#Final Assignment

Question 1

Awk

- description: a language generally used to filter outputs
- awk\option\action\input-file\output-file
    - awk -F: '{print $1, $NF}' /etc/passwd
    - prints the first and last field in the /etc/passwd/ file
    - who | awk -F: '{print $3}'
    - prints the last field out of the who command output
    - date | awk '{print $2,$3,$NF}'
    - prints the second, third and last field of date command output

Cat

- description: a command to display the contents of a file
- cat\option\filename
    - cat file.txt
    - prints the content of file.txt to the terminal
    - cat -n file.txt
    - prints the contents of file.txt with line numbers
    - cat -E file.exe
    - prints the content of file.txt with $ at the end of each line

Cp

- description: a command to copy files and directories
- cp\option\file\destination
    - cp -r some_directory/
    - copies a directory recursively
    - cp file.txt ~/Documents/
    - copies file.txt to the Documents directory
    - cp file.txt ./
    - copies file.txt to the current directory

Cut

- description: a command to remove a part of a file
- cut\option\file
    - cut -d ' ' file.txt
    - removes every space in file.txt
    - cut -f 2 file.txt
    - removes the second field from file.txt
    - cut -f1,6 /etc/passwd/

Grep

- description: a command to find a specific word in a file
- grep\option\patterns\file
  - grep bash /etc/passwd
  - prints bash from every line int the etc passwd file
  - grep -n bash /etc/passwd
  - prints bash from every line in the etc passwd file with line numbers
  - grep -v bash /etc/passwd
  - prints out all the lines that do not match the term

Head

- description: a command to print out the beginning of a file
- heads\option\file
  - head file.txt
  - prints the first 10 lines of file.txt
  - head -n5 file.txt
  - prints the first 5 lines of file.txt
  - head -c4 prints the first 4 bytes of file.txt

Ls

- description: a command list files, directories
- ls\option\path
  - ls
  - list all files and directories in pwd
  - ls -1
  - long list
  - ls -d */
  - list all directories in current directory

Man

- description: a command to read a manual page for a command
- man\option\section\page
  - man ls
  - shows you the manual page for ls command
  - man head
  - shows you the manual page for head command
  - man awk
  - shows you the manual page for the awk command

Mkdir

- description: a command to make directories
- mkdir\option\directory\
  - mkdir place
  - creates a subdirectory called place in your pwd
  - mkdir -p somewhere/over/the/rainbow
  - creates a directory called rainbow and all its parent directories

- mkdir ~/Documents/deals

Mv

- description: a command to move files, directories, rename file
- mv\option\source\destination
    - mv lost.txt ./found.txt
    - renames the lost.txt file found.txt
    - mv lost.txt ~/Documents/
    - moves the lost.txt to the documents directory
    - mv place/ ~
    - moves the place directory to the Home directory

Tac

- description: a command to display in reverse order the contents of a file
- tac\option\filename
    - Tac file.txt
    - prints the content of file.txt to the terminal starting with the end of the file
    - Tac -b file.txt
    - prints the contents of file.txt from end to beginning with the separator before the end of the file
    - Tac file.md
    - prints the content of file.txt end to beginning

Tail

- description: a command to print out the end of a file
- tails\option\file
    - tail file.txt
    - prints the last 10 lines of file.txt
    - tail -n5 file.txt
    - prints the last 5 lines of file.txt
    - head -c4 prints the last 4 bytes of file.txt

Touch

- description: a command that is usually used to create files, can also change access and modification times
- touch\option\file
    - touch file.txt
    - creates file.txt in pwd
    - touch -c file.txt
    - does not create any files
    - touch -t 11110545 file.txt
    - creates a file named file.txt with the creation date as Nov 11th, 2023 at 5:45 am

Tr

- description: a command that is usually used to replace the content of a file

- tr\option\set1\set2
  - cat /etc/passwd | tr ":" " "
  - removes every : from the etc/passwd file
  - echo 'Under Pressure we're Breaking' | tr ' ' '\n'
  - prints Under Pressure we're Breaking with each word on a new line
  - echo "lowercase" | tr '[:upper:]'
  - translates lowercase to LOWERCASE
  - echo "A B C D" | tr -s '[:blank:]'
  - removes some of the space between A B C and D

Tree

- description: a command that displays the file system as a tree
- tree\option\path
  - tree
  - displays the a tree of the pwd
  - tree -a
  - displays a tree of the pwd with all files listed
  - tree -aQ ~/Downloads
  - displays a tree of the Downloads folder, list all files with double quotes around file names

Question 2

How to work with multiple terminals open?

- Split the current terminal or you can install a terminal emulator like Terminator, Tilix, or Quake and open another terminal simultaneously.
  - With terminator ctrl+shift+O and ctrl+shift+E split terminals horizontally(the former) and vertically(the latter) How to work with man pages?
- You type man before something you want to know about about and add a number to go to a specific category.
  - 1 is for General commands
  - 2 is for System calls
  - 3 is for Library functions
  - 4 is for Special files
  - 5 is for file formats and conventions
  - 6 is for games
  - 7 is for miscellaneous
  - 8 is for system administration
  - 9 is for kernel routines How to to parse for specific words in a man page?
- You should redirect the output to a grep command with the word you are looking for
  - Ex. man ls | grep all How to redirect output?
- ">" is used to write the output to a file
  - echo "Hello, World" > file.txt
    - this writes Hello, World to file.txt
- | is used to redirect the output of a command to another command
  - man tree | grep directory
    - this lists all instances of directory found in the tree man page How to append to a file?

- ">>" is used to append the output to a file
  - echo "Hello, World" >> file.txt
    - this adds Hello, World to the end of file.txt How to use wildcards?
- to move every .docx file to a folder called reports in the Documents directory
  - mv *.docx ~/Documents/reports/
- To copy every .py that starts with program, ends with py, has a space for the program number
- Will copy to a folder called cis101 in the Downloads directory
  - cp program?.py ~/Downloads/cis101/ How to use brace expansion?
- you will use mkdir -p
  - to create a directory musica with two subdirectories called viejo, nuevo who have subdirectories urbana, classicos, especial
    - mkdir -p musica/{viejo,nuevo}/{urbana,classicos,especial}/