Use of the Linux System

A multiple user operating system.

General Rule:
If everything is OK, the computer says nothing
If something goes wrong, you get an error message

Commands:

`cd` – change directory
`ls` – List files

Special file symbols:

`../` up a directory level
`cd ../472` – Up, over and down into 472 subdirectory
`ls ../` – list the directory above the current one.

~ — your or another users home directory,
–no user name implies your home directory
`cd ~volper` – change to volper's home directory
`ls ~` – list your own home directory

∗ Match anything
`ls ch∗t` – lists files starting with `ch` and ending with `t`

`ls` – list files

All commands take options.

Some of the options for `ls` are:

`-a` (as in "ls -a") List all files in the directory. Ordinarily files whose names start with a "." are omitted.

`-l` For each file, give the details (long listing), including owner, date of last change, etc.

`-t` Sort the listing by time. By default it sorts by file name.

`-R` Recursively list all subdirectories.

Options may be combined:

`ls -la`

or

`ls -l -a`

(These two are equivalent)

Some options are more than one letter:

`--color` directories are one color, executables another, …

These options stand alone.

`ls -la --color`

`cp` – copy file or files

`cp` list‗ of‗files destination
if the destination is a directory,
–the files are placed in the directory
–keeping their original names
if the destination is not a directory,
–the "list" must contain only one file
–and "destination" is the new name of the file
–the file is given the

`cp *.c ~/` — copy all c programs from the current
directory into your home directory
–the / is optional in this case

`vi` – the standard unix screen editor,
it will always be available; others editors may not.

`man` – read a manual entry
`man ls` – gives you the entry for `ls`
`man -k disk` – lists all manual entries whose summaries
include the work *disk*
`man 8 fdisk` – gives you the section 8 entry for `fdisk`

Warning: machines differ
Read the manual for the correct machine

`mail` – send/receive mail

`mail destination` – sends mail
you must enter the subject (1 line), the message,
and any cc's (list of copies to be sent)
to stop the message put a period "." as the only
character on a line
option exist to include other messages, and/or files
The mail may be a local user or a user on another
machine.

`mail` – read mail
to see your options type ? at the prompt
you can choose a message to read, delete messages, or
save them to files

Terminal Session

Linux has 6 virtual consoles (alt-F1..alt-F6)
You can have up to six separate login sessions from the
main keyboard.
(And many more from over the network!)
Don't forget to logout of all those you've used.

The characteristics for each session is programmable.
(You can switch to any session to international or
graphics character sets.)

Two commands to recover from unintentionals
reprogramming:

```
stty sane
```

```
^Jreset^J
```

`startx` — Start the X window system.

Fully configurable. Button meanings are defined by your configuration file.

To shut X down `cntl-alt-backspace`
After leaving X, you still need to logout.

Selectable window managers. (see your `.xinitrc`)

`twm`– a simple, configurable window manager.

`fvwm2` – light weight window manager (default).

Compilers

`gcc` (aka `cc`) – the standard ANSI c compiler

Warning: what you compile on one machine might not run on another.

`.o` files created one machine might not be usable by another.

Technique: fully recompile, leave no `.o` files.

`g++` – the ANSI (gnu) C++ compiler

Example:

`gcc x.c y.c z.c -o prog.out`

Compiles 3 files, calls the executable `prog.out`
One file must contain a function called `main`

Network Applications

`telnet` – connect to a machine on the network

`telnet cheetah.cecs.csulb.edu`
By default connects to the telnet server
You will be asked for an account name and a password

`rlogin` – log into another Unix machine on the network

By default it uses the same account name on the
machine you are trying to reach.
A password may be required.

`ssh` – log into another Unix machine on the network

By default it uses the same account name on the
machine you are trying to reach.
A password may be required.

Utilities

`grep`–look for a pattern in a list of files
if the pattern involves spaces you must use quotes.

Example:

`grep failed /var/log/*`

Search the log files for the word failed.

`less`–look at something a page at a time
page-up, page-down and the arrow keys will allow you to
go forward and backward

With a `+G` option you start at the end of the file.

Example:

`less +G /var/log/messages`

Look at the log file starting at the end

`tail`–a useful facility for looking at files
see the assignment