>\fcolorbox</code> and <code>\fcolorboxBlock</code> allow a background color of <code>none</code> , in which case only the frame is drawn, which can be useful for HTML.   |
| <code>color support</code>                                   | Color definitions, models, and mixing are fully supported without any changes required.   |
| <code>colored tables</code>                                  | <code>\rowcolors</code> is supported, except that the optional argument is ignored so far.  |
| <code>colored text and boxes</code>                          | <code>\textcolor</code> , <code>\colorbox</code> , and <code>\fcolorbox</code> are supported.   |
| <code>\color</code> and <code>\pagecolor</code>              | <code>\color</code> and <code>\pagecolor</code> are ignored. Use <code>css</code> or <code>\textcolor</code> where possible.  |

### § 431.2 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 84. 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 515.

`\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 972.

**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 973.

**HTML lateximage:** Remembers and reuses the print version.

`\colorboxBlock:`

**Print:** Becomes `\colorbox`.

**HTML:** Newly defined by lwarp-xcolor to use a `<div>`, page 973.

**HTML lateximage:** Remembers and reuses the print version `\colorbox`.

`\fcolorbox:`

**Print:** Modified to allow a background of none.

`\LWR@print@fcolorbox` at section 84

**HTML:** Redefined by lwarp-xcolor, page 974.

**HTML lateximage:** Remembers and reuses the print version.

**\fcolorboxBlock:**

**Print:** Becomes \fcolorbox. Section 84

**HTML:** Newly defined by lwarp-xcolor to use a <div>, page 975.

**HTML lateximage:** Remembers and reuses the print version \fcolorbox.

**fcolorminipage:**

**Print:** Newly defined in the lwarp core.

LWR@print@fcolorminipage at section 84

**HTML:** Newly defined by lwarp-xcolor, page 976.

**HTML lateximage:** Uses the print version.

**\boxframe:**

**Print:** Used as-is.

**HTML:** Redefined by lwarp-xcolor, page 977.

**HTML lateximage:** Remembers and reuses the print version.

### § 431.3 Package loading

**for HTML output:**

```
1 \LWR@ProvidesPackagePass{xcolor}
2 \begin{warpHTML}
```

### § 431.4 Remembering and restoring original definitions

Remember the following print-mode actions to be restored when inside a lateximage environment:

```
3 \LetLtxMacro\LWR@print@pagecolor\pagecolor
4 \LetLtxMacro\LWR@print@nopagecolor\nopagecolor
```

**\LWR@restoreorigformatting** Inside a lateximage the following gets restored to their print-mode actions:

```
5 \appto\LWR@restoreorigformatting{%
6 \LetLtxMacro\pagecolor\LWR@print@pagecolor%
7 \LetLtxMacro\nopagecolor\LWR@print@nopagecolor%
8 }
```

### § 431.5 HTML color style

Sets \LWR@tempcolor to the current color.

```
\LWR@findcurrenttextcolor
9 \renewcommand*{\LWR@findcurrenttextcolor}{%
10 \protect\colorlet{\LWR@current@color}{.}%
11 \protect\convertcolorspec{named}{\LWR@current@color}{HTML}\LWR@tempcolor%
12 }
```

Prints a color style for the current color.

```
\LWR@currenttextcolorstyle
13 \newcommand*{\LWR@currenttextcolorstyle}{%
14 \LWR@findcurrenttextcolor%
15 \ifdefstring{\LWR@tempcolor}{000000}%
16 {}%
17 {color: \LWR@origpound\LWR@tempcolor ; }%
18 }
```

\LWR@textcurrentcolor  $\{\langle text \rangle\}$  Like \textcolor but uses the current \color instead.

```
19 \DeclareDocumentCommand{\LWR@textcurrentcolor}{m}{%
20 \begingroup%
21 \LWR@FBcancel%
22 \LWR@findcurrenttextcolor%
23 \InlineClass[color:\LWR@origpound\LWR@tempcolor]{textcolor}{%
24   \renewcommand*{\LWR@currenttextcolor}{\LWR@origpound\LWR@tempcolor}%
25   #1%
26 }%
27 \endgroup%
28 }
```

\LWR@colorstyle  $\{\langle 2: model \rangle\} \{\langle 3: color \rangle\}$

For a color style, prints the color converted to HTML colors.

```
29 \NewDocumentCommand{\LWR@colorstyle}{m m}{%
30 \begingroup%
31 \LWR@FBcancel%
```

Use the xcolor package to convert to an HTML color space:

```
32 \convertcolorspec{#1}{#2}{HTML}\LWR@tempcolor%
```

Print the converted color:

```
33 \LWR@origpound\LWR@tempcolor%
34 \endgroup%
35 }
```

\LWR@backgroundcolor  $[\langle model \rangle] \{\langle color \rangle\} \{\langle text \rangle\}$

Similar to `\textcolor`, but prints black text against a color background.

Converted into an HTML hex color span.

```

36 \NewDocumentCommand{\LWR@backgroundcolor}{0{named} m m}{%
37 \begingroup%
38 \LWR@FBcancel%
39 \InlineClass[background:\LWR@colorstyle{#1}{#2}]{backgroundcolor}{%
40 #3%
41 }%
42 \endgroup%
43 }
```

### § 431.6 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.

```

44 \newcommand*{\LWR@borderpadding}[2]{%
45 border:\LWR@printlength{\LWR@atleastonept} solid \LWR@colorstyle{#1}{#2} ; %
46 padding:\LWR@printlength{\fboxsep}%
47 }
```

### § 431.7 High-level macros

`\textcolor` `[\model]` `{\color}` `{\text}`

Converted into an HTML hex color span.

```

48 \NewDocumentCommand{\LWR@HTML@textcolor}{o m m}{%
49 \begingroup%
```

Set the PDF color, to be picked up by SVG math if possible.

The print-mode `\color` command cannot accept the named option with color mixing, but it works with no option at all.

```

50 \IfValueTF{#1}{%
51   \color[#1]{#2}%
52 }{%
53   \color{#2}%
54 }%

55 \LWR@FBcancel%
56 \IfValueTF{#1}{%
57 \InlineClass[color:\LWR@colorstyle{#1}{#2}]{textcolor}{%
58 \renewcommand*{\LWR@currenttextcolor}{\LWR@origpound\LWR@tempcolor}%
59 #3%
```

```

60 }%
61 }{%
62 \InlineClass[color:\LWR@colorstyle{named}{#2}]{textcolor}{%
63 \renewcommand*{\LWR@currenttextcolor}{\LWR@origpound\LWR@tempcolor}%
64 #3%
65 }%
66 }%
67 \endgroup%
68 }
69
70 \LWR@formatted{textcolor}

```

`\pagecolor` [*model*] {*color*}

Ignored. Use css instead.

```
71 \renewcommand*{\pagecolor}[2][named]{}
```

`\nopagecolor` Ignored.

```
72 \renewcommand*{\nopagecolor}{}

```

`\colorbox` [*model*] {*color*} {*text*}

Converted into an HTML hex background color `<span>`.

```

73 \NewDocumentCommand{\LWR@HTML@colorbox}{O{named} m +m}{%
74 \begingroup%
75 \LWR@FBcancel%
76 \InlineClass[%
77 background:\LWR@colorstyle{#1}{#2} ; %
78 padding:\LWR@printlength{\fboxsep}%
79 ]{colorbox}{#3}%
80 \endgroup%
81 }
82
83 \AtBeginDocument{
84 \LWR@formatted{colorbox}
85 }

```

`\colorboxBlock` [*model*] {*color*} {*text*}

Converted into an HTML hex background color `<div>`.

```
86 \NewDocumentCommand{\LWR@HTML@colorboxBlock}{O{named} m +m}{%
```

```

87 \begingroup%
88 \LWR@FBcancel%

89 \LWR@stoppars%

90 \begin{BlockClass}[%
91 background:\LWR@colorstyle{#1}{#2} ; %
92 padding:\LWR@printlength{\fboxsep}%
93 ]{colorboxBlock}
94 #3
95 \end{BlockClass}%
96 \endgroup%

```

Prevent paragraph tags around horizontal white space until the start of the next paragraph:

```

97 \global\booltrue{\LWR@minipagethispar}%
98 }
99
100 \AtBeginDocument{
101 \LWR@formatted{colorboxBlock}
102 }

```

`\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.

```

103 \NewDocumentCommand{\LWR@HTML@fcolorbox}{O{named} m O{named} m +m}{%
104 \LWR@traceinfo{HTML fcolorbox #2 #4}%
105 \begingroup%
106 \LWR@FBcancel%
107 \LWR@forceminwidth{\fboxrule}%
108 \ifthenelse{\equal{#4}{none}}{%
109 {% no background color
110   \InlineClass[%
111     \LWR@borderpadding{#1}{#2}%
112   ]{fcolorbox}{#5}%
113 }%
114 {% yes background color
115   \InlineClass[%
116     \LWR@borderpadding{#1}{#2} ; %
117     background:\LWR@colorstyle{#3}{#4}%
118   ]{fcolorbox}{#5}%
119 }%
120 \endgroup%

```

```

121 }
122
123 \AtBeginDocument{
124 \LWR@formatted{fcolorbox}
125 }

```

`\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.

```

126 \NewDocumentCommand{\LWR@HTML@fcolorboxBlock}{O{named} m O{named} m +m}{%
127 \LWR@traceinfo{HTML fcolorboxBlock #2 #4}%
128 \begingroup%
129 \LWR@FBcancel%
130 \LWR@forceminwidth{\fboxrule}%

131 \LWR@stoppars%

132 \ifthenelse{\equal{#4}{none}}{%
133 {% no background color
134   \begin{BlockClass}[%
135     \LWR@borderpadding{#1}{#2}%
136   ]{fcolorboxBlock}
137   #5
138   \end{BlockClass}%
139 }%
140 {% yes background color
141   \convertcolorspec{#3}{#4}{HTML}\LWR@tempcolortwo%
142   \begin{BlockClass}[%
143     background:\LWR@origpound\LWR@tempcolortwo\ ; %
144     \LWR@borderpadding{#1}{#2}%
145   ]{fcolorboxBlock}
146   #5
147   \end{BlockClass}%
148 }%
149 \endgroup%

```

Prevent paragraph tags around horizontal white space until the start of the next paragraph:

```

150 \global\booltrue{\LWR@minipagethispar}%
151 \LWR@traceinfo{HTML fcolorboxBlock done}%
152 }
153
154 \AtBeginDocument{

```

```

155 \LWR@formatted{fcolorboxBlock}
156 }

```

Creates a framed HTML <div> around its contents.

A print-output version is defined in the lwarp core: section 84

```

\LWR@subfcolorminipage  {\langle framemodel \rangle} {\langle framecolor \rangle} {\langle background tag \rangle} {\langle height \rangle}

157 \NewDocumentCommand{\LWR@subfcolorminipage}{m m m m}{%

158 \LWR@stoppars%

159 \begin{BlockClass}[%
160 #3%
161 \LWR@borderpadding{#1}{#2} ; %
162 \IfValueT{#4}{height:\LWR@printlength{\LWR@tempheight} ; }%
163 width:\LWR@printlength{\LWR@tempwidth}%
164 ]{fcolorminipage}%
165 }

Env  fcolorminipage  [{\langle 1:framemodel \rangle}] {\langle 2:framecolor \rangle} [{\langle 3:boxmodel \rangle}] {\langle 4:boxcolor \rangle} [{\langle 5:align \rangle}] [{\langle 6:height \rangle}]
                        [{\langle 7:inner-align \rangle}] {\langle 8:width \rangle}

166 \NewDocumentEnvironment{\LWR@HTML@fcolorminipage}{0{named} m 0{named} m 0{c} o o m}
167 {%
168 \LWR@FBcancel%
169 \setlength{\LWR@tempwidth}{#8}%
170 \IfValueT{#6}{\setlength{\LWR@tempheight}{#6}}%
171 \LWR@forceminwidth{\fboxrule}%
172 \convertcolorspec{#1}{#2}{HTML}\LWR@tempcolor%
173 \ifthenelse{\equal{#4}{none}}{%
174 {\LWR@subfcolorminipage{#1}{#2}{#6}}%
175 {%
176   \convertcolorspec{#3}{#4}{HTML}\LWR@tempcolortwo%
177   \LWR@subfcolorminipage{#1}{#2}{background:\LWR@origpound\LWR@tempcolortwo\ ; }{#6}%
178 }%
179 }
180 {%
181   \end{BlockClass}%

```

Prevent paragraph tags around horizontal white space until the start of the next paragraph:

```

182   \global\booltrue{\LWR@minipagethispar}%
183 }
184
185 \AtBeginDocument{

```

```
186 \LWR@formattedenv{fcolorminipage}
187 }
```

`\boxframe`  $\{\langle width \rangle\} \{\langle height \rangle\} \{\langle depth \rangle\}$

