Final Assignment

Question

Question 1

awk

- Description:
  - awk is a scripting language use for processing and displaying text.
- Formula:
- 'awk + options + {awk command} + file'
- 'command output' | 'awk + options + {awk command}'
- Examples:
  - How to print the first field of a file:
    - 'awk -F':' '{print $1}' /etc/passwd'
  - How to start printing form a different line
    - 'awk 'NR > 3 {print}' /etc/passwd'
  - How to change a field to upper case:
    - 'awk -F: '{print toupper($1)}''

cat

- Description:
  - Used for seeing the content of a file. Also used for concatenating files.
- Formula:
- 'car + option + file or files to view/concatinate'
- Examples:
  - How to see the content of a file:
    - 'cat /etc/passwd'
  - How to see the content of a file with line numbers:
    - 'cat -n /etc/passwd'
  - How to see the content of a file with ending line character
    - 'cat -E /etc/passwd'

cp

- Description:
  - Used for copying a file.
- Formula:
- 'cp + option + file'
- Examples:
  - How to copy a file
    - 'cp banna.txt ~/Documents'
  - How to copy a directory
    - 'cp -r Documents/Books Downloads/'

    - How to copy all files in a directory
        - 'cp Documents/Books* Downloads/'

cut

- Description:
    - Used to extract a specific section of each line of a file and display it on the screen.
- Formula:
- 'cut + option + file(s)'
- Examples:
    - How to cut a file excluding a given field
        - 'cut -d ',' --Dracula -s -f3 dracula.txt'
    - How to display a list of all users in your system
        - 'cut -d':' -f1 /etc/passwd'
    - How to cut a range of bytes per line
        - 'cut -b 1-b /etc/passwd'

grep

- Description:
    - Used to search text in given file. Grep works line by line basis.
- Formula:
- 'grep + option + search criteria + file'
- Examples:
    - How to search any line containing the word love
        - 'grep 'love' ~/Documents/Books/pride-and-prejudice.txt'
    - How to search all lines that don't include 'dracula'
        - 'grep -v 'dracula' ~/Documents/Books/dracula.txt'
    - How to search all line that repeat a certain word 3 times
        - 'grep -E "A{3}" banna.txt'

head

Description: * Used to displays the top N number of line oof a given file.

- Formula:
- 'head + option + file'
- Examples:
    - How to display the first 5 lines
        - 'head -5 /etc/passwd'
    - How to display the first 10 lines
        - 'head /etc/passwd'
    - How to display the first 50 lines
        - 'head -50 /etc/passwd'

ls

Description: * Used to list all names of files and directories.

- Formula:
- 'ls + option + file or directory
- Examples:
    - How to list names of files and directories in lowercase
        - 'ls -s ~/Documents'
    - How to list all names of files and directories in a table
        - 'ls -l /etc/passwd'
    - How to list all names of files and directories including hidden files
        - 'ls -a ~/Documents'

man

Description: * Used to document files.

- Formula:
- 'man + option + file'
- Examples:
    - How to open man page of passwd
        - 'man /etc/passwd'
    - How to show all available pages
        - 'man -a /etc/passwd'
    - How to access the manuel
        - 'man ls'

mkdir

Description: * is used for creating one or multiple directories.

- Formula:
- 'mkdir + name of directory'
- Examples:
    - How to create a directory in a different directory
        - 'mkdir ~/Pictures/flowers'
    - How to create a directory in your current directory
        - 'mkdir flowers'
    - How to create multiple directories
        - 'mkdir ~/Pictures/flowers ~/Pictures/towns ~/Pictures/landscapes'

mv

Description: * Used to move and rename files or directories.

- Formula:
- 'mv + source + destination'
- Examples:
    - How to rename a file
        - 'mv banna.txt banana.txt'
    - How to move multiple directories to a different directory
        - 'mv games/ wallpapers/ rockmusic/ /media/student/flashdrive/

        - How to rename a file but keeping the directory the same
            - 'mv banna.txt ~/Pictures/banana.txt'

tac

Description: * Used for displaying the content of a file in reverse order.

- Formula:
- 'tac + option + file(s) to display'
- Examples:
    - How to display the content
        - 'tac /etc/passwd'
    - How to display the content using absolute path
        - 'tac ~/Documents/Books/dracula.txt'
    - How to attach the separator
        - 'tac -b characters.txt'

tail

Description: * Used to display the last N number of lines of a given file.

- Formula:
- 'tail + option + file'
- Examples:
    - How to display the last 10 lines of a file
        - 'tail ~/Documents/Books/dracula.txt'
    - How to display the last 20 lines of a file
        - 'tail -5 /etc/passwd'
    - How to display account information of the last user
        - 'tail -1 /etc/passwd'

touch

Description: * Used for creating files

- Formula:
- 'touch + name of file'
- Examples:
    - How to create several files
        - 'touch names.txt schedule.txt assignments.txt'
    - How to create a file using absolute path
        - 'touch ~/Downloads/tools.txt'
    - How to create a file with space
        - 'touch "list of objects.txt"'

tr

Description: * Used for translating or deleting characters from standard output.

- Formula:
- 'standard output | tr + option + set + set'
- Examples:
    - How to translate one character to another
        - 'cat banana.txt | tr '.' ','
    - How to translate space to tabs
        - 'cat banana.txt | tr "[:space:]" '\t''
    - How to translate tabs into space
        - 'cat banana.txt | tr -s "[:space:]" ' ''

tree

Description: * Used to list files and directories.

- Formula:
- 'tree + option
- Examples:
    - How to list directories only
        - 'tree -d ~/Documents'
    - How to sort files alphanumerically
        - 'tree -dv ~/Documents'
    - How to print the date of last modification
        - 'tree -D ~/Documents'

Question 2

- How to work with multiple terminals open?
    - On the top right of the terminal there are two buttons to press one to split horizontally and one to split vertically.
- How to work with manual pages?
    - Type 'man man' to get a manual page.
- How to parse (search) for specific words in the manual page *Type 'man man | grep "option"'.
- How to redirect output (> and |)
    - 'torch > banna.txt' and 'torch | tree banna.txt'.
- How to append the output of a command to a file
    - 'notes >> characters.txt'
- How to use wildcards
    - For copying and moving multiple files at the same time
        - 'cp Pictures/*.png Pictures/*.jpg Downloads/'
- How to use brace expansion
    - For creating entire directory structures in a single command
        - mkdir -p bigpaperwork/{work1/{paper1,paper2},work2,work3}