

finstrut.sty

Final Strut Allowing Vertical Mode*

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Abstract

L^AT_EX internally inserts `\@finalstrut` $\langle strutbox \rangle$ at the end of footnotes or `p` (paragraph) `tabular` cells. When the user's entry ends on a `\par` token—which may be issued by some more-general-purpose user macro such as the `\lipsum` command from the `lipsum` package¹ for dummy text—this produces a usually unwanted extra, empty line. `finstrut.sty` changes `\@finalstrut` in order to avoid this effect.

Keywords: footnotes; tables, dummy text, macro programming

1 Remark on lipsum

Almost at the same moment that `finstrut` v0.1 was installed (2011-02-09), a new version v1.1 of `lipsum` was uploaded that offers a package option `[nopar]` to avoid a final `\par`.

2 Installing and Calling

The package file `finstrut.sty` is provided ready, installation only requires putting it somewhere where T_EX finds it (which may need updating the filename data base).²

Below the `\documentclass` line(s) and above `\begin{document}`, you load `finstrut.sty` (as usually) by

```
\usepackage{finstrut}    or by    \usepackage[ $\langle options \rangle$ ]{finstrut}
```

— $\langle options \rangle$ described below.

*This document describes version **v0.4** of `finstrut.sty` as of 2011/02/12.

[†]<http://contact-ednotes.sty.de.vu>

¹<http://ctan.org/pkg/lipsum>

²<http://www.tex.ac.uk/cgi-bin/texfaq2html?label=inst-wlcf>

3 The Package File

3.1 Header (Legalize)

```

1 \NeedsTeXFormat{LaTeX2e}[1994/12/01]
2 \ProvidesPackage{finstrut}[2011/02/12 v0.4 vmode final strut (DA/UL)]
3
4 %% Copyright (C) 2010 2011 Uwe Lueck,
5 %% http://www.contact-ednotes.sty.de.vu
6 %% -- author-maintained in the sense of LPPL below --
7 %%
8 %% This file can be redistributed and/or modified under
9 %% the terms of the LaTeX Project Public License; either
10 %% version 1.3c of the License, or any later version.
11 %% The latest version of this license is in
12 %% http://www.latex-project.org/lppl.txt
13 %% We did our best to help you, but there is NO WARRANTY.
14 %%
15 %% Please report bugs, problems, and suggestions via
16 %%
17 %% http://www.contact-ednotes.sty.de.vu
18 %%

```

3.2 Outline

v0.4 considers recommendations by Donald Arseneau. Some of them may break in applications that we do not know about, therefore they must be called by package options. Package Option `[full]` calls all of them.

The choices shall not be checked at each invocation of `\@finalstrut`, instead they are evaluated at the definition of `\@finalstrut`, at the end of the package. Choices are prepended to this definition by defining `\@tempe`, `\@tempd`, `\@tempc`, and `\@tempb`.

3.3 Options

According to `ltboxes.dtx`, a `vmode` test once was introduced for $\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X} 2_{\varepsilon}$, but in 1994 removed again—it “broke” in `p` columns. For this reason, v0.1 and v0.3 used an `hmode` test instead. `ltboxes.dtx` does not tell exactly what code broke in exactly which situation. Bad. Brave users may dare the `vmode` test again by choosing package option `[v]`. It sets `\@tempe` for `\edef\@finalstrut`. While other conditionals are disabled right before the latter, we disable the mode test here:

```

19 \AtEndOfPackage{%
20   \def\@tempe#1#2{\noexpand\ifhmode#1\else#2\fi}}
21 \DeclareOption{v}{%
22   \AtEndOfPackage{%
23     \def\@tempe#1#2{\noexpand\ifvmode#2\else#1\fi}}}

```

`[argdelim]` appends a `\relax` to `\@finalstrut`'s argument in case the box number is given as a string of digits (whereas `latex.ltx` only has `\strutbox` and `\@arstrutbox` as arguments). This does not work when somebody tries (e.g.) `\@finalstrut11_`. I.e., a “multi-token” argument must be enclosed in braces indeed.

```

24 \AtEndOfPackage{\let\@tempd\@empty}
25 \DeclareOption{argdelim}{%
26   \AtEndOfPackage{\def\@tempd{\relax}}}
27 \AtEndOfPackage{\let\@tempc\@secondoftwo}

```

`[dptest]` caters for depth exceeding the depth of the strut box and for negative depth. The test requires that a multi-token argument (see above) is enclosed in braces.

```

28 \DeclareOption{dptest}{%
29   \AtEndOfPackage{%
30     \def\@tempd{\relax}%
31     \let\@tempc\@firstoftwo}}

```

`[full]` enables all of Donald Arseneau's suggestions:

```

32 \DeclareOption{full}{%
33   \AtEndOfPackage{%
34     \def\@tempe#1#2{\noexpand\ifvmode#2\else#1\fi}%
35     \def\@tempd{\relax}%
36     \let\@tempc\@firstoftwo
37   }}

```

`[show]` displays the definition of `\@finalstrut` actually resulting:

```

38 \AtEndOfPackage{\let\@tempb\relax}
39 \DeclareOption{show}{%
40   \AtEndOfPackage{\def\@tempb{\show\@finalstrut}}}

```

Appending choices to the end-of-package hook:

```

41 \ProcessOptions

```

3.4 Core Code

Now we append the `\edef` of `\@finalstrut` to the end-of-package hook (we must hurry so that nobody changes `\@tempe` etc.). `\dp@only` will be an abbreviation for invoking a strut rule; it will only be enabled after the `\edef`:

```

42 \let\dp@only\relax
43 \AtEndOfPackage{%
44   \begingroup

```

Some conditionals are disabled for the `\edef`:

```

45   \let\ifdim\relax \let\else\relax \let\fi\relax

```

```

46     \xdef\@gtempa#1{%
47         \unskip
48         \@tempe{%
49             \noexpand\nobreak
50             \vrule \dp@only #1\@tempd    %% maybe \relax
51         }%

```

Whereas v0.1 and v0.3 used `\kern` to get the bottom distance in `vmode`, Donald Arseneau recommends `\hrule` for the sake of bottom alignment with `array.sty` (`b` type columns):

```

52         \@tempc{%
53             \ifdim\prevdepth<\dp#1\relax
54                 \ifdim\prevdepth>\z@
55                     \kern -\prevdepth
56                 \fi
57                 \hrule \dp@only#1\relax
58             \fi
59         }\hrule \dp@only #1\@tempd}% %% maybe \relax
60     }%
61 }
62 \endgroup
63 \let\@finalstrut\@gtempa
64 \@tempb    %% maybe \show

```

`\dp@only`

```

65     \def\dp@only{\@width\z@ \@height\z@ \@depth\dp}
66 }

```

3.5 Leaving

```

67 \endinput

```

3.6 VERSION HISTORY

```

68 v0.1    2010/12/20    very first
69 v0.2    2011/02/09    redundancies removed -- still bad
70         NOT DISTRIBUTED
71 v0.3    2011/02/11    code much reduced again (no \expandafter at all!);
72                     wrong comments replaced; \subsection
73 v0.4    2011/02/12    Donald Arseneau's full suggestions as options
74

```