CS 251 Inlab4 - LaTeX Basics and Advanced

Note: For this lab, you can use Overleaf for editing the tex files.

Steps to setup the Overleaf project:

1. Go to the overleaf login page - Link
2. Login using your iitb or any other mail id.
3. Create a new blank project.
4. Provide the name as <roll_no>_inlab4.
5. Copy paste the content of template.tex (provided on moodle) file in the main.tex file of your project.
6. Hit recompile. Project is set, you can start editing the presentation in a .tex file.

If setup is not clear refer to this link.

You need to replicate the beamer presentation Final_output.pdf given to you on moodle, although with minor changes as and when mentioned.
Please pay attention to the slide numbers provided in the pdf file. Your final output pdf should have 7 slides only.

Note: You can refer following links for solving the inlab question

- Presentation format
- Mathematical Equations
- Matrices

Q1.[5 points] (Slide 1 and Slide 2)

In this task you need to change the template to have your name as that of the author and change the heading to LaTeX Basics & Advanced. You also need to add an introduction slide introducing yourself in a small paragraph on a new slide.

Bonus [5 points] : Add the logo of IIT Bombay on the title page.

Q2.[15 points]

Q2a.[10 points] (Slide 3): Make a table of contents. **Do not try to make a table by yourself by hardcoding.** Lookup commands for adding the table. This is a

useful way of making the index when making a pdf. Plus, LaTeX makes the table redirecting as well, so if you are an ambitious author, you should write your book with such a table of contents for indexing! Note: You must appropriately use sections throughout the document, **you will be given full credit if and only if your table works correctly.**

Q2b.[5 points] (Slide 4): Make the introduction slide of LaTex. **You must not use different frames for writing the slides with common content. Make use of pause.** Also highlight and **bold** the keywords as mentioned in the document. You get marks provided all of these conditions are met.

Q3.[12.5 points] (Slide 5)

We will now see how to write the equations in LaTeX. We can have equations in two different ways as instructed by the following subtasks.

Q3a.[5 points] : Make an equation which is labelled. You need to make use of special symbol α, ensure that the equation has the exponent, and that the equation is labelled. **Do not hardcode the equation number.**

Q3b.[7.5 points] : Make an equation which is unlabelled. You need to make use of a special symbol π, ensure that the equation has the correct superscripts and subscripts. The equation must also have the right format of the fractions and that the equation is unlabelled.

Q4.[10 points] (Slide 6)

Q4a.[5 points] : You need to make a list of items, in this case, the list of some common sorting algorithms. Make sure you have pauses, have highlightings and italics at the right moments.

Q4b.[5 points] : In this subtask, you need to make up a hyperlink to the url of Bogosort. Add appropriate commands to the document for using hyperlinks.
On a side note , and just for fun :) **,** most of you might not know about Bogosort, so do look it up when you get time!

Q5.[7.5 points] (Slide 7)

Given the fact on how useful LaTeX is for mathematical rigour, we also have the power to add matrices in our document. You need to add the identity matrix of size 3x3 in the pdf.**You must not add an image but instead use the command of bmatrix.** [If you are planning to become a TA for Linear Algebra , be ready to write up this small part of code many times!].

Bonus[5 points]: Write the equations as given with the correct indentation.

Submission Instructions

Download the Overleaf folder.

The submission directory must be named **<roll_no>_inlab4**. Compress it into a tarball using the following command:

tar -cvzf <roll_no>_inlab4.tar.gz <roll_no>_inlab4

The following is what your submission directory must look like. Please follow the submission format strictly.

<roll_no>_inlab4
├── main.tex
├── slides.pdf
├── <any optional additional images which you might use for IITB logo>
└── references.txt

Note: references.txt should contain the exact links of webpages you referred to (apart from the ones linked in the resources shared before).