

ASSINGMENT – 1

a) 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.

```
cdac@SHILPA123:~$ pwd
/home/cdac
cdac@SHILPA123:~$ cd
cdac@SHILPA123:~$ ls
LinuxAssignment
cdac@SHILPA123:~$ cd LinuxAssignment
cdac@SHILPA123:~/LinuxAssignment$ |
```

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

```
cdac@SHILPA123:~/LinuxAssignment$ ls -l file2.txt
ls: cannot access 'file2.txt': No such file or directory
cdac@SHILPA123:~/LinuxAssignment$ touch file2.txt
cdac@SHILPA123:~/LinuxAssignment$ cat file2.txt
cdac@SHILPA123:~/LinuxAssignment$ echo "This is the content of file2.txt" > file2.txt
cdac@SHILPA123:~/LinuxAssignment$ cat file2.txt
This is the content of file2.txt
cdac@SHILPA123:~/LinuxAssignment$ |
```

Since the file is empty at this point, using the cat command it showed nothing, so it didn't return anything as output. So I have used here echo command to text to file2.txt and then again I ran the command cat and got the content i.e This is the content of file2.txt.

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

```
cdac@SHILPA123: ~/LinuxAss × + v
cdac@SHILPA123:~/LinuxAssignment$ mkdir docs
cdac@SHILPA123:~/LinuxAssignment$ ls
docs  file2.txt
cdac@SHILPA123:~/LinuxAssignment$ |
```

d) Copy and Move Files: a. Copy the "file1.txt" file into the "docs" directory and rename it to "file2.txt".

```
cdac@SHILPA123: ~/LinuxAss × + v
cdac@SHILPA123:~/LinuxAssignment$ cp file1.txt docs/file2.txt
cp: cannot stat 'file1.txt': No such file or directory
cdac@SHILPA123:~/LinuxAssignment$ cp file2.txt docs/file3.txt
cdac@SHILPA123:~/LinuxAssignment$ ls docs
file2.txt  file3.txt
cdac@SHILPA123:~/LinuxAssignment$
```

Here I didn't copy file1.txt and rename it to file2.txt because earlier I used file2 instead of file1, So when I was doing here it was throwing result for me as file doesn't exist. So I had copy file2.txt and rename it as file3.txt.

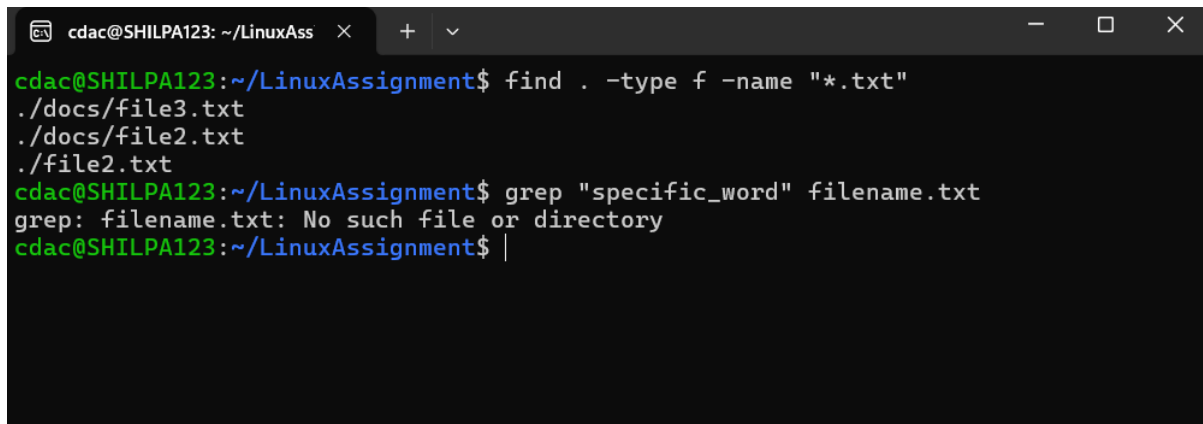
Permissions and Ownership: a. Change the permissions of "file2.txt" to allow read, write, and execute permissions for the owner and only read permissions for others. Then, change the owner of "file2.txt" to the current user.

```
cdac@SHILPA123:~/LinuxAssignment$ cd docs
cdac@SHILPA123:~/LinuxAssignment/docs$ chmod 744 file2.txt
cdac@SHILPA123:~/LinuxAssignment/docs$ sudo chown $(whoami):$(whoami) file2.txt
Command 'whomi' not found, did you mean:
  command 'whoami' from deb coreutils (8.32-4.1ubuntu1.2)
  command 'whom' from deb mailutils-mh (1:3.14-1)
  command 'whom' from deb mmh (0.4-4)
  command 'whom' from deb nmh (1.7.1-11)
Try: sudo apt install <deb name>
[sudo] password for cdac:
cdac@SHILPA123:~/LinuxAssignment/docs$ ls -l file2.txt
-rwxr--r-- 1 cdac cdac 33 Feb 27 20:19 file2.txt
cdac@SHILPA123:~/LinuxAssignment/docs$ |
```

Final Checklist: a. Finally, list the contents of the "LinuxAssignment" directory and the root directory to ensure that all operations were performed correctly.

