The **bigints** package

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Contents

1 Introduction

This package (`v1.0`) *helps you to* write big integrals when needed. For example, you may want to write standard integrals before a matrix, but if you find them too small, you can use bigger integrals thanks to this package.

2 Use

2.1 Loading the Package

To *load the package*, please use

```
\usepackage{bigints}
```

Please note that this package loads the package '`amsmath`.' Consequently, you do not need to load `amsmath` after having called `bigints`.

2.2 Available Options

The set of options is currently empty.

3 Examples

3.1 Possible Calls

Possible function calls are listed at Table 1.

Integral's command	Standard \int	Integral's command's output
\bigint	$\int$	$\bigint$
\bigints	$\int$	$\bigints$
\bigintss	$\int$	$\bigintss$
\bigintsss	$\int$	$\bigintsss$
\bigintssss	$\int$	$\bigintssss$

Table 1: Possible calls of this package.

3.2 Practical Examples

3.2.1 Matrices With Five Rows

Compare

$$\int_{t_i}^{t_f} \begin{pmatrix} \frac{a(1-b)-cd-e\frac{\mathrm{d}W_s}{\mathrm{d}t}}{k} \\ f-gh \\ -i+jk+l \\ -m+n \\ m-n \end{pmatrix} \mathrm{d}t \quad \text{to} \quad \bigint_{t_i}^{t_f} \begin{pmatrix} \frac{a(1-b)-cd-e\frac{\mathrm{d}W_s}{\mathrm{d}t}}{k} \\ f-gh \\ -i+jk+l \\ -m+n \\ m-n \end{pmatrix} \mathrm{d}t.$$

To achieve

$$\bigint_{t_i}^{t_f} \begin{pmatrix} \frac{a(1-b)-cd-e\frac{\mathrm{d}W_s}{\mathrm{d}t}}{k} \\ f-gh \\ -i+jk+l \\ -m+n \\ m-n \end{pmatrix} \mathrm{d}t$$

you simply need to use **\bigint** at the place of **\int** before the matrix.

3.2.2 Matrices With Four Rows

Compare

$$\int_{t_i}^{t_f} \begin{pmatrix} \frac{a(1-b)-cd-e\frac{\mathrm{d}W_s}{\mathrm{d}t}}{k} \\ f-gh \\ -i+jk+l \\ -m+n \end{pmatrix} \mathrm{d}t \quad \text{to} \quad \int_{t_i}^{t_f} \begin{pmatrix} \frac{a(1-b)-cd-e\frac{\mathrm{d}W_s}{\mathrm{d}t}}{k} \\ f-gh \\ -i+jk+l \\ -m+n \end{pmatrix} \mathrm{d}t.$$

To achieve

$$\int_{t_i}^{t_f} \begin{pmatrix} \frac{a(1-b)-cd-e\frac{\mathrm{d}W_s}{\mathrm{d}t}}{k} \\ f-gh \\ -i+jk+l \\ -m+n \end{pmatrix} \mathrm{d}t$$

you simply need to use `\bigints` at the place of `\int` before the matrix.

3.2.3 Matrices With Three Rows

Compare

$$\int_{t_i}^{t_f} \begin{pmatrix} \frac{a(1-b)-cd-e\frac{\mathrm{d}W_s}{\mathrm{d}t}}{k} \\ f-gh \\ -i+jk+l \end{pmatrix} \mathrm{d}t \quad \text{to} \quad \int_{t_i}^{t_f} \begin{pmatrix} \frac{a(1-b)-cd-e\frac{\mathrm{d}W_s}{\mathrm{d}t}}{k} \\ f-gh \\ -i+jk+l \end{pmatrix} \mathrm{d}t.$$

To achieve

$$\int_{t_i}^{t_f} \begin{pmatrix} \frac{a(1-b)-cd-e\frac{\mathrm{d}W_s}{\mathrm{d}t}}{k} \\ f-gh \\ -i+jk+l \end{pmatrix} \mathrm{d}t$$

you simply need to use `\bigintss` at the place of `\int` before the matrix.

