

# CS 251- Lab4 $\text{\LaTeX}$ Basics & Advanced

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# Introduction of myself

Hello, I am Prabandh. This is my first Latex project for CS 251. I study at IITB (sophiomore). I am from Andhra Pradesh in India. My hoobies are gaming and streaming. Thats all about me. I am so excited to be here. :).



Figure: IIT logo

# Table of Contents

- 1 Introduction
- 2 Equations
- 3 Itemize and Linking
- 4 Matrices

# Introduction

We first see the power of frames in **L<sup>A</sup>T<sub>E</sub>X**. We don't need to write each and every slide just for a new line.

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We first see the power of frames in  $\text{\LaTeX}$ . We don't need to write each and every slide just for a new line. We can just use beamer class with the feature of pauses. However,  $\text{\LaTeX}$  has another (rather the most important usage), namely the use **formatting text** in a more mathematical way.

We can write many equations, can be labelled like the following

$$e^{i\alpha} = \cos(\alpha) + i\sin(\alpha) \tag{1}$$

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or the unlabelled equations like the force between two charges given by

$$F = \frac{1}{4\pi\epsilon} \frac{q_1 q_2}{r^2}$$



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- Bubble Sort
- Insertion Sort , then there are the more rigorous algorithms like
- QuickSort
- Heap Sort , then the best known algorithm
- **Monkey sort** or Bogo-sort.

Some pointers to the last algorithm can be found at [here](#).

We can also write matrices in **L<sup>A</sup>T<sub>E</sub>X**, for example the identity matrix of size (3x3) is

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Bonus: try to indent like the below equation

$$\begin{aligned} (\mathbf{a} \cdot \mathbf{b})^2 &= \left( \sum a_i b_i \right)^2 \\ &\leq \left( \sum a_i^2 \right) \left( \sum b_i^2 \right) \end{aligned} \tag{2}$$