# Final Assignment

## Question 1

### ls

Description: ls is used for listing the content of a given directory or the file/directory itself.

Syntax: ls + option + directory to list

Example ls - list the content of the present working directory. ls -a - list all the files inside the current work directory including hidden files. ls -lR ~/Pictures

### mkdir

Description: mkdir is used for creating a single directory or multiple directories.

Syntax: mkdir + the name of the directory

Example mkdir wallpapers - create a directory in the present working directory mkdir wallpapers / ocean - create a directory in a different directory using relative path mkdir ~/wallpapers/forest - create a directory in a different directory using absolute path

### touch

Description: touch is used for creating files

syntax: touch filename

Example touch list -to create a file called list touch list of colors.txt cars.txt drinks.txt - to create several files touch ~/Downloads/car.txt - to create a file using absolute path

### mv

Description: mv moves and renames directories

syntax:mv + source + destination

example mv Downloads/homework.pdf Documents/ - to move a file from a directory to another using absolute path mv cars.txt mycars.txt – to rename a file mv ~/Downlaods/cars.txt ~ /Downlaods/mycars.txt – to rename a file using absolute path

### cp

Description: cp copies files/directories from a source to a destination

syntax: cp + files to copy + destination

example cp Downloads/wallpapers.zip Pictures/ - to copy a file cp -r ~/Downloads/wallpapers ~/Pictures/ - to copy a directory with absolute path cp Downloads/wallpapers/* ~/pictures/ - to copy the content of a directory to another directory

## man

Description: man displays the manual of commands

syntax: man command name

example man ls – excutable programs or shell commands man kill - system calls, which are system request that programs make to the kernel man passwd – file formats and convention

## cat

Description: cat command is used for displaying the content of a file

syntax: cat + option + files to display

example cat todo.lst – display the content of a file located in the pwd cat ~/Documents/todo.lst - display the content of a file using absolute path cat -n ~/Documents/todo.md display the content of a file with line numbers

## tac

Description: tac command is used for displaying the content of a file in a reverser order

syntax: tac + option + files to display

example tac cars.lst – display the content of a file located in the pwd tac ~/Downloads/cars.lst - display the content of a file using absolute path tac -r - This option will interpret the separator as a regular expression.

## head

Description: Head command display the top N number of lined of a given file.

syntax: Head + option + files

Example

head doc.txt. - Display the first 10 lines of a file head -n 20 doc.txt - Display a specific number of lines from a file head doc1.txt doc2.txt - Show the first part of multiple files

## tail

Description: tail command display the last N number of lines of a given file

syntax: tail + option + file

example tail file.txt - Display the last 10 lines of a file tail -n 20 file.txt - Show the last 20 lines of a file tail -f car.txt - Monitor changes in a file in real-time

## cut

Description: cut command is used to extract a specific section of each lone of a file and display it to the screen

syntax: cut + option + files

example cut -f1 doc.txt - Extract the first field from a tab-separated file cut -c3-6 doc.txt - Extract characters 3-6 from each line of a file cut -d',' -f2 doc.csv - Extract fields using a different delimiter

## tr

Description: tr command is used for translating or deleting characters from standard output

syntax: standard output | tr + option set + set

example cat doc.txt | tr -s “[:space:]” ‘ ‘ – translate tab into space cat pic.txt | tr “[:space:]” ‘\t’ translate white space into tab cat doc.txt | tr ‘.’ ‘,’ - translate one character to another

## grep

Description: grep is used to [search text in given file

syntax:grep + option + search criteria + files

example grep 'word' file.txt - Search for a word in a file grep -r 'pattern' directory/ ¬- Search recursively in a directory for a specific pattern grep -v 'pattern' file.txt - Display lines not matching a pattern

## awk

Description: awk is a scripting language used for processing and displaying text

syntax: awk + option + {awk command} + file + file to save

example

awk -F: ‘{print $1}’ – print first filed of files

$ awk '{print}' employee.txt - Awk prints every line of data from the specified file

$ awk '/use/ {print}' employee.txt - Print the lines which match the given pattern.

## tree

Description: Tree Displays directory structure in a tree-like format.

Syntax: tree options directory

Examples Tree - Show directory structure with all files and folders tree -L 2 - Display tree structure with specified depth tree -a - Include hidden files in the tree view

## Questiion 2

**How to work with multiple terminals open?**

Open the first terminal then open another one and put them side by.

**How to work with manual pages?**

You can access these pages with the man command followed by the name of the command you want information on. For example, man ls will show the manual page for the ls command.

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

To search for specific words in a man page, you can use the / key followed by the word you're looking for.

**How to redirect output (> and |)**

The > operator is used to redirect the output of a command to a file. For example, ls > file.txt will redirect the output of the ls command to file.txt.

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

The >> operator is used to append the output of a command to a file.

**How to use wildcards**

Wildcards are special characters that can represent other characters in commands. The most common wildcards are *, which represents any number of characters, and ?, which represents a single character10.

**For copying and moving multiple files at the same time**

To copy or move multiple files at once, you can list the files you want to copy or move, separated by spaces.

**How to use brace expansion**

Brace expansion {} is another feature of bash that allows you to generate arbitrary strings to use with commands. For example to create a N number of files use touch website {1..5}.html.

**For creating entire directory structures in a single command**

To create an entire directory structure in a single command, you can use the mkdir -p command followed by the directories you want to create, separated by slashes