

Week Report 7

Cat Command

- cat command used for display content of file
- Formula:
 - cat + option + Files to display
- EX: Display content of /etc/passwd file
 - cat /etc/passwd
- EX: Display the content of the /etc/passwd file with line numbers and the \$ to indicate the end of every line.
 - cat -nE /etc/passwd

Tac Command

- Tac command is used for display content of file in reverse order
- Formula:
 - tac + option + Files to display
- EX: Display the content of the /etc/passwd file in reverse order.
 - tac /etc/passwd
- EX: Display content of path using absolute path
 - tac ~/Documents/todo.md

Head Command

- Display the top N number of lines of given file, by default prints first 10.
- Formula:
 - head + option + Files
- EX: Display the first 5 lines of a the /etc/passwd file.
 - head -5 /etc/passwd
- EX: Display the account info stored in /etc/passwd of first user in your system
 - head -1 /etc/passwd

Tail Command

- Display the last N number of lines of given file
- Formula:
 - head + option + Files
- EX: Display the last 5 lines of a the /etc/passwd file.
 - tail -5 /etc/passwd
- EX: Display the account info stored in /etc/passwd of last user in your system
 - tail -1 /etc/passwd

Cut Command

- Cut command is used t extract a specific section of each line of a file & display it to the screen.
- Formula:

- cut + option + Files
- EX: Cut range of bytes per line
 - cut -b 1-5 username.txt
- EX: CUT a file excluding a given field
 - cut -d ',' --complement -s -f3 user.txt

Paste Command

- Joins files horizontally in columns
- Formula:
 - paste + option + Files
- EX: Merge two files
 - paste users.lst ip_address.lst
- EX: Merge two files using a different delimiter
 - paste -d ":" users1.lst ip_addresses.lst

Sort Command

- Sort files, alphabetically, in reverse order, by number, and by month
- Formula:
 - sort + option + Files
- EX: Sort file & save the output to new file
 - sort -o sorted.lst users.lst
- EX: Sort file in reverse
 - sort -r users.txt

WC Command

- prints the number of line, character & bytes in a file
- Formula:
 - wc + option + Files
- EX: Display number of character in file
 - wc -m users.txt
- EX: Display number of words in file
 - wc -w users.txt

tr command

- used for translating or deleting character from standard output
- Formula:
 - standard output | tr + set + set
- EX: Translate white space into tabs
 - cat program.py | tr "[:space:]" '\t'
- EX: Translate tabs into space
 - cat file.py | tr -s "[:space:]" "

diff command

- Compares files & displays the difference between them
- Formula:
 - `diff + option + file1 + file2`
- EX: display difference b/n two files
 - `diff cars.csv cars-backup.csv`
- EX: Display difference b/n two files in column format:
 - `diff -y cars.csv cars-backup.csv`

Grep Command

- search text file in given file. Grep works line by line
- Formula:
 - `grep + option + search criteria + file`
- EX: Search line that has word "dracula" in file
 - `grep 'dracula' dracula.txt`
- EX: Search and match only the word
 - `grep -o 'dracula' dracula.txt`

Awk Command

- scripting language used for processing & displaying text. Performs operations line by line
- Formula:
 - `awk + options + {awk command} + file + file to save (optional)`
- EX: Print first column of every line of a file
 - `awk '{print $1}' ~/Documents/Csv/cars.csv`
- EX: Print the first & last field of the /etc/passwd
 - `awk -F: '{print $1, " = ", $NF}' /etc/passwd`
- EX: Convert the first field to upper/lower case
 - `awk -F: '{print toupper($1)}' /etc/passwd`
- EX: Print first field of etc/passwd file
 - `awk -F: '{print $1}' /etc/passwd`
- EX: Print the first & 3 field with line numbers
 - `awk -F: '{print NR,$1,$3}' /etc/passwd`

Sed Command

- Stream editor that performs operations on files & standard output. It can search, find & replace, insert & deletion. Using SED you can edit files w/o opening them.
- Formula:
 - `sed options + sed script + file`
- EX: Replace a string in given file (replace pizza for rice)
 - `sed 's/pizza/rice/' shopping-list.lst`
- EX: Replace all occurrence of patterns in file
 - `sed 's/pizza/rice/g' shopping-list.lst`
- EX: Delete line 5
 - `sed '5d' shopping-list.lst`

- EX: Delete line from range x to y
 - `sed '2,8d' shopping-list.lst`
- EX: To delete blank lines & insert one blank line after each line
 - `sed '/^$/d;G' shopping-list.lst`

I/O Redirection

- generate 2 type of command
- Error when command does not run

Standard file descriptor

- positive integers used for identifying open files
- Standard Output
 - Formula:
 - `command output + > + file`
- EX: Save output of command file
 - `ls -lA ~ > all-files-in-home.txt`
- EX: Save error generated by command file
 - `ls -lA downloads/ 2> error-of-ls`

Append output to file

- add more to a file instead of overwriting its content. Use `>` on a file that already exists & contains data, it overwrites whatever is already inside file.
- EX: Overwrite that already in file
 - `ls -la > allmyfiles.lst`
- EX: Keep old data use `>>`
 - `ls -la >> allmyfiles.lst`

Aliases

- shorthand for more complicated command. Aliases do not persist unless you save them in your `.bashrc` or `.bash_aliases` file
- Formula:
 - `alias name_of_alias="command here"`
- EX: AN alias to upgrade a linux (debian system)
 - `alias update="sudo apt update; sudo apt upgrade -y; sudo apt full-upgrade -y"`
- An alias to clean system from unneeded packages
 - `alias clean="sudo apt auto remove -y; sudo apt auto clean; sudo apt purge;"`