The centernot package

Heiko Oberdiek*

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Abstract

This package provides `\centernot` that prints the symbol `\not` on the following argument. Unlike `\not` the symbol is horizontally centered.

Contents

1 User interface

If a negated relational symbol is not available, `\not` can be used to create the negated variant of the relational symbol. The disadvantage of `\not` is that it is put at a fixed location regardless of the width of the relational symbol. Therefore `\centernot` takes an argument and measures its width to achieve a better placement of the symbol `\not`. Examples:

symbol	`\not`	`\centernot`	
`=`	$\not=$	$\centernot=$	*(definition)*
`\parallel`	$\not\parallel$	$\centernot\parallel$	
`\longrightarrow`	$\not\longrightarrow$	$\centernot\longrightarrow$	

But do not forget that most negated symbols are already available, e.g.:

*Please report any issues at https://github.com/ho-tex/oberdiek/issues

case	package	code	result
\parallel:	centernot	$A \centernot\parallel B$	$A \centernot\parallel B$
	amssymb	$A \nparallel B$	$A \nparallel B$
\mid:	centernot	$A \centernot\mid B$	$A \centernot\mid B$
	amssymb	$A \nmid B$	$A \nmid B$
	mathabx	$A \notdivides B$	$A \notdivides B$
\rightarrow:	centernot	$A \centernot\rightarrow B$	$A \centernot\rightarrow B$
	amssymb	$A \nrightarrow B$	$A \nrightarrow B$
	mathabx	$A \nrightarrow B$	$A \nrightarrow B$

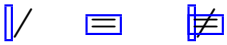
2 Implementation

```
1 ⟨*package⟩
2 \NeedsTeXFormat{LaTeX2e}
3 \ProvidesPackage{centernot}
4   [2016/05/16 v1.4 Centers the not symbol horizontally (HO)]%
```

`\not` is a `\mathrel` atom with zero width. It prints itself outside its character box, similar to `\rlap`. The next `\mathrel` symbol is then print on top of it. TEX does not add space between two `\mathrel` atoms. The following implementation assumes that the math font is designed in such a way that the position of `\not` fits well on the equal symbol.

The blue boxes marks the character bounding boxes seen by TEX:

`\not` `=` `\not=`



`\centernot` `\centernot` is not a symbol but a macro that takes one argument. It measures the width of the argument and places `\not` horizontally centered on that argument. The result is a `\mathrel` atom.

```
5 \newcommand*{\centernot}{%
6   \mathpalette\@centernot
7 }
8 \def\@centernot#1#2{%
9   \mathrel{%
10    \rlap{%
11      \settowidth\dimen@{$\m@th#1{#2}$}%
12      \kern.5\dimen@
13      \settowidth\dimen@{$\m@th#1=$}%
14      \kern-.5\dimen@
15      $\m@th#1\not$%
16    }%
17    {#2}%
18  }%
19 }

20 ⟨/package⟩
```

3 Installation

3.1 Download

Package. This package is available on CTAN[1]:

CTAN:macros/latex/contrib/oberdiek/centernot.dtx The source file.

CTAN:macros/latex/contrib/oberdiek/centernot.pdf Documentation.

[1] CTAN:pkg/centernot

Bundle. All the packages of the bundle 'oberdiek' are also available in a TDS compliant ZIP archive. There the packages are already unpacked and the documentation files are generated. The files and directories obey the TDS standard.

CTAN:install/macros/latex/contrib/oberdiek.tds.zip

TDS refers to the standard "A Directory Structure for TEX Files" (CTAN:pkg/tds). Directories with `texmf` in their name are usually organized this way.

3.2 Bundle installation

Unpacking. Unpack the `oberdiek.tds.zip` in the TDS tree (also known as `texmf` tree) of your choice. Example (linux):

```
unzip oberdiek.tds.zip -d ~/texmf
```

3.3 Package installation

Unpacking. The `.dtx` file is a self-extracting docstrip archive. The files are extracted by running the `.dtx` through plain TEX:

```
tex centernot.dtx
```

TDS. Now the different files must be moved into the different directories in your installation TDS tree (also known as `texmf` tree):

```
centernot.sty → tex/latex/oberdiek/centernot.sty
centernot.pdf → doc/latex/oberdiek/centernot.pdf
centernot.dtx → source/latex/oberdiek/centernot.dtx
```

If you have a `docstrip.cfg` that configures and enables docstrip's TDS installing feature, then some files can already be in the right place, see the documentation of docstrip.

3.4 Refresh file name databases

If your TEX distribution (TEX Live, MiKTEX, ...) relies on file name databases, you must refresh these. For example, TEX Live users run `texhash` or `mktexlsr`.

3.5 Some details for the interested

Unpacking with LATEX. The `.dtx` chooses its action depending on the format:

plain TEX: Run docstrip and extract the files.

LATEX: Generate the documentation.

If you insist on using LATEX for docstrip (really, docstrip does not need LATEX), then inform the autodetect routine about your intention:

```
latex \let\install=y\input{centernot.dtx}
```

Do not forget to quote the argument according to the demands of your shell.

Generating the documentation. You can use both the `.dtx` or the `.drv` to generate the documentation. The process can be configured by the configuration file `ltxdoc.cfg`. For instance, put this line into this file, if you want to have A4 as paper format:

```
\PassOptionsToClass{a4paper}{article}
```

An example follows how to generate the documentation with pdfLATEX:

```
pdflatex centernot.dtx
makeindex -s gind.ist centernot.idx
pdflatex centernot.dtx
makeindex -s gind.ist centernot.idx
pdflatex centernot.dtx
```

4 History

[2006/12/02 v1.0]

- First version.

[2007/05/31 v1.1]

- Real symbols added in documentation part.

[2010/03/29 v1.2]

- Documentation fix: ‘negotiated’ to ‘negated’ (Hartmut Henkel).

[2011/07/11 v1.3]

- Superfluous `\makeatother` removed (Martin Münch).

[2016/05/16 v1.4]

- Documentation updates.

5 Index

Numbers written in italic refer to the page where the corresponding entry is described; numbers underlined refer to the code line of the definition; plain numbers refer to the code lines where the entry is used.