Final Assignment

Question 1

awk Command

Description:

- awk is a scripting language used for processing and displaying text. Formula/Syntax:
- `awk + options + {awk command} + file + file to save (optional)` Examples:
- Example 1: Print the first column of the every line of a file
  - `awk '{print $1}' ~/Document/Csv/cars.csv`
- Example 2: Print first field of /etc/passwd file
  - `awk -F: '{print $1 $NF}' /etc/passwd`
- Example 3: Print first and last field of the /etc/passwd
  - `awk -F: '{print $1," = ",$NF}' /etc/passwd`

cat Command

Description:

- cat is used for displaying the content of a file. Formula/Syntax:
- `cat + option + file(s)_to_display` Examples:
- Example 1: Display the content of a file using absolute path
  - `cat ~/Documents/todo.lst`
- Example 2: Display the content of a file with line numbers excluding empty lines
  - `cat -b ~/Documents/todo.md`
- Example 3: Display the content of a file with a $ at the end of every line
  - `cat -E ~/Documents/todo.md`

cp Command

Description:

- cp is used for copying files/directories from a source to a destination. Formula/Syntax:
- `cat + files_to_copy + destination` Examples:
- Example 1: Copying a file
  - `cp Download/wallpapers.zip Pictures/`
- Example 2: Coping the content of a directory to another directory
  - `cat -b ~/Documents/todo.md`
- Example 3: Display the content of a file with a $ at the end of every line
  - `cat -E ~/Documents/todo.md`

cut Command

Description:

- cut is used to extract a specific section of each line of a file and display it to the screen. Formula/Syntax:
- `cut + option + file(s)` Examples:
- Example 1: Displaying a list of all users in a system.
    - `cut -d ':' -f1 /etc/passwd`
- Example 2: Cutting a file using a delimiter but changing the delimiter in the output.
    - `cut -d ':' -f1,8 --output-delimiter=" => " /etc/passwd`
- Example 3: Cutting a file excluding a given field.
    - `cut -d ',' --complement -s f3 users.txt`

grep Command

Description:

- grep is used to search text in a given file. Formula/Syntax:
- `grep + option + search criteria + file(s)` Examples:
- Example 1: Search any line that contains the word "dracula" in the given file
    - `grep 'dracula' ~/Documents/dracula.txt`
- Example 2: Search for all the lines that do not contain the word 'war'
    - `grep -v 'war' ~/Documents/Books/war-and-peace.txt`
- Example 3: Search and match only the word
    - `grep -o 'dracula' ~/Documents/Books/dracula.txt`

head Command

Description:

- head displays the top N number of lines of a given file. Formula/Syntax:
- `head + option + file(s)` Examples:
- Example 1: Displaying first 10 lines of a file.
    - `head ~/Documents/Books/dracula.txt`
- Example 2: Displaying first 5 lines of a file.
    - `head -5 ~/Documents/Books/dracula.txt`
- Example 3: Displaying first 2 lines of a file.
    - `head -2 ~/Documents/Books/dracula.txt`

ls Command

Description:

- ls is used for displaying all the files inside a given directory. Formula/Syntax:
- `ls + option + directory to list` Examples:
- Example 1: Long listing all files inside a given directory recursively.
    - `ls -lR ~/Pictures`
- Example 2: List all the files in a given directory sorted by last modified.
    - `ls -t ~/Documents`
- Example 3: List all the files in a given directory sorted by extension.
    - `ls -X ~/Documents`

man Command

Description:

- man is used for viewing the manual of a command type. Formula/Syntax:
- `man + command` Examples:
- Example 1: Executable programs.
  - `man ls`
- Example 2: Games.
  - `man tetravex`
- Example 3: File formats and conventions.
  - `man passwd`

mkdir Command

Description:

- mkdir is used for creating a single directory or multiple directories. Formula/Syntax:
- `mkdir + name of directory` Examples:
- Example 1: Creating a directory in the present working directory.
  - `mkdir wallpapers`
- Example 2: Creating a directory in a different directory using absolute path.
  - `mkdir ~/wallpapers/forest`
- Example 3: Creating a directory with a space in the name.
  - `mkdir wallpapers/new\ cars`

mv Command

Description:

