Shell

- pwd: Show current directory
    - o Syntax: pwd
- ls: list the contents of the current directory
    - o Syntax:
        - ls (lists contents of current directory)
        - ls . (lists contents of current directory)
        - ls .. (lists contents of parent directory)
        - ls ~ (lists contents of home directory)
        - ls ~user (lists contents of user's home directory)
        - ls / (lists contents of root directory)
        - ls -l (list of details | long listing format)
        - ls -a (shows hidden files as well)
        - ls -h (show human readable format)
        - ls -R (print all files recursively)
        - ls -S (sort by size in decreasing order)
        - ls -la (list of details including hidden files)
        - ls <directory_name> (lists contents of the directory)
        - ls <dir_name1> <dir_name2> <dir_name3> (lists contents of all directory)
- chmod: change permissions
    - o Syntax:
        - chmod <who>=<mode> <file>
        - chmod <who>+<mode> <file>
        - chmod <who>-<mode> <file>
        - chmod <num><num><num> <file>
            - Leftmost bit is the read bit: 0 or 4
            - Middle bit is the write bit: 0 or 2
            - Rightmost bit is execute bit: 0 or 1
    - o Only owner of file or superuser can run it
- less: only see contents of the file
    - o Syntax: less <filename>
- more: see contents of the file
    - o Syntax: more <filename>
- touch: make a file
    - o Syntax: touch <filename>
- mkdir: make a directory
    - o Syntax: mkdir <directory_name>
- rmdir: remove a directory
    - o Syntax: mkdir <directory_name>
- cd: change directory
    - o Syntax:
        - cd <path>
        - cd .. (Parent directory)
        - cd ~ (Home directory)
        - cd <dir_name> (Change directory to sub-directory
        - cd ~user (change to user's home directory)

- vi: launch vi text editor to create/edit a file
  - Syntax: vi
- nano: read and write a file from the terminal
  - Syntax : nano <filename>
- cp: copy a file
  - Syntax:
    - cp <src_file1> <src_file2> <src_file3> <dest_dir> (Copies src files to dest_dir)
    - cd <path>/* . (Copies all files in path into current directory)
    - cp ~user/* ~ (Copies files in user's home to the current user's home)
    - cp <file1> <file2> .. (Copies the files into parent directory)
- mv: move or rename a file
  - Syntax:
    - mv <src_file> <dest_file> (Rename src_file to dest_file)
    - mv <src_file> <dest_dir> (Move src_file to dest_dir)
    - mv <src_file1> <src_file2> <src_file3> <dest_dir> (Move src files to dest_dir)
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- rm: remove a file
  - Syntax:
    - rm <file> (Remove the file)
    - rm -f (Remove the file forcefully)
    - rm -fi (Remove file forcefully but with prompt)
    - rm -if (Same as rm -f)
    - rm -R (delete the folder and the files within)
- man: display a manual of all the commands
  - Syntax:
    - Man <command_name> (displays the manual page for command)
- cal: calendar of the current month
  - Syntax:
    - cal (Calendar for the current month)
    - cal2019 (Display the calendar of 2019)
- scp: securely copy the file
  - Syntax:
    - scp <file> <dir_name> (Securely copy the file to the directory)
- wc: print # of newlines, words, and bytes in the file
- gzip: compress file using gnu zip
  - Syntax:
    - gzip <filename> (produces <filename>.gz)
- gunzip: decompresses the file
  - Syntax:
    - gunzip <filename> (decompresses the file)
- * : Wildcard
  - Syntax:
    - * (all content)
    - *.* (all content with dot in their names)

- ▪ *-* (all content with dash in their names)
- ▪ *.py (all Python source files | all content that ends with .py)
- ▪ *~ (all content that ends with ~)
- head: displays the first few lines of a file
  - o Syntax:
    - ▪ head <file> (shows first 10 lines of the <file>)
    - ▪ head -n<num> <file> (Shows the first <num> lines of text in <file>)
    - ▪ head -c <num> <file> (Shows the first <num> bytes of text in <file>)
    - ▪ head <myFile> <yourFile> <ourFile> (Prints first 10 lines of all 3 files)
    - ▪ head - -help (displays brief usage description and command line options)
- tail: displays the last few lines of a file
  - o Syntax:
    - ▪ tail <file> (shows last 10 lines of the <file>)
    - ▪ tail -n <num> <file> (Shows the last <num> lines of text in <file>)
    - ▪ tail -c <num> <file> (Shows the last <num> bytes of text in <file>)
    - ▪ tail <myFile> <yourFile> <ourFile> (Prints last 10 lines of all 3 files)
    - ▪ tail - -help (displays brief usage description and command line options)
- Redirection:
  - o Syntax:
    - ▪ < : connects a command's STDIN to the content of a file instead
    - ▪ > : redirects STDOUT to replace an output file's existing content
    - ▪ >> : redirect STDOUT and append to a file
    - ▪ >& :redirects both STDOUT and STDERR to the same place
    - ▪ 2> :redirects STDERR only
- Pipes:
  - o Syntax: command A | Command B
- find: locates a file within a given directory
  - o Syntax:
    - ▪ find <start_directory> <criteria>
- grep: searches for a specific patter within a file or a list of files
  - o Syntax:
    - ▪ Grep <pattern> <file1> <file2>
- sort: sorts the contents of a file into alphabetical or numerical order
  - o Syntax:
    - ▪ sort <filename>
    - ▪ sort -r <filename> (Sorts in reverse)
- cat: displays the contents to STDOUT
  - o Syntax:
    - ▪ cat <file> (displays contents of file)
    - ▪ cat > <file> (creates <file> and writes STDIN to <file>)
    - ▪ cat <file1> > <file2> (Copies content of file1 to file2)
    - ▪ cat <file1> >> <file2> (appends content of file1 to file2)
- ps: displays processes started by the user
  - o Syntax:
    - ▪ ps (shows processes started by the user)
    - ▪ ps e (lists all processes running on the system)

- ps u (lists user's processes running in user format)
- ps x (lists processes currently executing)
- ps ax (lists all processes currently executing)
- ps wx (lists user's processes currently executing with full name)
- kill: ends a running process
  - Syntax:
    - kill -9 <process_id> (kills the process by the process_id)
- ctrl-z: suspends the current process
- jobs: returns suspended processes with id number
- fg: returns suspended job to foreground
  - Syntax:
    - fg <job_id> (Returns the process with the job_id to the foreground)
- man: opens the man pages
  - Syntax: man <command or method name>
- tree: Shows the directories and sub-directories of the current folder
  - Syntax: tree
- sudo: Root user
  - Syntax:
    - sudo <command> (Command done as the root)
    - sudo -i (Log in as root)
- adduser: Let's you add a new username
  - Syntax: adduser <username>
- login : Lets you log in to another user
  - Syntax : login <username>

If working with names with spaces, putting them in double quotes will not require using '\ '.

Perl

- File access modes
    - o 'r' : read only
    - o 'w' : create, write, and truncate
    - o 'a' : write, append, and create
    - o 'r+' : read and write
    - o 'w+' : read, write, create, and truncate
    - o 'a+' : read, write, append, and create
- Reserved names:
    - o $_ : Wildcard for each element
    - o @_ : array of arguments passed in
    - o $! : IO Error messages
    - o $. : Current line number in file
- File checks:
    - o -e : Exists
    - o -w : Writable
    - o -l : Symlink
    - o -r : Readable
    - o -x : Executable
    - o -T: Text file