

GSNS L^AT_EX course

T_EXniCie

8 September 2022

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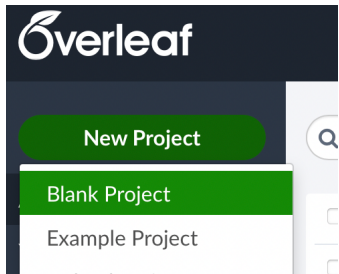
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Create

Simple document in L^AT_EX

```
1 \documentclass{article}
2
3
4 \begin{document}
5
6
7
8
9
10
11
12
13 \end{document}
```

}

preamble: document settings go here

}

body: content (text and images) goes here

Simple document in L^AT_EX

```
1 \documentclass{article}
2
3
4 \begin{document}
5
6 The Differential and Integral
7 Calculus, or, as it was formerly
8 called in this country,
9 the Doctrine of Fluxions, has always
10 been supposed to present remarkable
11 obstacles to the beginner.
12
13 \end{document}
```



body: content (text and images)
goes here

Example text: "Elementary Illustrations of the Differential and Integral Calculus" by Augustus De Morgan

Simple document in L^AT_EX

```
1 \documentclass[a4paper,11pt]{article}
2
3
4 \begin{document}
5
6 The Differential and Integral
7 Calculus, or, as it was formerly
8 called in this country,
9 the Doctrine of Fluxions, has always
10 been supposed to present remarkable
11 obstacles to the beginner.
12
13 \end{document}
```



preamble: document settings go here

Example text: "Elementary Illustrations of the Differential and Integral Calculus" by Augustus De Morgan

LaTeX commands

LaTeX commands begin with a backslash, followed by letters or a single special character.

Commands may have **arguments** and **optional arguments**.

```
\command
```

or

```
\command{argument}
```

or

```
\command[optional argument]{argument}
```


LaTeX commands

Some commands go in the **body** of the document

- ▶ The command `\LaTeX` prints the \LaTeX logo and goes in the **body** of the document.
- ▶ `\newpage` starts a new page and it also goes in the **body** of the document.
- ▶ `\textbf{text}` is a command for **bold** text. The command takes 1 argument.
- ▶ `\sqrt[3]{y}` the square root command takes 1 argument and 1 optional argument

LaTeX commands

Other commands go in the **preamble** of the document

- ▶ `\title` sets the title of the document.
- ▶ `\usepackage{PACKAGENAME}` loads LaTeX code from other authors into your document. This code will often define new commands or tweak existing commands
- ▶ `\usepackage[paper=a5paper, margin=2cm, landscape=true]{geometry}` loads the geometry package with 3 optional arguments

Whitespace

- `a\hspace{1cm}b`

a b

Whitespace

- $a_{\square\square\square\square\square}b$
- $a_{\backslash\square\backslash\square\backslash\square\backslash\square}b$

$$\begin{array}{cc} a & b \\ a & b \end{array}$$

Whitespace

- $a\quad\quad\quad b$
- $a\backslash\quad\backslash\quad\backslash\quad\backslash\quad b$
- $a\backslash\text{quad}\quad b$

a b

a b

a b

Whitespace

- `a_ _ _ _ _ b`
- `a\ _ \ _ \ _ \ _ b`
- `a\quad _ b`
- `a\hspace_{2cm} b`

a b

a b

a b

a b

Whitespace

- `a_ _ _ _ _ b`
- `a\ _ \ _ \ _ \ _ b`
- `a\quad_ b`
- `a\hspace_{2cm}b`
- `\LaTeX_ is_ cool!`

a b

a b

a b

a b

LaTeX is cool!

Whitespace

- `a_____b`
- `a_____b`
- `a\quad_b`
- `a\hspace_{2cm}b`
- `\LaTeX_is_cool!`
- `\LaTeX_{ }_is_cool!`

a b
a b
a b
a b
L^AT_EX is cool!
L^AT_EX is cool!

Paragraphs

A paragraph consists of lines of text. Paragraph are separated by blank lines in code.

```
\documentclass[a4paper, 10pt]{article}
\begin{document}
```

The agitation for the Universal Colour Bill continued for three years; and up to the last moment of that period it seemed as though Anarchy were destined to triumph.

A whole army of Polygons, who turned out to fight as private soldiers, was utterly annihilated by a superior force of Isosceles Triangles --- the Squares and Pentagons meanwhile remaining neutral.

```
\end{document}
```

Example text: "Flatland" by Edwin A. Abbott

The agitation for the Universal Colour Bill continued for three years; and up to the last moment of that period it seemed as though Anarchy were destined to triumph.

