

----- Unix -----
 You need to know about a dozen commands to function in any operating system. Unix commands are short and mnemonic and very natural. Most of them take various -flags to modify their action. You can use
 alias newname something to name "something" to "newname".
 e.g. alias cp 'cp -ip' . All aliases and customizations may be placed in your .cshrc file. In general,

command -h shows the usage (syntax)

man command will tell you more than you need!

Here is a list of the essential commands [and useful aliases]:

logout = log off the machine
 ls = list [alias l 'ls -FC'], [alias dir 'ls -lF * | more']
 cp f1 f2 = copy file f1 to file f2 [alias cp 'cp -ip']
 mv f1 f2 = move (rename) f1 to f2 [alias ren 'mv -i']
 rm = remove (delete) [alias rm '/bin/rm -ir'], [alias del /bin/rm]
 lpr f1 = print file f1
 more f1 = display file f1 page-by-page
 mkdir d1 = make directory d1 rmdir d1 = remove directory d1
 cd d1 = change directory (into d1)
 man command = manual (help) on command
 vi = visual editor (the standard Unix editor, see below)
 chmod = change mode of file (set permissions)
 telnet = log on to another machine
 ftp = file_transfer_protocol, transfer files between machines
 ~ refers to the home dir, . to current dir, .. to parent dir

There are hundreds of other commands/tools, do: xman to see them.

----- vi editor -----
 vi filename starts vi on the file, you'll be in command mode
 ZZ save and exit :q! quit (exit) without saving
 :w write (save contents of buffer)
 h, j, k, l move cursor left, down, up, right
 H to top of page L to bottom of page
 ^F page forward ^B page backward
 lG to top of file G to bottom of file
 i insert ...ESC a append (after cursor) ...ESC
 o open new line...ESC O open line above cursor...ESC
 r replace character R replace(overwrite) until ESC
 cw change word...ESC

x delete character dw delete word dd delete line
 yy yank line p put yanked line below current line

There are many more commands and customizations, but these are the most essential. The (free) **vim** editor can be installed in Win.

----- Zip / Unzip -----

Best compress/archive utility. zip -h , unzip -h show the options.

I use the following aliases:

```
alias zp 'zip -oyz' #preserve date, ask for comment
alias zpm 'zip -oyz9m' # also -m: delete zipped files
alias zpmr 'zip -oyz9mr' # also -r: recurse into subdirectories
alias zl 'unzip -l' # list zipped files
alias uz unzip
```

----- X Windows -----
 Each window is an xterm, emulating a terminal. A window manager (such as kde or gnome) manages all the windows and the mouse. Can be customised. The greatest thing about X is that you can run on a remote machine and display its output on your screen ! We'll learn how...

----- Compiling -----
 gfortran code.f compiles Fortran code.f and produces executable a.out
 gcc code.c compiles C code.c and produces executable a.out

----- Run a code -----
 In your code use: read* to read values from standard input
 print* to write values to standard output
 The standard input/output device is the screen, unless redirected, e.g.
 a.out will read and write to the screen, but
 a.out < dat will read from "dat" and write to screen,
 a.out < dat > out will read from "dat" and write to "out".

----- Plotting -----
 Simplest, nicest (and free) plotting tool ever is: gnuplot
 Start gnuplot with: gnuplot, then do: help plot , help set
 Everything is on line, nothing to remember !!! Try this:
 gnuplot> plot [-4:4] sin(pi*x), cos(pi*x/2) with points
 You can get a win version for your PC from
<http://ftp.gnuplot.info/pub/gnuplot/>

----- Exploring the Internet -----
 Web browsers (Firefox, IE, etc) are amazing pieces of software that have caused the explosive growth of the Internet since 1993. Access the WWW page for this course (XXX=course number):
<http://www.math.utk.edu/~vasili/XXX/>

----- e-mail -----
 (too primitive by today's standards, but simple and always available)
 mail user@address (end message with . on a newline)
 mail invokes local mail. Commands within mail (at & prompt):
 h = headers (current msg is indicated by > in 1st column)
 p = print current msg on the screen
 r = reply to the current msg
 d = delete current msg
 s = save current msg to a file
 ~r = read a file into message (when composing a msg)
 ~v = vi the current message
 q = quit mail