PROBLEM SET #$\aleph_0$, 18.100C

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Problem 1. Produce some LaTeX code that exhibits some useful features.

Solution. The following unnumbered formula presents the expression $\sum_{n=1}^{\infty} \frac{1}{n^2} < \infty$ in math mode:

$$\sum_{n=1}^{\infty} \frac{1}{n^2} < \infty.$$

It is possible to reference the numbered equation

$$\int_0^1 x\,dx = \frac{1}{2} \tag{1}$$

since it is supplied with a "label." This sentence refers to equation (1).

By using two line breaks, we have produced a new paragraph; in it we include a bibliographic reference to Rudin [1]. The last theorem you will read about in that text is [1, Theorem 8.20].

Problem 2. Prove that LaTeX numbers theorem environments appropriately.

Solution. This follows by inspection upon compiling the .tex file. Note that you must compile the document twice in order for label and bibliographic references to appear. If installed on your system, the command `dvipdf` *fileName.dvi* will convert LaTeX's .dvi output to .pdf.

References

[1] Walter Rudin, *Principles of mathematical analysis*. McGraw-Hill Book Co., 3rd Edition, 1976.

Date: February 4, 2011.