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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` and `TeXnicCenter`) 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 link to web sites

Skip a line for a new paragraph. You can use italics (*e.g. Computers are everywhere*) or **bold**. Greek letters are a snap: Ψ, ψ, Φ, ϕ. Equations within text are easy— A well known equation for a line is $y = mx + b$. Here y is the dependent variable, x is the independent variable, m is the slope, and b is the intercept. You can also set aside equations like so:

$$\frac{d^2\theta}{dt^2} = -\frac{g}{\ell}\sin\theta, \qquad \text{Newton's second law for pendulum motion,} \tag{1}$$

$$\frac{g}{\ell}\sin\theta = \frac{g}{\ell}\sum_{n=0}^{\infty}(-1)^n\frac{\theta^{2n+1}}{(2n+1)!} = \frac{g}{\ell}\left(\theta - \frac{\theta^3}{6} + \frac{\theta^5}{120} - \frac{\theta^7}{5040} + \ldots\right). \tag{2}$$

Equation (1) is Newton's second law for pendulum motion. Here θ is the angular position, t is time, g is gravitational acceleration, and ℓ is length. Equation (2) gives a series expansion relevant to Eq. (1). References[1] are available. If you have a postscript file, say `sample.figure.eps`, in the same local directory, you can insert the file as a figure. Figure 1, below, plots Bessel functions, three times repeated, so as to demonstrate how to insert multiple plots.

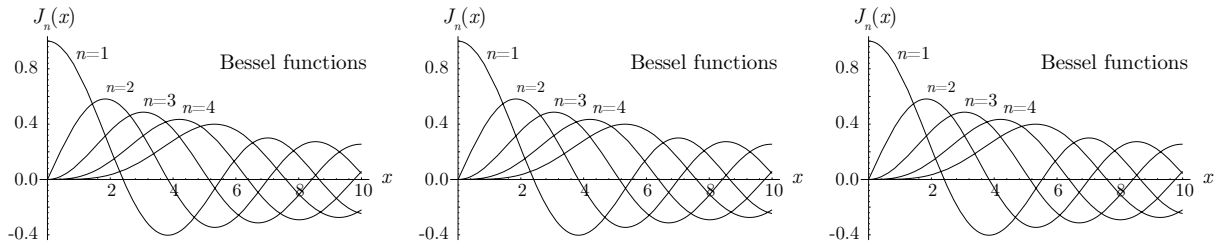

Figure 1: Sample figure plotting Bessel functions, three times repeated.

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

```
latex2pdf file.tex
```

This generates `file.pdf`. You should execute this command at least twice to implement numbering correctly. Alternatively, you can use `TeXShop` on a Macintosh or `MiKTeX/TeXnicCenter` on a Windows-based machine. The `.tex` file must have a closing statement as below.

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