Typesetting Homework

Patrick Lopatto

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Here is a quick introduction to writing math homework in LaTeX, which should be sufficient to typeset your homework sets. After reading this, please look at the `.tex` file that accompanies it to see how various tasks are accomplished. Comments in that file are given after % signs. They are ignored by the compiler, but may be useful to you.

1. First, you will need an environment that allows you to edit and compile `.tex` files. A simple way to do this is to use the online service Overleaf, at https://www.overleaf.com/. Your Harvard email address grants you unlimited file storage there.

   If you would prefer to download software that does this, click here for a selection of options.

2. Look at the provided homework template. Some code is included to set the page size, author, title, date, and so on. Put your name in the author field and change the title to the appropriate homework number, and list your collaborators if necessary. (Of course, using this template is not mandatory, if you would prefer to format your work differently.)

3. Use single dollar signs $ to write inline math equations. For instance, $2 + 2 = 4$.

4. Use double dollar signs $$ to write displayed equations. For example,

$$\sum_{j=1}^{n} j = \frac{(n+1)n}{2}.$$

5. Superscripts are written using ^ and subscripts with the underscore _.

6. Commands and special characters like `\frac` and `\sum` usually begin with a backslash. Arguments for such commands are put in curly braces: { and }.

7. More detailed guides can be found online (e.g. here). Also, Detexify is a useful tool for finding code for symbols. For example, try entering Greek letters like π and σ to find the right commands.

8. Leaving a blank line starts a new paragraph.

   Like this.

9. Answers to most LaTeX-related questions can be found by consulting Google. I am also happy to answer questions during the session this Thursday at 4 in Room 232, or during office hours. Have fun!