

Document Title

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1 First Section

1.1 This is a sub section for section two

1.1.1 sub section of second subsection

1.1.2 sub + sub section of second subsection

1.2 This is a second sub section

2 Special characters

2.1 # :

Syntax : \#

2.2 \$:

Syntax : \\$

2.3 \$:

Syntax : \\$

2.4 \ :

Syntax : \textbackslash

2.5 \$:

Syntax : \\$

2.6 _ :

Syntax : \textendash

2.7 © :

Syntax : \copyright

2.8 ® :

Syntax : \textregistered

3 Different Font Styles

3.1 Bold Font :

Syntax : `\textbf`

Example : **Bold**

3.2 Italic Font :

Syntax : `\textit`

Example : *Italic*

3.3 Underline :

Syntax : `\underline`

Example : This text is underlined

3.4 Emphasized Text :

Syntax : `\emph`

Example : *This text is Emphasized*

4 Font Size

4.1 tiny [The Smallest Font] :

Syntax : `\tiny`

4.2 scriptsize [The 2nd Smallest Font] :

Syntax : `\scriptsize`

Example : This text is Scriptsize.

4.3 footnotesize [The 3rd Smallest Font] :

Syntax : `\footnotesize`

Example : This text is Scriptsize.

4.4 small [The 4th Smallest Font] :

Syntax : `\small`

Example : This text is small.

4.5 large [The Medium Font] :

Syntax : `\large`

Example : This text is Large.

5 Subscript & Superscript

5.1 Package :

package Name : fixltx2e
Code : `\usepackage{fixltx2e}`

5.2 Superscript :

Syntax : `\textsuperscript{}`
Example : A^2

5.3 Subscript :

Syntax : `\textsubscript{}`
Example : A_2

6 Alignment in Latex

6.1 Align Left :

Syntax : `\begin{flushleft}`
Example :

This Text Will be in Left Align

6.2 Align Center :

Syntax : `\begin{center}`
Example :

This Text Will be in Center Align

6.3 Align Right :

Syntax : `\begin{flushright}`
Example :

This Text Will be in Right Align

7 Page Layout in Latex

7.1 Draw a line :

Syntax : `\rule { \linewidth } { value }`
Example :

8 Assigning Bullets & Numbering in Latex

8.1 Assigning Bullets :

Syntax : `\begin{itemize}`
 `\item`

 `\end{itemize}`

Example :

- Money
- Travel
- Switzerland

8.2 Assigning Numbers :

Syntax : `\begin{enumerate}`
 `\item`

 `\end{enumerate}`

Example :

1. Money
2. Travel
3. Switzerland

8.3 Assigning Small Alphabets :

Syntax : `\begin{enumerate}`
 `\item`

 `\end{enumerate}`

Example :

- a. Money
- b. Travel
- c. Switzerland

8.4 Assigning Capital Alphabets :

Syntax : `\begin{enumerate}`
`\item`
`.....`
`\end{enumerate}`

Example :

- A. Money
- B. Travel
- C. Switzerland

9 Adding Definitions & theorem in Documents

9.1 Theorem :

Syntax : `\newtheorem{thmv}{Name of the Theorem}`
`\begin{thmv}`
`.....`
`\end{thmv}`

Example :

Super position 1 *A circuit with multiple voltage and current sources is equal to the sum of simplified circuits using just one of the sources*

9.2 Definitions :

Syntax : `\newtheorem{dfnb}{Name of the Definitions}`
`\begin{dfnb}`
`.....`
`\end{dfnb}`

Example :

Circuit 1 *path for transmitting electric current. An electric circuit includes a device that gives energy to the charged particles constituting the current, such as a battery or a generator; devices that use current, such as lamps, electric motors, or computers; and the connecting wires or transmission lines*

10 Assign Hyperlinks & URLs in Latex

10.1 Hyperlinks :

Syntax : `\href{address}{some text pointing the url}`
 Example : facebook

10.2 URLs :

Syntax : `\url{address}`

Example : `www.facebook.com`

11 Header & Footer

11.1 Header :

11.1.1 Left Header :

Syntax : `\head{ message}`

11.1.2 Center Header :

Syntax : `\chead{ message}`

11.1.3 Right Header :

Syntax : `\rhead{ message}`

11.2 Footer :

11.2.1 Left Foot :

Syntax : `\foot{ message}`

11.2.2 Center Foot :

Syntax : `\cfoot{ message}`

11.2.3 Right Foot :

Syntax : `\rfoot{ message}`

12 Inserting data in Table in latex

Syntax : `\begin{tabular}{ccc}` [Here c means center Aligned and 3 c means there are 3 columns]

