# Documentation with LaTeX

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# Outline

- Documentation
- Popular word processors
- Pros and Cons
- Hello World
- Figures, tables and maths
- IEEE and ACM classes for technical papers
- Presentation in prosper
- Transition effects

# What is LaTeX

- LaTeX is a document preparation system for high-quality typesetting
- Used for all type of document writing: Technical, Scientific, Presentations

# Popular Word Processors

- Microsoft Word
- OpenOffice.org Writer
- Notepad/Wordpad - a simple text editor

# Pros and Cons

- Pros
  - GUI makes them user friendly
  - You see, What you write
- Cons
  - Difficult cross referencing: Sections, Figures, Tables, Equations, References
  - User has to do Page and Margin management
  - User have to take care of font size, boldface, italicize
  - Have to worry about appearance of document

# Hello World

```
\documentclass{article}
\title{Introduction to \LaTeX}
\author{Sonali Chouhan}
\begin{document}
\maketitle
Hello World!
\end{document}
```

will produce: Hello World!

# Document

```
\documentclass{article}
\title{Sample Document with \LaTeX}
\date{}
\begin{document}
\maketitle

\section{Introduction to Section and Subsection}
\subsection{Itemize}
\begin{itemize}
\item Tables
\item Figures
\end{itemize}
\section{Bibliography}
For including bibliography at the end of the document we include \\
\bibliographystyle{unsrt}  \\
\bibliography{main}  \\
Here ‘main.bib’ file contains bibliographical entries.
\end{document}
```

# Document

A Sample Document

# Figures

- Including Graphics

```
\centering
\includegraphics[scale=0.25]{./figure/vector_flowers.eps}
```

# Figures

- Scaling Graphics

```
\centering
\includegraphics[scale=0.15]{./figure/vector_flowers.eps}
```

# Tables

- Including Table 1.

| Location | Distance (meter) |
|---|---|
| A | 50 |
| B | 70 |

Table 1: Sample table

# Tables

- Including Table 1.

```
\begin{table}[h]
\centering
\begin{tabular}{|c|c|}
\hline
Location & Distance (meter) \\
\hline
A& 50 \\
\hline
B & 70 \\
\hline
\end{tabular}
\caption{Sample table}
\label{tab:sample_tab}
\end{table}
```

# Maths

- Simple equation

$$T_{on}=\frac{L}{2bB}$$

```
\begin{equation}
T_{on}=\frac{L}{2 b B}
\label{eq:ton_mqam}
\end{equation}
```

# Maths

- Complex equation

$$d_{xover} = \left( \frac{P_{ckt} T_{on}(\frac{N}{K}-1) + LE_{comp}\frac{N}{K}}{\left(\frac{4\pi}{\lambda}\right)^2 \frac{(1+\alpha)SNR_{uncoded}}{2G_rG_t} bBN_0NF\,T_{on}\left(1-\frac{1}{CG}\right)} \right)^{\frac{1}{n}}$$

```
\begin{equation}
d_{xover}=\left( \frac{P_{ckt} T_{on}(\frac{N}{K}-1)+ LE_{comp}\frac{N}{K} }
         { \left( \frac{4\pi}{\lambda} \right)^2
    \frac{(1+\alpha)S\!N\!R_{uncoded}}{2G_rG_t}
            bBN_0 N\hspace{-1mm}F T_{on}
            \left( 1- \frac{1}{C\!G} \right)
         } \right)^{\frac{1}{n}}.
\label{eq:d_cross_exact}
\end{equation}
```

# Some More Features

- Different document classes
- Including packages
- Different bibliography styles

# Some More Features

- Preparing document with IEEE Transaction Class
  - Draft version
  - Final version
- Preparing document with ACM Class

# Presentations

- Preparing presentations using prosper
- documentclass options
  - final, or draft
  - total, or nototal
  - slideBW, or slideColor
  - colorBG, or noColorBG
  - ps, or pdf
  - noaccumulate, accumulate

# Transition Effects

- Split
- Blinds
- Box
- Wipe
- Dissolve
- Replace (default)

# Overlays

- Incremental exposure of a slide
- overlaping / non-overlaping

# Overlays

- Incremental exposure of a slide
- overlaping / non-overlaping

Non-overlaping

# Overlays

- Incremental exposure of a slide
- overlaping / non-overlaping

Overlaping

# Another Example

- One

# Another Example

- One
- Two

# Another Example

- One
- Two
- Three

# Another Example

- One
- Two
- Three
- Four

# Another Example

- One
- Two
- Three
- Four
- Five

# Thank You