The depth is added to the height, but the box is not decended below by the depth.  
`\textcolor` is honored.

```
188 \newcommand*{\LWR@HTML@boxframe}[3]{%
189 {%
190 \setlength{\LWR@tempwidth}{#1}%
191 \setlength{\LWR@tempheight}{#2}%
192 \addtolength{\LWR@tempheight}{#3}%
193 \LWR@forceminwidth{\fboxrule}%
194 \LWR@findcurrenttextcolor%
195 \InlineClass[%
196 display:inline-block ; %
197 border:\LWR@printlength{\LWR@atleastonept} solid \LWR@currenttextcolor{} ; %
198 width:\LWR@printlength{\LWR@tempwidth} ; %
199 height:\LWR@printlength{\LWR@tempheight}%
200 ]{\boxframe}{}%
201 }%
202 }
203
204 \LWR@formatted{boxframe}
```

### § 431.8 Row colors

`\rowc@l@rs`  $[\langle cmds \rangle] \{\langle startrow \rangle\} \{\langle odd color \rangle\} \{\langle even color \rangle\}$

```
205 \newcommand*{\LWR@xcolortempcolor}{}
206
207 \def\rowc@l@rs[#1]#2#3#4%
208 {
209 \global\rownum=1
210 \global\@rowcolorstrue
211 \@ifxempty{#3}%
212 {\def\@oddrowcolor{\@norowcolor}}%
213 {%
214 \convertcolorspec{named}{#3}{HTML}\LWR@xcolortempcolor%
215 \edef\@oddrowcolor{%
216 \csdef{\LWR@xcolorrowHTMLcolor}{\LWR@xcolortempcolor}%
217 }%
218 }%
219 \@ifxempty{#4}%
220 {\def\@evenrowcolor{\@norowcolor}}%
221 {%
222 \convertcolorspec{named}{#4}{HTML}\LWR@xcolortempcolor%
```

```

223     \edef\@evenrowcolor{%
224         \csdef{LWR@xcolorrowHTMLcolor}{\LWR@xcolortempcolor}%
225     }%
226 }%
227 \if@rowcmd
228     \def\@rowcolors
229     {%
230 %         #1%
231         \if@rowcolors
232 %         \noalign{%
233             \relax\ifnum\rownum<#2\@norowcolor\else
234             \ifodd\rownum\@oddrowcolor\else\@evenrowcolor\fi\fi%
235 %         }%
236         \fi%
237     }%
238 \else
239     \def\@rowcolors
240     {%
241         \if@rowcolors
242             \ifnum\rownum<#2%
243 %             \noalign{%
244                 \@norowcolor
245 %             }
246             \else
247 %             #1%
248 %             \noalign{%
249                 \ifodd\rownum\@oddrowcolor\else\@evenrowcolor\fi%
250 %             }%
251             \fi
252         \fi%
253     }%
254 \fi
255 \ignorespaces%
256 }

```

`\@norowcolor` Turns off color for this row.

```

257 \def\@norowcolor{%
258 \renewcommand{\LWR@xcolorrowHTMLcolor}{}%
259 }

```

`\@rowc@lors` Executed at the end of each row.

```

260 \def\@rowc@lors{%
261 %     \noalign{%
262 %         \global\advance\rownum\@ne%
263 %     }%
264     \@rowcolors%
265 }

```

---

```
266 \end{warpHTML}
```

---

File 335 **lwarp-xexchangebar.sty**

§ 432     Package **xexchangebar**

Pkg   xexchangebar   xexchangebar is ignored.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{xexchangebar}[2017/08/03]  
                          2 \LWR@origRequirePackage{lwarp-changebar}

---

File 336 **lwarp-xellipsis.sty**

§ 433     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}

```

2 \newcommand*{\LWR@xellipsespace}[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{\xellipprebef}%
15   \xellipprechar%
16   \LWR@xellipsespace{\xellippreaft}%
17   \LWR@xellipsespace{\xellipbef}%
18   \xellipchar%
19   \xel@loopi = 1%
20   \loop\ifnum\xelipnum>\xel@loopi%
21     \advance\xel@loopi by1%
22     \LWR@xellipsespace{\xelipgap}%

```

---

```

23      \xeligchar%
24      \repeat%
25      \LWR@xellipsespace{\xeligpaft}%
26      \LWR@xellipsespace{\xeligpostbef}%
27      \xeligpostchar%
28      \LWR@xellipsespace{\xeligpostaft}%
29 }%
30 }%
```

---

File 337 **lwarp-xetexko-vertical.sty**

§ 434     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 338 **lwarp-xfrac.sty**

§ 435     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.

**for HTML output:**    1 \LWR@ProvidesPackagePass{xfrac}



**font size**

In the user's document preamble, lwarp should be loaded after font-related setup. 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.

**for HTML & PRINT:**   2 `\begin{warpall}`

`\xfracHTMLfontsize`   User-redefinable macro which controls the font size of the fraction.

3 `\newcommand*{\xfracHTMLfontsize}{.6em}`

4 `\end{warpall}`

**for HTML output:**   5 `\begin{warpHTML}`

**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.

```
6 \DeclareInstance{xfrac}{default}{text}{
7   numerator-format = {%
8     \begingroup%
9     \RenewDocumentCommand{\scalebox}{m o m}{##3}%
10    \InlineClass{numerator}{#1}\,%
11    \endgroup%
12  },
13  denominator-format = {%
14    \begingroup%
15    \RenewDocumentCommand{\scalebox}{m o m}{##3}%
16    \InlineClass{denominator}{#1}%
17    \endgroup%
18  },
```

For *pdftotext*, do not scale the text:

```
19   scaling = false
20 }
21
22 \DeclareInstance{xfrac}{lmr}{text}{
23   numerator-format = {%
24     \begingroup%
25     \RenewDocumentCommand{\scalebox}{m o m}{##3}%
```

```

26      \InlineClass{numerator}{#1}\,%
27      \endgroup%
28  },
29  denominator-format = {%
30      \begingroup%
31      \RenewDocumentCommand{\scalebox}{m o m}{##3}%
32      \InlineClass{denominator}{#1}%
33      \endgroup%
34  },

```

For *pdftotext*, do not scale the text:

```

35      scaling = false
36 }
37
38 \DeclareInstance{xfrac}{lmss}{text}{
39     numerator-format = {%
40         \begingroup%
41         \RenewDocumentCommand{\scalebox}{m o m}{##3}%
42         \InlineClass{numerator}{#1}\,%
43         \endgroup%
44     },
45     denominator-format = {%
46         \begingroup%
47         \RenewDocumentCommand{\scalebox}{m o m}{##3}%
48         \InlineClass{denominator}{#1}%
49         \endgroup%
50     },

```

For *pdftotext*, do not scale the text:

```

51      scaling = false
52 }
53
54 \DeclareInstance{xfrac}{lmtt}{text}{
55     numerator-format = {%
56         \begingroup%
57         \RenewDocumentCommand{\scalebox}{m o m}{##3}%
58         \InlineClass{numerator}{#1}\,%
59         \endgroup%
60     },
61     denominator-format = {%
62         \begingroup%
63         \RenewDocumentCommand{\scalebox}{m o m}{##3}%
64         \InlineClass{denominator}{#1}%
65         \endgroup%
66     },

```

For *pdftotext*, do not scale the text:

```
67     scaling = false
68 }
```

```
69 \end{warpHTML}
```

---


File 339 **lwarp-xltabular.sty**

§ 436     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 mis-numbered in HTML, so it may be necessary to place at the end of the table:

```
\warpHTMLonly{\addtocounter{table}{-1}}
```

```
1 \RequirePackage{tabularx}
2
3 \LWR@ProvidesPackageDrop{xltabular}
4
5 \DeclareDocumentEnvironment{xltabular}{o m m}
6 {\longtable{#3}}
7 {\endlongtable}
```

---

File 340 **lwarp-xltxtra.sty**

§ 437     Package **xltxtra**

*(Emulates or patches code by WILL ROBERTSON, JONATHAN KEW.)*

Pkg   xltxtra   xltxtra is emulated.

for HTML output:   1 \LWR@ProvidesPackageDrop{xltxtra}

```
2 \RequirePackage{realscripts}
3 \RequirePackage{metalogo}
```

---

```

4 \newcommand*\TeX@logo@spacing[6]{}
5
6 \newcommand*\vfrac[2]{%
7 \textsuperscript{#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 341 **lwarp-xmpincl.sty**

§ 438 Package **xmpincl**

*(Emulates or patches code by MAARTEN SNEEP.)*

Pkg xmpincl Emulated.

**for HTML output:** Discard all options for lwarp-xmpincl:

```

1 \LWR@ProvidesPackageDrop{xmpincl}

2 \newcommand*\includexmp[1]{}

```

---

File 342 **lwarp-xpiano.sty**

§ 439 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   [(-xpiano--\packagediagramname{}: \detokenize\expandafter{#2})]
12   [\detokenize\expandafter{#1}]
13 \xpiano_keyboard:nn { #1 } { #2 }
14 \end{lateximage}
15 }
16 \ExplSyntaxOff
17
18 \LWR@formatted{keyboard}

```

---

File 343 **lwarp-xpinyin.sty**

§ 440     Package **xpinyin**

*(Emulates or patches code by SOBEN LEE.)*

Pkg   xpinyin   xpinyin is partly supported. \xpinyin and pinyin scope are nullified, but \pinyin works.

**for HTML output:**

```

1 \LWR@ProvidesPackagePass{xpinyin}[2018/01/28]

2 \RenewDocumentEnvironment{pinyin scope}{ O{} }{ }{ }
3
4 \RenewDocumentCommand{\xpinyin}{ s O{} m }{ %
5   \IfBooleanTF{#1}{#3}{\@firstoftwo#3}%
6 }
7
8 \RenewDocumentCommand{\enablepinyin}{ }{ }

```

---

File 344 **lwarp-xtab.sty**

§ 441     Package **xtab**

*(Emulates or patches code by PETER WILSON.)*

Pkg   xtab   xtab is emulated.

**for HTML output:**

```

1 \LWR@ProvidesPackageDrop{xtab}

```

⚠ Misplaced alignment tab character & For `\tablefirsthead`, etc., enclose them as follows:

```
\StartDefiningTabulars
\tablefirsthead
...
\StopDefiningTabulars
```

See section 9.9.

⚠ **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 \LWR@traceinfo{xtabular done}%
57 }
58
59 \NewDocumentEnvironment{mpxtabular}{s o m}
60 {\minipage{\linewidth}\xtabular{#3}}
61 {\endxtabular\endminipage}

```

---

File 345 **lwarp-xunicode.sty**

## § 442 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}

```

---

File 346 **lwarp-xurl.sty**

§ 443     Package **xurl**

Pkg    xurl    xurl is ignored.

for HTML output:    1 \LWR@ProvidesPackageDrop{xurl}

---

File 347 **lwarp-xy.sty**

§ 444     Package **xy**

*(Emulates or patches code by KRISTOFFER H. ROSE, ROSS MOORE.)*

Pkg    xy    xy is patched for use by lwarp.

⚠    **\xypolygon**    \xypolygon must be used inside the xy environment, or inside \xy ... \endxy.

for HTML output:    1 \LWR@ProvidesPackagePass{xy}

```

2 \AtBeginDocument{
3
4 \pretol{\xy}{\begin{lateximage}[(-xy--\packagediagramname)]}
5 \apptol{\endxy}{\end{lateximage}}
6
7 \@ifundefined{xymatrix}{}{
8 \LetLtxMacro\LWR@origxymatrix\xymatrix
9
10 \renewcommand{\xymatrix}[1]{%
11 \begin{lateximage}[(-xy- xymatrix \packagediagramname)]
12 \LWR@origxymatrix{#1}
13 \end{lateximage}
14 }
15 }
16
17 \@ifundefined{xygraph}{}{
18 \LetLtxMacro\LWR@origxygraph\xygraph
19
20 \renewcommand{\xygraph}[1]{%
21 \begin{lateximage}[(-xy- xygraph \packagediagramname)]
22 \LWR@origxygraph{#1}
23 \end{lateximage}

```

---

```

24 }
25 }
26
27 }

```

---

File 348 **lwarp-zhlineskip.sty**

§ 445      Package **zhlineskip**

Pkg    zhlineskip    zhlineskip is ignored.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{zhlineskip}[2018/11/30]

```

2 \newcommand*\SetTextEnvironmentSinglespace[1]{ }
3 \newcommand*\RestoreTextEnvironmentLeading{ }
4 \newcommand*\SetMathEnvironmentSinglespace[1]{ }
5 \newcommand*\RestoreMathEnvironmentLeading{ }

```

---

File 349 **lwarp-zwpagelayout.sty**

§ 446      Package **zwpagelayout**

*(Emulates or patches code by ZDENĚK WAGNER.)*

Pkg    zwpagelayout    zwpagelayout is ignored.