`\hline` => Here hline means create a horizontal line of Row

Name & Address & Phone

`\hline`

Sudipta & 78/4 East Rampura, Dhaka-1219 & 01931117419

`\hline \end{tabular}`

Example :

Name	Address	Phone
Sudipta	78/4 East Rampura Dhaka-1219	01931117419

13 Changing Row Height

Package : `\usepackage{array}`
 Syntax : `\setlength{\extrarowheight}{value pt}`
`\begin{tabular}{ccc}`
`\hline`
 Name & Address & Phone
`\hline`
 Sudipta & 78/4 East Rampura, Dhaka-1219 & 01931117419
`\hline`
`\end{tabular}`

Example :

Name	Address	Phone
Sudipta	78/4 East Rampura Dhaka-1219	01931117419

14 Design a Table using Latex

Package : `\usepackage{booktabs}`
 Syntax : `\begin{tabular}{ccc}`
`\toprule[value pt]`
 Name & Address & Phone
`\hline`
 Sudipta & 78/4 East Rampura, Dhaka-1219 & 01931117419
`\bottomrule[value pt]`
`\end{tabular}`

Example :

Name	Address	Phone
Sudipta	78/4 East Rampura Dhaka-1219	01931117419

15 Marging 2 columns into 1 or any kind of complex Table Generator

You can generate complex tables from : <https://tablesgenerator.com/>
Code :

```
\begin{table}[Table Title]
  \begin{tabular}{|l|l|}
    \hline
      \multicolumn{2}{|l|}{This} & is & \multicolumn{2}{|l|}{\multirow{2}{*}{By}} & \hline
      \multicolumn{1}{|l|}{made} & & \multicolumn{2}{|l|}{} & \hline
      \multicolumn{1}{|l|}{tablegenerator} & \multicolumn{2}{|l|}{} & \multicolumn{2}{|l|}{} & \hline
    \end{tabular}
  \end{table}
```

Code Example :

This	is	
made		By
tablegenerator		

16 Make a Caption of a Table

You can generate complex tables from : <https://tablesgenerator.com/>

16.1 Caption at the Bottom :

Code :

```
\begin{table}[]
  \begin{tabular}{|ccc|}

      Rows and Cols / table codes

    \end{tabular}
  \centering
  \caption{Table Title}
\end{table}
```

Code Example :

This	is
made	By
tablegenerator	

Table 1: Table Title

16.2 Caption at the Top :

Code :

```
\begin{table}[htbp]
  \centering
  \caption{Table Title}
  \begin{tabular}{|ccc|}

    Rows and Cols / table codes

  \end{tabular}
\end{table}
```

Code Example :

Table 2: Table Title	
This	is
made	By
tablegenerator	

17 Table Row Highlight

Package : `\usepackage{colortbl}`
 Syntax :

```
\begin{tabular}{|lll|}
  \hline
  \rowcolor{red}
  data1 & data2 & data3
  \hline
  \rowcolor{blue}
  11 & 12 & 13
  \hline
  \rowcolor{green}
  21 & 22 & 23
\end{tabular}
```

```
\hline
\end{tabular}
```

Example Code :

data1	data2	data3
11	12	13
21	22	23

18 Include Figure/Picture in Latex

Syntax :

```
\begin{figure}[htbp]
\begin{center}
\fbbox
{
\includegraphics[width=\linewidth]
{graph.png}
}
\textbf
{
\caption{Graph}
}
\end{center}
\end{figure}
```

Example Code :

