

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

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# Introduction of Myself

Hi, my name is Yash Kulkarni. I am currently in 2nd Year, in IIT Bombay. I am a student in CS 251 course. I am liking this course.



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# Introduction

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# Equations

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

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

$$F = \frac{1}{4\pi\epsilon_0} \frac{q_1 q_2}{r^2}$$





# Itemize and Linking

Also,  $\text{\LaTeX}$  can be used to present the items in a list format, for example, some common ways of sorting an array are:

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- Bubble Sort
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- QuickSort
- HeapSort *and 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  $\text{\LaTeX}$ , for example the identity matrix of size  $(3 \times 3)$  is

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Bonus: try to indent like the below equation

$$\begin{aligned} (a.b)^2 &= (\sum a_i b_i)^2 \\ &\leq (\sum a_i^2)(\sum b_i^2) \end{aligned}$$