**for HTML output:**    1 \LWR@ProvidesPackageDrop{zwpagelayout}

```

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][]{ }
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 350 **lwarp-patch-komascript.sty**

§ 447    Package **patch-komascript**

Pkg lwarp-patch-komascript Patches for komascript classes.

lwarp loads this package when scrbook, scrartcl, or screprt classes are detected.

Many features are ignored during the HTML conversion. The goal is source-level compatibility.

`\titlehead`, `\subject`, `\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 }

```

Simple captions are used in all cases.

```

39 \LetLtxMacro\captionbelow\caption
40 \LetLtxMacro\captionabove\caption
41
42 \LetLtxMacro\captionofbelow\captionof
43 \LetLtxMacro\captionofabove\captionof
44
45 \RenewDocumentEnvironment{captionbeside}{o m o o o s}
46 {}
47 {}
48 \IfValueTF{#1}{
49 {\caption[#1]{#2}}%
50 {\caption{#2}}%
51 }
52
53 \RenewDocumentEnvironment{captionofbeside}{m o m o o o s}

```

---

```

54 {}
55 {%
56 \IfValueTF{#2}%
57 {\captionof{#1}[#2]{#3}}%
58 {\captionof{#1}{#3}}%
59 }
60
61 \RenewDocumentCommand{\setcapindent}{s m}{}
62 \renewcommand*{\setcaphanging}{}
63 \renewcommand*{\setcapwidth}[2] [] {}
64 \renewcommand*{\setcapdynwidth}[2] [] {}
65 \RenewDocumentCommand{\setcapmargin}{s o m}{}

```

---

File 351 **lwarp-patch-memoir.sty**


§ 448      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.

 **options clash** While emulating memoir, lwarp pre-loads a number of packages (section 448.1). 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}

```

\verbfootnote is not supported.

\newfootnoteseries, etc. are not supported.

lwarp loads pagenote to perform memoir's pagenote functions, but there are minor differences in \pagenotesubhead and related macros.

Poem numbering is not supported.

The verbatim environment does not yet support the memoir enhancements. It is currently recommended to load and use fancyvrb instead.

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}

## § 448.1 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 lwarp 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}% 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}% 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 \RequirePackage{lwarp-framed}% req'd
14 \RequirePackage{lwarp-hanging}% req'd
15 \RequirePackage{lwarp-makeidx}% req'd
16 \DisemulatePackage{moreverb}
17 \RequirePackage{lwarp-moreverb}
18 \RequirePackage{lwarp-mparhack}
19 \RequirePackage{lwarp-needspace}% req'd
20 \RequirePackage{lwarp-nextpage}% req'd
21 \RequirePackage{lwarp-pagenote}% req'd
22 \RequirePackage{lwarp-parskip}
23 \RequirePackage{lwarp-setspace}% req'd
24 \RequirePackage{lwarp-showidx}
25 \RequirePackage{lwarp-subfigure}% red'q
26 \makeindex

```

subfigure is emulated via subfig, which pre-defines subfigure and subtable, but memoir does not, so they must be tested for here:

```

27 \LetLtxMacro\LWR@memorignewsfloat\newsfloat
28 \RenewDocumentCommand{\newsfloat}{0{} m}{%
29   \ifundefined{c@sub#2}{%
30     \LWR@memorignewsfloat[#1]{#2}%

```

```

31    }{}%
32 }
33
34 \RequirePackage{lwarp-tabularx}% req'd
35 \RequirePackage{lwarp-titling}% req'd
36 % \RequirePackage{lwarp-tocbibind}% not emulated by memoir
37 \RequirePackage{lwarp-tocloft}% req'd
38 \RequirePackage{lwarp-verse}% req'd

```

### § 448.2 Preliminary setup

Bypass the memoir package mechanism:

```
39 \LetLtxMacro\LWR@orig@label\@mem@old@label
```

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.

```

40 \setstocksize{190in}{20in}
41 \setlrmarginsandblock{2in}{2in}{*}
42 \setulmarginsandblock{1in}{1in}{*}

```

### § 448.3 Laying out the page

```

43 \renewcommand*{\stockavi}{}
44 \renewcommand*{\stockav}{}
45 \renewcommand*{\stockaiv}{}
46 \renewcommand*{\stockaiii}{}
47 \renewcommand*{\stockbvi}{}
48 \renewcommand*{\stockbv}{}
49 \renewcommand*{\stockbiv}{}
50 \renewcommand*{\stockbiii}{}
51 % \renewcommand*{\stockmetriccrownvo}{}% in docs but not in the package
52 \renewcommand*{\stockmlargecrownvo}{}
53 \renewcommand*{\stockmdemyvo}{}
54 \renewcommand*{\stockmsmallroyalvo}{}
55 \renewcommand*{\pageavi}{}
56 \renewcommand*{\pageav}{}
57 \renewcommand*{\pageaiv}{}
58 \renewcommand*{\pageaiii}{}
59 \renewcommand*{\pagebvi}{}
60 \renewcommand*{\pagebv}{}
61 \renewcommand*{\pagebiv}{}
62 \renewcommand*{\pagebiii}{}
63 % \renewcommand*{\pagemetriccrownvo}{}% in docs but not in the package
64 \renewcommand*{\pagemlargecrownvo}{}
65 \renewcommand*{\pagemdemyvo}{}
66 \renewcommand*{\pagemsmallroyalvo}{}
67

```

```
68 \renewcommand*{\stockdbill}{}
69 \renewcommand*{\stockstatement}{}
70 \renewcommand*{\stockexecutive}{}
71 \renewcommand*{\stockletter}{}
72 \renewcommand*{\stockold}{}
73 \renewcommand*{\stocklegal}{}
74 \renewcommand*{\stockledger}{}
75 \renewcommand*{\stockbroadsheet}{}
76 \renewcommand*{\pagedbill}{}
77 \renewcommand*{\pagestatement}{}
78 \renewcommand*{\pageexecutive}{}
79 \renewcommand*{\pageletter}{}
80 \renewcommand*{\pageold}{}
81 \renewcommand*{\pagelegal}{}
82 \renewcommand*{\pageledger}{}
83 \renewcommand*{\pagebroadsheet}{}
84
85 \renewcommand*{\stockpottvo}{}
86 \renewcommand*{\stockfoolscapvo}{}
87 \renewcommand*{\stockcrownvo}{}
88 \renewcommand*{\stockpostvo}{}
89 \renewcommand*{\stocklargecrownvo}{}
90 \renewcommand*{\stocklargepostvo}{}
91 \renewcommand*{\stocksmalldemyvo}{}
92 \renewcommand*{\stockdemyvo}{}
93 \renewcommand*{\stockmediumvo}{}
94 \renewcommand*{\stocksmallroyalvo}{}
95 \renewcommand*{\stockroyalvo}{}
96 \renewcommand*{\stocksuperroyalvo}{}
97 \renewcommand*{\stockimperialvo}{}
98 \renewcommand*{\pagepottvo}{}
99 \renewcommand*{\pagefoolscapvo}{}
100 \renewcommand*{\pagecrownvo}{}
101 \renewcommand*{\pagepostvo}{}
102 \renewcommand*{\pagelargecrownvo}{}
103 \renewcommand*{\pagelargepostvo}{}
104 \renewcommand*{\pagesmalldemyvo}{}
105 \renewcommand*{\pagedemyvo}{}
106 \renewcommand*{\pagedmediumvo}{}
107 \renewcommand*{\pagesmallroyalvo}{}
108 \renewcommand*{\pageroyalvo}{}
109 \renewcommand*{\pagesuperroyalvo}{}
110 \renewcommand*{\pageimperialvo}{}
111
112 \renewcommand*{\memfontfamily}{}
113 \renewcommand*{\memfontenc}{}
114 \renewcommand*{\memfontpack}{}
115
116 \renewcommand*{\anyptfilebase}{}
117 \renewcommand*{\anyptsizesize}{10}
```

```
118
119 \renewcommand*{\setstocksize}[2]{}
120 \renewcommand*{\settrimmedsize}[3]{}
121 \renewcommand*{\settrims}[2]{}
122
123 % \newlength{\lxvchars}
124 % \setlength{\lxvchars}{305pt}
125 % \newlength{\xlvchars}
126 % \setlength{\xlvchars}{190pt}
127 \renewcommand*{\setxlvchars}[1]{}
128 \renewcommand*{\setlxvchars}[1]{}
129
130 \renewcommand*{\settypeblocksize}[3]{}
131 \renewcommand*{\setlrmargins}[3]{}
132 \renewcommand*{\setlrmarginsandblock}[3]{}
133 \renewcommand*{\setbinding}[1]{}
134 \renewcommand*{\setulmargins}[3]{}
135 \renewcommand*{\setulmarginsandblock}[3]{}
136 \renewcommand*{\setcolsepandrule}[2]{}
137
138 \renewcommand*{\setheadfoot}[2]{}
139 \renewcommand*{\setheaderspaces}[3]{}
140 \renewcommand*{\setmarginnotes}[3]{}
141 \renewcommand*{\setfootins}[2]{}
142 \renewcommand*{\checkandfixthelayout}[1][ ]{}
143 \renewcommand*{\checkthelayout}[1]{}
144 \renewcommand*{\fixthelayout}{}
145 %
146 % \newlength{\stockheight}
147 % \newlength{\trimtop}
148 % \newlength{\trimedge}
149 % \newlength{\stockwidth}
150 % \newlength{\spinemargin}
151 % \newlength{\foremargin}
152 % \newlength{\uppermargin}
153 % \newlength{\headmargin}
154 %
155 \renewcommand*{\typeoutlayout}{}
156 \renewcommand*{\typeoutstandardlayout}{}
157 \renewcommand*{\settypeoutlayoutunit}[1]{}
158 \renewcommand*{\fixpdflayout}{}
159 \renewcommand*{\fixdvipslayout}{}
160
161 \renewcommand*{\medievalpage}[1][ ]{}
162 \renewcommand*{\isopage}[1][ ]{}
163 \renewcommand*{\semiisopage}[1][ ]{}
164
165 \renewcommand{\setpagebl}[3]{}
166 \renewcommand{\setpageml}[3]{}
167 \renewcommand{\setpagetl}[3]{}

```

```

168 \renewcommand{\setpagetm}[3]{}
169 \renewcommand{\setpagetr}[3]{}
170 \renewcommand{\setpagemr}[3]{}
171 \renewcommand{\setpagebr}[3]{}
172 \renewcommand{\setpagebm}[3]{}
173 \renewcommand{\setpagecc}[3]{}

```

#### § 448.4 Text and fonts

```

174 \let\miniscule\tiny
175 \let\HUGE\Huge
176
177 \renewcommand*\{abnormalparskip}[1]{}
178 \renewcommand*\{nonzeroparskip}{}
179 \renewcommand*\{traditionalparskip}{}
180
181 \let\onelineskip\baselineskip
182
183 \let\OnehalfSpacing\onehalfspacing
184 \let\DoubleSpacing\doublespacing
185 \renewcommand*\{setPagenoteSpacing}[1]{}
186 \renewcommand*\{setFloatSpacing}[1]{}
187 \let\SingleSpacing\singlespacing
188 \let\setSingleSpace\SetSinglespace
189 \let\SingleSpace\singlespace
190 \let\endSingleSpace\endsinglespace
191 \let\Spacing\spacing
192 \let\endSpacing\endspacing
193 \let\OnehalfSpace\onehalfspace
194 \let\endOnehalfSpace\endonehalfspace
195 \csletcs{OnehalfSpace*}{onehalfspace}
196 \csletcs{endOnehalfSpace*}{endonehalfspace}
197 \let\DoubleSpace\doublespace
198 \let\endDoubleSpace\enddoublespace
199 \csletcs{DoubleSpace*}{doublespace}
200 \csletcs{endDoubleSpace*}{enddoublespace}
201 \renewcommand*\{setDisplayskipStretch}[1]{}
202 \renewcommand*\{memdskipstretch}{}
203 \renewcommand*\{noDisplayskipStretch}{}
204 \renewcommand*\{memdskips}{}
205
206 \renewcommand*\{midsloppy}{}
207 \renewenvironment*{midsloppypar}{}{}
208
209 \renewcommand*\{sloppybottom}{}

```

#### § 448.5 Titles

```

210 \csletcs{titlingpage*}{titlingpage}

```

```

211 \csletcs{endtitlingpage*}{endtitlingpage}
212 \let\titlingpageend\relax
213 \newcommand{\titlingpageend}[2]{ }
214 \let\andnext\and
215 \renewcommand*{\thanksmarkstyle}[1]{ }
216 \renewcommand{\thanksfootmark}{%
217 \thanksscript{\tmark}%
218 }
219
220 % \newlength{\thanksmarksep}

