**COS – Assignment 1**

**P1:**

**Navigate and List**: a. Start by navigating to your home directory and list its contents. Then, move into a directory named "LinuxAssignment" if it exists; otherwise, create it.

-mkdir LinuxAssignment

**File Management**: a. Inside the "LinuxAssignment" directory, create a new file named "file1.txt". Display its contents.

-touch file1.txt

-cat file1.txt

**Directory Management**: a. Create a new directory named "docs" inside the "LinuxAssignment" directory.

-cd LinuxAssignment

- touch file2.txt

**Permissions and Ownership**: a. Change the permissions of "file2.txt" to allow read, write, and execute permissions for the owner and only read permissions for others. Then, change the owner of "file2.txt" to the current user.

-ls -l

-chmod u+rwx file.txt

-chmod g-wx file.txt

-chmod o-rwx file.txt

–chown cdac file2.txt

**File Searching**: a. Search for all files with the extension ".txt" in the current directory and its subdirectories. b. Display lines containing a specific word in a file (provide a file name and the specific word to search).

- find -name "\*.txt"

- grep "Hello" file1.txt

**System Information**: a. Display the current system date and time.

- date

**Networking**: a. Display the IP address of the system. b. Ping a remote server to check connectivity (provide a remote server address to ping).

- ip address

- ping [www.google.com](http://www.google.com)

**File Compression**: a. Compress the "docs" directory into a zip file. b. Extract the contents of the zip file into a new directory.

- sudo apt install zip

- zip docs.zip /home/cdac/

- mv docs.zip /home/cdac/LinuxAssignemnt

- unzip docs.zip

**File Editing**: a. Open the "file1.txt" file in a text editor and add some text to it. b. Replace a specific word in the "file1.txt" file with another word (provide the original word and the word to replace it with).

- nano file1.txt

- Entered “Hello world!”

- sed -i 's/world/user/' file1.txt

- cat file1.txt

- displayed “Hello user!”

**P2:**

a. Suppose you have a file named "data.txt" containing important information. Display the first 10 lines of this file to quickly glance at its contents using a command.

- head -10 data.txt

b. Now, to check the end of the file for any recent additions, display the last 5 lines of "data.txt" using another command.

- tail -5 data.txt

c. In a file named "numbers.txt," there are a series of numbers. Display the first 15 lines of this file to analyze the initial data set.

- head -15 numbers.txt

d. To focus on the last few numbers of the dataset, display the last 3 lines of "numbers.txt".

- tail -5 numbers.txt

e. Imagine you have a file named "input.txt" with text content. Use a command to translate all lowercase letters to uppercase in "input.txt" and save the modified text in a new file named "output.txt."

- tr '[:upper:]' '[:lower:]' < input.txt > output.txt

f. In a file named "duplicate.txt," there are several lines of text, some of which are duplicates. Use a command to display only the unique lines from "duplicate.txt."

- sort -u duplicate.txt

g. In a file named "fruit.txt," there is a list of fruits, but some fruits are repeated. Use a command to display each unique fruit along with the count of its occurrences in "fruit.txt."

- uniq -c fruit.txt