LINUX FILE MANAGEMENT COMMANDS

In my recent studies through the Cybrary Linux CLI basics course, I gained valuable insights into fundamental file management commands within the Linux command-line interface. The course included practical demonstrations that illustrated how to navigate the file system, create and delete files, manage directories, and manipulate file permissions. I learned how commands such as `ls` for listing directory contents, `cp` for copying files, `mv` for moving or renaming files, and `rm` for removing files function in real-world scenarios, allowing for efficient file handling and organisation in a Linux environment. The hands-on approach helped solidify my understanding of these essential commands, enhancing my overall competency in using the Linux CLI.

Whoami - this shows the user currently logged in

```
cybrary@linux:~$ whoami
cybrary
cybrary@linux:~$
```

LS- this command returns all the files and directories in the current working directory. This command can be expounded on by adding different options to the command, such as **-a** to list all files, including hidden ones, **-R** to list directories and the files within those directories

```
cybrary@linux:~$ ls
Desktop    Downloads  Pictures  Templates  snap                unsorted
Documents  Music _    Public    Videos     thinclient_drives
```

pwd - returns the directory you are currently working in

```
cybrary@linux:~$ pwd
/home/cybrary
cybrary@linux:~$
```

Mkdir - used to create a new directory

```
cybrary@linux:~$ mkdir labwork
cybrary@linux:~$ ls
Desktop    Downloads  Pictures  Templates  labwork  thinclient_drives
Documents  Music      Public    Videos     snap     unsorted
```

Cd - used to change the current working directory

```
cybrary@linux:~$ cd labwork
cybrary@linux:~/labwork$
```

Touch- used when creating a new file(s). The file extension (eg *.txt) when creating the file(s) is not necessary but is recommended for easier file management.

```
cybrary@linux:~/labwork$ touch file.txt
cybrary@linux:~/labwork$ ls
file.txt
```

```
cybrary@linux:~/labwork$ touch file1.txt file2.txt
cybrary@linux:~/labwork$ ls
file.txt  file1.txt  file2.txt
```

```
cybrary@linux:~/labwork$ touch filez
cybrary@linux:~/labwork$ ls
file.txt  file1.txt  file2.txt  filez
cybrary@linux:~/labwork$
```

Echo- used to append or add text to a file.

>> appends the text to the file

> output redirector / overwrite - overwrites the content of a file.

Cat- returns the content of a file.

```
cybrary@linux:~/labwork$ echo "This as a text sample">>file.txt
cybrary@linux:~/labwork$ cat file.txt
This as a text sample
cybrary@linux:~/labwork$ echo "Another text input">>file.txt
cybrary@linux:~/labwork$ cat file.txt
This as a text sample
Another text input
cybrary@linux:~/labwork$ echo "Text overwrite demonstration">file.txt
cybrary@linux:~/labwork$ cat file.txt
Text overwrite demonstration
```

File - displays what type a file it is

```
cybrary@linux:~/labwork$ file file.txt
file.txt: ASCII text
```

Cp /mv /rm - these commands are used to copy(cp), move(mv) files in directories and remove(rm) or delete files. Mv can also be used to rename a file while also moving it.

```
cybrary@linux:~/labwork$ cp file1.txt folder
cybrary@linux:~/labwork$ ls -R
.:
file.txt  file1.txt  file2.txt  filez  folder

./folder:
file1.txt
cybrary@linux:~/labwork$ mv filez folder
cybrary@linux:~/labwork$ ls -R
.:
file.txt  file1.txt  file2.txt  folder

./folder:
file1.txt  filez
cybrary@linux:~/labwork$ mv file2.txt filen.txt
cybrary@linux:~/labwork$ ls
file.txt  file1.txt  filen.txt  folder
cybrary@linux:~/labwork$ mv filen.txt folder/file2.txt
cybrary@linux:~/labwork$ ls -R
.:
file.txt  file1.txt  folder

./folder:
file1.txt  file2.txt  filez
```

```
cybrary@linux:~/labwork$ rm -i file1.txt
rm: remove regular empty file 'file1.txt'? y
cybrary@linux:~/labwork$ ls
file.txt  folder
```

The -i option allows the user to confirm before a file is deleted.

Find - when looking for certain files or directories through the CLI, “find” is used to aid in this operation. Users can search for files using their names or their extensions.

```
cybrary@linux:~/labwork$ ls -R
.:
colors  ctfs  folder  linux

./colors:
black  blue  grey  pink  red

./folder:
file1  file2  file3

./linux:
deamons  echos
cybrary@linux:~/labwork$ find . -name "red"
./colors/red
```

Performs a file search “find” in the current directory “.” for a file red “-name “red”.

```
cybrary@linux:~/labwork$ find . -name "*.txt"
./folder/file.txt
cybrary@linux:~/labwork$
```

Grep - used to search for text or text patterns within files.

```
cybrary@linux:~/labwork$ grep -r "is"
folder/file.txt:This is a text sample
folder/file1:This is a text sample
```

Piping (|) - This is a functionality within the Linux CLI that can be used to enable automation by combining different commands. It takes the output of one command and makes it the input of another command. The command below takes the display output

“**cat unsorted”** of the items in the file Unsorted and redirects/ pipes (**|**) it to the “**sort”** command

```
cybrary@linux:~$ cat unsorted |sort
apple
apple
band
cantaloupe
cantaloupe
corn
corn
groceries
knife
salt
salt
talisman
talisman
truck
xylophone
xylophone
zoo
```

```
cybrary@linux:~$ cat unsorted |sort|uniq| wc
     11      11      77
```

This command sorts the items(**sort**), removes the duplicates(**uniq**), and counts(**wc**)the items, the number of lines in the file and the number of characters.

```
cybrary@linux:~$ ls -l |grep "cybrary cybrary"
drwxr-xr-x 2 cybrary cybrary 4096 Jul 12  2023 Desktop
drwxr-xr-x 2 cybrary cybrary 4096 Jan 25  2023 Documents
drwxr-xr-x 2 cybrary cybrary 4096 Jul 12  2023 Downloads
drwxr-xr-x 2 cybrary cybrary 4096 Jan 25  2023 Music
drwxr-xr-x 2 cybrary cybrary 4096 Jan 25  2023 Pictures
drwxr-xr-x 2 cybrary cybrary 4096 Jan 25  2023 Public
drwxr-xr-x 2 cybrary cybrary 4096 Jan 25  2023 Templates
drwxr-xr-x 2 cybrary cybrary 4096 Jan 25  2023 Videos
drwxrwxr-x 5 cybrary cybrary 4096 May 10 11:13 labwork
drwx------ 3 cybrary cybrary 4096 Mar 30  2023 snap
drwx------ 1 cybrary cybrary    0 May 10 11:30 thinclient_drives
-rw-rw-r-- 1 cybrary cybrary  123 Jun 27  2023 unsorted
```

Lists all the files and returns the ones owned by the user “cybrary”.

All of the commands and their associated options discussed above are essential tools for effective file management in the Linux command line interface or shell. Each command offers a variety of options that can be combined with it to customise and enhance the output, allowing for more precise results. For example, the `ls` command is used to list directory contents and can be modified with options like `-l` for a detailed listing, `-a` to include hidden files, and `-h` for human-readable file sizes. By understanding and utilising these commands and their options, users can efficiently navigate and manipulate files within the Linux environment.