```

## § 448.6 Abstracts

```

221 \renewcommand*{\abstractcol}{ }
222 \renewcommand*{\abstractintoc}{ }
223 \renewcommand*{\abstractnum}{ }
224 \renewcommand*{\abstractrunin}{ }

```

## § 448.7 Docment divisions

```

225
226 \def\@apppage{%
227     \part*{\appendixpagename}
228 }
229 \renewcommand\mempreaddapppagetotochook{ }
230 \renewcommand\mempostaddapppagetotochook{ }
231
232 \def\@sapppage{%
233     \part*{\appendixpagename}
234 }
235
236 \csletcs{frontmatter*}{frontmatter}
237 \csletcs{mainmatter*}{mainmatter}
238 \renewcommand*{\raggedbottomsection}{ }
239 \renewcommand*{\normalbottomsection}{ }
240 \renewcommand*{\bottomsectionskip}{ }
241 \renewcommand*{\bottomsectionpenalty}{ }
242 \csletcs{appendixpage*}{appendixpage}
243 \renewcommand*{\namedsubappendices}{ }
244 \renewcommand*{\unnamedsubappendices}{ }
245 \renewcommand*{\setsecnumdepth}[1]{ }% todo tocvsec2
246 \renewcommand*{\maxsecnumdepth}[1]{ }% todo tocvsec2
247 \renewcommand*{\beforebookskip}{ }
248 \renewcommand*{\afterbookskip}{ }
249 \renewcommand*{\beforepartskip}{ }
250 \renewcommand*{\afterpartskip}{ }
251 \renewcommand*{\midbookskip}{ }
252 \renewcommand*{\midpartskip}{ }
253 \renewcommand*{\printbookname}{ }

```

```
254 \renewcommand*{\booknamefont}{}
255 \renewcommand*{\booknamenum}{}
256 \renewcommand*{\printbooknum}{}
257 \renewcommand*{\booknumfont}{}
258 \renewcommand*{\printpartname}{}
259 \renewcommand*{\partnamefont}{}
260 \renewcommand*{\partnamenum}{}
261 \renewcommand*{\printpartnum}{}
262 \renewcommand*{\partnumfont}{}
263 \renewcommand*{\printbooktitle}[1]{}
264 \renewcommand*{\booktitlefont}{}
265 \renewcommand{\printparttitle}[1]{}
266 \renewcommand*{\parttitlefont}{}
267 \renewcommand*{\bookpageend}{}
268 \renewcommand*{\bookblankpage}{}
269 \renewcommand*{\nobookblankpage}{}
270 \renewcommand*{\partpageend}{}
271 \renewcommand*{\partblankpage}{}
272 \renewcommand*{\nopartblankpage}{}
273 \RenewDocumentCommand{\newleadpage}{s o m m}{}% todo
274 \RenewDocumentCommand{\renewleadpage}{s o m m}{}% todo
275 \renewcommand*{\leadpagetoclevel}{chapter}
276
277 \renewcommand*{\openright}{}
278 \renewcommand*{\openleft}{}
279 \renewcommand*{\openany}{}
280 \renewcommand*{\clearforchapter}{}
281 \renewcommand*{\memendofchapterhook}{}
282 \renewcommand*{\chapterheadstart}{}
283 % \newlength{\beforechapskip}
284 \renewcommand*{\afterchapternum}{}
285 % \newlength{\midchapskip}
286 \renewcommand*{\afterchaptertitle}{}
287 % \newlength{\afterchapskip}
288 \renewcommand*{\printchaptername}{}
289 \renewcommand*{\chapnamefont}{}
290 \renewcommand*{\chapternamenum}{}
291 \renewcommand*{\printchapternum}{}
292 \renewcommand*{\chapnumfont}{}
293 \renewcommand{\printchaptertitle}[1]{}
294 \renewcommand*{\chapttitlefont}{}
295 \renewcommand*{\printchapternonum}{}
296 \renewcommand*{\indentafterchapter}{}
297 \renewcommand*{\noindentafterchapter}{}
298 \renewcommand*{\insertchapterspace}{}
299
300 \renewcommand*{\chapterstyle}[1]{}
301 \renewcommand{\makechapterstyle}[2]{}
302 \renewcommand*{\chapindent}{}
303 \let\chapterprecis\cftchapterprecis
```

---

```

304 \let\chapterprecishere\cftchapterprecishere
305 \let\chapterprecistoc\cftchapterprecistoc
306 \renewcommand*\precisfont{}
307 \renewcommand*\prechapterprecis{}
308 \renewcommand*\postchapterprecis{}
309 \renewcommand{\precistoc}[1]{}
310 \renewcommand*\precistocfont{}
311 \renewcommand*\precistocformat{}
312 % \newlength{\prechapterprecisshift}
313
314 \renewcommand*\setbeforesecskip}[1]{}
315 \renewcommand*\setaftersecskip}[1]{}
316 \renewcommand*\setsecindent}[1]{}
317 \renewcommand*\setsecheadstyle}[1]{}
318 \renewcommand*\setbeforesubsecskip}[1]{}
319 \renewcommand*\setaftersubsecskip}[1]{}
320 \renewcommand*\setsubsecindent}[1]{}
321 \renewcommand*\setsubsecheadstyle}[1]{}
322 \renewcommand*\setbeforesubsubsecskip}[1]{}
323 \renewcommand*\setaftersubsubsecskip}[1]{}
324 \renewcommand*\setsubsubsecindent}[1]{}
325 \renewcommand*\setsubsubsecheadstyle}[1]{}
326 \renewcommand*\setbeforeparaskip}[1]{}
327 \renewcommand*\setafterparaskip}[1]{}
328 \renewcommand*\setparaindent}[1]{}
329 \renewcommand*\setparaheadstyle}[1]{}
330 \renewcommand*\setbeforesubparaskip}[1]{}
331 \renewcommand*\setaftersubparaskip}[1]{}
332 \renewcommand*\setsubparaindent}[1]{}
333 \renewcommand*\setsubparaheadstyle}[1]{}
334 \renewcommand{\@hangfrom}[1]{#1}
335 \renewcommand{\sethangfrom}[1]{}
336 \renewcommand{\setsecnumformat}[1]{}
337
338 \renewcommand*\hangsecnum{}
339 \renewcommand*\defaultsecnum{}
340
341 \renewcommand*\sechook{}
342 \renewcommand{\setsechook}[1]{}
343 \renewcommand*\subsechook{}
344 \renewcommand{\setsubsechook}[1]{}
345 \renewcommand*\subsubsechook{}
346 \renewcommand{\setsubsubsechook}[1]{}
347 \renewcommand*\parahook{}
348 \renewcommand{\setparahook}[1]{}
349 \renewcommand*\subparahook{}
350 \renewcommand{\setsubparahook}[1]{}
351
352 \RenewDocumentCommand{\plainbreak}{s m}{\begin{center}~\end{center}}
353

```

```

354 \RenewDocumentCommand{\fancybreak}{s +m}{%
355 \begin{center}#2\end{center}%
356 }
357
358 \RenewDocumentCommand{\plainfancybreak}{s m m +m}{%
359 \begin{center}#4\end{center}%
360 }
361
362 \RenewDocumentCommand{\pfbreak}{s}{%
363 \begin{center}
364 \pfbreakdisplay
365 \end{center}
366 }
367
368 % \newlength{\pfbreakskip}
369 \renewcommand{\pfbreakdisplay}{*\quad*\quad*}
370
371 \renewcommand{\makeheadstyles}[2]{}
372 \renewcommand*{\headstyles}[1]{}

```

#### § 448.8 **Pagination and headers**

```

373 \renewcommand*{\savepagenumber}{}
374 \renewcommand*{\restorepagenumber}{}
375 \renewcommand*{\uppercaseheads}{}
376 \renewcommand*{\nouppercaseheads}{}
377
378 \renewcommand*{\bookpagemark}[1]{}
379 \renewcommand*{\partmark}[1]{}
380 \renewcommand*{\bibmark}{}
381 \renewcommand*{\indexmark}{}
382 \renewcommand*{\glossarymark}{}
383
384 \LWR@origpagestyle{empty}
385 \renewcommand*{\ps@empty}{}
386 \renewcommand*{\makepagestyle}[1]{}
387 \renewcommand*{\emptyshook}{}%
388 % \renewcommand*{\empty@oddhead}{}
389 % \renewcommand*{\empty@oddfoot}{}
390 % \renewcommand*{\empty@evenhead}{}
391 % \renewcommand*{\empty@evenfoot}{}
392 \renewcommand*{\@oddhead}{}
393 \renewcommand*{\@oddfoot}{}
394 \renewcommand*{\@evenhead}{}
395 \renewcommand*{\@evenfoot}{}
396 \renewcommand*{\aliaspagestyle}[2]{}
397 \renewcommand*{\copypagestyle}[2]{}
398
399 \renewcommand*{\makeevenhead}[4]{}

```

```

400 \renewcommand*{\makeoddhead}[4]{}
401 \renewcommand*{\makeevenfoot}[4]{}
402 \renewcommand*{\makeoddfoot}[4]{}
403 \renewcommand*{\makerunningwidth}[3]{}
404 % \newlength{\headwidth}
405 \renewcommand*{\makeheadrule}[3]{}
406 \renewcommand*{\makefootrule}[3]{}
407 \renewcommand*{\makeheadfootruleprefix}[3]{}
408 % \newlength{\normalrulethickness}
409 % \setlength{\normalrulethickness}{.4pt}
410 % \newlength{\footruleheight}
411 % \newlength{\footruleskip}
412 \renewcommand*{\makeheadposition}[5]{}
413 \renewcommand{\makepsmarks}[2]{}
414 \renewcommand*{\makeheadfootstrut}[3]{}
415
416 \renewcommand{\createplainmark}[3]{}
417 \renewcommand{\memUChad}[1]{}
418 \renewcommand{\createmark}[5]{}
419 \renewcommand*{\clearplainmark}[1]{}
420 \renewcommand*{\clearmark}[1]{}
421 \renewcommand{\addtopsmarks}[3]{}
422 \renewcommand{\ifonlyfloats}[2]{#2}
423 \renewcommand*{\mergepagefloatstyle}[3]{}
424
425 \renewcommand*{\framepichead}{}
426 \renewcommand*{\framepictextfoot}{}
427 \renewcommand*{\framepichook}{}
428 \renewcommand*{\showheadfootlocoff}{}
429 \renewcommand*{\showtextblocklocoff}{}

```

## § 448.9 Paragraphs and lists

```

430 \renewcommand{\hangfrom}[1]{#1}
431 \let\centerfloat\centering
432 \renewcommand*{\raggedyright}[1]{}{}
433 % \newlength{\ragrparindent}
434 \renewcommand{\sourceatright}[2]{}{\attribution{#2}}
435 \let\memorigdbs\LWR@endoffline
436 \let\memorigpar\par
437 \let\atcentercr\LWR@endoffline
438
439 \renewcommand*{\linenottooshort}[1]{}{}
440 \renewcommand*{\russianpar}{}
441 \renewcommand*{\lastlinerulefill}{}
442 \renewcommand*{\lastlineparrule}{}
443 \renewcommand*{\justlastraggedleft}{}
444 \renewcommand*{\raggedrightthenleft}{}
445 \renewcommand*{\leftcenterright}{}

```

```

446
447 \renewcommand{\leftspringright}[4]{%
448 \begin{minipage}{#1\linewidth}#3\end{minipage}\quad%
449 \begin{minipage}{#2\linewidth}\begin{flushright}#4\end{flushright}\end{minipage}%
450 }
451
452 \renewenvironment*{blockdescription}
453 {\LWR@descriptionstart\LWR@origdescription}
454 {\enddescription}
455 \renewcommand*{\blockdescriptionlabel}[1]{\textbf{#1}}
456 \renewenvironment*{labelled}[1]{\begin{description}}{\end{description}}
457 \renewenvironment*{flexlabelled}[6]{\begin{description}}{\end{description}}
458 \renewcommand*{\tightlists}{}
459 \renewcommand*{\defaultlists}{}
460 \RenewDocumentCommand{\firmlists}{s}{}
461 \renewcommand*{\firmlist}{}
462 \renewcommand*{\tightlist}{}
463 \renewcommand*{\zerotrivseps}{}
464 \renewcommand*{\savetrivseps}{}
465 \renewcommand*{\restoretrivseps}{}