- mv moves and renames directories.
  Formula/Syntax:
- `mv + source + destination`
- `mv + file/directory_to_rename + new_name` Examples:
- Example 1: Moving a file from a directory to another using relative path.
  - `mv Downloads/homework.pdf Documents/`
- Example 2: Moving a directory from one directory to another using absolute path
  - `sudo mv ~/Downloads/theme /usr/share/themes`
- Example 3: Moving and renaming a file in the same command.
  - `mv Downloads/cis106homework.docx Documents/new_cis106homework.docx`

tac Command

Description:

- tac is used for displaying the content of a file in reverse order
  Formula/Syntax:
- `tac + option + file(s)_to_display` Examples:
- Example 1: Displaying the content of a file located in the pwd.
  - `tac todo.md`

- Example 2: Displaying the content of a file using absolute path.
  - `tac ~/Documents/todo.md`
- Example 3: Displaying the content of the users in the system.
  - `tac /etc/passwd`

tail Command

Description:

- tail is used to display the last N number of lines of a given file.
  Formula/Syntax:
- `tail + option + file` Examples:
- Example 1: Displaying last 10 lines of a file.
  - `tail ~/Documents/Books/dracula.txt`
- Example 2: Displaying last 5 lines of a file.
  - `tail -5 ~/Documents/Books/dracula.txt`
- Example 3: Displaying last 2 lines of a file.
  - `tail -2 ~/Documents/Books/dracula.txt`

touch Command

Description:

- touch is used for creating files.
  Formula/Syntax:
- `touch + file(s)` Examples:
- Example 1: Creating a file called list.
  - `touch list`
- Example 2: Creating several files.
  - `touch list_of_cars.txt script.py names.csv`
- Example 3: Creating a file using absolute path.
  - `touch ~/Downloads/games.txt`

tr Command

Description:

- tr is used for translating or deleting characters from a standard output.
  Formula/Syntax:
- `standard_output | tr + option + set1 + set2` Examples:
- Example 1: Translating one character to another.
  - `cat file.txt | tr '.' ','`
- Example 2: Translating white space into tabs.
  - `cat program.py | tr "[:space:]' '\t'`
- Example 3: Translating tabs into space.
  - `cat file.py | tr -s "[:space:]" ' '`

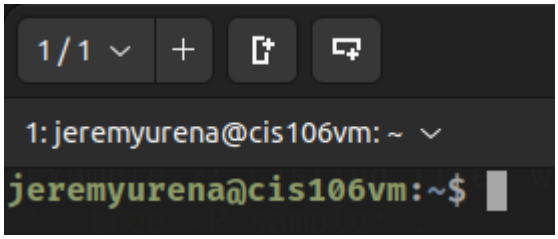
tree Command

Description:

- tree is used to list the files in a current working directory.
  Formula/Syntax:
- `tree + option` Examples:
- Example 1: Displaying directory structure of current working directory.
  - `tree`
- Example 2: Listing files with entered pattern.
  - `tree -P sample* .`
- Example 3: Listing the output by last modification.
  - `tree -t`

Question 2

How to work with multiple terminals open?

- Use the "add terminals" buttons on the top left of Tilix
- 

How to work with manual pages?

- Use the arrow keys or the man-command internal shortcuts.

How to parse (search) for specific words in the manual page?

- Use the grep command

How to redirect output `(> and |)`

- Ex: `echo "hello world!" > text.txt`

How to append the output of a command to a file?

- Ex: `echo "hello world!" >> text.txt`

Using wildcards (copying and moving multiple files at the same time)

- Ex for copying: `cp Download/*.zip Pictures/`
- Ex for moving: `mv Downloads/*.??? Documents/`

Using brace expansion (for creating entire directory structures in a single command)

- `mkdir -p music/{jazz,rock}/{mp3files,videos,oggfiles}/new{1..3}`