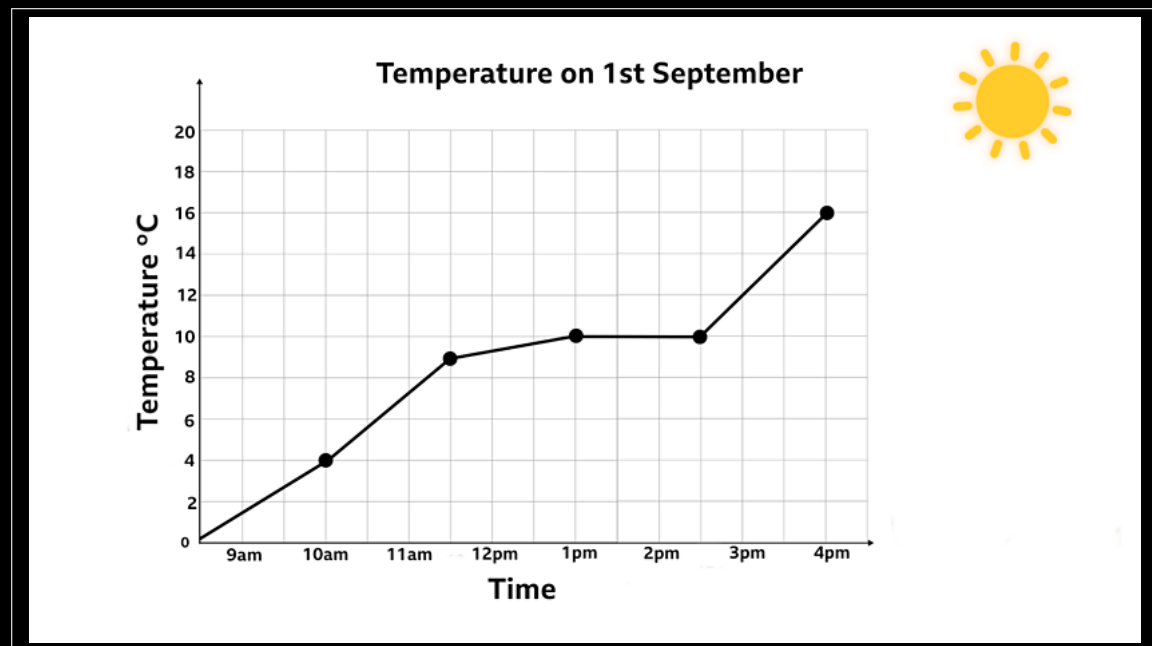


Figure 1: Graph

19 Basic Math Equation

x, y, z	\Rightarrow	$\backslash [x, y, z \backslash]$	OR, $\$x, y, z\$$
x_1, y_1	\Rightarrow	$\backslash [x_1, y_1 \backslash]$	OR, $\$x_1, y_1\$$
x^n	\Rightarrow	$\backslash [x \wedge n \backslash]$	OR, $\$x \wedge n\$$
\sqrt{x}	\Rightarrow	$\backslash [\text{sqrt}\{x\} \backslash]$	OR, $\$ \backslash \text{sqrt}\{x\} \$$
$\sqrt[n]{x}$	\Rightarrow	$\backslash [\text{sqrt}[n]\{x\} \backslash]$	OR, $\$ \backslash \text{sqrt}[n]\{x\} \$$
$\frac{x}{y}$	\Rightarrow	$\backslash [\text{frac}\{x\}\{y\} \backslash]$	OR, $\$ \backslash \text{frac}\{x\}\{y\} \$$

20 Use Greek Letters in Latex

α	<code>\[\alpha\]</code>	<code>\alpha\$</code>
β	<code>\[\beta\]</code>	<code>\beta\$</code>
γ	<code>\[\gamma\]</code>	<code>\gamma\$</code>
δ	<code>\[\delta\]</code>	<code>\delta\$</code>
λ	<code>\[\lambda\]</code>	<code>\lambda\$</code>
∇	<code>\[\nabla\]</code>	<code>\nabla\$</code>
Δ	<code>\[\Delta\]</code>	<code>\Delta\$</code>
ϵ	<code>\[\epsilon\]</code>	<code>\epsilon\$</code>
θ	<code>\[\theta\]</code>	<code>\theta\$</code>
η	<code>\[\eta\]</code>	<code>\eta\$</code>
τ	<code>\[\tau\]</code>	<code>\tau\$</code>
π	<code>\[\pi\]</code>	<code>\pi\$</code>
σ	<code>\[\sigma\]</code>	<code>\sigma\$</code>
ϕ	<code>\[\phi\]</code>	<code>\phi\$</code>