```

## § 448.10 Contents lists

```

466 \csletcs{tableofcontents*}{tableofcontents}
467 \csletcs{listoffigures*}{listoffigures}
468 \csletcs{listoftables*}{listoftables}
469 \renewenvironment{KeepFromToc}{}{}
470 \renewcommand*{\onecoltocetc}{}
471 \renewcommand*{\twocoltocetc}{}
472 \renewcommand*{\ensureonecol}{}
473 \renewcommand*{\restorefromonecol}{}
474 \renewcommand*{\doccoltocetc}{}
475 \renewcommand*{\maxtocdepth}[1]{}% tocvsec2
476 \renewcommand*{\settocdepth}[1]{}% tocvsec2
477
478 \renewcommand{\toheadstart}{}
479 \renewcommand{\printtoctitle}[1]{}
480 \renewcommand{\tocmark}{}
481 \renewcommand{\aftertoctitle}{}
482 \renewcommand{\lofheadstart}{}
483 \renewcommand{\printloftitle}[1]{}
484 \renewcommand{\lofmark}{}
485 \renewcommand{\afterloftitle}{}
486 \renewcommand{\lotheadstart}{}
487 \renewcommand{\printlottitle}[1]{}
488 \renewcommand{\lotmark}{}
489 \renewcommand{\afterlottitle}{}
490
491 \renewcommand*{\setpnumwidth}[1]{}

```

```

492 \renewcommand*{\setrmarg}[1]{}
493 \renewcommand*{\cftbookbreak}{}
494 \renewcommand*{\cftpartbreak}{}
495 \renewcommand*{\cftchapterbreak}{}

496 % \newlength{\cftbeforebookskip}
497 % \newlength{\cftbookindent}
498 % \newlength{\cftbooknumwidth}
499 \renewcommand*{\cftbookfont}{}
500 \renewcommand*{\cftbookname}{}
501 \renewcommand*{\cftbookpresnum}{}
502 \renewcommand*{\cftbookaftersnum}{}
503 \renewcommand*{\cftbookaftersnumb}{}
504 \renewcommand*{\cftbookleader}{}
505 \renewcommand*{\cftbookdotsep}{1}
506 \renewcommand*{\cftbookpagefont}{}
507 \renewcommand*{\cftbookafterpnum}{}
508 \renewcommand*{\cftbookformatpnum}[1]{}
509 \renewcommand*{\cftbookformatpnumhook}[1]{}

```

Part is already defined by tocloft.

```

510 % \newlength{\cftbeforechapterskip}
511 % \newlength{\cftchapterindent}
512 % \newlength{\cftchapternumwidth}
513 \renewcommand*{\cftchapterfont}{}
514 \renewcommand*{\cftchaptername}{}
515 \renewcommand*{\cftchapterpresnum}{}
516 \renewcommand*{\cftchapteraftersnum}{}
517 \renewcommand*{\cftchapteraftersnumb}{}
518 \renewcommand*{\cftchapterleader}{}
519 \renewcommand*{\cftchapterdotsep}{1}
520 \renewcommand*{\cftchapterpagefont}{}
521 \renewcommand*{\cftchapterafterpnum}{}
522 \renewcommand*{\cftchapterformatpnum}[1]{}
523 \renewcommand*{\cftchapterformatpnumhook}[1]{}

524 % \newlength{\cftbeforesectionsip}
525 % \newlength{\cftsectionindent}
526 % \newlength{\cftsectionnumwidth}
527 \renewcommand*{\cftsectionfont}{}
528 \renewcommand*{\cftsectionname}{}
529 \renewcommand*{\cftsectionpresnum}{}
530 \renewcommand*{\cftsectionaftersnum}{}
531 \renewcommand*{\cftsectionaftersnumb}{}
532 \renewcommand*{\cftsectionleader}{}
533 \renewcommand*{\cftsectiondotsep}{1}
534 \renewcommand*{\cftsectionpagefont}{}
535 \renewcommand*{\cftsectionafterpnum}{}
536 \renewcommand*{\cftsectionformatpnum}[1]{}

```

```
537 \renewcommand*{\cftsectionformatpnumhook}[1]{}

538 % \newlength{\cftbeforesubsectionskip}
539 % \newlength{\cftsubsectionindent}
540 % \newlength{\cftsubsectionnumwidth}
541 \renewcommand*{\cftsubsectionfont}{}
542 \renewcommand*{\cftsubsectionname}{}
543 \renewcommand*{\cftsubsectionpresnum}{}
544 \renewcommand*{\cftsubsectionaftersnum}{}
545 \renewcommand*{\cftsubsectionaftersnumb}{}
546 \renewcommand*{\cftsubsectionleader}{}
547 \renewcommand*{\cftsubsectiondotsep}{1}
548 \renewcommand*{\cftsubsectionpagefont}{}
549 \renewcommand*{\cftsubsectionafterpnum}{}
550 \renewcommand*{\cftsubsectionformatpnum}[1]{}
551 \renewcommand*{\cftsubsectionformatpnumhook}[1]{}

552 % \newlength{\cftbeforesubsubsectionskip}
553 % \newlength{\cftsubsubsectionindent}
554 % \newlength{\cftsubsubsectionnumwidth}
555 \renewcommand*{\cftsubsubsectionfont}{}
556 \renewcommand*{\cftsubsubsectionname}{}
557 \renewcommand*{\cftsubsubsectionpresnum}{}
558 \renewcommand*{\cftsubsubsectionaftersnum}{}
559 \renewcommand*{\cftsubsubsectionaftersnumb}{}
560 \renewcommand*{\cftsubsubsectionleader}{}
561 \renewcommand*{\cftsubsubsectiondotsep}{1}
562 \renewcommand*{\cftsubsubsectionpagefont}{}
563 \renewcommand*{\cftsubsubsectionafterpnum}{}
564 \renewcommand*{\cftsubsubsectionformatpnum}[1]{}
565 \renewcommand*{\cftsubsubsectionformatpnumhook}[1]{}

566 % \newlength{\cftbeforeparagraphskip}
567 % \newlength{\cftparagraphindent}
568 % \newlength{\cftparagraphnumwidth}
569 \renewcommand*{\cftparagraphfont}{}
570 \renewcommand*{\cftparagraphname}{}
571 \renewcommand*{\cftparagraphpresnum}{}
572 \renewcommand*{\cftparagraphaftersnum}{}
573 \renewcommand*{\cftparagraphaftersnumb}{}
574 \renewcommand*{\cftparagraphleader}{}
575 \renewcommand*{\cftparagraphdotsep}{1}
576 \renewcommand*{\cftparagraphpagefont}{}
577 \renewcommand*{\cftparagraphafterpnum}{}
578 \renewcommand*{\cftparagraphformatpnum}[1]{}
579 \renewcommand*{\cftparagraphformatpnumhook}[1]{}

580 % \newlength{\cftbeforesubparagraphskip}
581 % \newlength{\cftsubparagraphindent}
582 % \newlength{\cftsubparagraphnumwidth}
```

```

583 \renewcommand*{\cftsubparagraphfont}{}
584 \renewcommand*{\cftsubparagraphname}{}
585 \renewcommand*{\cftsubparagraphpresnum}{}
586 \renewcommand*{\cftsubparagraphaftersnum}{}
587 \renewcommand*{\cftsubparagraphaftersnumb}{}
588 \renewcommand*{\cftsubparagraphleader}{}
589 \renewcommand*{\cftsubparagraphdotsep}{1}
590 \renewcommand*{\cftsubparagraphpagefont}{}
591 \renewcommand*{\cftsubparagraphafterpnum}{}
592 \renewcommand*{\cftsubparagraphformatpnum}[1]{}
593 \renewcommand*{\cftsubparagraphformatpnumhook}[1]{}

594 % \newlength{\cftbeforefigureskip}
595 % \newlength{\cftfigureindent}
596 % \newlength{\cftfigurenumwidth}
597 \renewcommand*{\cftfigurefont}{}
598 \renewcommand*{\cftfigurename}{}
599 \renewcommand*{\cftfigurepresnum}{}
600 \renewcommand*{\cftfigureaftersnum}{}
601 \renewcommand*{\cftfigureaftersnumb}{}
602 \renewcommand*{\cftfigureleader}{}
603 \renewcommand*{\cftfiguredotsep}{1}
604 \renewcommand*{\cftfigurepagefont}{}
605 \renewcommand*{\cftfigureafterpnum}{}
606 \renewcommand*{\cftfigureformatpnum}[1]{}
607 \renewcommand*{\cftfigureformatpnumhook}[1]{}

608 % \newlength{\cftbeforesubfigureskip}
609 % \newlength{\cftsubfigureindent}
610 % \newlength{\cftsubfigurenumwidth}
611 \newcommand*{\cftsubfigurefont}{}
612 \newcommand*{\cftsubfigurename}{}
613 \newcommand*{\cftsubfigurepresnum}{}
614 \newcommand*{\cftsubfigureaftersnum}{}
615 \newcommand*{\cftsubfigureaftersnumb}{}
616 \newcommand*{\cftsubfigureleader}{}
617 \newcommand*{\cftsubfiguredotsep}{1}
618 \newcommand*{\cftsubfigurepagefont}{}
619 \newcommand*{\cftsubfigureafterpnum}{}
620 \newcommand*{\cftsubfigureformatpnum}[1]{}
621 \newcommand*{\cftsubfigureformatpnumhook}[1]{}

622 % \newlength{\cftbeforetableskip}
623 % \newlength{\cfttableindent}
624 % \newlength{\cfttablenumwidth}
625 \renewcommand*{\cfttablefont}{}
626 \renewcommand*{\cfttablename}{}
627 \renewcommand*{\cfttablepresnum}{}
628 \renewcommand*{\cfttableaftersnum}{}
629 \renewcommand*{\cfttableaftersnumb}{}

```

```

630 \renewcommand*{\cfttableleader}{\cfttableleader}{}
631 \renewcommand*{\cfttabledotsep}{1}
632 \renewcommand*{\cfttablepagefont}{}
633 \renewcommand*{\cfttableafterpnum}{}
634 \renewcommand*{\cfttableformatpnum}[1]{}
635 \renewcommand*{\cfttableformatpnumhook}[1]{}

636 % \newlength{\cftbeforesubtables skip}
637 % \newlength{\cftsubtableindent}
638 % \newlength{\cftsubtablenumwidth}
639 \newcommand*{\cftsubtablefont}{}
640 \newcommand*{\cftsubtablename}{}
641 \newcommand*{\cftsubtablepresnum}{}
642 \newcommand*{\cftsubtableaftersnum}{}
643 \newcommand*{\cftsubtableaftersnumb}{}
644 \newcommand*{\cftsubtableleader}{}
645 \newcommand*{\cftsubtabledotsep}{1}
646 \newcommand*{\cftsubtablepagefont}{}
647 \newcommand*{\cftsubtableafterpnum}{}
648 \newcommand*{\cftsubtableformatpnum}[1]{}
649 \newcommand*{\cftsubtableformatpnumhook}[1]{}

650 \renewcommand*{\booknumberline}[1]{}
651 \renewcommand*{\partnumberline}[1]{}
652 \renewcommand*{\chapternumberline}[1]{}
653 \renewcommand*{\numberlinehook}[1]{}
654 % \renewcommand*{\cftwhatismyname}{}%
655 \renewcommand*{\booknumberlinehook}[1]{}
656 \renewcommand*{\partnumberlinehook}[1]{}
657 \renewcommand*{\chapternumberlinehook}[1]{}
658 \renewcommand{\numberlinebox}[2]{}
659 \renewcommand{\booknumberlinebox}[2]{}
660 \renewcommand{\partnumberlinebox}[2]{}
661 \renewcommand{\chapternumberlinebox}[2]{}
662 %
663 % \newlength{\cftparfillskip}
664 \renewcommand*{\cftpagenumbersoff}[1]{}
665 \renewcommand*{\cftpagenumberon}[1]{}
666 \renewcommand*{\cftlocalchange}[3]{}
667 \renewcommand*{\cftaddtitleline}[4]{}
668 \renewcommand*{\cftaddnumtitleline}[4]{}
669 \renewcommand{\cftinsertcode}[2]{}
670 \renewcommand{\cftinserthook}[2]{}
671 \renewcommand{\settocpreprocessor}[2]{}
672 \DeclareRobustCommand{\cftpagenumbersoff}[1]{}
673 \DeclareRobustCommand{\cftpagenumberon}[1]{}

```

## § 448.11 Floats and captions

`\newfloat` [*<1: within>*] [*<2: type>*] [*<3: ext>*] [*<4: capname>*]

```

674 \RenewDocumentCommand{\newfloat}{o m m m}{%
675 \IfValueTF{#1}%
676 {\DeclareFloatingEnvironment[fileext=#3,within=#1,name={#4}]{#2}}%
677 {\DeclareFloatingEnvironment[fileext=#3,name={#4}]{#2}}%

```

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.

```

678 \cslet{listof#2s}\relax%
679 \cslet{listof#2es}\relax%
680 }

```

`\newlistof` [*<within>*] [*<type>*] [*<ext>*] [*<listofname>*]

