

The **bigints** package

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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 <code>\int</code>	Integral's command's output
<code>\bigint</code>	\int	\int
<code>\bigints</code>	\int	\int
<code>\bigintss</code>	\int	\int
<code>\bigintsss</code>	\int	\int
<code>\bigintssss</code>	\int	\int

Table 1: Possible calls of this package.

3.2 Practical Examples

3.2.1 Matrices With Five Rows

Compare

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

To achieve

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

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

3.2.2 Matrices With Four Rows

Compare

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

To achieve

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

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

3.2.3 Matrices With Three Rows

Compare

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

To achieve

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

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

3.2.4 Matrices With Two Rows

Compare

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

To achieve

$$\int_{t_i}^{t_f} \begin{pmatrix} \frac{a(1-b)-cd-e\frac{dW_s}{dt}}{k} \\ f-gh \end{pmatrix} dt$$

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

3.2.5 Matrices With One Row

Compare

$$\int_{t_i}^{t_f} \left(\frac{a(1-b)-cd-e\frac{dW_s}{dt}}{k} \right) dt \quad \text{to} \quad \int_{t_i}^{t_f} \left(\frac{a(1-b)-cd-e\frac{dW_s}{dt}}{k} \right) dt.$$

To achieve

$\int_{t_i}^{t_f} \left(\frac{a(1-b)-cd-e\frac{dW_s}{dt}}{k} \right) dt$

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`:

```
1 %% This is file 'bigints.sty' v1.0 by Mericiadri Luca.
2
3 \NeedsTeXFormat{LaTeX2e}
4 \ProvidesPackage{bigints}[2010/15/02 Writing big integrals]
5 \PackageInfo{dashundergaps}{This is Bigints by Mericiadri Luca.}
6
7 \RequirePackage{amsmath}[2000/07/18]
8
9 \makeatletter
10 \newcommand{\bigint}{\@ifnextchar_{\@bigintsub\@bigintnosub}
11 \def\@bigintsub_{#1}{\def\@int@subscript{#1}\@ifnextchar^{\@bigintsubsup\@bigintsubnosup}
12 \def\@bigintsubsup^#1{\mathop{\text{\Huge$\int_{\text{\normalsize$\scriptstyle\kern-0.35em%
13 \@int@subscript$}}^{\text{\normalsize$\scriptstyle#1$}}}}\nolimits}
14 \def\@bigintsubnosup{\mathop{\text{\Huge$\int_{\text{\normalsize$\scriptstyle\@int@subscript$}}}}\nolimits}
15 \def\@bigintnosub{\@ifnextchar^{\@bigintnosubsup\@bigintnosubnosup}
16 \def\@bigintnosubsup^#1{\mathop{\text{\Huge$\int^{\text{\normalsize$\scriptstyle#1$}}}}\nolimits}
17 \def\@bigintnosubnosup{\mathop{\text{\Huge$\int^{\text{\normalsize$\scriptstyle#1$}}}}\nolimits}
18 \newcommand{\bigints}{\@ifnextchar_{\@bigintssub\@bigintssnosub}
19 \def\@bigintssub_{#1}{\def\@int@subscript{#1}\@ifnextchar^{\@bigintssubsup\@bigintssubnosup}
20 \def\@bigintssubsup^#1{\mathop{\text{\Huge$\int_{\text{\normalsize$\scriptstyle\kern-0.35em%
21 \@int@subscript$}}^{\text{\normalsize$\scriptstyle#1$}}}}\nolimits}
22 \def\@bigintssubnosup{\mathop{\text{\Huge$\int_{\text{\normalsize$\scriptstyle\@int@subscript$}}}}\nolimits}
23 \def\@bigintssnosub{\@ifnextchar^{\@bigintssnosubsup\@bigintssnosubnosup}
24 \def\@bigintssnosubsup^#1{\mathop{\text{\Huge$\int^{\text{\normalsize$\scriptstyle#1$}}}}\nolimits}
25 \def\@bigintssnosubnosup{\mathop{\text{\Huge$\int^{\text{\normalsize$\scriptstyle#1$}}}}\nolimits}
26 \newcommand{\bigintss}{\@ifnextchar_{\@bigintssssub\@bigintsssnosub}
27 \def\@bigintssssub_{#1}{\def\@int@subscript{#1}\@ifnextchar^{\@bigintssssubsup\@bigintssssubnosup}
28 \def\@bigintssssubsup^#1{\mathop{\text{\LARGE$\int_{\text{\normalsize$\scriptstyle\kern-0.25em%
29 \@int@subscript$}}^{\text{\normalsize$\scriptstyle#1$}}}}\nolimits}
30 \def\@bigintssssubnosup{\mathop{\text{\LARGE$\int_{\text{\normalsize$\scriptstyle\@int@subscript$}}}}\nolimits}
31 \def\@bigintsssnosub{\@ifnextchar^{\@bigintsssnosubsup\@bigintsssnosubnosup}
32 \def\@bigintsssnosubsup^#1{\mathop{\text{\LARGE$\int^{\text{\normalsize$\scriptstyle#1$}}}}\nolimits}
33 \def\@bigintsssnosubnosup{\mathop{\text{\LARGE$\int^{\text{\normalsize$\scriptstyle#1$}}}}\nolimits}
34 \newcommand{\bigintssss}{\@ifnextchar_{\@bigintsssssub\@bigintssssnosub}
35 \def\@bigintsssssub_{#1}{\def\@int@subscript{#1}\@ifnextchar^{\@bigintsssssubsup\@bigintsssssubnosup}
36 \def\@bigintsssssubsup^#1{\mathop{\text{\Large$\int_{\text{\normalsize$\scriptstyle\kern-0.20em%
37 \@int@subscript$}}^{\text{\normalsize$\scriptstyle#1$}}}}\nolimits}
38 \def\@bigintsssssubnosup{\mathop{\text{\Large$\int_{\text{\normalsize$\scriptstyle\@int@subscript$}}}}\nolimits}
39 \def\@bigintssssnosubsup^#1{\mathop{\text{\Large$\int^{\text{\normalsize$\scriptstyle\@int@subscript$}}}}\nolimits}
40 \def\@bigintssssnosubnosup{\mathop{\text{\Large$\int^{\text{\normalsize$\scriptstyle#1$}}}}\nolimits}
41 \newcommand{\bigintsssssub_{#1}{\def\@int@subscript{#1}\@ifnextchar^{\@bigintsssssubsup\@bigintsssssubnosup}
42 \def\@bigintsssssubsup^#1{\mathop{\text{\large$\int_{\text{\normalsize$\scriptstyle\kern-0.15em%
43 \@int@subscript$}}^{\text{\normalsize$\scriptstyle#1$}}}}\nolimits}
44 \def\@bigintsssssubnosup{\mathop{\text{\large$\int_{\text{\normalsize$\scriptstyle\@int@subscript$}}}}\nolimits}
45 \def\@bigintsssssnosub{\@ifnextchar^{\@bigintsssssnosubsup\@bigintsssssnosubnosup}
46 \def\@bigintsssssnosubsup^#1{\mathop{\text{\large$\int^{\text{\normalsize$\scriptstyle#1$}}}}\nolimits}
47 \def\@bigintsssssnosubnosup{\mathop{\text{\large$\int^{\text{\normalsize$\scriptstyle#1$}}}}\nolimits}
48 \def\@bigintsssssnosubnosup{\mathop{\text{\large$\int^{\text{\normalsize$\scriptstyle#1$}}}}\nolimits}
49 \makeatother
50
51 \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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