LaTeX Learning with Kalika
(Book writing with Chapter)

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Contents

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Chapter 1

Mathematical Writings

This is first chapter.

1.1 Table and Polynomial

This is my first class. I am learning Latex.
This is polynomial.

$$p(x) = x^3 + x^2 + 2x^1 + x + 5 \tag{1.1}$$

This is table.

12	44	555
4r54	45t	45
565	4565	666

(1.2)

This is matrix.

$$\begin{vmatrix} 12 & 44 & 555 \\ 54 & 45 & 45 \\ 565 & 656 & 666 \end{vmatrix} \tag{1.3}$$

1.1.1 Writng Equation

This is sub section.

$$x^2 + y^2 = 1$$
$$x^2 + y^2 + z^2 = 1 \tag{1.4}$$

To write fraction: $\frac{4}{6}$ and $\dfrac{4}{6}$

Subsub section

This is sub sub section. $x = 0$ and $x \neq y$ This is new paragraph

Chapter 2

Writing section, equation and other text formatting

2.1 This is second section

This is second section

2.1.1 This second sub section

This is second section (1,1,0) is solution of equation(1.4).

2.2 Figure Insert

Figure 2.1: Logo of P Kalika

2.2.1 Eqnarray

You may write footer text using command `\footnote{text}`[1]

$$x^2 + y^2 = 1 \tag{2.1}$$
$$x^2 + y^2 + z^4 = 1 \tag{2.2}$$
$$x^3 + y^2 + z^2 - 4764 = 1 \tag{2.3}$$

[1]This footer reference

Help:

If need any particular topic or content, you may write us. We may try to solve your query.

Chapter 3

Cryptography

3.1 Workshop 2nd Day

If need any particular topic or content, you may write us. We may try to solve your query

3.1.1 Text Formatting

If **need any** *word* particular *topic or content*, you may write us. We may try to solve your query.
We will now look at some simple text formatting commands.

- Bold: Bold text in LaTeX is written with the `\textbf{...}` command.
- Italics: Italicised text in LaTeX is written with the `\textit{...}` command.
- Underline: Underlined text in LaTeX is written with the `\underline{...}` command.
- Emphasising text : Text can be emphasized by using `\emph` command.

Sometimes the `\emph` command behaves just as `\textit`, but is not exactly the same: Some of the greatest `\emph{discoveries}` in science were made by accident.

3.1.2 Font Size

```
{\tiny Tiny: workshop}
{\small Small: workshop}
{\large Large: workshop}
{\LARGE LARGE: workshop}
```

Tiny: workshop
Small: workshop
Large: workshop
LARGE: workshop

3.2 Listing

Unordered list

- India
- Patna
- Sugiya Pokhar
- Kaimur

Ordered list

1. India
2. Patna
3. Sugiya Pokhar
4. Kaimur

3.2.1 Table Creation with caption

Sr. No.	Country	affected People
1.	India	27262
2.	Pakistan	47583

Table 3.1: Table of Corona cases

Table(3.2.1) list covid-10 cases.
Table 3.2 is an example of referenced LaTeX elements.

Col1	Col2	Col2	Col3
1	6	87837	787
2	7	78	5415
3	545	778	7507
4	545	18744	7560
5	88	788	6344

Table 3.2: Table to test captions and labels

3.3 Mathematical Symbols

Regular: N, R, Z, Q, C...
Set: $\mathbb{N}, \mathbb{R}, \mathbb{Z}, \mathbb{Q}, \mathbb{C}$

Math mode: To put your equations in inline mode use one of these delimiters: `\( ... \)`, `$ ... $` or `\begin{math} ... \end{math}`.
Regular, $Regular$ ***Regular***

3.3.1 Display Math

To print your equations in display mode use one of these delimiters: `\[ ... \]` `\begin{displaymath}...\end{displaymath}` or `\begin{equation}...\end{equation}`. The command `$$ ... $$` is discouraged as it can give inconsistent spacing, and may not work well with some math packages.

