

The centernot package

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2016/05/16 v1.4

Abstract

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

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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 | <code>\not</code> | <code>\centernot</code> | |
|------------------------------|-------------------|-------------------------|--------------|
| = | ≠ | ≠ | (definition) |
| <code>\parallel</code> | ∦ | ∥ | |
| <code>\longrightarrow</code> | ↯ | ↱ | |

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 |
|--------------------------|-----------|---|-----------------------|
| $\backslash\parallel:$ | centernot | $\$A \backslash\centernot\parallel B\$$ | $A \not\parallel B$ |
| | amssymb | $\$A \backslashnparallel B\$$ | $A \nparallel B$ |
| $\backslash\mid:$ | centernot | $\$A \backslash\centernot\mid B\$$ | $A \not\mid B$ |
| | amssymb | $\$A \backslashnmid B\$$ | $A \nmid B$ |
| | mathabx | $\$A \backslash\notdivides B\$$ | $A \not\divides B$ |
| $\backslash\rightarrow:$ | centernot | $\$A \backslash\centernot\rightarrow B\$$ | $A \not\rightarrow B$ |
| | amssymb | $\$A \backslashnrightarrow B\$$ | $A \nrightarrow B$ |
| | mathabx | $\$A \backslashnrightarrow B\$$ | $A \rightarrow B$ |

2 Implementation

```

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

```

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

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

$\backslash\text{not}$ = $\backslash\text{not}=\text{}$

$\backslash\text{centernot}$ $\backslash\text{centernot}$ is not a symbol but a macro that takes one argument. It measures the width of the argument and places $\backslash\text{not}$ horizontally centered on that argument. The result is a $\backslash\text{mathrel}$ 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 CTAN¹:

[CTAN:macros/latex/contrib/oberdiek/centernot.dtx](https://ctan.org/ctan/packages/macros/latex/contrib/oberdiek/centernot.dtx) The source file.

[CTAN:macros/latex/contrib/oberdiek/centernot.pdf](https://ctan.org/ctan/packages/macros/latex/contrib/oberdiek/centernot.pdf) Documentation.

¹[CTAN:pkg/centernot](https://ctan.org/ctan/packages/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 T_EX 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 T_EX:

```
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 T_EX distribution (T_EX Live, MiK_TE_X, ...) relies on file name databases, you must refresh these. For example, T_EX Live users run `texhash` or `mktexlsr`.

3.5 Some details for the interested

Unpacking with L^AT_EX. The `.dtx` chooses its action depending on the format:

plain T_EX: Run `docstrip` and extract the files.

L^AT_EX: Generate the documentation.

If you insist on using L^AT_EX for `docstrip` (really, `docstrip` does not need L^AT_EX), 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 pdfL^AT_EX:

```
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.

| Symbols | | | |
|---------------------------------|----------------|-------------------------------------|--------|
| <code>\@centernot</code> | 6, 8 | <code>\mathrel</code> | 9 |
| C | | N | |
| <code>\centernot</code> | <u>5</u> | <code>\NeedsTeXFormat</code> | 2 |
| D | | <code>\newcommand</code> | 5 |
| <code>\dimen@</code> | 11, 12, 13, 14 | <code>\not</code> | 15 |
| K | | P | |
| <code>\kern</code> | 12, 14 | <code>\ProvidesPackage</code> | 3 |
| M | | R | |
| <code>\m@th</code> | 11, 13, 15 | <code>\rlap</code> | 10 |
| <code>\mathpalette</code> | 6 | S | |
| | | <code>\settowidth</code> | 11, 13 |