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Getting Started with Latex for making Presentation

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IIT Bombay

May 21, 2015



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For Windows

- Miktex: Compiler
- TeXstudio: Integrated Development Environment

Installation Link

- <http://miktex.org/download>
- <http://texstudio.sourceforge.net/>

Structure of L^AT_EX Document

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```
\documentclass [] {}  
  
...  
\begin{document}  
  
...  
\end{document}
```

First Line

```
\documentclass[option]{style}
```

Options set font size, paper size, text alignment. Style define document type viz. report, article, letter etc

Preamble

- This space contains various document settings.
- Activation of external packages.

Main Document

- Document is written between

```
\begin{document}
```



```
\end{document}
```

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Steps in creating documents

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- 1 Open Tex editor such as TeXstudio
- 2 Click on File → New
- 3 Write your documents and save file as <filename>.tex
- 4 Compile the .tex file. In TeXstudio, go to Tools → Build & View

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The First Document

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```
\documentclass[10pt]{report}
```

```
\begin{document}
```

```
WOW .. I created my first {\LaTeX} document.
```

```
\end{document}
```

Excercise-1

Task

Create a two slide presentation, showing Slide-1 & Slide-2 as title of slides.

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Task

Create a two slide presentation, showing Slide-1 & Slide-2 as title of slides.

Hints

- Latex define a document style called *beamer* for creating presentation

- use

```
\begin{frame}{title}  
\end{frame}
```

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Bold, Italics and underline

`\textbf{MyText}` prints **MyText** in bold

`\textit{MyText}` prints *MyText* in Italics

`\underline{MyText}` prints MyText underlined

Basic formatting

Contd..

Text Color

- In the Preamble add: `\usepackage{xcolor}`
- defined colors: white, black, red, green, blue, cyan, magenta, yellow
- `\textcolor{red}{text}` prints **text** in red
- `\colorbox{red}{text}` highlights the **text**
- define custom color using
`\definecolor{mycolor}{RGB}{255,100,100}`
- `\textcolor{mycolor}{text}` print **text** in your color.

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Superscript and Subscript - Method-1

- In the Preamble add: `\usepackage{fixltx2e}`
- `10` prints ¹⁰ as superscript
- `\textsubscript{10}` prints ₁₀ as subscript

Superscript and Subscript - Method-2

- `^{\exp}` prints **exp** as superscript
- `_{\exp}` prints **exp** as subscript
- These symbols can be used only in **Math Mode** - use \$ before and after the expression
- `10` prints ¹⁰ as superscript
- `$_{10}$` prints ₁₀ as subscript

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Special Character

- Latex uses special characters for its regular functioning.
- #, \$, %, &, ~, ^, \, {, }
- How to print these symbols ??
- use Backslash (\) before the symbol.
- printing \ is an exception. \\ in Latex means new line. To print \, use \textbackslash

Basic formatting

Contd..

Special Symbol and Usage

- `~` : - used to get non-breaking space
- `#` : - used for argument with `\newcommand` & `\newenvironment`
- `$` : - Used to represent symbols in maths environment
- `%` : - Used for single line comment
- `^` : - Used for super script
- `&` : - Used to separate rows in table.

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Special Symbol and Usage

- `_` : - Used for sub script
- `{,}` : - Used for command definition and enclosing command argument
- `\` : - start of command
- `\\` : - newline

Include Text as it is

use `\verb`

- used to print character & command without special meaning
- usage: `\verb|\usepackage|` prints `\usepackage`

use `\texttt`

- alternative to `\verb`.
- command cannot be used as argument of command.
i.e. you can not write anything starting with `\` in title of a frame or block.
- usage: `\texttt{text}`
- example: `\texttt{\textbackslash verb}` prints `\begin.`

Include code snippet

```
\usepackage
```

In the Preamble add:
`\usepackage{verbatim}`

Defining frame

```
\begin{frame}[fragile]{Include code snippet}
```

Note: use fragile option while using verbatim

Using Verbatim Environment

```
\begin{verbatim}
Write your code inside this
\end{verbatim}
```

Include Table

Using tabular environment

use `\begin{tabular}`

...

`\end{tabular}`

Example-1

```
\begin{tabular}{l c r}
First & Second & Third \\
1 & 2 & 3 \\
4 & 5 & 6 \\
7 & 8 & 9 \\
\end{tabular}
```

First	Second	Third
1	2	3
4	5	6
7	8	9

Include Table

- use `\hline` for horizontal line
- use `|` for single vertical line
- use `&` for column values

Example-2

```
\begin{tabular}{|l|l|l|}  
First & Second & Third \\  
\hline  
1 & 2 & 3 \\  
4 & 5 & 6 \\  
7 & 8 & 9 \\  
\end{tabular}
```

First	Second	Third
1	2	3
4	5	6
7	8	9

Include Table

Contd..

- l,c,r in `\begin{tabular}{l c r}` signifies 1st, 2nd, 3rd columns are left, center and right aligned respectively.