3.2.4 Matrices With Two Rows

Compare

$$\int_{t_i}^{t_f} \begin{pmatrix} \frac{a(1-b)-cd-e\frac{\mathrm{d}W_s}{\mathrm{d}t}}{k} \\ f-gh \end{pmatrix} \mathrm{d}t \quad \text{to} \quad \int_{t_i}^{t_f} \begin{pmatrix} \frac{a(1-b)-cd-e\frac{\mathrm{d}W_s}{\mathrm{d}t}}{k} \\ f-gh \end{pmatrix} \mathrm{d}t.$$

To achieve

$$\int_{t_i}^{t_f} \begin{pmatrix} \frac{a(1-b)-cd-e\frac{\mathrm{d}W_s}{\mathrm{d}t}}{k} \\ f-gh \end{pmatrix} \mathrm{d}t$$

you simply need to use `\bigintsss` at the place of `\int` before the matrix.

3.2.5 Matrices With One Row

Compare

$$\int_{t_i}^{t_f} \left(\frac{a(1-b)-cd-e\frac{\mathrm{d}W_s}{\mathrm{d}t}}{k} \right) \mathrm{d}t \quad \text{to} \quad \bigintssss_{t_i}^{t_f} \left(\frac{a(1-b)-cd-e\frac{\mathrm{d}W_s}{\mathrm{d}t}}{k} \right) \mathrm{d}t.$$

To achieve

$$\bigintssss_{t_i}^{t_f} \left(\frac{a(1-b)-cd-e\frac{\mathrm{d}W_s}{\mathrm{d}t}}{k} \right) \mathrm{d}t$$

you simply need to use `\bigintssss` at the place of `\int` before the matrix. This is here a matter of taste, as both symbols are typographically acceptable.