21 Insert Set icons

Complex Numbers	\mathbb{C}	<code>\[\mathbb{C}\]</code>	<code>\mathbb{C}\$</code>
Integer Numbers	\mathbb{Z}	<code>\[\mathbb{Z}\]</code>	<code>\mathbb{Z}\$</code>
Real Numbers	\mathbb{R}	<code>\[\mathbb{R}\]</code>	<code>\mathbb{R}\$</code>
Rational Numbers	\mathbb{Q}	<code>\[\mathbb{Q}\]</code>	<code>\mathbb{Q}\$</code>
Natural Numbers	\mathbb{N}	<code>\[\mathbb{N}\]</code>	<code>\mathbb{N}\$</code>
Positive Integers	\mathbb{Z}_+	<code>\[\mathbb{Z}_+\]</code>	<code>\mathbb{Z}_+\$</code>
Negative Integers	\mathbb{Z}_-	<code>\[\mathbb{Z}_-\]</code>	<code>\mathbb{Z}_-\$</code>
Positive Real Numbers	\mathbb{R}^+	<code>\[\mathbb{R}^+\]</code>	<code>\mathbb{R}^+\$</code>
Negative Real Numbers	\mathbb{R}^-	<code>\[\mathbb{R}^-\]</code>	<code>\mathbb{R}^-\$</code>

22 Generate Common Symbols

Infinity	∞	<code>\[infty\]</code>	<code>\infty\$</code>
Less than Equal	\leq	<code>\[leq\]</code>	<code>\leq\$</code>
Greater than Equal	\geq	<code>\[geq\]</code>	<code>\geq\$</code>
Not Equal	\neq	<code>\[neq\]</code>	<code>\neq\$</code>
Less Less than	\ll	<code>\[ll\]</code>	<code>\ll\$</code>
Greater Greater than	\gg	<code>\[gg\]</code>	<code>\gg\$</code>
For All operator	\forall	<code>\[forall\]</code>	<code>\forall\$</code>
Exists	\exists	<code>\[exists\]</code>	<code>\exists\$</code>
Approximate	\approx	<code>\[approx\]</code>	<code>\approx\$</code>
Equivalent	\equiv	<code>\[equiv\]</code>	<code>\equiv\$</code>
Perpendicular	\perp	<code>\[perp\]</code>	<code>\perp\$</code>
Paraallel	\parallel	<code>\[parallel\]</code>	<code>\parallel\$</code>
Not Perpendicular	\nperp	<code>\[not\perp\]</code>	<code>\not\perp\$</code>
Propotional to	\propto	<code>\[propto\]</code>	<code>\propto\$</code>
Angle	\angle	<code>\[angle\]</code>	<code>\angle\$</code>
Plus-Minus	\pm	<code>\[pm\]</code>	<code>\pm\$</code>
Multiplication/Times	\times	<code>\[times\]</code>	<code>\times\$</code>
O_Plus	\oplus	<code>\[oplus\]</code>	<code>\oplus\$</code>
O_Minus	\ominus	<code>\[ominus\]</code>	<code>\ominus\$</code>
O_Slash	\oslash	<code>\[oslash\]</code>	<code>\oslash\$</code>
O_Dot	\odot	<code>\[odot\]</code>	<code>\odot\$</code>
O_Times	\otimes	<code>\[otimes\]</code>	<code>\otimes\$</code>
Big Triangle Up	\triangleup	<code>\[bigtriangleup\]</code>	<code>\bigtriangleup\$</code>
Big Triangle Down	\triangledown	<code>\[bigtriangledown\]</code>	<code>\bigtriangledown\$</code>
Circle	\circ	<code>\[circ\]</code>	<code>\circ\$</code>
Big Circle	\bigcirc	<code>\[bigcirc\]</code>	<code>\bigcirc\$</code>
Set Minus	\setminus	<code>\[setminus\]</code>	<code>\setminus\$</code>
Sub Set	\subset	<code>\[subset\]</code>	<code>\subset\$</code>
Sup Set	\supset	<code>\[supset\]</code>	<code>\supset\$</code>
Sub Set Equal to	\subseteq	<code>\[subseteq\]</code>	<code>\subseteq\$</code>
Union / Cup	\cup	<code>\[cup\]</code>	<code>\cup\$</code>
Intercept / Cap	\cap	<code>\[cap\]</code>	<code>\cap\$</code>
Square Cup	\sqcup	<code>\[sqcup\]</code>	<code>\sqcup\$</code>
Square Cap	\sqcap	<code>\[sqcap\]</code>	<code>\sqcap\$</code>