Emulated through the \newfloat mechanism. Note that memoir uses a different syntax than tocloft for the name.

```

681 \RenewDocumentCommand{\newlistof}{o m m m}
682 {%
683 \IfValueTF{#1}
684 {\newlistentry[#1]{#2}{#3}{0}}
685 {\newlistentry{#2}{#3}{0}}
686 \@namedef{ext@#2}{#3}%
687 \@ifundefined{c@#3depth}{\newcounter{#3depth}}{}%
688 \setcounter{#3depth}{1}%
689 \@namedef{#3mark}{}%
690 \@namedef{#2}{\listof{#2}{#4}}
691 \@namedef{cftmake#3title}{}
692 \@ifundefined{cftbefore#3titleskip}{
693   \expandafter\newlength\csname cftbefore#3titleskip\endcsname
694   \expandafter\newlength\csname cftafter#3titleskip\endcsname
695 }{}
696 \@namedef{cft#3titlefont}{}
697 \@namedef{cftafter#3title}{}
698 \@namedef{cft#3prehook}{}
699 \@namedef{cft#3posthook}{}
700 }

```

```

701 \renewcommand{\setfloatadjustment}[2]{}

```

Borrowed from the lwarp version of keyfloat:

```

702 \NewDocumentEnvironment{KFLTmemoir@marginfloat}{0{-1.2ex} m}
703 {% start
704 \LWR@BlockClassWP{float:right; width:2in; margin:10pt}{}{marginblock}%
705 \captionsetup{type=#2}%
706 }
707 {%
708 \endLWR@BlockClassWP%
709 }

```

```

710
711 \DeclareDocumentEnvironment{marginfigure}{o}
712   {\begin{KFLTmemoir@marginfloat}{figure}}
713   {\end{KFLTmemoir@marginfloat}}
714
715 \DeclareDocumentEnvironment{margintable}{o}
716   {\begin{KFLTmemoir@marginfloat}{table}}
717   {\end{KFLTmemoir@marginfloat}}

718 \renewcommand{\setmarginfloatcaptionadjustment}[2]{}
719 \renewcommand{\setmpjustification}[2]{}
720 \renewcommand*{\mpjustification}{}
721 \renewcommand*{\setfloatlocations}[2]{}
722 \DeclareDocumentCommand{\suppressfloats}{o}{}
723 \renewcommand*{\FloatBlock}{}
724 \renewcommand*{\FloatBlockAllowAbove}{}
725 \renewcommand*{\FloatBlockAllowBelow}{}
726 \renewcommand*{\setFloatBlockFor}{}
727
728 \renewcommand{\captiontitlefinal}[1]{}
729
730 \renewcommand{\flegtable}{\tablename}
731 \renewcommand{\flegfigure}{\figurename}
732 \renewcommand{\flegtocable}{}
733 \renewcommand{\flegtocfigure}{}
734
735
736 \renewcommand{\subcaption}[2][{}]{%
737   \ifblank{#1}{\subfloat[#2]{}{\subfloat[#1][#2]{}{}}}%
738 }
739
740 \renewcommand{\contsubcaption}{\ContinuedFloat\subcaption}
741
742 \LetLtxMacro\subcaptionref\subref
743
744 \renewcommand*{\tightsubcaptions}{}
745 \renewcommand*{\loosesubcaptions}{}
746
747 \renewcommand*{\subcaptionsize}[1]{}
748 \renewcommand*{\subcaptionlabelfont}[1]{}
749 \renewcommand*{\subcaptionfont}[1]{}
750 \renewcommand*{\subcaptionstyle}[1]{}
751
752 \renewcommand*{\hangsubcaption}{}
753 \renewcommand*{\shortsubcaption}{}
754 \renewcommand*{\normalsubcaption}{}
755
756 \RenewDocumentEnvironment{sidecaption}{o m o}
757 {}

```

```

758 {
759 \IfValueTF{#1}{\caption[#1]{#2}}{\caption{#2}}%
760 \IfValueT{#3}{\label{#3}}%
761 }
762
763 % \newlength{\sidecapwidth}
764 % \newlength{\sidecapsep}
765 \renewcommand*{\setsidecaps}[2]{}
766 \renewcommand*{\sidecapmargin}[1]{}
767 % \newif\ifscapmargleft
768 \scapmargleftfalse
769 \renewcommand*{\setsidecappos}[1]{}
770
771 \RenewDocumentEnvironment{sidecontcaption}{m o}
772 {}
773 {%
774 \ContinuedFloat%
775 \caption{#1}%

```

Without \@capttype, the section is referred to instead.

```

776 \IfValueT{#2}{\label[\@capttype]{#2}}%
777 }

```

\sidenamedlegend does not appear to use the toc argument.

```

778 \renewenvironment{sidenamedlegend}[2][]{
779 \begin{center}
780 \@nameuse{\@capttype name}\CaptionSeparator#2
781 \end{center}
782 }
783 {}
784
785 \renewenvironment{sidelegend}[1]
786 {\begin{center}
787 #1
788
789 }
790 {\end{center}}
791
792 \renewcommand*{\sidecapstyle}{}
793 \renewcommand*{\overridescapmargin}[1]{}
794 % \newlength{\sidecapraise}
795 \renewcommand*{\sidecapfloatwidth}{\linewidth}
796
797 \LetLtxMacro\ctabular\tabular
798 \LetLtxMacro\endctabular\endtabular
799
800 \renewcommand{\autorows}[5][]{%

```

```

801 #5
802 }
803
804 \renewcommand{\autocol}{5} [] {}
805 #5
806 }

```

## § 448.12 Page notes

```

807 \renewcommand*{\feetabovelfloat}{}
808 \renewcommand*{\feetbelowfloat}{}
809 \renewcommand*{\feetatbottom}{}
810
811 \renewcommand*{\verbfootnote}[2] [] {}
812 \PackageError{lwarp, memoir}
813 {Verbatim footnotes are not yet supported by lwarp.}
814 {This may be improved some day.}
815 }
816
817 \renewcommand*{\plainfootnotes}{}
818 \renewcommand*{\twocolumnfootnotes}{}
819 \renewcommand*{\threecolumnfootnotes}{}
820 \renewcommand*{\paragraphfootnotes}{}
821 \renewcommand*{\footfudgefiddle}{}
822
823 \renewcommand*{\newfootnoteseries}[1] {}
824 \PackageError{lwarp, memoir}
825 {Memoir footnote series are not yet supported by lwarp.}
826 {This may be improved some day.}
827 }
828
829 \renewcommand*{\plainfootstyle}[1] {}
830 \renewcommand*{\twocolumnfootstyle}[1] {}
831 \renewcommand*{\threecolumnfootstyle}[1] {}
832 \renewcommand*{\paragraphfootstyle}[1] {}
833
834 \renewcommand*{\footfootmark}{}
835 \renewcommand*{\footmarkstyle}[1] {}
836
837 % \newlength{\footmarkwidth}
838 % \newlength{\footmarksep}
839 % \newlength{\footparindent}
840
841 \renewcommand*{\foottextfont}{}
842
843 \renewcommand*{\marginparmargin}[1] {}
844 \renewcommand*{\sideparmargin}[1] {}
845
846 \LetLtxMacro\sidepar\marginpar

```

```

847 \renewcommand*{\sideparfont}{}
848 \renewcommand*{\sideparform}{}
849 \LWR@providelength{\sideparvshift}
850
851 \renewcommand*{\parnopar}{}
852
853 \renewcommand{\sidebar}[1]{\begin{quote}#1\end{quote}}
854 \renewcommand*{\sidebarmargin}[1]{}
855 \renewcommand*{\sidebarfont}{}
856 \renewcommand*{\sidebarform}{}
857 % \newlength{\sidebarhsep}
858 % \newlength{\sidebarvsep}
859 % \newlength{\sidebarwidth}
860 % \newlength{\sidebartopsep}
861 \renewcommand{\setsidebarheight}[1]{}
862 \renewcommand*{\setsidebars}[6]{}
863 \renewcommand*{\footnotesatfoot}{}
864 \renewcommand*{\footnotesinmargin}{}
865
866 \LetLtxMacro\sidefootnote\footnote
867 \LetLtxMacro\sidefootnotemark\footnotemark
868 \LetLtxMacro\sidefootnotetext\footnotetext
869
870 \renewcommand*{\sidefootmargin}[1]{}
871 % \newlength{\sidefoothsep}
872 % \newlength{\sidefootvsep}
873 % \newlength{\sidefootwidth}
874 % \newlength{\sidefootadjust}
875 % \newlength{\sidefootheight}
876 \renewcommand*{\setsidefootheight}[1]{}
877 % \renewcommand*{\sidefootfont}{}% in docs but not in the package
878 \renewcommand*{\setsidefeet}[6]{}
879 \renewcommand*{\sidefootmarkstyle}[1]{}
880 \renewcommand*{\sidefoottextfont}{}
881 \renewcommand*{\sidefootform}{}
882
883 \renewcommand*{\continuousnotenums}{\pncontopttrue}% from pagenote
884 \renewcommand*{\notepageref}{}
885 \renewcommand*{\prenotetext}{}
886 \renewcommand*{\postnotetext}{}
887 \renewcommand*{\idtextinnotes}[1]{}
888 \renewcommand*{\printpageinnotes}[1]{}
889 \renewcommand*{\printpageinnoteshyperref}[1]{}
890 \renewcommand*{\foottopagenote}{}
891 \renewcommand*{\pagetofootnote}{}

```

## § 448.13 Decorative text

```

892 \renewcommand*{\epigraphposition}[1]{}

```

```

893 \renewcommand*{\epigraphtextposition}[1]{}
894 \renewcommand*{\epigraphsourceposition}[1]{}
895 \renewcommand*{\epigraphfontsize}[1]{}
896 \renewcommand*{\epigraphforheader}[2] [] {}
897 \renewcommand*{\epigraphpicture}{}

```

#### § 448.14 Poetry

```

898 \renewcommand*{\vinphantom}{}
899 \renewcommand*{\vleftofline}[1]{#1}
900 % \let\linenumberfrequency\poemlines
901 % \renewcommand*{\linenumberfont}[1]{}
902
903 \DeclareDocumentCommand{\PoemTitle}{s o o m}{%
904 \IfValueTF{#2}%
905 {\poemtitle[#2]{#4}}%
906 {\poemtitle{#4}}%
907 }
908
909 \renewcommand*{\NumberPoemTitle}{}
910 \renewcommand*{\PlainPoemTitle}{}
911 \renewcommand*{\poemtitlepstyle}{}
912 \renewcommand*{\poemtitlestarmark}[1]{}
913 \renewcommand*{\poemtitlestarpstyle}{}
914 \renewcommand*{\PoemTitleheadstart}{}
915 \renewcommand*{\printPoemTitlenonum}{}
916 \renewcommand*{\printPoemTitlenum}{}
917 \renewcommand*{\afterPoemTitlenum}{}
918 \renewcommand*{\printPoemTitletitle}[1]{}
919 \renewcommand*{\afterPoemTitle}{}
920 \newlength{\midpoemtitleskip}
921 \renewcommand*{\PoemTitlenumfont}{}
922 \renewcommand*{\PoemTitlefont}{}

```

#### § 448.15 Boxes, verbatims and files

```

923 \renewenvironment{qframe}{\framed}{\endframed}
924 \renewenvironment{qshade}{\shaded}{\endshaded}

```

Use the comment package:

```

925 \renewcommand*{\commentsoff}[1]{\includecomment{#1}}
926 \renewcommand*{\commentson}[1]{\excludecomment{#1}}
927 \LetLtxMacro\renewcomment\commentson
928
929 \renewcommand*{\setverbatimfont}[1]{}
930 \renewcommand*{\tabson}[1]{}
931 \renewcommand*{\tabsoff}{}
932 \renewcommand*{\wrappingon}{}

```

```

933 \renewcommand*{\wrappingoff}{}
934 \renewcommand*{\verbatimindent}{}
935 \renewcommand*{\verbatimbreakchar}[1]{}

936 \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.

