

The Beamer Package

L^AT_EX: A Professional Document Preparation System

Department of Mathematics and Computer Science, RMUTT

Introduction

Here is a working example of a beamer presentation.

```
1 \documentclass{beamer}
2
3 \title{The Beamer Package}
4 \author{John Doe}
5 \institute{A Famous University}
6 \date{25 December 2023}
7
8 \begin{document}
9
10 \begin{frame}
11 \maketitle
12 \end{frame}
13
14 \begin{frame}
15 \frametitle{Introduction}
16 This is a slide. You can put some contents here.
17 For example,  $x^2 + g(y) = \int f(x) \, dx + y^3$ .
18 \end{frame}
19
20 \end{document}
```

The title page

```
\title{The Beamer Package}
\subtitle{Creating good looking presentations in LaTeX}

\author{John Doe\inst{1} and Sam Willy\inst{2}}

\institute{
\inst{1}%
Faculty of Mathematics\\
A Famous University
\and
\inst{2}%
Faculty of Computer Science\\
Another Famous University
}

\date{25 December 2023}

\logo{\includegraphics[height=2cm]{figures/ctan_lion.png}}
```

Example

The Beamer Package

Creating good looking presentations in LaTeX

John Doe¹ and Sam Willy²

¹Faculty of Mathematics
A Famous University

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Another Famous University

25 December 2023



Navigation icons: back, forward, search, etc.

the contents here. For example,

$$\int f(x)dx + y^3.$$



Navigation icons: back, forward, search, etc.

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Creating a table of contents

```
\begin{frame}  
\frametitle{Table of Contents}  
\tableofcontents  
\end{frame}
```

```
\section{Introduction}
```

```
\begin{frame}  
\frametitle{Introduction}
```

This is a slide. You can put some contents here.

For example, $\int x^2 + g(y) = \int f(x) \mathrm{d}x$
 $\hookrightarrow + y^3.$

```
\end{frame}
```

Example

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Adding effects to items

```
\begin{frame}  
\frametitle{Sample frame title}  
This is a text in second frame.  
For the sake of showing an example.  
  
\begin{itemize}  
  \item<1- > Text visible from slide 1.  
  \item<2-3> Text visible from slide 2 to slide 3.  
  \item<3> Text visible only on slide 3.  
  \item<4- > Text visible from slide 4.  
\end{itemize}  
\end{frame}
```

Example

This is a text in second frame. For the sake of showing an example.

- ▶ Text visible from slide 1.

Example

This is a text in second frame. For the sake of showing an example.

- ▶ Text visible from slide 1.
- ▶ Text visible from slide 2 to slide 3.

Example

This is a text in second frame. For the sake of showing an example.

- ▶ Text visible from slide 1.
- ▶ Text visible from slide 2 to slide 3.
- ▶ Text visible only on slide 3.

Example

This is a text in second frame. For the sake of showing an example.

- ▶ Text visible from slide 1.

- ▶ Text visible from slide 4.

Adding effects to a paragraph

```
\begin{frame}  
\onslide<1- >{%  
Lorem ipsum dolor sit amet, consectetur adipiscing elit.  
Curabitur non pellentesque leo. }  
  
\onslide<2- >{%  
\[ x^2 + y^2 = z^2 \] }  
  
\onslide<3>{%  
Phasellus porttitor malesuada augue,  
sit amet congue neque pharetra ac.  
Fusce maximus orci non viverra ultricies.  
Morbi nec condimentum turpis.  
Nullam eleifend varius mauris eget fringilla.}  
  
\onslide<4>{%  
Integer finibus suscipit est et molestie.}
```

Example

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Curabitur non pellentesque leo.

Example

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Curabitur non pellentesque leo.

$$x^2 + y^2 = z^2$$

Example

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Curabitur non pellentesque leo.

$$x^2 + y^2 = z^2$$

Phasellus porttitor malesuada augue, sit amet congue neque pharetra ac. Fusce maximus orci non viverra ultricies. Morbi nec condimentum turpis. Nullam eleifend varius mauris eget fringilla.

Example

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Curabitur non pellentesque leo.

$$x^2 + y^2 = z^2$$

Integer finibus suscipit est et molestie.

Adding effects with pauses

```
\begin{frame}  
Lorem ipsum dolor sit amet,  
consec adipisc elit. Curabit pellentes leo. \pause  
  
\[ x^2 + y^2 = z^2 \] \pause  
  
Phasellus porttitor malesuada augue,  
sit amet congue neque pharetra ac.  
Fusce maximus orci non viverra ultricies. \pause  
Morbi nec condimentum turpis.  
Nullam eleifend varius mauris fringilla. \pause  
  
Integer finibus suscipit est et molestie.  
\end{frame}
```

Example

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Curabitur non pellentesque leo.

Example

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Curabitur non pellentesque leo.

$$x^2 + y^2 = z^2$$

Example

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Curabitur non pellentesque leo.

$$x^2 + y^2 = z^2$$

Phasellus porttitor malesuada augue, sit amet congue neque pharetra ac. Fusce maximus orci non viverra ultricies.

Example

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Curabitur non pellentesque leo.

$$x^2 + y^2 = z^2$$

Phasellus porttitor malesuada augue, sit amet congue neque pharetra ac. Fusce maximus orci non viverra ultricies. Morbi nec condimentum turpis. Nullam eleifend varius mauris eget fringilla.