23 generate Symbol using "AMS" package

Therefore/sutoorang	\therefore	<code>\[therefore\]</code>	<code>\$\therefore\$</code>
Because	\because	<code>\[because\]</code>	<code>\$\because\$</code>
Implies	\implies	<code>\[implies\]</code>	<code>\$\implies\$</code>
Not Less Than	\nless	<code>\[nless\]</code>	<code>\$\nless\$</code>
Not Greater Than	\ngtr	<code>\[ngtr\]</code>	<code>\$\ngtr\$</code>
Not Less than Equal	\nleq	<code>\[nleq\]</code>	<code>\$\nleq\$</code>
Not Greater than Equal	\ngeq	<code>\[ngeq\]</code>	<code>\$\ngeq\$</code>
Not Sub Set Equal	\nsubseteq	<code>\[nsubseteq\]</code>	<code>\$\nsubseteq\$</code>
Not Sup Set Equal	\nsupseteq	<code>\[nsupseteq\]</code>	<code>\$\nsupseteq\$</code>
Sub Set Not Equal	\subsetneq	<code>\[subsetneq\]</code>	<code>\$\subsetneq\$</code>
Sup Set Not Equal	\supsetneq	<code>\[supsetneq\]</code>	<code>\$\supsetneq\$</code>
Not Parallel	\nparallel	<code>\[nparallel\]</code>	<code>\$\nparallel\$</code>

24 Generate Different size of brackets

24.1 First Bracket ()

Syntax :

```
\[Biggl ( \biggl ( \Bigl ( \bigl ( ( \[
\[ ) \Biggl ) \biggl ) \Bigl ) \bigl ) \]
```

Code Example :

$$\left(\left(\left(\left(\right)\right)\right)\right)$$

24.2 Second Bracket {}

Syntax :

```
\[Biggl \{ \biggl \{ \Bigl \{ \bigl \{ \{ \[
\[ \} \Biggl \} \biggl \} \Bigl \} \bigl \} \]
```

Code Example :

$$\left\{\left\{\left\{\left\{\left\{\right.\right\}\right\}\right\}\right\}$$

24.3 Third Bracket []

Syntax :

```

\[\Biggl [ \biggl [ \Bigl [ \bigl [ [ \]
\[\ ] \Biggl ] \biggl ] \Bigl ] \bigl ] \]

```

Code Example :

$$\left[\left[\left[\left[\begin{array}{c} \\ \end{array}\right]\right]\right]\right]$$

25 Angles in Degrees, Absolute values & Norms

Degree	n°	<code>\[n\degree\]</code>	<code>\$n\degrees\$</code>
Absolute	$ x $	<code>\[\abs{x}\]</code>	<code>\$\abs{x}\$</code>
Normal	$\ x\ $	<code>\[\norm{x}\]</code>	<code>\$\norm{x}\$</code>
Normal of Fractions	$\left\ \frac{x}{y}\right\ $	<code>\[\norm{\frac{x}{y}}\]</code>	<code>\$\norm{\frac{x}{y}}\$</code>
Normal of Fraction having Absolute y	$\left\ \frac{x}{ y }\right\ $	<code>\[\norm{\frac{x}{\abs{y}}}\]</code>	<code>\[\norm{\frac{x}{\abs{y}}}\$</code>

26 Common Functions in Latex

Sin	sin	<code>\[\sin\]</code>	<code>\$\sin\$</code>
Cos	cos	<code>\[\cos\]</code>	<code>\$\cos\$</code>
Tan	tan	<code>\[\tan\]</code>	<code>\$\tan\$</code>
Cot	cot	<code>\[\cot\]</code>	<code>\$\cot\$</code>
Sec	sec	<code>\[\sec\]</code>	<code>\$\sec\$</code>
Cosec	csc	<code>\[\csc\]</code>	<code>\$\csc\$</code>
Sin_h	sinh	<code>\[\sinh\]</code>	<code>\$\sinh\$</code>
Cos_h	cosh	<code>\[\cosh\]</code>	<code>\$\cosh\$</code>
Tan_h	tanh	<code>\[\tanh\]</code>	<code>\$\tanh\$</code>
Log	log	<code>\[\log\]</code>	<code>\$\log\$</code>
Ln	ln	<code>\[\ln\]</code>	<code>\$\ln\$</code>
Exp	exp	<code>\[\exp\]</code>	<code>\$\exp\$</code>

