Making presentations with LaTeX

Using the `beamer` package

Suddhasheel Ghosh

Department of Civil Engineering,
Jawaharlal Nehru Engineering College
Aurangabad, Maharashtra
431003

LaTeX for Technical and Scientific Documents
January 12 - 16, 2015
Day IV

Outline

SUDDHASHEEL.COM

Outline

SUDDHASHEEL.COM

Calling the class file
Document setup

For making presentations, we use the `beamer` class. Our basic `.tex` file

```
\documentclass{beamer}
\title{My first presentation}
\author{Suddhasheel Ghosh}
\institute{JNEC}
\begin{document}
   \begin{frame}
     \titlepage
   \end{frame}
\end{document}
```

It can be seen that the "slides" are called as "frames" here.

Set the themes

Broadly, there are the following kinds of themes in `beamer`

- Layout theme
- Font theme
- Color theme

```
%in the preamble
%set the layout theme
\usetheme{Warsaw}

%set the colour theme
\usecolortheme{crane}

%set the font theme
\usefonttheme{serif} %by default it is sans-serif
```

Set the logo
...to appear in the corner of every page

Do you have a logo to display? If the name of the image file is
`mylogo.png`, place the logo at the corner of every page by using the
following

```
\pgfdeclareimage[height=0.5cm]{college-logo}{logo.png}
\logo{\pgfuseimage{college-logo}}
```

Page number setting

Many themes do not have slide-number display capability. To insert slide numbers use:

```
\newcommand*\oldmacro{}%
\let\oldmacro\insertshorttitle%
\renewcommand*\insertshorttitle{%
   \oldmacro\hfill%
   \insertframenumber\,/\,\inserttotalframenumber}
```

A slide with the table of contents

For having a slide with the table of contents, we use

```
\begin{frame}{Contents}
\tableofcontents
\end{frame}
```

What we have achieved till now
Slide layouts

- We created a LaTeX file
- We have called the beamer class
- We have defined the theme, font theme, and the colour theme.
- We have inserted the logo
- We have inserted numbers at the bottom of the slides
- We have created the first slide, the title slide
- We have created the slide with the table of contents

How did we typeset the last one?
The code is here

```
%start the coding for the frame - with the title
%and the subtitle
    \begin{frame}{What we have achieved till now}{Slide
    layouts}
\begin{itemize}
\item We created a \LaTeX{} file
\item We have called the {\tt beamer} class
\item We have defined the theme, font theme, and the
    colour theme.
\item We have inserted the logo
\item We have inserted numbers at the bottom of the slides
\item We have created the first slide, the title slide
\item We have created the slide with the table of contents
\end{itemize}
%end the coding of the frame here
    \end{frame}
```

Outline

A two column slide
Can you design this?

Figure 1: A muggle artefact found in the Dark Lord's bathroom

The investigator looked puzzled when he visited the house of the Dark Lord. He found a rubber duck (Figure [1]) in the bathroom, along with other suspicious objects.

Designing the two column slide
The code is here!

```
\begin{frame}{A two column slide}{Can you design
this?}
\begin{columns}
\begin{column}{0.5\textwidth} %column width
\begin{figure}
\centering
\includegraphics[scale=0.2]{duck.jpg}
\caption{A muggle artefact found in the Dark Lord's
bathroom}\label{fig:muggleduck}
\end{figure}
\end{column}
\begin{column}{0.5\textwidth}
The investigator looked puzzled when he visited the
house of the Dark Lord. He found a rubber duck
(Figure [\ref{fig:muggleduck}]) in the bathroom,
along with other suspicious objects.
\end{column}
\end{columns}
\end{frame}
```

Outline

SUDDHASHEEL.COM

Text inside a block
Can you design this?

> ### Definition of a metric
>
> The function $d: X \times X \to \mathbb{R}$ is known as a metric if it satisfies the
> following properties:
>
> - **Non-negativity:** $d(x, y) \geq 0, \ \forall x, y \in X$
> - **Identity:** $d(x, y) = 0 \iff x = y, \ \forall x, y \in X$
> - **Symmetry:** $d(x, y) = d(y, x)$
> - **Triangle inequality:** $d(x, z) \leq d(x, y) + d(y, z), \ \forall x, y, z \in X$

Text in a block
The code is here!

```
\begin{block}{Definition of a metric}
The function $d:X \times X \rightarrow \mathbb{R}$ is
known as a metric if it satisfies the following
properties:
\begin{itemize}
\item {\bf Non-negativity:} $d(x,y) \geq 0, \, \forall
    x,y \in X$
\item {\bf Identity:} $d(x,y) = 0 \iff x=y, \, \forall
    x,y \in X$
\item {\bf Symmetry:} $d(x,y) = d(y,x)$
\item {\bf Triangle inequality:} $d(x,z) \leq d(x,y) +
    d(y,z), \, \forall x,y, z\in X$
\end{itemize}
\end{block}
```

Outline

SUDDHASHEEL.COM

An array of figures
Can you typeset this?

