

# L<sup>A</sup>T<sub>E</sub>X WORKSHOP

## AN INTRODUCTION TO L<sup>A</sup>T<sub>E</sub>X

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1. What is  $\text{\LaTeX}$ ?
2. First  $\text{\LaTeX}$  document
3. Text & Paragraph Format

WHAT IS L<sup>A</sup>T<sub>E</sub>X?

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- Takes worry out of **typesetting** a document and allows you to just worry about **content**.
- Gives a good **Focus** on the contents.
- Professionally crafted **layouts** are available.
- Typesetting **mathematical** formulae is supported in a convenient way.
- Complex structure such as **footnotes**, **references**, **table of contents** and **bibliographies** can be generated easily.
- Add-on packages exist for many tasks not supported by basic  $\text{\LaTeX}$ .
- $\text{\LaTeX}$  is highly portable and free. It can run on almost any hardware platform.

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In this lecture we will explore more benefits of using Beamer for your presentation

FIRST L<sup>A</sup>T<sub>E</sub>X DOCUMENT

---

Let's start with the simplest working example:

# Example

Let's start with the simplest working example:

```
\documentclass{article}
```

```
\begin{document}
```

```
This is my First document.
```

```
This is a simple example, with no  
extra parameters or packages included.
```

```
\end{document}
```

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```
\end{document}
```

Your  $\LaTeX$  code must  
consist with

```
\documentclass[...]{...}
```

```
\begin{document}
```

```
\end{document}
```

See `1-start.tex`

– Preamble of Document –

```
\begin{document}
```

– Body of Document –

```
\end{document}
```

# Document Structure

- Preamble of Document -

```
\begin{document}
```

- Body of Document -

```
\end{document}
```

In the preamble you define the type of document you are writing, the language and several other elements.

The contents which you want to display have to write here.

# documentclass Options

```
\documentclass[option1,option2,...]{document_class}
```

Table: Document Class

<code>book</code>	Default is two-sided.	<code>10pt/11pt/12pt</code>	Font size.
<code>report</code>	No <code>\part</code> divisions.	<code>letterpaper/a4paper</code>	Paper size.
<code>article</code>	No <code>\part</code> , <code>\chapter</code> divisions.	<code>twocolumn</code>	Use two columns.
<code>letter</code>	Letter (?).	<code>twoside</code>	Set margins.
<code>slides</code>	Large sans-serif font.	<code>landscape</code>	Landscape.
<code>beamer</code>	To make slide.	<code>draft</code>	Double-spaced.

Usage:

```
\documentclass[opt,opt]{class}.
```

Used at the very beginning of a document:

```
\documentclass{class}.
```

# TEXT & PARAGRAPH FORMAT

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## How to write

Some of the **greatest** discoveries in science were made by students of *Indian* INSTITUTE of Techonlogy, Guwahati.

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**Code:**

## How to write

Some of the **greatest** discoveries in science were made by students of *Indian* INSTITUTE of Techonlogy, Guwahati.

### Code:

```
Some of the \textbf{greatest} discoveries in
\underline{science} were made by students of \textit{Indian}
\textsc{Institute} of Techonlogy, \textrm{Guwahati}.
```

# Text Format

<i>Command</i>	<i>Declaration</i>	<i>Effect</i>
<code>\textrm{text}</code>	<code>{\rmfamily text}</code>	Roman family
<code>\textsf{text}</code>	<code>{\sffamily text}</code>	Sans serif family
<code>\texttt{text}</code>	<code>{\ttfamily text}</code>	Typewriter family
<code>\textmd{text}</code>	<code>{\mdseries text}</code>	Medium series
<code>\textbf{text}</code>	<code>{\bfseries text}</code>	<b>Bold series</b>
<code>\textup{text}</code>	<code>{\upshape text}</code>	Upright shape
<code>\textit{text}</code>	<code>{\itshape text}</code>	<i>Italic shape</i>
<code>\textsl{text}</code>	<code>{\slshape text}</code>	<i>Slanted shape</i>
<code>\textsc{text}</code>	<code>{\scshape text}</code>	SMALL CAPS SHAPE
<code>\emph{text}</code>	<code>{\em text}</code>	<i>Emphasized</i>
<code>\textnormal{text}</code>	<code>{\normalfont text}</code>	Document font
<code>\underline{text}</code>		<u>Underline</u>

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RSF EEE

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RSF EEE  
RSF EEE

<code>\tiny</code>	tiny
<code>\scriptsize</code>	scriptsize
<code>\footnotesize</code>	footnotesize
<code>\small</code>	small
<code>\normalsize</code>	normalsize
<code>\large</code>	large
<code>\Large</code>	Large
<code>\LARGE</code>	LARGE
<code>\huge</code>	huge
<code>\Huge</code>	Huge

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<code>\LARGE</code>	LARGE
<code>\huge</code>	huge
<code>\Huge</code>	Huge

These are declarations and should be used in the form `{\small Some Text}`, or `\small{Some Text}`.

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<code>\huge</code>	huge
<code>\Huge</code>	Huge

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# Paragraph Formatting

`\par`

To make a new paragraph

`\setlength{\parindent}{width}`

To specify paragraph indent

`\noindent`

To start a paragraph without indentation.

`\setlength{\parskip}{width}`

To specify gap between two consecutive paragraphs

`\\` or `\newline`

To start new line

`\hfill`

Horizontally fill respective line

`\vfill`

vertically fill respective page

`\hspace{length}`

Specify horizontally fill length

`\vspace{length}`

Specify vertically fill length

# Paragraph Formatting (Contd.)

<code>\smallskip</code>	Adds a small skip (3pt)
<code>\medskip</code>	Add a medium skip (6pt)
<code>\bigskip</code>	12pt skip.
<code>\break</code>	breaks the line without filling the current line.
<code>\linebreak[number]</code>	It breaks the line at that point. <code>number</code> ranges from 0 to 4. (0 means it will be easily ignored and 4 means do it anyway)
<code>\hspace*{length}</code>	Specify horizontally fill length with linebreak
<code>\vspace*{length}</code>	Specify vertically fill with linebreak

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`\hspace{length}`

Specify horizontally fill length

`\vspace{length}`

Specify vertically fill length

## *Environment*

```
\begin{center}
```

```
\begin{flushleft}
```

```
\begin{flushright}
```

## *Declaration*

```
\centering
```

```
\raggedright
```

```
\raggedleft
```

## Justify

center-justifies the paragraph

right-justifies the paragraph

left-justifies the paragraph

THANK  
YOU