Presentation using LaTeX Beamer

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Outline

1. Introduction
2. Document Structure
   - Example
   - Preamble
   - Body
3. Frame Structure
   - Column
   - Block
   - Lists
4. Overlays

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About Beamer

- Beamer - a LaTeX class for creating presentations.
- Different from WYSWYG programs.
- A Beamer presentation is like any other LaTeX document:
  - It has a preamble and a body.
  - The body contains sections and subsections.
  - The different slides are put in environments.
  - Slides are structured using itemize and enumerate environments, or plain text.

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A Simple Example

```
\documentclass{beamer}

\title{\LaTeX{} Beamer Class Introduction}
\author{Tao Ma}
\institute{Electrical and Computer Engineering \\Auburn
University}
\date{\scriptsize{\today}}

\begin{document}

\maketitle

\section{Section 1}
\begin{frame}
\frametitle{Frame 1 Name}
\Here is one slide.
\end{frame}

\section{Section 2}
\frame{
\frametitle{Frame 2 Name}
\Here is another slide.
}

\end{document}
```

A Simple Example

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\begin{frame}
\frametitle{Frame 1 Name}
\Here is one slide.
\end{frame}
\section{Section 2}
\frame{
\frametitle{Frame 2 Name}
\Here is another slide.
}
\end{document}
```

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\date{\scriptsize{\today}}

\begin{document}

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\begin{frame}
\frametitle{Frame 1 Name}
\Here is one slide.
\end{frame}

\section{Section 2}
\frame{
\frametitle{Frame 2 Name}
\Here is another slide.
}

\end{document}
```

Preamble

```
\documentclass[10pt]{beamer}
\usetheme{Warsaw}
\setbeamertemplate{footline}[frame number]

\usefonttheme[]{serif}
\usepackage{amsmath, latexsym, color, graphicx}
\usepackage{epsf, epsfig,subfigure}
\usepackage{amsfonts,multicol}

\newcommand{\tbs}{\textbackslash}
\definecolor{cRed}{rgb}{1, 0, 0}
```

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```

Preamble
Choosing a Theme

Different themes can be selected by changing the

```
\usetheme{Warsaw}
```

Themes

Antibes	Bergen	Berlin	Madrid
Paloalto	Pittsburgh	Rochester	Singapore

Body

```
\begin{document}

\maketitle

\section{Section 1}
\begin{frame}
\frametitle{Frame 1 Name}
\Here is one slide.
\end{frame}

\section{Section 2}
\frame{
\frametitle{Frame 2 Name}
\Here is another slide.
}

\end{document}
```

Making the Title Frame

Use the following commands in your preamble:

Commands for the title frame

```
\title{...}
\subtitle{...}
\author{...}
\institute{...}
\date{...}
```

and the command `\maketitle`,

Generating the title frame in the body

```
\begin{document}
\maketitle
⋮
\end{document}
```

Creating a Frame

Creating a frame use with commands:

```
\begin{frame}
\frametitle{...}
\framesubtitle{...}
...
\end{frame}
```

Or,

```
\frame{
\frametitle{...}
\framesubtitle{...}
...
}
```

Section and Subsections

Section specifications are declared between the frames.

```
...
\end{frame}

\section{section name}
\subsection{subsection name}
\subsubsection{subsubsection name}

\begin{frame}
...
```

Generating the Outline Frame

The outline of your presentation can be added as follows,

manually

```
...
\end{frame}

\begin{frame}
\frametitle{Outline}
\tableofcontents[currentsection]
\end{frame}

\begin{frame}
...
```

automatically

```
...
\AtBeginSection[]{
\begin{frame}{Outline}
\tableofcontents[currentsection]
\end{frame}}
...
```

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Column

Example: two columns

```
\begin{columns}
\column{.4\textwidth}
Left column
\column{.4\textwidth}
Right column
\end{columns}
```

Column

Example: two columns

```
\begin{columns}
\column{.4\textwidth}
Left column
\column{.4\textwidth}
Right column
\end{columns}
```

Left column

Right column

Block

```
\begin{block}{Beamer Introduction}
Beamer is a {\LaTeX} class.
\end{block}
```

Block

```
\begin{block}{Beamer Introduction}
Beamer is a {\LaTeX} class.
\end{block}
```

Beamer Introduction

Beamer is a LaTeX class.

Block

```
\begin{block}{Beamer Introduction}
Beamer is a {\LaTeX} class.
\end{block}
```

Beamer Introduction

Beamer is a LaTeX class.

Other choices: `example, lemma, proof.`

List-itemize

```
\begin{itemize}
\item The first one.
\item The second one.
\begin{itemize}
\item The larger one.
\item The smaller one.
\end{itemize}
\item The third one.
\end{itemize}
```

List-itemize

```
\begin{itemize}
\item The first one.
\item The second one.
\begin{itemize}
\item The larger one.
\item The smaller one.
\end{itemize}
\item The third one.
\end{itemize}
```

- The first one.
- The second one.
  - The larger one.
  - The smaller one.
- The third one.