```

937 \renewcommand*{\bvbox}{}
938 \renewcommand*{\bvtopandtail}{}
939 \renewcommand*{\bvside}{}
940 \renewcommand*{\nobvbox}{}
941 % \newlength\bvboxsep
942 \renewcommand*{\bvtoprulehook}{}
943 \renewcommand*{\bvtopmidhook}{}
944 \renewcommand*{\bvendrulerulehook}{}
945 \renewcommand*{\bvleftsidehook}{}
946 \renewcommand*{\bvrightsidehook}{}
947 \renewcommand*{\bvperpagetrue}{}
948 \renewcommand*{\bvperpagefalse}{}
949 \renewcommand*{\bvtopofpage}[1]{}
950 \renewcommand*{\bvendofpage}[1]{}
951 \renewcommand*{\linenumberfrequency}[1]{}
952 \renewcommand*{\resetbvlinenumber}{}
953 \renewcommand*{\setbvlinenums}[2]{}
954 \renewcommand*{\linenumberfont}[1]{}
955 \renewcommand*{\bvnumbersinside}{}
956 \renewcommand*{\bvnumbersoutside}{}

```

## § 448.16 Cross referencing

```

957 \renewcommand*{\fref}[1]{\cref{#1}}
958 \renewcommand*{\tref}[1]{\cref{#1}}
959 \renewcommand*{\pref}[1]{\cpageref{#1}}
960 \renewcommand*{\Aref}[1]{\cref{#1}}
961 \renewcommand*{\Bref}[1]{\cref{#1}}
962 \renewcommand*{\Pref}[1]{\cref{#1}}
963 \renewcommand*{\Sref}[1]{\cref{#1}}
964 \renewcommand*{\figurerefname}{Figure}
965 \renewcommand*{\tablerefname}{Table}
966 \renewcommand*{\pagerefname}{page}
967 \renewcommand*{\bookrefname}{Book~}
968 \renewcommand*{\partrefname}{Part~}
969 \renewcommand*{\chapterrefname}{Chapter~}
970 \renewcommand*{\sectionrefname}{S}
971 \renewcommand*{\appendixrefname}{Appendix~}
972 \LetLtxMacro\titleref\nameref
973 \renewcommand*{\headnameref}{}

```

```

974 \renewcommand*{\tocnameref}{\}
975
976 \providecounter{LWR@currenttitle}
977
978 \renewcommand*{\currenttitle}{\%
979   \addtocounter{LWR@currenttitle}{1}%
980   \label{currenttitle\arabic{LWR@currenttitle}}%
981   \nameref{currenttitle\arabic{LWR@currenttitle}}%
982 }
983
984 \renewcommand*{\theTitleReference}[2]{\}
985 \renewcommand*{\namerefon}{\}
986 \renewcommand*{\namerefoff}{\}

```

#### § 448.17 **Back matter**

Redefined to write the LWR@autoindex counter instead of page. Note that memoir has two versions, depending on the use of hyperref.

```

987 \AtBeginDocument{
988
989 \def\@@wrindexhyp#1||\{\%
990   \addtocounter{LWR@autoindex}{1}%
991   \LWR@new@label{LWRindex-\arabic{LWR@autoindex}}%
992 %   \ifshowindexmark\@showidx{#1}\fi
993   \protected@write\@auxout{\%
994     {\string\@@wrindexm@\@idxfile}{#1}{\arabic{LWR@autoindex}}}%
995   \endgroup
996   \@esphack}%

```

\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.

```

997 \def\@@wrspindexhyp#1||\{\%
998   \addtocounter{LWR@autoindex}{1}%
999   \LWR@new@label{LWRindex-\arabic{LWR@autoindex}}%
1000 %   \ifshowindexmark\@showidx{#1}\fi
1001   \protected@write\@auxout{\%
1002     {\%
1003 %       \string\@@wrindexm@\@idxfile}{#1}{\@nameuse{the\@sptheid}}%
1004       \string\@@wrindexm@\@idxfile}{#1}{\arabic{LWR@autoindex}}%
1005     }%
1006   \endgroup
1007   \@esphack}%
1008
1009 }% \AtBeginDocument

```

Patched to use \_html filename and \BaseJobname:

```

1010 \catcode'\_ =12%
1011 \renewcommand*\makeindex}[1][\BaseJobname]{%
1012   \if@filesw
1013     \def\gindex{\@bsphack%
1014       \@ifnextchar [{\@index}{\@index[\BaseJobname]}}
1015     \def\specialindex{\@bsphack\@spindex}%
1016     \makememindexhook
1017     \expandafter\newwrite\csname #1idxfile\endcsname
1018     \expandafter\immediate\openout \csname #1idxfile\endcsname #1_html.idx\relax
1019     \typeout{Writing index file #1_html.idx }%
1020   \fi}
1021 \catcode'\_ =8%

```

Patched to use \_html filename and \BaseJobname. This will later be patched by the lwarp core.

```

1022 \catcode'\_ =12%
1023 \renewcommand*\printindex}[1][\BaseJobname]{\@input@{#1_html.ind}}
1024 \catcode'\_ =8%

```

```

1025 \DeclareDocumentCommand{\newblock}{-}{-}{-}
1026 %
1027 \renewcommand*\showindexmarks{}
1028 \renewcommand*\hideindexmarks{}
1029
1030 \renewcommand*\xindyindex{}

```

## § 448.18 Miscellaneous

```

1031 \renewcommand*\changemarks{}
1032 \renewcommand*\nochangemarks{}
1033 \renewcommand*\added}[1]{}
1034 \renewcommand*\deleted}[1]{}
1035 \renewcommand*\changed}[1]{}
1036
1037 \renewcommand*\showtrimsoff{}
1038 \renewcommand*\showtrimson{}
1039 \renewcommand*\trimXmarks{}
1040 \renewcommand*\trimLmarks{}
1041 \renewcommand*\trimFrame{}
1042 \renewcommand*\trimNone{}
1043 \renewcommand*\trimmarkscolor{}
1044 \renewcommand*\trimmarks{}
1045 \renewcommand*\tmarktl{}
1046 \renewcommand*\tmarktr{}
1047 \renewcommand*\tmarkbr{}
1048 \renewcommand*\tmarkbl{}

```

```

1049 \renewcommand*{\tmarktm}{}
1050 \renewcommand*{\tmarkmr}{}
1051 \renewcommand*{\tmarkbm}{}
1052 \renewcommand*{\tmarkml}{}
1053 \renewcommand*{\trimmark}{}
1054 \renewcommand*{\quarkmarks}{}
1055 \renewcommand*{\registrationColour}[1]{}
1056
1057 \renewcommand*{\leavespergathering}[1]{}
1058
1059 \renewcommand*{\noprelistbreak}{}
1060
1061 \renewcommand*{\cleartorecto}{}
1062 \renewcommand*{\cleartoverso}{}
1063
1064 \renewenvironment{vplace}[1][ ]{}{}

```

#### § 448.19 ccaption emulation

```

1065 \renewcommand*{\captiondelim}[1]{\renewcommand*{\CaptionSeparator}{#1}}
1066 \renewcommand*{\captionnamefont}[1]{}
1067 \renewcommand*{\captiontitlefont}[1]{}
1068 \renewcommand*{\flushleft}{\right}{}
1069 \renewcommand*{\centerlastline}{}
1070 \renewcommand*{\captionstyle}[2][ ]{}
1071 \DeclareDocumentCommand{\captionwidth}{m}{}
1072 \renewcommand*{\changecaptionwidth}{}
1073 \renewcommand*{\normalcaptionwidth}{}
1074 \renewcommand*{\hangcaption}{}
1075 \renewcommand*{\indentcaption}[1]{}
1076 \renewcommand*{\normalcaption}{}
1077 \renewcommand{\precaption}[1]{}
1078 \renewcommand{\postcaption}[1]{}
1079 \renewcommand{\midbicapTION}[1]{}
1080 \renewcommand{\contcaption}[1]{%
1081 % \ContinuedFloat%
1082 % \caption{#1}%
1083 \begin{LWR@figcaption}% later becomes \caption*
1084 \LWR@isolate{\@nameuse{\@capttype name}}~%
1085 \thechapter.\the\value{\@capttype}\CaptionSeparator\LWR@isolate{#1}%
1086 \end{LWR@figcaption}
1087 }

1088 \newlength{\abovelegendskip}
1089 \setlength{\abovelegendskip}{0.5\baselineskip}
1090 \newlength{\belowlegendskip}
1091 \setlength{\belowlegendskip}{\abovelegendskip}

```

The extra `\\` here forces a `<br>` in HTML when `\legend` is used in a `\marginpar`.

```

1092 \renewcommand{\legend}[1]{\begin{center}#1\\end{center}}
1093
1094 \renewcommand{\namedlegend}[2][]{
1095 \begin{center}
1096 \@nameuse{fleg\@captive}\CaptionSeparator#2\
1097 \end{center}
1098 \@nameuse{flegtoc\@captive}{#1}
1099 }
1100
1101 \renewcommand{\newfixedcaption}[3][\caption]{%
1102 \renewcommand{#2}{\def\@captive{#3}#1}}
1103 \renewcommand{\renewfixedcaption}[3][\caption]{%
1104 \renewcommand{#2}{\def\@captive{#3}#1}}
1105 \renewcommand{\providefixedcaption}[3][\caption]{%
1106 \providecommand{#2}{\def\@captive{#3}#1}}
1107
1108 \renewcommand{\bitwonumcaption}[6][]{%
1109 \ifblank{#2}{\caption{#3}}{\caption{#2}{#3}}%
1110 \addtocounter{\@captive}{-1}%
1111 \begin{group}%
1112 \csdef{\@captive name}{#4}%
1113 \ifblank{#5}{\caption{#6}}{\caption{#5}{#6}}%
1114 \end{group}%
1115 \ifblank{#1}{\label{#1}}%
1116 }
1117
1118 \LetLtxMacro\bionenumcaption\bitwonumcaption% todo
1119
1120 \renewcommand{\bicaption}[5][]{%
1121 \ifblank{#2}{\caption{#3}}{\caption{#2}{#3}}%
1122 \begin{LWR@figcaption}% later becomes \caption*
1123 \LWR@isolate{#4} \thechapter.\the\value{\@captive}\CaptionSeparator\LWR@isolate{#5}%
1124 \end{LWR@figcaption}
1125 \ifblank{#1}{\label{#1}}%
1126 }
1127
1128 \renewcommand{\bicontcaption}[3]{%
1129 \contcaption{#1}%
1130 \begin{group}%
1131 \csdef{\@captive name}{#2}%
1132 \contcaption{#3}%
1133 \end{group}%
1134 }

1135 % only in ccaption, not in memoir:
1136 \LetLtxMacro\longbitwonumcaption\bitwonumcaption%
1137 \LetLtxMacro\longbionenumcaption\bitwonumcaption%
1138 \LetLtxMacro\longbicaption\bicaption%
1139
1140 \RenewDocumentCommand{\subtop}{0{} 0{} m}{%

```

```

1141 \subfloat[#1][#2]{#3}%
1142 }
1143
1144 \RenewDocumentCommand{\subbottom}{0{} 0{} m}{%
1145 \subfloat[#1][#2]{#3}%
1146 }
1147
1148 \renewcommand{\contsubtop}{%
1149 \ContinuedFloat\addtocounter{\@captype}{1}%
1150 \subtop}
1151
1152 \renewcommand{\contsubbottom}{%
1153 \ContinuedFloat\addtocounter{\@captype}{1}%
1154 \subbottom}
1155
1156 \renewcommand{\subconcluded}{\}
1157
1158 \let\subfigure\subbottom
1159 \let\subtable\subtop
1160
1161 \let\contsubtable\contsubtop
1162 \let\contsubfigure\contsubbottom

1163 \newcommand{\newfloatentry}[4][\@empty]{TODO: newfloatentry}
1164 \newcommand{\newfloatlist}[5][\@empty]{TODO: newfloatlist}
1165 \newcommand{\newfloatenv}[4][\@empty]{TODO: newfloatenv}
1166 \DeclareRobustCommand{\newfloatpagesoff}[1]{\}
1167 \DeclareRobustCommand{\newfloatpageson}[1]{\}
1168 \newcommand{\setnewfloatindents}[3]{\}

```

## § 448.20 Final patchwork