3.4 Citation Mentioning

In this section: You Learn how to site a paper. for that use command `\cite{bibid}` Kalika and Munesh [1] discusses about Enigma, while Tanti and Munesh explained about cryptography in [2]. New paper about cryptography based ion recursive matrix is [3]

Chapter 4

Mathematical Content in LaTeX

4.1 Symbols

Command for symbols are :
`$\alpha$, $\gamma$,$\delta$, $\epsilon$,$\beta$,$\rho$ $\Gamma$,$\sigma$`
: α, γ,δ, ϵ,β,ρ Γ,σ,Σ

```
$\alpha$, $\gamma$,$\delta$,\\ $\epsilon$,$\beta$,$\rho$ $\Gamma$,$\sig
```

4.1.1 Structure

For Integration Command is
`$\int$, $\oint$ and $\int_{a}^{b}$` and Output: $\int$, $\oint$ and $\int_a^b$,
For Summation Command is
`$\sum$ and $\sum_{0}^{\infty}$` and Output: $\sum$ and $\sum_0^\infty$

Command for Products:
`$\prod$ and $\prod_{0}^{\infty}$` and Output is: $\prod$ and $\prod_0^\infty$

For subscript: Command: `a_{1}, a_{2},a_{3},...` Output is: $a_1, a_2, a_3, ...$
For superscript: Command: `a^{1}, a^{2},a^{3},...` Output is: $a^1, a^2, a^3, ...$

4.1.2 Writing Matrix

Let P and K are matrix as

$$P = \begin{bmatrix} P_1 & P_2 & ... & P_n \end{bmatrix}, K = \begin{bmatrix} K_{11} & K_{12} & ... & K_{1n} \\ K_{21} & K_{22} & ... & K_{2n} \\ \vdots & \vdots & \ddots & \vdots \\ K_{n1} & K_{n2} & ... & K_{nn} \end{bmatrix} \tag{4.1}$$

Command used for this matrix is

```
\begin{equation}
P=
\begin{bmatrix}
P_{1}& P_{2} & ... & P_{n} \\
\end{bmatrix},
K=
\begin{bmatrix}
K_{11}& K_{12} & ... & K_{1n} \\
K_{21} & K_{22} & ... & K_{2n} \\
\vdots & \vdots & \ddots & \vdots \\
K_{n1} & K_{n2} & ... & K_{nn} \\
\end{bmatrix}
\end{equation}
```