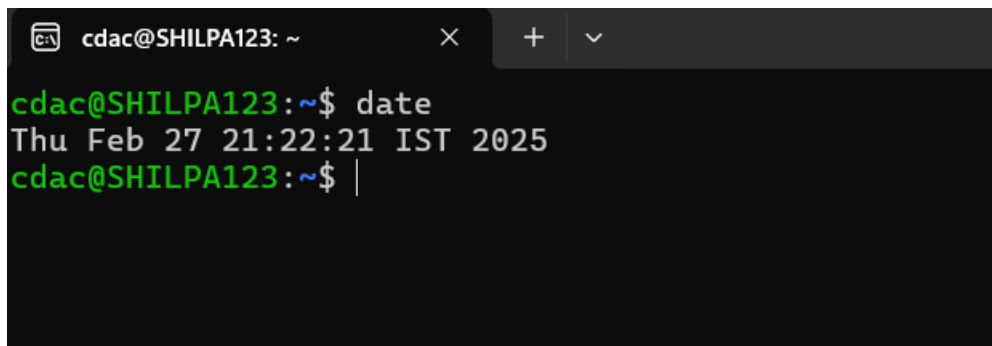
```
cdac@SHILPA123:~/LinuxAssignment$ ls
docs  file1.txt.save  file2.txt
cdac@SHILPA123:~/LinuxAssignment$ cd ..
cdac@SHILPA123:~$ ls
LinuxAssignment  file1.txt  file1.txt.save
cdac@SHILPA123:~$ |
```

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).

A terminal window titled 'cdac@SHILPA123: ~/LinuxAss' with standard window controls. It shows the execution of 'find' and 'grep' commands. The 'find' command lists three .txt files, and the 'grep' command returns an error because the file 'filename.txt' does not exist.

```
cdac@SHILPA123:~/LinuxAssignment$ find . -type f -name "*.txt"
./docs/file3.txt
./docs/file2.txt
./file2.txt
cdac@SHILPA123:~/LinuxAssignment$ grep "specific_word" filename.txt
grep: filename.txt: No such file or directory
cdac@SHILPA123:~/LinuxAssignment$ |
```

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

A terminal window titled 'cdac@SHILPA123: ~' with standard window controls. It shows the execution of the 'date' command, which displays the current system date and time in IST.

```
cdac@SHILPA123:~$ date
Thu Feb 27 21:22:21 IST 2025
cdac@SHILPA123:~$ |
```

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

```
cdac@SHILPA123:~$ ip a
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
        valid_lft forever preferred_lft forever
    inet 10.255.255.254/32 brd 10.255.255.254 scope global lo
        valid_lft forever preferred_lft forever
    inet6 ::1/128 scope host
        valid_lft forever preferred_lft forever
2: eth0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc mq state UP group default qlen 1000
    link/ether 00:15:5d:78:87:2e brd ff:ff:ff:ff:ff:ff
    inet 172.30.244.171/20 brd 172.30.255.255 scope global eth0
        valid_lft forever preferred_lft forever
    inet6 fe80::215:5dff:fe78:872e/64 scope link
        valid_lft forever preferred_lft forever
cdac@SHILPA123:~$
```