Example

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Curabitur non pellentesque leo.

$$x^2 + y^2 = z^2$$

Phasellus porttitor malesuada augue, sit amet congue neque pharetra ac. Fusce maximus orci non viverra ultricies. Morbi nec condimentum turpis. Nullam eleifend varius mauris eget fringilla. Integer finibus suscipit est et molestie.

Columns

Sometimes the information in a presentation looks better in a two-column format. In such cases use the columns environment:

```
111 \begin{frame}
112 \frametitle{Two-column slide}
113 \begin{columns}
114 \column{0.5\textwidth}
115 This is a text in first column.
116  $E=mc^2$ 
117 \begin{itemize}
118 \item First item
119 \item Second item
120 \end{itemize}
121
122 \column{0.5\textwidth}
123 This text will be in the second column
124 and on a second thoughts, this is a nice looking
125 layout in some cases.
126 \end{columns}
127 \end{frame}
```

Example

This is a text in first column.

$$E = mc^2$$

- ▶ First item
- ▶ Second item

This text will be in the second column and on a second thoughts, this is a nice looking layout in some cases.

Highlighting important stuffs

A good practice is to highlight the important points to make it easier for audiences to identify the main topic.

```
\begin{frame}  
\frametitle{Sample frame title}
```

In this slide, some important text will be

```
\alert{highlighted}
```

 because it's important.

Please, don't abuse it.

```
\begin{block}{Remark}
```

Sample text

```
\end{block}
```

```
\begin{alertblock}{Important box}
```

Sample text in red box

```
\end{alertblock}
```

```
\begin{examples}
```

Sample text in green box. The title of the block is ``Examples".

```
\end{examples}
```

```
\end{frame}
```

Example

In this slide, some important text will be highlighted because it's important. Please, don't abuse it.

Remark

Sample text

Important box

Sample text in red box

Examples

Sample text in green box. The title of the block is “Examples”.

Using Themes

It's really easy to use a different theme in your slideshow. For example, the **Madrid** theme is set by adding the following command to the **preamble**:

```
1 \documentclass{beamer}
2 \usetheme{Berkeley}
3
4 \title{The Beamer Package}
5 \subtitle{Creating good looking presentations in LaTeX}
6 \author{John Doe\inst{1} and Sam Willy\inst{2}}
7 \institute{
8 \inst{1}%
9 Faculty of Mathematics\\A Famous University
10 \and
11 \inst{2}%
12 Faculty of Computer Science\\Another Famous University
13 }
14 \date{25 December 2023}
15 \logo{\includegraphics[height=2cm]{figures/ctan_lion.png}}
16 \begin{document}
17 \begin{frame}
18 \maketitle
19 \end{frame}
```

Beamer Theme: Madrid

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Beamer Theme: Madrid

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John Doe and Sa

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John Doe and Sa

John Doe and Sa

Highlighting important stuffs

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Remark

Sample text

Important box


Sample text in red box

Examples

Sample text in green box. The title of the block is "Examples".



Beamer Theme: Berkeley



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Navigation icons: back, forward, search, etc.

Beamer Theme: Berkeley



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Remark
Sample text

Important box
Sample text in red box

Examples
Sample text in green box. The title of the block is "Examples".

Navigation icons: back, forward, search, etc.

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John Doe and Sam Willy

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Sample text

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The Beamer Package

Navigation icons

Using a colortheme

A theme can be combined with a `colortheme` to change the color used for different elements:

```
1 \documentclass{beamer}
2 \usetheme{Madrid}
3 \usecolortheme{beaver}
4
5 \title{The Beamer Package}
6 \subtitle{Creating good looking presentations in LaTeX}
7 \author{John Doe\inst{1} and Sam Willy\inst{2}}
8 \institute{
9 \inst{1}%
10 Faculty of Mathematics\\A Famous University
11 \and
12 \inst{2}%
13 Faculty of Computer Science\\Another Famous University
14 }
15 \date{25 December 2023}
16 \logo{\includegraphics[height=2cm]{figures/ctan_lion.png}}
17 \begin{document}
18 \begin{frame}
19 \maketitle
```

Madrid theme + beaver colortheme

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Madrid theme + beaver colortheme

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Madrid theme + beaver colortheme

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Remark

Sample text

Important box

Sample text in red box

Examples

Sample text in green box. The title of the block is "Examples".

John Doe and Sa


John Doe and Sa

John Doe and Sam Willy (Faculty of Mathe

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Madrid theme +wolverine colortheme

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Another Famous University

25 December 2023



Navigation icons: back, forward, search, etc.

Madrid theme +wolverine colortheme

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John Doe and Sa

John Doe and Sa

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Remark

Sample text

Important box

Sample text in red box

Examples


Sample text in green box. The title of the block is "Examples".



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Another Famous University

Berkeley theme + beaver colortheme



John Doe and
Sam Willy








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Sam Willy

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Berkeley theme + beaver colortheme



John Doe and Sam Willy

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John Doe and Sam Willy

Highlighting important stuffs

In this slide, some important text will be **highlighted** because it's important. Please, don't abuse it.

Remark
Sample text

Important box
Sample text in red box

Examples
Sample text in green box. The title of the block is "Examples".

Navigation icons: back, forward, search, etc.

Themes and colorthemes

For a beamer presentation, we can use different combinations of themes and colorthemes. To have a complete list of them, see the following.

- ▶ The package documentation:
`https://ctan.org/pkg/beamer?lang=en`.
- ▶ Piping's beamer theme matrix:
`https://hartwork.org/beamer-theme-matrix/`.
- ▶ Petroff's beamer theme matrix:
`https://mpetroff.net/files/beamer-theme-matrix/`