Monday 5:10 2D Class

- First day of spring quarter
  - Class roster
    => should be from last quarter, last year, plus
    a couple of new faces

- Brief overview of this quarter
  - go through info sheet (see this for notes)

- Overview of today:
  - grab bag of different topics. Not a thorough treatment
    of any, but an introduction by example (good practice.)

- 3-d plots with gnuplot.
  - We'll need these for partial diff. eqs, which are
    up first.
  - Plotting a function is straightforward, but there
    are various fine-tunings you'll want to do
    (hidden lines, # of isosamples, view, test level)
  - The plots are of points or, when "with lines" are
    used, of surfaces \( z = f(x,y) \)

- Old gnuplot handouts are also available (ask or look
  on the web page).

- Parametric plots:
  - set parametric
  - \( \) what does this
  - \( \) plot \( [t; p]; \cos(t), \sin(t) \) \{ \} produce?

- In 3-d, the parameters are not \( t \) but \( u \) and \( v \).
- So, \( \) splot \( f(u,v), g(u,v), h(u,v) \) \{ you'll see \}
Plot:
- data: either 3 coordinates \((x,y,z)\) on a line
  or a single \(z\) coordinate. To make it come out
  correctly, you need to meet that line
  approximately.

\[
\begin{align*}
\text{y} & \quad 1 \quad 2 \quad 3 \\
\text{x} & \quad 1 \quad 2 \quad 3 \\
\text{points} & \quad \text{of points}
\end{align*}
\]

A "shell" is a program you type at \((cd, ls, etc.)\) in a terminal window.
Bash goodies (or "tash", if you prefer) "Bourne Again Shell"
you may know all these things, but if not, you should:
- look through the aliases
- safety aliases
- alias \(rm='rm -i'\) # ask before deleting
- special options
- alias \(ls='ls -lF --color'\) # adds colors for filetypes
- other names
- alias \(dir='ls'\)
- functions
- grep searches for patterns
  \(psgrep()\) [\^]
  \(ps -aux | grep $1 | grep -v grep\)

show all first argument "what is the purpose?"

For bash, leave out the "=" in aliases in your \(.bashrc\) file
(or \(.cshrc\) file)
This is a fabulous program for backing up or just transferring files. Saved my life when I lost my hard drive. Just a warm up today.

Any guesses how it can transfer only the differences between two files (e.g., binary).

Php and Web pages

- Again, just a brief glimpse.
- When working on a collaborative project, it is useful to share files via the web.
- Usually want some simple protection against viruses.
- XXX For real security, see Tim Randles.