

# CHEAT SHEET:



## Navigating

**pwd** Print working directory  
**cd** Change directory  
    ~ Home directory  
    - Previous working directory  
    ~*username* Home directory of *username*  
**ctrl-A** Move cursor to beginning of line  
**ctrl-E** Move cursor to end of line  
**ctrl-L** Clear the screen (same as *clear*)  
**ctrl-U** Clear current terminal input

## Manipulating

**cp** Copy files and directories  
    -a All attributes, ownerships, permissions  
    -i Prompt for confirmation (interactive)  
    -r Recursive  
    -u Only copy new/newer files (update)  
    -v Show informative messages (verbose)  
**mv** Move/rename files and directories  
    see **cp**: -i, -u, -v  
**mkdir** Create directories  
**touch** Create file (or modify accessed time)  
**rm** Remove files and directories  
    -f Ignore nonexistent files, don't prompt  
    see **cp**: -i, -r, -v  
**ln** Create hard and symbolic links  
    -s Symbolic link

## Exploring

**ls** List directory contents

    -a Include hidden content  
    -h Human readable format  
    -i Show inode number  
    -l Long format  
    -r Reverse order  
    -S Sort by file size  
    -t Sort by modification time  
**file** Determine a file's type  
**less** Show file  
**tree** Recursive directory listing  
    -L Level of depth  
    -d Directories only  
**find** Find files and directories  
    -iname Case insensitive name  
    -maxdepth Depth to search  
    -type Files (f), directories (d), ...

## Wildcards

\* Any characters  
? Any single character  
[*chars*] Any character from *chars*  
[!*chars*] Any character not from *chars*  
[:*class*:] Any character from *class*

## Misc

**echo** Display a line of text  
**which** Show program to be executed  
**man** Show command manual page  
**apropos** List appropriate commands  
**info** Show information about command  
**whatis** Brief description of command  
**alias** Create alias for command

**history** Show last 500 (default) commands  
    !*index* Reuse *index* command from **history**  
    ctrl-R Reverse incremental search

## Redirecting

**cat** Concatenate files  
**sort** Sort lines of text  
    -h Human numeric sort  
**uniq** Report or omit repeated lines  
    -d Show duplicates  
    -c Count occurrences  
**wc** Newline, word and byte counts for each file  
    -l Only count lines  
**diff** Compare files line by line  
**grep** Print lines matching a pattern  
    -i Ignore case sensitivity  
    -n Number the lines  
    -c Count occurrences  
    -r Recursively search  
    -v Show non-matching lines  
**head** Output first part of a file  
**tail** Output last part of a file  
**less** View file contents  
**cut** Filter file contents by columns  
**tee** Write stdin to file *and* to stdout  
**xargs** Pipe args to command (e.g. from file)

## The web and networking

**wget** Download files or entire websites

- r Recursively (-l for depth)
- nc Do not download if it exists
- nd Do not create directories
- A File extensions to download

Using -e robots=off ignores a websites “recommendations” and may be helpful for scraping.

## Operators

- && Execute commands sequentially
- & Execute commands in parallel
- | Pipe stdout to stdin
- > Redirect (and overwrite) stdout
- >> Redirect (and append) stdout
- 2> Redirect stderr (standard error)

## Expanding

- \$(*command*) *Command* output as expansion
- \$((*expression*)) Arithmetic expression
- {*a,b,c*} Create multiple strings 'a' 'b' 'c'
- {*a..z*} Create multiple strings 'a' to 'z'

## Permissions

- id Display user identity
- chmod Change a file's mode
  - u+r Add read to user
  - g-w Remove write from group
  - o=x Set execute for other (world)
- umask Set the default file permissions
  - 002 Remove write from world (010)
  - 022 Remove write from group and world (010)
- chown Change a file's owner (and group owner)
  - user Change owner to *user*
  - :group Change group owner to *group*

## Processes

- ps Report a snapshot of current processes
- top Show “top” processes (dynamically)
- jobs List job launched from current terminal
- program* & Launch *program* in background
- bg %*jobspec* Move process to background
- fg %*jobspec* Return process to foreground
- ctrl-Z Stop current process (w/o terminate)
- kill *PID* Signals *PID* to terminate
  - 1 Signals for hangup
  - 2 Signals for interruption (ctrl-C)
  - 9 Kills without cleanup
- killall *name* Signal all *name*-processes

WORK IN PROGRESS...