Chapter 5

Plottings of Graphs

5.1 Graphs in latex

Inserting Graphs as(Regular plotting) Cantor Plots are as follow

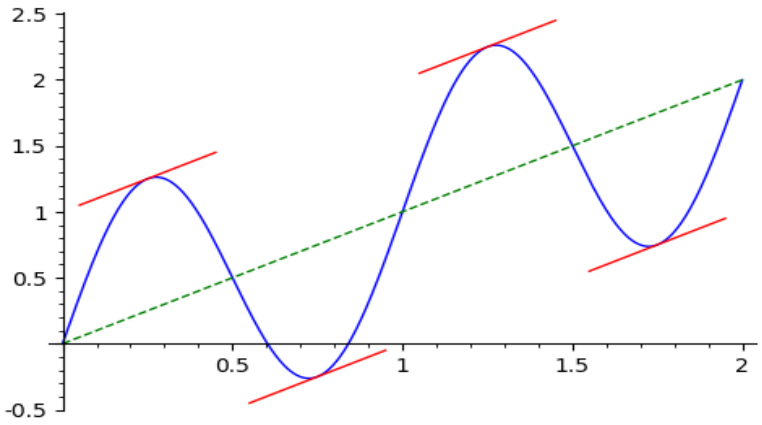

Figure 5.1: Plotting of Graphs

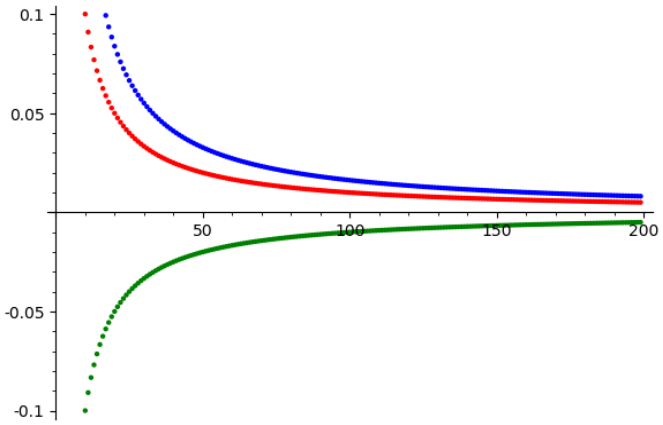

Figure 5.2: Plot of function $f(x)$

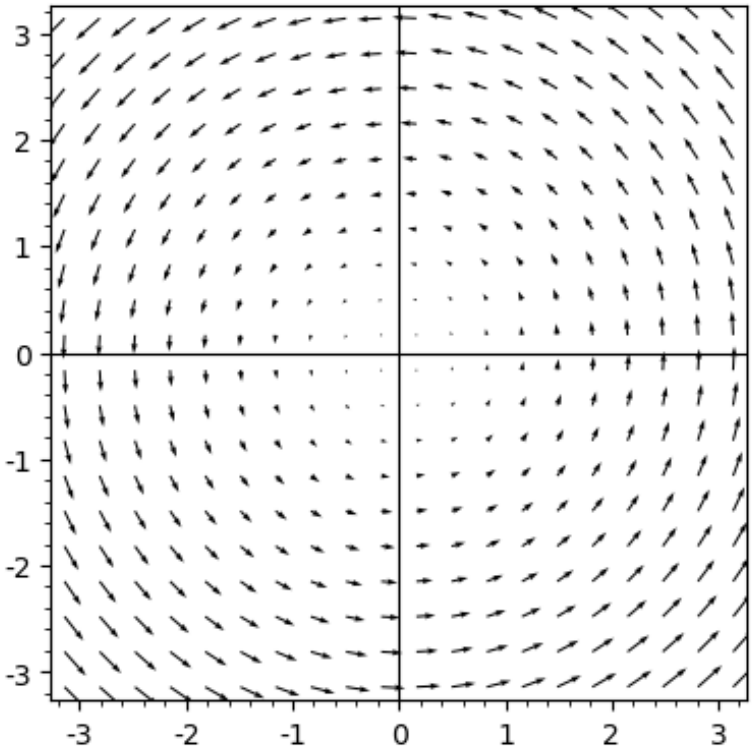

Figure 5.3: Cantor Plot-1

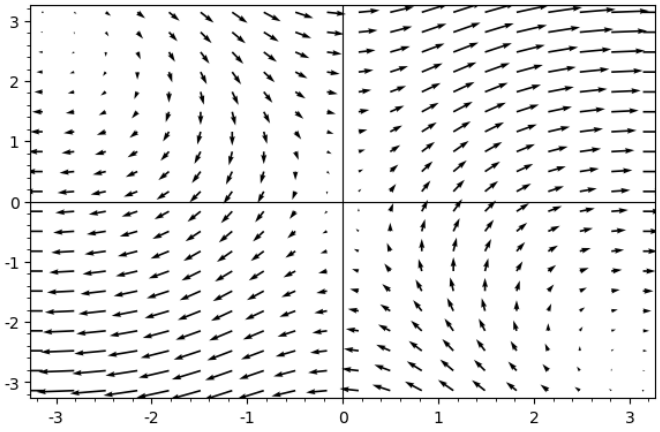

Figure 5.4: Cantor Plot-2

Bibliography

[1] K. Prasad and M. Kumari, "A review on mathematical strength and analysis of enigma," *arXiv preprint arXiv:2004.09982*, 2020.

[2] M. Kumari and J. Tanti, "A model of public key cryptography using multinacci matrices," *arXiv preprint arXiv:2003.08634*, 2020.

[3] K. Prasad and H. Mahato, "Cryptography using generalized fibonacci matrices with affine-hill cipher," *arXiv preprint arXiv:2003.11936*, 2020.

About Author[1]

[1]This will apper in footnote. You may write short description of Author