THE 18.821 MATHEMATICS PROJECT LAB REPORT[REPLACE THIS WITH YOUR OWN SHORT DESCRIPTIVE TITLE!]

X. BURPS, P. GURPS

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Abstract.This is a LATEX template for 18.821, which you can use for your own reports.

1 INTRODUCTION

This brief document shows some examples of the use of LATEX and indicates some special features of the Math Lab report style. The course website contains links to several LATEX manuals.
End the introduction by describing the contents of the paper sec tion by section, and which team member(s) wrote each of them. For instance, Section 6 discusses referencing, and is written by P. Gurps.

2 LATEX EXAMPLES

Here are some ways of producing mathematical symbols. Some are package which pre-defined either in LATEX or in the AMS$\sum_{i=1}^{n} 1$=n,$\int_0^n$xdx=$\frac{n^2}{2}$ We've defined a few other symbols at the start of the document, for instance .You can make marginal notes for yourself or your co-authors like this:
Unfinished here? If you want to typeset equations, there are many choices, with or without numbering:

$$\int_0^1 xdx = 1/2 \tag{1}$$

or

$$\sum_{i=1}^{0} \tag{2}$$

or

$$1 - 1 + 1 - ... = \frac{1}{2} \tag{3}$$

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Figure 1: My first .pdf figure

If you want a number for an equation, do it like this:

$$\lim_{n->1} \sum_{k=1}^{n} \frac{1}{k^2} = \frac{\pi}{6} \tag{4}$$

This can then be referred to as (1), which is much easier than keeping track of numbers by hand. To group several equations, aligning on the = sign, do it like this:

$$x1 + 2x2 + 3x3 = 7$$

$$\begin{aligned} \text{y} &= \text{mx} + \text{c} \\ &= 4\text{x} \quad 9. \end{aligned} \tag{5}$$

You can easily embed hyperlinks into the output .pdf document: click here for example.

3 IMAGES

Figure 1 is an example of a .pdf image put into a floating environ ment, which means LaTeX will draw it wherever there's enough space left in your manuscript. Look at the .tex original to see how to insert a figure like this.

4 THEOREMS AND SUCH

An example of a "conjecture environment" is given below, in Con jecture 4.1.Theorems, lemmas, propositions, definitions, and such all use the same command with the appropriate name changed. In fact,

if you look at the top of this .tex file, you can see where we've defined these environments.

4.1 Conjecture

(Vaught's Conjecture). Let T be a countable com plete theory. If T has fewer than 20 many countable models (up to isomorphism), then it has countably many countable models.

4.2 Theorem

When it rains it pours.
Proof. Well, yes.

5 FILE TYPES USED BY LATEX

You will write your text as a .tex file using any text editor (though WYSIWYG editors are troublesome). Traditionally one then runs LATEX and obtains a .dvi file, which can be viewed on the screen using a dvi viewer. To include images, and then prepare the file for printing or submission, one typically translates the .dvi into either .ps (Postscript) or .pdf (Adobe PDF). Your report will be submitted as a .pdf document.`pdf latex` command produces a .pdf file directly from a .tex file. This command works well with included .pdf files, but does not handle .eps files. An .eps file can be converted to a .pdf file by viewing it and saving as a .pdf file, or by`ps2pdf filename.eps`,which produces `filename.pdf`.Under MikTeX with WinEdt, all necessary commands will appear under "Accessories" in the WinEdt menu. Finally, Matlab can be made to produce .eps files by typing `print -deps filename` at the prompt.

6 QUOTING SOURCES

In your work, keep notes of the literature you've used, including websites. Cite the references you use; failure to do so constitutes plagiarism. Every bibliography item should be referenced somewhere in the paper. Quote as precisely as possible: [1 pages 76–78] rather than [1]. [2] was a useful background reference, too. [1], [2]

References

[1] Gurps P. Care and feeding of maths professors. 2008.

[2] Burps X. Terrors and errors of project lab. *Journal of Wildlife and Conservation 21*, pages 112–134, (2008).

APPENDIX

Appendices are useful for putting in code or data.