Example 2 :

$$f : \mathbb{R} \rightarrow \mathbb{R} \text{ defined as}$$

$$f(x) = \begin{cases} x & \text{if } x \geq 0 \\ -x & \text{if } x < 0 \end{cases}$$

Latex Code :

```
\(f: \mathbb{R} \to \mathbb{R} \) defined as\\
\(  
f(x) =  
\left \{  
\begin{array}{ll}  
x & \text{if } x \geq 0 \\  
-x & \text{if } x < 0 \\  
\end{array}  
\right.  
\)
```

27 Insert Summation and Limits in Docs

27.1 Summation :

Summation : \sum `\[\sum \]` `\$ \sum \$`

27.1.1 Summation With Numbers

Summation With Numbers : $\sum 1 + 2 + 3 + \dots$ `\[\sum 1+2+3+... \]` `\$ \sum 1+2+3+... \$`

27.1.2 Summation With Limits

Summation With Numbers :

$$\sum_{n=1}^{n=10} n$$

Syntax : `\[\sum_{n=1}^{n=10} \]` OR,
`\$ \sum_{n=1}^{n=10} \$`

27.2 Limits

$$\lim_{x \rightarrow \infty} 5x^2 :$$

Syntax : `\(\lim \limits_{x \to \infty} 5x^2 \)`

28 Binomial Coefficients

28.1 Binomial :

Syntax :

```
\[\binom{n}{r}\]
\[^nC_r\]
\[^nP_r\]
```

Code Example :

$$\binom{n}{r}$$

nC_r

nP_r

29 Insert Differential Equations

Syntax :

Example 1 :

```
\[\frac{d}{dx}(y)\] Or,
\[\frac{dy}{dx}\]
```

Example 2 :

```
\[\frac{d^2}{dx^2}\]
```

Example 3 :

```
\[\frac{\partial y}{\partial x}\]
```

Example 4 :

```
\[\frac{\partial^2 y}{\partial^2 x}\]
```

Example 5 :

```
\[\frac{\partial z}{\partial x \partial y}\]
```

Code Example :

Example 1 : $\frac{d}{dx}(y)$ Or, $\frac{dy}{dx}$

Example 2 : $\frac{d^2}{dx^2}$

Example 3 : $\frac{\partial y}{\partial x}$

Example 4 : $\frac{\partial^2 y}{\partial^2 x}$

Example 5 : $\frac{\partial z}{\partial x \partial y}$

30 Inserting Integration sign & Equation

30.1 Integration Sign

$$\int \Longrightarrow \backslash \int$$

30.2 Close Integration Sign

$$\oint \Longrightarrow \backslash \oint$$

30.3 Integration With Functions

$$\int f(x) dx \Longrightarrow \backslash \int \{f(x) dx\}$$

30.4 Integration With Limits

$$\int_0^{2\pi} \sin(x) dx \Longrightarrow \backslash \int \limits_{0}^{2\pi} \sin(x) \mathrm{d}x$$

31 Inserting Double Integration sign

31.1 Double Integration Sign

$$\iint \Longrightarrow \backslash \iint$$

31.2 Double Integration With Functions

$$\iint xy \, dx \, dy \Longrightarrow \backslash \iint xy \, dx \, dy$$

31.3 Double Integration With Limits

31.3.1 Combined Limits

$$\iint_D f(x) \Longrightarrow \backslash \iint \limits_D f(x)$$

31.3.2 Seperated Limits

$$\int_a^b \int_c^d f(x) \, dx \, dy \Longrightarrow \backslash \int \limits_a^b \int \limits_c^d f(x) \, dx \, dy$$

32 Inserting Polynomial Equations

32.1 System 1 :

$$a_0 + a_1 x + \dots a_n x^n \Longrightarrow$$

```
\newcommand{\poly}{a_0+a_1x+\dots a_nx^n}
\[\poly]
```

32.2 System 2 :

It is used when we have to write a same equation multiple times having just variable or value changes