```

1169 \newlistof{tableofcontents}{toc}{\contentsname}
1170 \newlistof{listoffigures}{lof}{\listfigurename}
1171 \newlistof{listoftables}{lot}{\listtablename}

```

# Change History

## § 449 Chg Hist

For the most recent changes, see page 1046.

|       |  |  |
|-------|--|--|
| v0.10 | General: 2016/03/08 Initial version . . . 1                    | Docs: Table: Cross-referencing data structures. . . . . 482        |
| v0.11 | General: 2016/03/11 . . . . . 1                                | Docs: Table: Float data structures. 494                            |
|       | Added section: Operating-System portability. . . . . 217       | Docs: Trademarks section. . . . . 198                              |
|       | Added section: Selecting the operating system. . . . . 124     | Docs: Troubleshooting cross-references. . . . . 193                |
|       | Test Suite: MS-WINDOWS in README.txt . . . . . 1               | Test Suite: Assigned cleveref name for Test Float. . . . . 1       |
|       | Test Suite: limages and index in README.txt . . . . . 1        | Test Suite: Floatrow . . . . . 1                                   |
| v0.12 | \LWR@newhtmlfile: Bugfix: TOC with numbered files. . . . . 368 | v0.15  |
|       | General: 2016/03/14 . . . . . 1                                | General: 2016/04/06 . . . . . 1                                    |
|       | Global: Uses \p@(type) in float captions. . . . . 1            | Added. . . . . 737   |
|       | Test Suite: Sub-figures . . . . . 1                            | Ampersand (&): Fixed handling when passed as an argument. . . 425  |
| v0.13 | \CaptionSeparator: Fix for newer babel package. . . . . 498    | Docs: Added warning icons for items needing special attention. 201 |
|       | \LWR@LwarpStart: \up and \fup . . 387                          | Docs: Clarify print/HTML output. 124                               |
|       | General: 2016/03/24 . . . . . 1                                | Docs: Moved the supported features table to the introduction. 76   |
|       | Fix dollar-redefined bug for newer package. . . . . 923        | Files: lwarp_formal.css added. . . . 1                             |
|       | Removed package: subfig . . . . . 1                            | Fix: steps counter . . . . . 736                                   |
|       | Test Suite: Ordinals, Subcaption . . 1                         | Fixed & handling. . . . . 734                                      |
| v0.14 | \LWR@htmlsectionfilename: Fix: Links to home page. . . . . 330 | Test Suite: test_suite_formal.css file added. . . . . 1            |
|       | General: 2016/03/31 . . . . . 1                                | v0.16  |
|       | floatrow: Added. . . . . 732                                   | General: 2016/04/11 . . . . . 1                                    |
|       | Docs: Commands for a successful HTML conversion. . . . . 128   | \titlingpage: Improved print-output spacing. . . . . 396           |
|       | Docs: Commands into a warpprint environment. . . . . 125       | xfrac: Adjusted for the use of any font: . . . . . 981             |
|       | Docs: Newclude limitations. . . . 172                          | Added XeLaTeX, LuaLaTeX support. . . . . 202                       |
|       |  | Docs: Font and UTF-8 support. . . 109                              |
|       |  | Docs: Moved location of \usepackage{lwarp}. . . . . 112            |
|       |  | Docs: Text not converting. . . . . 193                             |
|       |  | Lwarp no longer selects fonts. 109, 226                            |
|       |  | Removed package: suffix . . . . . 1                                |

|  |     |  |     |
|--|-----|--|-----|
| Test Suite: Improved titlingpage. . . . .                                      | 396 | verse: Supports verse, memoir packages. . . . .                                  | 959 |
| Test Suite: Lwarp no longer selects fonts. . . . .                             | 1   | minipage: Fix: \linewidth, \textwidth, \textheight inside a minipage. . . . .    | 571 |
| Test Suite: Supports XeLaTeX, LuaLaTeX. . . . .                                | 1   |  |     |
| v0.17  |     | v0.19  |     |
| \LWR@htmlsectionfilename: Fix: Links when entire doc is one HTML page. . . . . | 330 | \HTMLFilename: Docs: Escape filename underscores. . . . .                        | 329 |
| General: 2016/04/14 . . . . .  | 1   | \HomeHTMLFilename: Docs: Escape filename underscores. . . . .                    | 330 |
| mdframed: Added. . . . .   | 806 | \LWR@LwarpStart: Enabled \equal to \newline. . . . .                             | 386 |
| Test Suite: Fix: Print-version front-matter page numbers. . . . .              | 1   | \LWR@doequation: MATHJAX support. . . . .  | 535 |
| Test Suite: Mdframed . . . . .   | 1   | \LWR@doubledollar: MATHJAX support. . . . .                                      | 529 |
| v0.18  |     | \LWR@filestart: lwarp_mathjax.txt loaded. . . . .                                | 383 |
| \LWR@includegraphicsb: Add: svgz file extension. . . . .                       | 756 | \LWR@minipagestartpars: Suppresses paragraph tags between minipages. . . . .     | 591 |
| em, ex, %, px dimensions preserved. . . . .                                    | 756 | \LWR@subsingledollar: MATHJAX support. . . . .                                   | 523 |
| Fix: \linewidth, \textwidth, \textheight inside a minipage. . . . .            | 756 | \LateximageFontSizeName: Add: User-adjustable math/lateximage font size. . . . . | 546 |
| Improved HTML output linebreaks. . . . .                                       | 756 | \hspace: Fix: \hspace length computations. . . . .                               | 592 |
| \LWR@myshorttoc: Reorganize \HomeHTMLFilename logic. . . . .                   | 503 | \minipagefullwidth: Added: No width tag for the next minipage in HTML. . . . .   | 571 |
| \LWR@newhtmlfile: sideroc after title, improving responsive design. . . . .    | 367 | \warpHTMLonly: Added. . . . .  | 225 |
| \LWR@requesttoc: Reorganize \HomeHTMLFilename logic. . . . .                   | 389 | \warpprintonly: Replaces \rowprintedonly. . . . .                                | 225 |
| \LWR@subhyperref: Improved HTML output linebreaks. . . . .                     | 491 | \xfracHTMLfontsize: Added. . . . .   | 981 |
| \LWR@subhyperrefclass: Improved HTML output linebreaks. . . . .                | 491 | General: 2016/06/08 . . . . .  | 1   |
| \LWR@subinlineimage: Suppress extra space. . . . .                             | 493 | css for table note item. . . . .   | 921 |
| \hspace: \hspace supported. . . . .  | 592 | MATHJAX support added. 533, 539, 541   |     |
| General: 2016/05/19 . . . . .  | 1   | multirow: Added optional args. . . . .   | 824 |
| File: lwarp.css: Improved toc outline display. . . . .                         | 1   | Adapts to tikz version. . . . .  | 923 |
| Files: lwarp.css and lwarp_formal.css: Improved responsive design. . . . .     | 1   | Avoids MATHJAX. . . . .  | 522 |
| Microtype disabled during HTML generation . . . . .                            | 227 | cleveref: Loaded \AtEndPreamble. . . . .   | 566 |
| PDF Unicode input characters. . . . .  | 215 | Docs: Math options. . . . .  | 112 |
| Test Suite: Verse package . . . . .  | 1   | Docs: Table: Cross-referencing data structures, updated. . . . .                 | 482 |
| lateximage: pdfcrop: --hires added. . . . .                                    | 550 | File: lwarp.css: tnoteitemheader added. . . . .                                  | 1   |
| Reorganize \HomeHTMLFilename logic. . . . .                                    | 550 | File: lwarp_mathjax.txt added. . . . .   | 1   |
| Suppress extra space. . . . .  | 550 |  |     |

|  |     |  |     |
|--|-----|--|-----|
| Introduction: MATHJAX support mentioned. . . . .   | 73  | \SetHTMLFileNumber: Add: Control file numbers. . . . .                 | 330 |
| Options: mathsvg and mathjax . . . . .   | 220 | \cpagerefFor: User-redefinable word for page references. . . . .       | 567 |
| Supports colored \rule. . . . .  | 971 | \dotfill: Inserts an ellipsis. . . . .                                 | 590 |
| titleps: null \pagestyle and \thispagestyle for HTML. . . . .  | 924 | \hfill: Inserts a \qqquad. . . . .                                     | 590 |
| v0.20  |     | \hrulefill: Inserts a short rule. . . . .                              | 590 |
| \BlockClassSingle: Renamed from "LWR@htmldivclassline". . . . .  | 343 | \hspace: Add: Supports HTML thin breakable space. . . . .              | 592 |
| \HTMLDescription: Added \NewHTMLdescription. (Renamed in v0.30.) . . . . .                               | 355 | \hyperindexref: Print mode provided in case hyperref not used. . . . . | 513 |
| \HTMLFilename: No longer escape underscores. . . . .   | 329 | \pageref: Added. . . . .   | 489 |
| \HomeHTMLFilename: No longer escape underscores. . . . .   | 330 | \tracinglwarp: Added. . . . .  | 238 |
| \InlineClass: Renamed from "inlineclass". . . . .  | 344 | General: 2017/02/09 . . . . .  | 1   |
| \LWR@LwarpStart: Fix: math cross references. . . . .   | 388 | afterpage: Added. . . . .  | 612 |
| \LWR@closeparagraph: \unskip extra spaces. . . . .   | 348 | alltt: Added. . . . .  | 618 |
| No break tags in the start/end of a tabular. . . . .   | 348 | bookmark: Added. . . . .   | 645 |
| \LWR@endoffline: Fix: \\\ . . . . .  | 591 | caption and subcaption supported. . . . .                              | 1   |
| \LWR@filestart: Adds meta description. . . . .   | 383 | cleveref and referencing patches: Applied \AfterEndPreamble. . . . .   | 566 |
| \LWR@htmldivclass: Added optional style. . . . .   | 342 | draftwatermark: Added. . . . .   | 698 |
| \LWR@htmlclass: Added optional style. . . . .  | 341 | eso-pic: Added. . . . .  | 708 |
| \LWR@htmlsectionfilename: HTMLFilename: removed additional trailing '-', and may be empty. . . . .       | 330 | everypage: Added. . . . .  | 709 |
| Sections called "Index" or "index" have an underscore prepended to their filenames if no prefix. . . . . | 330 | extramarks: Added. . . . .   | 710 |
| \LWR@includegraphicsb: Fix: \linewidth in a floatrow. . . . .  | 756 | fancyhdr: Added. . . . .   | 716 |
| Fix: Expands filename. . . . .   | 756 | float: Improved float caption type handling. . . . .                   | 729 |
| \LWR@longtabledatacaptiontag: Fix: Pars in captions. . . . .   | 465 | hyperref: Additional user macros. . . . .                              | 769 |
| \LWR@section: Combined higher-level sections together into files. . . . .                                | 374 | keyfloat: Added. . . . .   | 784 |
| \LWR@setOSWindows: Auto-detects operating system. . . . .  | 219 | letterspace: User-interface emulated. . . . .                          | 787 |
| \LWR@subhtmlclass: Factored code. . . . .  | 341 | listings: Added. . . . .   | 792 |
|  |     | ltcaption: Added. . . . .  | 799 |
|  |     | lwarp-newproject: Added. . . . .                                       | 251 |
|  |     | microtype: User-interface emulated. . . . .                            | 819 |
|  |     | needspace: Added. . . . .  | 831 |
|  |     | nowidow: Added. . . . .  | 834 |
|  |     | placeins: Added. . . . .   | 860 |
|  |     | ragged2e: Added. . . . .   | 865 |
|  |     | setspace: Improved support. . . . .                                    | 884 |
|  |     | textpos: Added. . . . .  | 915 |
|  |     | titleps: Added. . . . .  | 924 |
|  |     | titlesec: Added. . . . .   | 928 |
|  |     | titletoc: Added. . . . .   | 930 |
|  |     | titling: Improved compatibility. . . . .                               | 932 |
|  |     | tocloft: Added. . . . .  | 939 |
|  |     | wallpaper: Added. . . . .  | 964 |

|   |     |  |     |
|---|-----|--|-----|
| wrapfig: Added. . . . .                                 | 966 | <i>lwarpmk</i> : Fix: <i>lwarpmk</i> uses              |     |
| xetexko-vertical: Added. . . . .                        | 980 | <code>lateximages</code> text file instead of          |     |
| Added @, <, > columns. . . . .                          | 419 | shell script. . . . .                                  | 303 |
| Added single-expansion data                             |     | Add: Errors for misplaced                              |     |
| arrays. . . . .   | 325 | packages. . . . .                                      | 203 |
| Code factored into independent                          |     | Docs: Added internet class. . . . .                    | 81  |
| <code>lwarp_html</code> files. . . . .                  | 603 | Docs: Added TeX2page, GladTeX. . . . .                 | 81  |
| Docs: Examples for generating                           |     | Docs: Installing on WINDOWS. . . . .                   | 88  |
| HTML file names. . . . .                                | 122 | File: <code>lwarp_tutorial.txt</code> added. . . . .   | 92  |
| Docs: Improved index. . . . .                           | 1   |  |     |
| Enhanced titling support. . . . .                       | 394 | v0.22  |     |
| File: <code>lwarp.css</code> : Minor fixes for          |     | <code>\LWR@parseDcolumn</code> : Added tabular         |     |
| validation. . . . .                                     | 1   | D column. . . . .                                      | 435 |
| File: <code>lwarpmk</code> used to compile              |     | <code>\LWR@parsebangcolumn</code> : Added              |     |
| print, HTML, indexes, and                               |     | tabular ! column. . . . .                              | 430 |
| <code>lateximages</code> . . . . .                      | 1   | <code>\LWR@parsetablecols</code> : Unknown             |     |
| Fix: <code>\linewidth</code> in a floatrow. . . . .     | 734 | table column types become 1.                           |     |
| Moved sidebar and example code                          |     | Added tabular D, !, X columns. . . . .                 | 437 |
| to test suite. . . . .                                  | 1   | <code>\LWR@printmccoldata</code> : Added               |     |
| Page geometry set to 6in wide with                      |     | tabular D, !, and X columns. . . . .                   | 459 |
| large margins. . . . .                                  | 228 | General: 2017/03/02 . . . . .                          | 1   |
| Parallel versions of aux files for                      |     | abstract: Added. . . . .                               | 605 |
| print/HTML. . . . .                                     | 1   | change page: Added. . . . .                            | 657 |
| Removed reliance on make, grep,                         |     | dcolumn: Added. . . . .                                | 694 |
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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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