22S:166 Lab session 2
Using LaTeX

Your name here

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Create this document (without the first four paragraphs of instructions) to get practice in creating tables and math expressions in LaTeX. Use labels for tables and sections. The final product should be a PDF file.

Download the template of a LaTeX article and make a copy of the file. In the copy, insert required text to produce the output below starting with the Tables section. Comment out any parts of the template that you don't need. Use labels for cross-referencing.

I recommend that you use emacs as your LaTeX document preparation environment. Here are steps for using it to produce a PDF file that may contain PDF graphics and/or a bibliography.

1. Have any required graphics file(s) in the directory in which you will work. If the .tex file and possibly .bib file already exist, they should be in the same directory.

2. Start emacs from the Linux prompt in the directory containing the files.

3. Use the File menu to open the .tex file or to visit a new file.

4. Note the Buffers menu if you need to have multiple files open at once, e.g. if you are also creating a .bib file in emacs.

5. When the .tex file is ready to compile:

   (a) Have the .tex file as the active buffer (click in it to make sure).

   (b) To set emacs to use pdflatex instead of plain latex, press the Ctrl key, and while holding it down, press `c t p`. You should see at the bottom of the window Tex-Pdf mode enabled."

   (c) From the Command menu, select Latex.

   (d) If you are using BibTeX for a bibliography, do the following:

      i. From the Command menu, select Bibtex.
      ii. From the Command menu, select Latex.
      iii. From the Command menu, select Bibtex.
      iv. From the Command menu, select Latex.

   (e) If you are not using BibTeX, just select Latex a second time.

   (f) From the Command menu, select View.

During the above process, check the bottom of the emacs window for messages. If it says that there were errors, check the Buffers menu. A buffer with the the word "output" in its name should have the error log.

If you are using a version of Emacs that has graphical icons, the following paragraph applies.

If you "find" a file with a .tex extension, then the special LaTeX features in emacs are invoked. The "lion" button runs the `latex` command, the "book" button runs the `bibtex` command, and the "glasses" button lets you view the result. To make the "lion" run `pdflatex` instead of `latex` for a session, press the Control key, and while holding it down, type `c t p`.

Alternatively, you may use the step-by-step procedure for creating and compiling LaTeX couments as described in to the notes for Lecture 3 for the use of the commands `latex` and `xdvi` to create and view `.dvi` files. If you are using that method, each time you use the text editor to make a change to the source file, you will need to run `latex` again to update the `.dvi` file.

1 Tables

Table 1 shows the results of the competition.

Table 2 has the caption at the top.

2 Math

Let θ_i, $i = 1, \ldots, 10$ denote the subject-specific means.

Name	Level	Score
Joshua	3	87
Helen	4	100
Phineas	2	72

Table 1: Student's levels and scores

Table 2: Student's levels and scores

Name	Level	Score
Joshua	3	87
Helen	4	100
Phineas	2	72

The object $\mathbf{\Omega}$ in equation 1 is a symmetric matrix.

$$\mathbf{\Omega} = \begin{bmatrix} a & b & c \\ b & d & e \\ c & e & f \end{bmatrix} \tag{1}$$

An example in a math environment:

$$\lim_{x \to \infty} x^2 = \infty$$

Embedded in a text paragraph, it looks like: $\lim_{x \to \infty} x^2 = \infty$.

A   Appendix

An appendix is a tail end, as described in University of Chicago Press Staff (2003).

References

University of Chicago Press Staff (2003). *Chicago Manual of Style*. University of Chicago Press, 15th edition.