(a) Gull

(b) Mouse

(c) Owl

(d) Duck

Figure 2: Pictures of animals

An array of figures
The code is here!

In the preamble:

```
\usepackage{subfig}
```

And in the body, where you need to typeset / arrange the figures,

```
\begin{figure}
\centering
\subfloat[Gull]{\includegraphics[width=0.25\textwidth]{gull}
\label{fig:gull}}
\subfloat[Mouse]{\includegraphics[width=0.25\textwidth]
{mouse}\label{fig:mouse}} \\
\subfloat[Owl]{\includegraphics[width=0.25\textwidth]{owl}
\label{fig:owl}}
\subfloat[Duck]{\includegraphics[width=0.25\textwidth]{duck}
\label{fig:duck_muggled}}
\caption{Pictures of animals}\label{fig:animals}
\end{figure}
```

My figures are not numbered

In the preamble, we should have the following

```
\setbeamertemplate{caption}[numbered]
```

Multiple tables with subcaptions
Can you typeset this?

	Judge 1	Judge 2		Judge 1	Judge 2
Karishma	8	9	Akshay	8	9
Kareena	9	10	Akshaye	9	10
Katrina	10	8	Abhay	10	8

(a) Femina Miss India   (b) Gladrags

Table 1: Table for scores in competitions

The scores of the contestants in the competitions are shown in
Table [1]. For women, the scores are in Table [1a] and for men in
Table [1b].

Multiple tables with subcaptions
The code is here

```
\begin{table}
\centering
\subfloat[Femina Miss India]{
\begin{tabular}{lcc}
\hline
{} &Judge 1 &Judge 2 \\ \hline
Karishma &8 &9 \\ Kareena &9 &10 \\ Katrina &10 &8 \\
\hline
\end{tabular}\label{tbl:Women}
}
\subfloat[Gladrags]{
\begin{tabular}{lcc}
\hline
{} &Judge 1 &Judge 2 \\ \hline
Akshay &8 &9 \\ Akshaye &9 &10 \\ Abhay &10 &8 \\
\hline
\end{tabular}\label{tbl:men}
}
\caption{Table for scores in
competitions}\label{tbl:score}
\end{table}

The scores of the contestants in the competitions are
shown in Table [\ref{tbl:score}]. For women, the
scores are in Table [\ref{tbl:Women}] and for men
in Table [\ref{tbl:men}].
```

Outline

1. Layout

2. Multicolumn

3. Block styles

4. Subfloats
   - Figures
   - Tables

5. Animations

SUDDHASHEEL.COM

Appearance on click
Pseudo-animation

	Judge 1	Judge 2		Judge 1	Judge 2
Karishma	8	9	Akshay	8	9
Kareena	9	10	Akshaye	9	10
Katrina	10	8	Abhay	10	8

(a) Femina Miss India   (b) Gladrags

Table 2: Table for scores in competitions

The scores of the contestants in the competitions are shown in
Table [1]. For women, the scores are in Table [2a] and for men in
Table [2b].

Appearance on click
Pseudo-animation

	Judge 1	Judge 2		Judge 1	Judge 2
Karishma	8	9	Akshay	8	9
Kareena	9	10	Akshaye	9	10
Katrina	10	8	Abhay	10	8

(a) Femina Miss India   (b) Gladrags

Table 2: Table for scores in competitions

The scores of the contestants in the competitions are shown in
Table [1]. For women, the scores are in Table [2a] and for men in
Table [2b].

Appearance on click
Pseudo-animation

	Judge 1	Judge 2		Judge 1	Judge 2
Karishma	8	9	Akshay	8	9
Kareena	9	10	Akshaye	9	10
Katrina	10	8	Abhay	10	8

(a) Femina Miss India   (b) Gladrags

Table 2: Table for scores in competitions

The scores of the contestants in the competitions are shown in
Table [1]. For women, the scores are in Table [2a] and for men in
Table [2b].

Appearance on click
Pseudo-animation - typeset it here

```
\begin{table}
\centering
\subfloat[Femina Miss India]{
\begin{tabular}{lcc}
\hline
{} &Judge 1 &Judge 2 \\ \hline
Karishma &8 &9 \\ Kareena &9 &10 \\ Katrina &10 &8 \\
    \hline
\end{tabular}\label{tbl:Women}
} \pause      %<< look here
\subfloat[Gladrags]{
\begin{tabular}{lcc}
\hline
{} &Judge 1 &Judge 2 \\ \hline
Akshay &8 &9 \\ Akshaye &9 &10 \\ Abhay &10 &8 \\ \hline
\end{tabular}\label{tbl:men}
}
\caption{Table for scores in
    competitions}\label{tbl:score}
\end{table}
\pause      %<< look here
The scores of the contestants in the competitions are
shown in Table [\ref{tbl:score}]. For women, the scores
are in Table [\ref{tbl:Women}] and for men in
Table [\ref{tbl:men}].
```