List-enumerate

```
\begin{enumerate}
\item The first one.
\item The second one.
\begin{enumerate}
\item The large one.
\item The small one.
\end{enumerate}
\item The third one.
\end{enumerate}
```

List-enumerate

```
\begin{enumerate}
\item The first one.
\item The second one.
\begin{enumerate}
\item The large one.
\item The small one.
\end{enumerate}
\item The third one.
\end{enumerate}
```

1. The first one.
2. The second one.
    1. The large one.
    2. The small one.
3. The third one.

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Simple Overlays Using `pause`

- Beamer overlay frame 1
- Beamer overlay frame 2
- Beamer overlay frame 3

```
\begin{frame}[fragile]
\frametitle{Simple Overlays Using {\tt pause}}
\setbeamercovered{dynamic}
\begin{itemize}
\item  Beamer overlay frame 1\\ \pause
\item  Beamer overlay frame 2\\ \pause
\item  Beamer overlay frame 3\\
\end{itemize}
```

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\end{itemize}
```
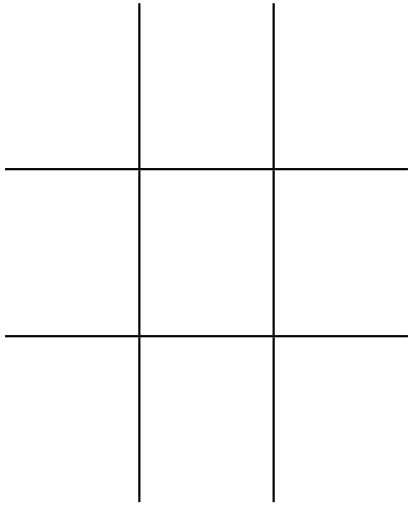
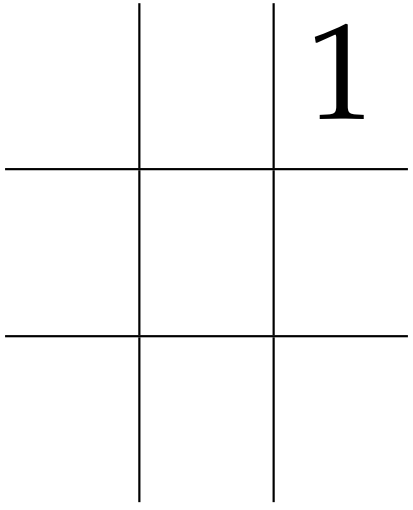

Advanced Overlays Using `onslide`



Advanced Overlays Using `onslide`



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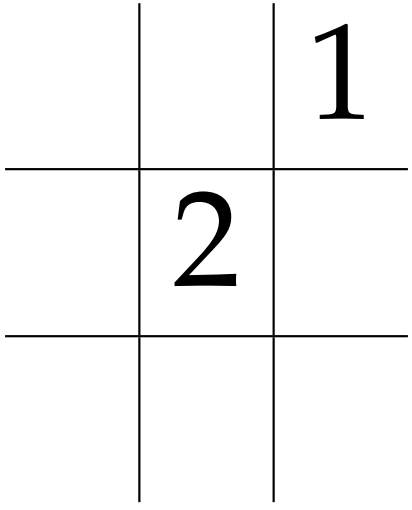
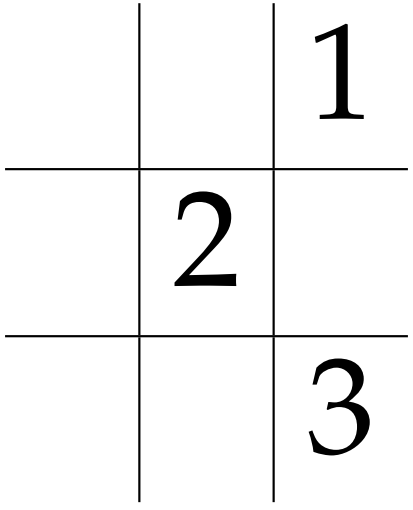


Advanced Overlays Using `onslide`



Advanced Overlays Using `onslide`

		1
	2	4
		3

Advanced Overlays Using `onslide`

		1
5	2	4
		3

Advanced Overlays Using `onslide`

		1
5	2	4
	6	3

Advanced Overlays Using `onslide`

	7	1
5	2	4
	6	3

Advanced Overlays Using `onslide`

8	7	1
5	2	4
	6	3

Advanced Overlays Using `onslide`

8	7	1
5	2	4
9	6	3

Questions?