Example 1 :

$$a_0 + a_1x + \dots a_mx^m$$

$$a_0 + a_1x + \dots a_nx^n \text{ =====>>}$$

```
\newcommand{\polyd}[1]{a_0+a_1x+\dots a_{#1}x^{#1}}
\[\polyd{m}\]
\[\polyd{n}\]
```

Example 2 :

$$a_0 + a_1x + \dots a_x x^x m$$

$$a_0 + a_1x + \dots a_y x^y n \text{ =====>>}$$

```
\newcommand{\polyd}[2]{a_0+a_{#1}+\dots a_{#2}x^{#2}}
\[\polyd{x}{m}\]
\[\polyd{y}{n}\]
```

33 Matrix in Latex

33.1 System 1 :

$$x = \begin{bmatrix} 11 & 12 \\ 21 & 22 \end{bmatrix}$$

Code for this :

```
\(
x=\left[
\begin{array}{ccc}
11 & & 12 \\
21 & & 22
\end{array}
\right]
```

33.2 System 2 :

$$x = \begin{bmatrix} 11 & 12 \\ 21 & 22 \end{bmatrix}$$

Code for this :

```
\begin{bmatrix}
11 & 12 \\
21 & 22
\end{bmatrix}
```

34 Create Title Page of a Book

```
\documentclass{book}
\begin{document}
\begin{titlepage}
\pagecolor{black}
\color{white}
\noindent{\Huge \textbf{Name of The Book}}\\
{\large Edition}\\
{\Large Author}\\
\vfill
{\small Year, Publisher}
\end{titlepage}
\end{document}
```

35 Creating Table of Contents in Book

```

\documentclass{book}
\begin{document}
\begin{titlepage}
  \pagecolor{black}
  \color{white}
  \noindent{\Huge \textbf{Name of The Book}}\\
  {\large{Edition}}
  {\Large{Author}}
  \vfill
  {\small{Year, Publisher}}
\end{titlepage}
\pagecolor{white}
\color{black}
\tableofcontents
\part{Introduction}
\chapter*{Preface}
\addcontentsline{toc}{chapter}{Preface}
\chapter{First Chapter}
\section{First section of First Chapter}
\subsection{Subsection of First section of First chapter}
\subsubsection{Sub Sub section of First section of First chapter}

\part{Basic of C\#}
\chapter{Chapter 2 of Part 2}
% \addtocontents{toc} Used for writing a DESCRIPTION of any chapter/section,
% It means the name will added in contents but page no does not appear
\addtocontents{toc}{DESCRIPTION}
\section{Section of Chapter 2 of part 2}

\end{document}

```

36 Creating List of Figures

```

\documentclass{book}
\begin{document}
\begin{titlepage}
  \pagecolor{black}
  \color{white}
  \noindent{\Huge \textbf{Name of The Book}}\\
  {\large{Edition}}
  {\Large{Author}}
  \vfill
  {\small{Year, Publisher}}
\end{titlepage}
\pagecolor{white}
\color{black}
\tableofcontents
\listoffigures
\part{Introduction}
\chapter*{Preface}
\addcontentsline{toc}{chapter}{Preface}
\chapter{First Chapter}
\section{First section of First Chapter}

\addtocontents{lof}{Figure DESCRIPTION}
\begin{figure}[htbp]
  \begin{center}
    \fbox{\includegraphics*[width=8cm]{graph.png}}
    \caption{Graph}
  \end{center}
\end{figure}

```



```

\end{center}
\end{figure}
\subsection{Subsection of First section of First chapter}
\subsubsection{Sub Sub section of First section of First chapter}

\part{Basic of C\#}
\chapter{Chapter 2 of Part 2}
% \addtocontents{toc} Used for writing a DESCRIPTION of any chapter/section,
% It means the name will added in contents but page no does not appear
\addtocontents{toc}{DESCRIPTION}
\section{Section of Chapter 2 of part 2}

\end{document}

