Unix Summary

36-401 Fall 2001

The statistical package S-plus is only available on campus for Unix machines (excluding Linux machines). You will find a large number of Sun computers in Wean 5201, 5202, and 5204, and possibly other locations on campus. From the main entrance to Wean they are in the second hallway on the left. Notice the two printers in the 5200 hallway outside the individual cluster rooms.

- Move the mouse at one of the computers. It may take up to 20 seconds before the screen turns on and is readable. Enter your CMU login id and password as prompted. Be sure to use "Enter" not "Tab" after each entry.
- You will see a "Welcome to Solaris" screen and then several windows. Move your mouse over the window labeled "xterm" so any typed commands will go to that window. Notice that the Unix command prompt is "%".
- To logout left click on the background area of the screen and choose "Logout/quit mwm", then click "OK".

The *directory structure* is different from what you may be used to from DOS/Windows. Your file space starts in your *home directory* rather than in a root directory. To get back to your home directory, type "cd" at the Unix prompt. As opposed to DOS, filenames beginning with a slash (not a backslash) are in a system area not under your control. To refer to your home directory when you are in another directory, use ~/, e.g. "ls ~/a*" lists all files in the top directory level beginning with the letter "a". From your home directory you can create a hierarchy of nested directories by using "mkdir some-new-name" to create a new directory and "cd that-new-name" to move into it (i.e. make it the current working directory).

Make the following changes *just the first time* that you use Unix.

- Tell unix to use a different shell to facilitate editing of the Unix command line:

  Type "xemacs .shell&" (with a period before shell). Xemacs is the text editor that I recommend for you. If you remember to use the ampersand at the end of a command that starts a new program, you will still be able to execute unix commands in the xterm window. When a "ghost" window appears, position it with the mouse, then left click to activate it. To move one window above another, left click on its title bar or border (try it!). In the xemacs window, type "/usr/contributed/bin/tcsh" (without the quotes). Click the Save icon.
- Click on the Open icon, type ".login" after the "~/" prompt and press Enter. Find the line that says "Put your additions here...", click at the start of the line and press "Enter" to create a blank line. Type in the following two lines: "setenv S_CLEDITOR emacs" (which has an underscore character) and "setenv PRINTER

wean-8000" (which has a hyphen). Click the Save icon, and choose "File/Exit Xemacs" from the menus. (This step enables line editing in S-plus and sets up the printer for printing in S-plus.)

- Create a class directory as follows:
  % mkdir S401
  % cd S401

- Logout by left clicking on the background area of the screen and choosing "Logout/quit mwm", then click "OK". Now log back in.

A brief listing of Unix command is given here:

- ls - Used to list the files and subdirectories in a directory.
  Syntax: %ls filename
  Example: %ls (lists all normal files and subdirectories)
  Example: %ls -al (list all files with sizes and dates)
  Example: %ls -l ~/*.q (lists all .q files in home directory)

- cp - Used to copy the contents of one file to another file.
  Syntax: %cp original-file-name new-file-name
  Example: %cp file1 file2

- mv - Used to rename a file by moving the contents of the file to another file.
  Syntax: %mv original-file-name new-file-name
  Example: %mv file1 file3

- mv - Used to move a file from one directory to another directory. This is a useful command for reorganizing the files in your directories.
  Syntax: %mv file name(s) directory-name
  Example: %mv file3 file4 Cprogs
  The two files, file3 and file4, moved from the current working directory to the directory Cprogs.

- rm - Used to delete or remove a file permanently.
  Syntax: %rm original-file-name
  Example: %rm file1

  As a precaution, you may use the inquire option (-i) to prompt you before the delete.

  %rm -i file1

- cat - Used to display the contents of a file at the shell prompt.
  Syntax: %cat filename
  Example: %cat file3

  more - Like cat, but used to display a file one page at a time.
  Syntax: %more filename
  Example: %more file3
  To resume display after each screen is displayed, hit the SPACE BAR.

Printing:

To see which printer you are using, type "echo $PRINTER".

To change, just for this session, e.g. wean-8100 as your printer, type "setenv PRINTER wean-8100".

To print a file, type "lpr the_file_name".