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

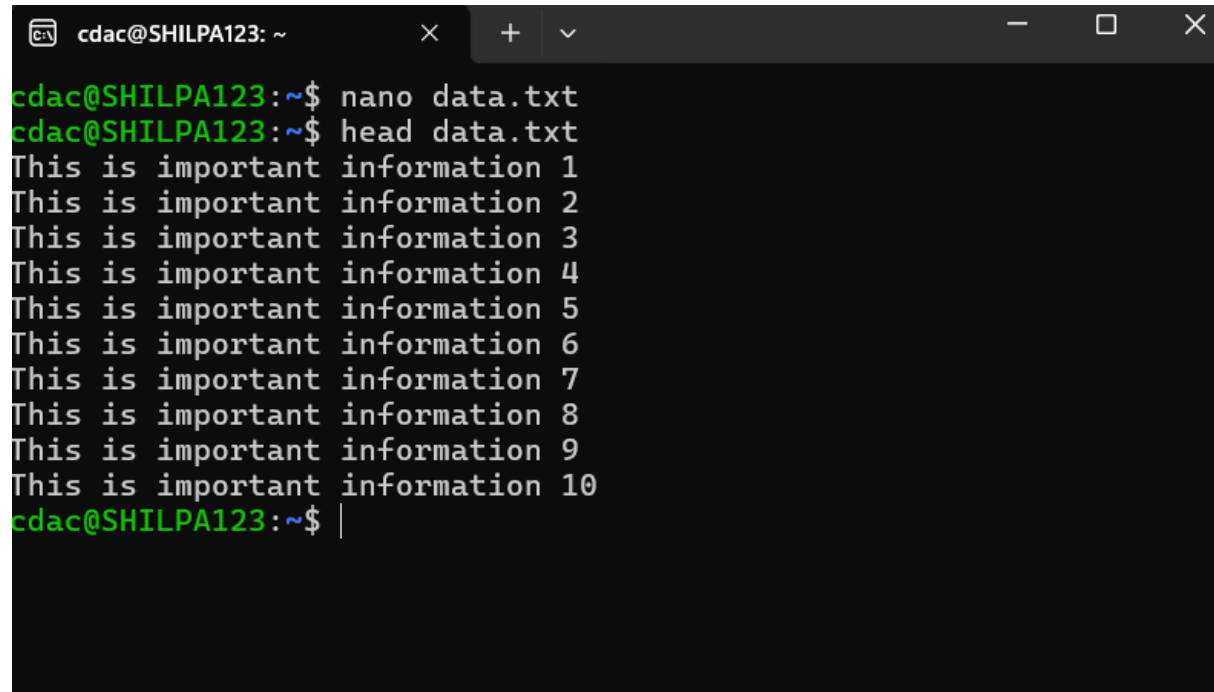
```
cdac@SHILPA123:~/Linux$ zip -r docs.zip docs
Command 'zip' not found, but can be installed with:
sudo apt install zip
cdac@SHILPA123:~/Linux$
```

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).

```
cdac@SHILPA123:~$ nano file1.txt
cdac@SHILPA123:~$ sed -i 's/old_word/new_word/g' file1.txt
cdac@SHILPA123:~$ sed -i 's/apple/orange/g' file1.txt
cdac@SHILPA123:~$ cat file1.txt
cdac@SHILPA123:~$ cd
cdac@SHILPA123:~$ ls
'Adding some new text to the file.'  file1.txt
Appleexit                            file1.txt.save
Linux                                file2.txt.save
LinuxAssignment
cdac@SHILPA123:~$
```

Problem 2: Read the instructions carefully and answer accordingly. If there is any need to insert some data then do that as well.

- 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.



```
cdac@SHILPA123: ~  
cdac@SHILPA123:~$ nano data.txt  
cdac@SHILPA123:~$ head data.txt  
This is important information 1  
This is important information 2  
This is important information 3  
This is important information 4  
This is important information 5  
This is important information 6  
This is important information 7  
This is important information 8  
This is important information 9  
This is important information 10  
cdac@SHILPA123:~$ |
```

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

```
cdac@SHILPA123: ~$ nano data.txt
cdac@SHILPA123: ~$ head data.txt
This is important information 1
This is important information 2
This is important information 3
This is important information 4
This is important information 5
This is important information 6
This is important information 7
This is important information 8
This is important information 9
This is important information 10
cdac@SHILPA123: ~$ tail -n 5 data.txt
This is important information 9
This is important information 10
This is important information 11

cdac@SHILPA123: ~$ |
```

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

```
cdac@SHILPA123: ~  
cdac@SHILPA123:~$ nano numbers.txt  
cdac@SHILPA123:~$ head -n 15 numbers.txt  
1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
cdac@SHILPA123:~$ tail -n 3 numbers.txt  
19  
20  
cdac@SHILPA123:~$ |
```

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

```
cdac@SHILPA123: ~  
cdac@SHILPA123:~$ nano numbers.txt  
cdac@SHILPA123:~$ head -n 15 numbers.txt  
1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
cdac@SHILPA123:~$ tail -n 3 numbers.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."

```
cdac@SHILPA123: ~  
cdac@SHILPA123:~$ nano duplicate.txt  
cdac@SHILPA123:~$ sort duplicate.txt | uniq  
  
apple  
banana  
grape  
orange  
cdac@SHILPA123:~$ |
```

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."

```
cdac@SHILPA123: ~  
cdac@SHILPA123:~$ nano fruit.txt  
cdac@SHILPA123:~$ sort fruit.txt | uniq -c  
1  
3 apple  
2 banana  
1 grape  
1 orange
```