Example-3

```
\begin{tabular}{|l|l|c|r|l|}  
\hline  
First & Second & Third & \\  
\hline  
\multicolumn{2}{|l|c|}  
{Merged} & \\  
\hline  
1 & 2 & 3 & \\  
4 & 5 & 6 & \\  
7 & 8 & 9 & \\  
\end{tabular}
```

First	Second	Third
Merged		
1	2	3
4	5	6
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Include image in Latex Document

`\usepackage`

In the Preamble add:

- `\usepackage{graphicx}`
- `\graphicspath{{./images/}}` – tells latex compiler that images are stored in folder named "*images*". This folder must be inside the current working directory, where .tex file is stored.

Using figure environment

```
use \begin{figure}
```

```
...
```

```
\end{figure}
```

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Include image in Latex Document

Usage

```
\includegraphics[options]{name}
```

- options include width, height, scale, angle
- name is image name with extension. Support formats are .pdf, .png, .bmp, .jpg. Image should be present in folder

Example-1

```
\begin{figure}  
\centering  
\includegraphics{logowithtext.png}  
\caption{e-Yantra Logo-Full scale}  
\label{image_1} % Label is used for referencing  
\end{figure}
```

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Include image in Latex Document

Example-1 Full scale output



Figure: e-Yantra Logo - Full scale

Example-1 Scaled down output



Figure: e-Yantra Logo - scaled to 0.5

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Bullets-1

```
\begin{itemize}
\item First Line
\item Second Line
\end{itemize}
```

- First Line
- Second Line

Bullets-2 Customized Bullets

```
\begin{itemize}
\item[$\cdots$] Dot
\item[$\checkmark$] Checkmark
\item[$\ast$] Asterik
\item[$\#$] Dollar
\item[$\bullet$] bullet
\end{itemize}
```

- Dot
- ✓ Checkmark
- * Asterik
- # Dollar
- bullet

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Cont..

Enumeration

```
\begin{enumerate}  
\item First Line  
\item Second Line  
\end{enumerate}
```

- 1 First Line
- 2 Second Line

Nested Listing

```
\begin{itemize}  
\item First  
\begin{enumerate}  
\item 1st  
\item 2nd  
\end{enumerate}  
\item Second  
\end{itemize}
```

- First
 - 1 1st
 - 2 2nd
- Second

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- In preamble add: `\usepackage{hyperref}`
- `\href{Link}{Text-to-display}`
- [e-Yantra Website](#)

How to create slide

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Slides in Latex are called frames

```
\begin{frame}{Frame Title}{Frame Subtitle}
```

....

```
\end{frame}
```

- Frame Title and Frame Subtitle are optional parameter.

Fragile frames

Fragile option is used with frame when using verbatim environment.

```
\begin{frame}[Fragile]{Frame Title}{Frame Subtitle}
```

....

```
\end{frame}
```

Animation in Latex

using `\only` and `\onslide`

```
\only<1,4>{Hi}  
\only<2,4>{Hello}  
\only<3,4> {\LaTeX}  
\onslide<4->{Animation} \\  
\onslide<5->  
Latex work
```

Hi

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using `\only` and `\onslide`

```
\only<1,4>{Hi}  
\only<2,4>{Hello}  
\only<3,4> {\LaTeX}  
\onslide<4->{Animation} \\  
\onslide<5->  
Latex work
```

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using `\only` and `\onslide`

```
\only<1,4>{Hi}  
\only<2,4>{Hello}  
\only<3,4> {\LaTeX}  
\onslide<4->{Animation} \\  
\onslide<5->  
Latex work
```

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```
\only<1,4>{Hi}  
\only<2,4>{Hello}  
\only<3,4> {\LaTeX}  
\onslide<4->{Animation} \\  
\onslide<5->  
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```

Hi Hello L^AT_EX Animation

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```
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\only<3,4> {\LaTeX}  
\onslide<4->{Animation} \\  
\onslide<5->  
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\only<3,4> {\LaTeX}  
\onslide<4->{Animation} \\  
\onslide<5->  
Latex work
```

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use \pause

- \pause stops for keypress to display next character.

How to add table of content

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Table of Content

use `\tableofcontents` in side a frame

Section and Subsection

- use `\section {section name}` for naming each section
- use `\subsection {subsection name}`.
- Subsection appear indented under the section it is defined.

Creating Title Page

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Include these line just after \

```
\title{Hello Latex}
```

```
\subtitle{Subtitle}
```

```
\author{Saurav Shandilya}
```

```
\institute{IIT Bombay}
```

```
\date{\today}
```

```
\logo{\includegraphics[scale = 0.5]{logowithtext.png}}
```

```
\frame{\titlepage}
```

Using color theme

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- Color themes are used in beamer to
- In preamble use:

```
\usetheme{Berkeley}
```



```
\usecolortheme{sidebartab}
```
- several different color and themes are available.
- Various themes are available [here](#)

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- 1 <http://en.wikibooks.org/wiki/LaTeX>
- 2 <http://www.latex-tutorial.com/>