```

37 Inserting Index with index packages in Books & Report

```

\documentclass{book}
\usepackage{index}
\makeindex
\begin{document}

\part{Introduction}
\chapter*{Preface}
\index{this is index A}

\addcontentsline{toc}{chapter}{Preface}

\chapter{First Chapter}
\index{this is index B}
\section{First section of First Chapter}

\part{Basic of C\#}
\index{this is index C}
\chapter{Chapter 2 of Part 2}
% \addtocontents{toc} Used for writing a DESCRIPTION of any chapter/section,
% It means the name will added in contents but page no does not appear
\addtocontents{toc}{DESCRIPTION}
\section{Section of Chapter 2 of part 2}

\printindex
\end{document}

```

38 Include Bibliography in Books & Reports

```

\begin{thebibliography}{100}
\bibitem{Ref1} Author1, \textit{paper1}, publisher1, year1
\bibitem{Ref2} Author2, \textit{paper2}, publisher2, year2
\bibitem{Ref3} Author3, \textit{paper3}, publisher3, year3
\end{thebibliography}

```

39 Simple Reasearch Paper Format using Latex

```

\documentclass{article}
\usepackage{color,url,graphicx,xcolor}
\title{\huge \textbf{Name of the Paper}}
\author{\Large{Author Name}}
\date{\today}
\begin{document}
\maketitle
\newpage
\abstract{\large Summery of the Whole Paper}
\newpage
\tableofcontents
\newpage
\listoffigures
\newpage
\listoftables
\newpage
\section{Introduction}
Describe the paper in Introduction.

\subsection{Literature Review}
Background of the paper, describe.

\newpage

\section{System Model}

% Inserting an image
\begin{figure}[htbp]
  \begin{center}
    \fbox{\includegraphics*[width=8cm]{graph.png}}
    \caption{Graph}
  \end{center}
\end{figure}

\newpage

\section{Mathematical Operation}
\subsection{math Operation 1}
\subsection{math Operation 2}

% Inserting an Table
\begin{table}[htbp]
  \begin{tabular}{|l|l|l|}
    \hline
    Data 1 & Data 2 & Data 3 \\
    \hline
    11 & 12 & 13 \\
    21 & 22 & 23 \\
    \hline
  \end{tabular}
  \centering
  \caption{Data Table}
\end{table}

\section{Conclusion}
Summery of all the work we've done in the paper

\newpage

\begin{thebibliography}{100}
  \bibitem{Ref1} Author1, \textit{paper1}, publisher1, year1
  \bibitem{Ref2} Author2, \textit{paper2}, publisher2, year2

```

```
\bibitem{Ref3} Author3, \textit{paper3}, publisher3, year3
\end{thebibliography}

\end{document}
```

40 Make Reasearch Presentation using Latex

```

\documentclass{beamer}
\usepackage{color, graphics}
\usepackage{beamerthemesplit} % For Slide
\usepackage{beamerthemeshadow} % For Slide Beauty

\begin{document}
\title{Name of the Paper}
\author{\textbf{\textcolor{rgb}{0.70,0.10,0.00} {Author Name} }}

\begin{frame}
\titlepage
\end{frame}

% Slide 2

\begin{frame}{Outline}
\begin{itemize}
\item Introduction
\item Literature Review
\item System Model
\item Objectives
\item Outcomes
\item Conclusion
\end{itemize}
\end{frame}

% Slide 3

\section{Introduction}

\subsection{Definition}
\frame{
\frametitle{\centerline{Definition}}
Describe
}
\subsection{Definition 2}
\frame{
\frametitle{\centerline{Definition 2}}
Describe
}
\subsection{Literature Review}
\frame{
\frametitle{\centerline{Literature Review}}
Investigated\footnote{Papername, Authorname, Info}
\begin{itemize}
\item \textbf{Contributions :}
\\1. Contribution 1\\
2. Contribution 2\\
3. Contribution 3\\
\item \textbf{Limitations : }
\\1. Limitation 1\\
2. Limitation 2\\
3. Limitation 3\\
\end{itemize}
}

\section{System Model}

```

```
\frame{
  \begin{figure}[htbp]
    \begin{center}
      \fbox{\includegraphics[width=8cm]{graph.png}}
      \caption{Graph}
    \end{center}
  \end{figure}
}

\section{Objectives}

\frame{
  \frametitle{\centerline{Objectives}}
  \begin{itemize}
    \item Objective 1
    \item Objective 2
    \item Objective 3
  \end{itemize}
}

\section{Conclusion}

\frame{
  \frametitle{\centerline{Conclusion}}
  This is the Conclusion
}

\end{document}
```