4 Implementation

Here is the code of `bigints.sty`:

```
%% This is file `bigints.sty' v1.0 by Merciadri Luca.

\NeedsTeXFormat{LaTeX2e}
\ProvidesPackage{bigints}[2010/15/02 Writing big integrals]
\PackageInfo{dashundergaps}{This is Bigints by Merciadri Luca.}

\RequirePackage{amsmath}[2000/07/18]


\makeatletter
\newcommand{\bigint}{\@ifnextchar_\@bigintsub\@bigintnosub}
\def\@bigintsub_#1{\def\@int@subscript{#1}\@ifnextchar^\@bigintsubsup\@bigintsubnosup}
\def\@bigintsubsup^#1{\mathop{\text{\Huge$\int_{\text{\normalsize$\scriptstyle\kern-0.35em%
\@int@subscript$}}^{\text{\normalsize$\scriptstyle#1$}}$}}\nolimits}
\def\@bigintsubnosup{\mathop{\text{\Huge$\int_{\text{\normalsize$\scriptstyle\@int@subscript$}}$}}\nolimits}
\def\@bigintnosub{\@ifnextchar^\@bigintnosubsup\@bigintnosubnosup}
\def\@bigintnosubsup^#1{\mathop{\text{\Huge$\int^{\text{\normalsize$\scriptstyle#1$}}$}}\nolimits}
\def\@bigintnosubnosup{\mathop{\text{\Huge$\int$}}\nolimits}
\newcommand{\bigints}{\@ifnextchar_\@bigintssub\@bigintsnosub}
\def\@bigintssub_#1{\def\@int@subscript{#1}\@ifnextchar^\@bigintssubsup\@bigintssubnosup}
\def\@bigintssubsup^#1{\mathop{\text{\huge$\int_{\text{\normalsize$\scriptstyle\kern-0.35em%
\@int@subscript$}}^{\text{\normalsize$\scriptstyle#1$}}$}}\nolimits}
\def\@bigintssubnosup{\mathop{\text{\huge$\int_{\text{\normalsize$\scriptstyle\@int@subscript$}}$}}\nolimits}
\def\@bigintsnosub{\@ifnextchar^\@bigintsnosubsup\@bigintsnosubnosup}
\def\@bigintsnosubsup^#1{\mathop{\text{\huge$\int^{\text{\normalsize$\scriptstyle#1$}}$}}\nolimits}
\def\@bigintsnosubnosup{\mathop{\text{\huge$\int$}}\nolimits}
\newcommand{\bigintss}{\@ifnextchar_\@bigintsssub\@bigintssnosub}
\def\@bigintsssub_#1{\def\@int@subscript{#1}\@ifnextchar^\@bigintsssubsup\@bigintsssubnosup}
\def\@bigintsssubsup^#1{\mathop{\text{\LARGE$\int_{\text{\normalsize$\scriptstyle\kern-0.25em%
\@int@subscript$}}^{\text{\normalsize$\scriptstyle#1$}}$}}\nolimits}
\def\@bigintsssubnosup{\mathop{\text{\LARGE$\int_{\text{\normalsize$\scriptstyle\@int@subscript$}}$}}\nolimits}
\def\@bigintssnosub{\@ifnextchar^\@bigintssnosubsup\@bigintssnosubnosup}
\def\@bigintssnosubsup^#1{\mathop{\text{\LARGE$\int^{\text{\normalsize$\scriptstyle#1$}}$}}\nolimits}
\def\@bigintssnosubnosup{\mathop{\text{\LARGE$\int$}}\nolimits}
\newcommand{\bigintsss}{\@ifnextchar_\@bigintssssub\@bigintsssnosub}
\def\@bigintssssub_#1{\def\@int@subscript{#1}\@ifnextchar^\@bigintssssubsup\@bigintssssubnosup}
\def\@bigintssssubsup^#1{\mathop{\text{\Large$\int_{\text{\normalsize$\scriptstyle\kern-0.20em%
\@int@subscript$}}^{\text{\normalsize$\scriptstyle#1$}}$}}\nolimits}
\def\@bigintssssubnosup{\mathop{\text{\Large$\int_{\text{\normalsize$\scriptstyle\@int@subscript$}}$}}\nolimits}
\def\@bigintsssnosub{\@ifnextchar^\@bigintsssnosubsup\@bigintsssnosubnosup}
\def\@bigintsssnosubsup^#1{\mathop{\text{\Large$\int^{\text{\normalsize$\scriptstyle#1$}}$}}\nolimits}
\def\@bigintsssnosubnosup{\mathop{\text{\Large$\int$}}\nolimits}
\newcommand{\bigintssss}{\@ifnextchar_\@bigintsssssub\@bigintssssnosub}
\def\@bigintsssssub_#1{\def\@int@subscript{#1}\@ifnextchar^\@bigintsssssubsup\@bigintsssssubnosup}
\def\@bigintsssssubsup^#1{\mathop{\text{\large$\int_{\text{\normalsize$\scriptstyle\kern-0.15em%
\@int@subscript$}}^{\text{\normalsize$\scriptstyle#1$}}$}}\nolimits}
\def\@bigintsssssubnosup{\mathop{\text{\large$\int_{\text{\normalsize$\scriptstyle\@int@subscript$}}$}}\nolimits}
\def\@bigintssssnosub{\@ifnextchar^\@bigintssssnosubsup\@bigintssssnosubnosup}
\def\@bigintssssnosubsup^#1{\mathop{\text{\large$\int^{\text{\normalsize$\scriptstyle#1$}}$}}\nolimits}
\def\@bigintssssnosubnosup{\mathop{\text{\large$\int$}}\nolimits}
\makeatother

\relax
```

5 Limitations

This package has currently no limitation.

6 Remarks

Not yet.

7 Bugs

Not yet.

8 Version History

1. `v1.0`: package is introduced to the LaTeX world.

9 Contact

If you have any question concerning this package (limitations, bugs, ...), please contact me at Luca.Merciadri@student.ulg.ac.be.

10 Credits

Thanks to pg for his related trick, in the message on

http://www.les-mathematiques.net/phorum/read.php?10,472951.

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