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This is a sample file in the text formatter \LaTeX . I require you to use it for the following reasons:

- It produces the best output of text, figures, and equations of any program I've seen.
- It is machine-independent. It runs on Linux, Macintosh (see TeXShop), and Windows (see MiKTeX) machines. You can e-mail ASCII versions of most relevant files.
- It is the tool of choice for many research scientists and engineers. Many journals accept \LaTeX submissions, and many books are written in \LaTeX .

Some basic instructions are given below. Put your text in here. You can be a little sloppy about spacing. It adjusts the text to look good. You can make the text smaller. You can make the text tiny.

Skip a line for a new paragraph. You can use italics (*e.g. Computations are everywhere*) or **bold**. Greek letters are a snap: Ψ , ψ , Φ , ϕ . Equations within text are easy— An approximation for the partial derivative is $\left. \frac{\partial u}{\partial x} \right|_y \sim \frac{u_{i+1,j} - u_{i,j}}{\Delta x}$. You can also set aside equations like so:

$$\frac{\partial u}{\partial t} = \nabla^2 u, \tag{1}$$

$$\frac{u_{i,j}^{n+1} - u_{i,j}^n}{\Delta t} \sim \frac{u_{i+1,j}^n - 2u_{i,j}^n + u_{i-1,j}^n}{\Delta x^2} + \frac{u_{i,j+1}^n - 2u_{i,j}^n + u_{i,j-1}^n}{\Delta y^2}. \tag{2}$$

References ¹ are available. If you have an postscript file, say `sample.figure.eps`, in the same local directory, you can insert the file as a figure. Figure , below, gives plots of various Bessel functions.

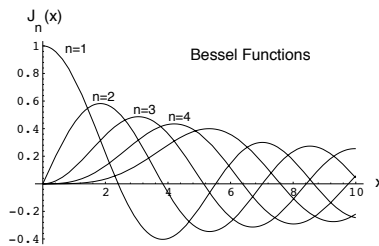


Figure 1: Sample figure showing plots of Bessel functions.

Running \LaTeX

You can create a \LaTeX file with any text editor (vi, emacs, gedit, etc.). To get a document, you need to run the \LaTeX application on the text file. The text file must have the suffix “`.tex`” On a Linux cluster machine, this is done via the command

```
pdflatex file.tex
```

This generates three files: `file.pdf`, `file.aux`, and `file.log`. The most important is `file.pdf`. This file can be viewed by any application that accepts `.pdf` files, such as Adobe Acrobat reader.

The `.tex` file must have a closing statement as below.

¹Lamport, L., 1986, *LaTeX: User's Guide & Reference Manual*, Addison-Wesley: Reading, Massachusetts.