The `cmupint` package

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1 Why `cmupint`?

The shape of integral symbol in some languages differs slightly from the shape commonly seen in English-language textbooks. While the English integral symbol leans to the right, the integral symbol used throughout Central Europe (such as in German or Serbian language) is upright.

Another difference is in the placement of limits for definite integrals. Generally, in English-language books, limits go to the right of the integral symbol, while in Central European languages the limits are placed above and below the integral symbol.

$$\int_{L}^{U} x \, \mathrm{d}x \quad \text{(English language)}$$

$$\int_{L}^{U} x \, \mathrm{d}x \quad \text{(Central European languages)}$$

The `cmupint` package contains various upright integral symbols to match Computer Modern font (default LaTeX font).

2 Usage

This package is very simple to use: just put

`\usepackage{cmupint}`

in preamble of the document.

3 Options

The available options are `displaylimits` (default option), `limits` and `nolimits` (see Table 1).

4 Integral symbols

For the avaible integral symbols see Table 2.

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Option	Text style	Display style
displaylimits	$\int_L^U x\,\mathrm{d}x$	$\displaystyle\int_L^U x\,\mathrm{d}x$
limits	$\int\limits_L^U x\,\mathrm{d}x$	$\displaystyle\int\limits_L^U x\,\mathrm{d}x$
nolimits	$\int_L^U x\,\mathrm{d}x$	$\displaystyle\int_L^U x\,\mathrm{d}x$

Table 1: Package options.

5 Long integral

Long integral symbols are defined as the extensible delimiters, therefore the usage is slightly different: we use this symbols with:

```
\longint{bottomLimit}{topLimit}{mathExpression}
```

Other availble commands are `\longiint`, `\longoint` and `\longoiint`. The limits placement will be same as the choosen package option.

For example, the code

```
\longint{-\infty}{+\infty}{\begin{pmatrix}
1 & 2 \\ 3 & 4 \\ 5 & x \\ 6 & 7 \\ 8 & 9 \\ x & 0 \\ \end{pmatrix}}\,\mathrm{d}x
```

will produce:

$$\int\limits_{-\infty}^{+\infty}\begin{pmatrix} 1 & 2 \\ 3 & 4 \\ 5 & x \\ 6 & 7 \\ 8 & 9 \\ x & 0 \end{pmatrix}\,\mathrm{d}x.$$

6 Version history

1.1

- Added \sumint, \intcap, \intcup.

- Long integral symbols are added.

Command	Text style	Display style	Command	Text style	Display style
\int	$\int$	$\int$	\iint	$\iint$	$\iint$
\iiint	$\iiint$	$\iiint$	\iiiint	$\iiiint$	$\iiiint$
\oint	$\oint$	$\oint$	\oiint	$\oiint$	$\oiint$
\oiiint	$\oiiint$	$\oiiint$	\ointctrclockwise	$\ointctrclockwise$	$\ointctrclockwise$
\ointclockwise	$\ointclockwise$	$\ointclockwise$	\varointclockwise	$\varointclockwise$	$\varointclockwise$
\varointctrclockwise	$\varointctrclockwise$	$\varointctrclockwise$	\sqint	$\sqint$	$\sqint$
\sqiint	$\sqiint$	$\sqiint$	\pointint	$\pointint$	$\pointint$
\npolint	$\npolint$	$\npolint$	\scpolint	$\scpolint$	$\scpolint$
\rppolint	$\rppolint$	$\rppolint$	\cirfnint	$\cirfnint$	$\cirfnint$
\intclockwise	$\intclockwise$	$\intclockwise$	\awint	$\awint$	$\awint$
\fint	$\fint$	$\fint$	\barint	$\barint$	$\barint$
\doublebarint	$\doublebarint$	$\doublebarint$	\xint	$\xint$	$\xint$
\landupint	$\landupint$	$\landupint$	\landdownint	$\landdownint$	$\landdownint$
\intlarhk	$\intlarhk$	$\intlarhk$	\upint	$\upint$	$\upint$
\downint	$\downint$	$\downint$	\sumint	$\sumint$	$\sumint$
\intcap	$\intcap$	$\intcap$	\intcup	$\intcup$	$\intcup$
\varidotsint	$\int\!\cdots\!\int$	$\int\!\cdots\!\int$			
\idotsint[1]	$\int\cdots\int$	$\int\cdots\int$	\idotsint[2]	$\int\!\cdots\!\int$	$\int\!\cdots\!\int$

Table 2: Integral symbols.

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[1] If package amsmath is loaded.
[2] If package amsmath is not loaded.

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