A whole army of Polygons, who turned out to fight as private soldiers, was utterly annihilated by a superior force of Isosceles Triangles — the Squares and Pentagons meanwhile remaining neutral.

Paragraphs

By default, new paragraphs are indented. To remove this indentation and insert a blank line instead, add the command `\usepackage{\parskip}` to the preamble.

```
\documentclass[a4paper, 10pt]{article}
\usepackage{\parskip}
\begin{document}
```

The agitation for the Universal Colour Bill continued for three years; and up to the last moment of that period it seemed as though Anarchy were destined to triumph.

A whole army of Polygons, who turned out to fight as private soldiers, was utterly annihilated by a superior force of Isosceles Triangles --- the Squares and Pentagons meanwhile remaining neutral.

```
\end{document}
```

The agitation for the Universal Colour Bill continued for three years; and up to the last moment of that period it seemed as though Anarchy were destined to triumph.

A whole army of Polygons, who turned out to fight as private soldiers, was utterly annihilated by a superior force of Isosceles Triangles — the Squares and Pentagons meanwhile remaining neutral.

Sections

The `\section{SECTIONNAME}` command creates a heading. These headings are automatically numbered. Other headings are:

- `\subsection{}` , `\subsubsection{}` and `\paragraph{}`

```
1 \documentclass[a4paper]{article}
2 \begin{document}
3 \section{How I tried to teach the Theory of Three Dimensions to my
4 Grandson, and with what success}
5 I awoke rejoicing, and began to reflect on the glorious career before me.
6 I would go forth, methought, at once, and evangelize the whole of Flatland.
7 Even to Women and Soldiers should the Gospel of Three Dimensions
8 be proclaimed. I would begin with my Wife.
9 \end{document}
```

Example text: "Flatland" by Edwin A. Abbott

Title, author and date

We will now add a title to the article. We use three commands to set a **title**, **author** and **date**. These commands go in the **preamble**.

The command `\maketitle` goes in the **body** of the document and determines the position of the title.

```
1 \documentclass[a4paper, 12pt]{article}
2 \title{Elementary Illustrations of the Differential and Integral Calculus}
3 \author{Augustus De Morgan}
4 \date{November 11}
5 \begin{document}
6 \maketitle
7 The Differential and Integral Calculus, or, as it was formerly
8 called in this country, the Doctrine of Fluxions, has always
9 been supposed to present remarkable obstacles to the beginner.
10 \end{document}
```

Special characters

Code	Result
<code>\{</code>	{
<code>\}</code>	}
<code>\%</code>	%
<code>_</code>	—
<code>\textasciicircum</code>	^
<code>\\$</code>	\$
<code>\textbackslash</code>	\
<code>\&</code>	&
<code>\#</code>	#
<code>\textgreater</code>	>
<code>\textless</code>	<

Code	Result
<code>{</code>	Begin group
<code>}</code>	End group
<code>%</code>	Comment
<code>_</code>	Used in maths
<code>^</code>	Used in maths
<code>\$</code>	Math mode
<code>\</code>	Command
<code>&</code>	Column separation
<code>#</code>	Parameter
<code>></code>	>
<code><</code>	<

Special characters

Code	Result
<code>\{</code>	{
<code>\}</code>	}
<code>\%</code>	%
<code>_</code>	—
<code>\textasciicircum</code>	^
<code>\\$</code>	\$
<code>\textbackslash</code>	\
<code>\&</code>	&
<code>\#</code>	#
<code>\textgreater</code>	>
<code>\textless</code>	<

Code	Result
<code>{</code>	Begin group
<code>}</code>	End group
<code>%</code>	Comment
<code>_</code>	Used in maths
<code>^</code>	Used in maths
<code>\$</code>	Math mode
<code>\</code>	Command
<code>&</code>	Column separation
<code>#</code>	Parameter
<code>></code>	>
<code><</code>	<

formatting text

math

math

more math

more math

Closing remarks

The best book for further learning is **LaTeX Beginner's Guide** by **Stefan Kottwitz**. The first edition is available as an eBook at the UU library.

1



Access Online

[LaTeX beginner's guide](#)

Authors: [Stefan Kottwitz](#)

 eBook ©2011

Birmingham, UK : Packt, ©2011.

Summary: Annotation LaTeX is high-quality Open Source typesetting software that produces professional prints and PDF files. However, as LaTeX is a powerful and complex tool, getting started can be intimidating. There is no official support and certain aspects such as layout modifications can seem rather complicated. It may

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Closing remarks

The T_EXniCie organises a **thesis writing workshop** in februari 2023 and various other L^AT_EX-workshops throughout the year. These will be announced on our website at

`a-eskwadraat.nl/LaTeX`

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