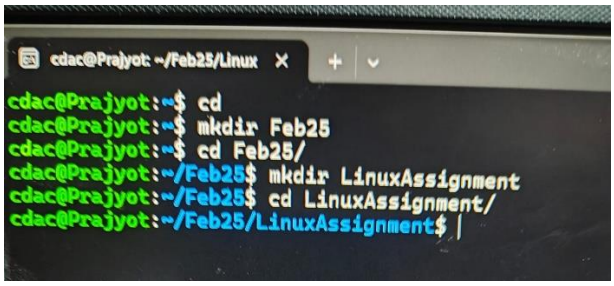
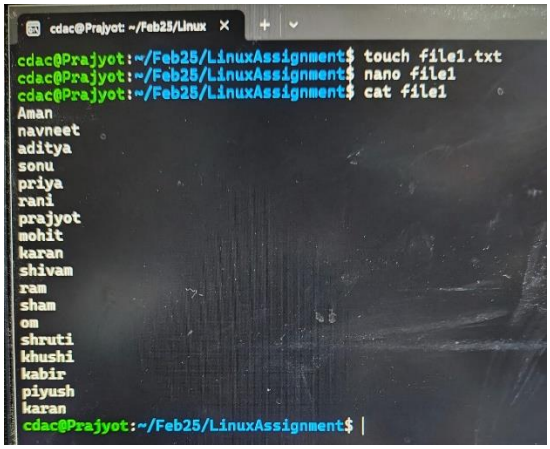
Prajyot Nimsarkar

Problem 1: Read the instructions carefully and answer accordingly. If there is any need to insert some data then do that as well.

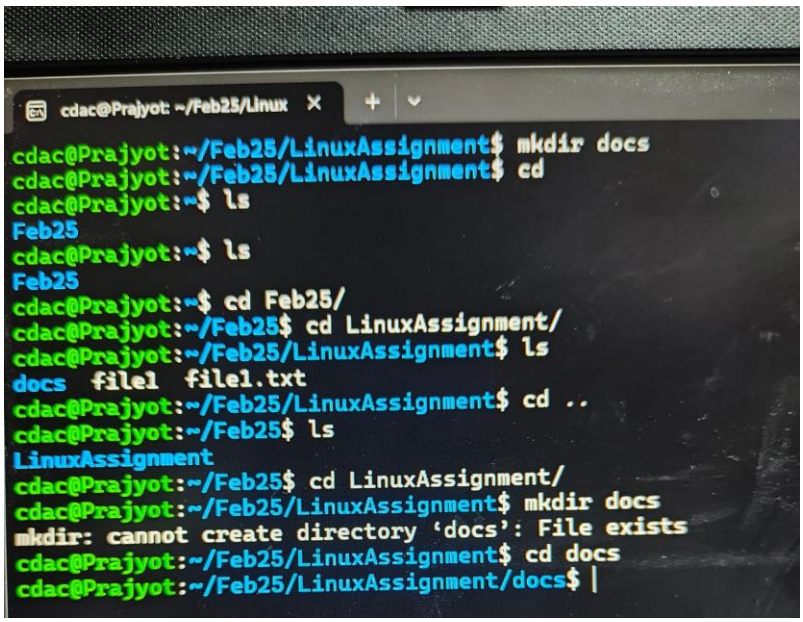
a) Navigate and List: **a.** Start by navigating to your home directory and list its contents. Then, move into a directory named "LinuxAssignment" if it exists; otherwise, create it.



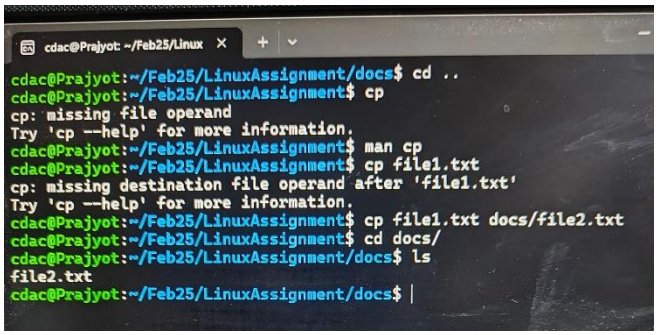
b) File Management: **a.** Inside the "LinuxAssignment" directory, create a new file named "file1.txt". Display its contents.



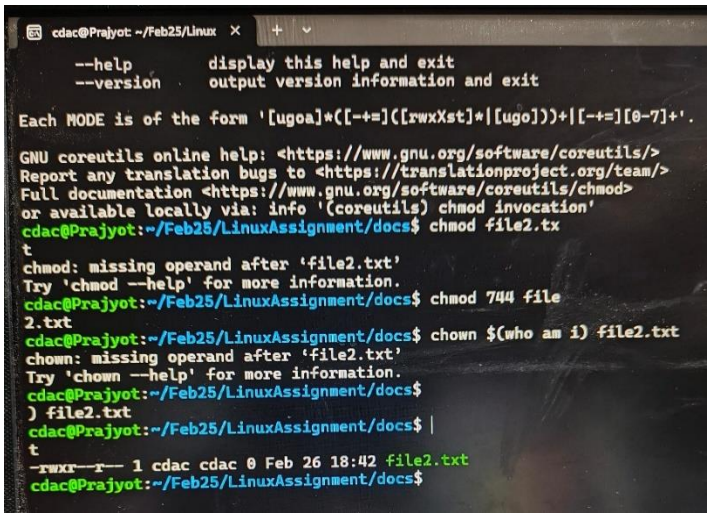
c) Directory Management: **a.** Create a new directory named "docs" inside the "LinuxAssignment" directory.



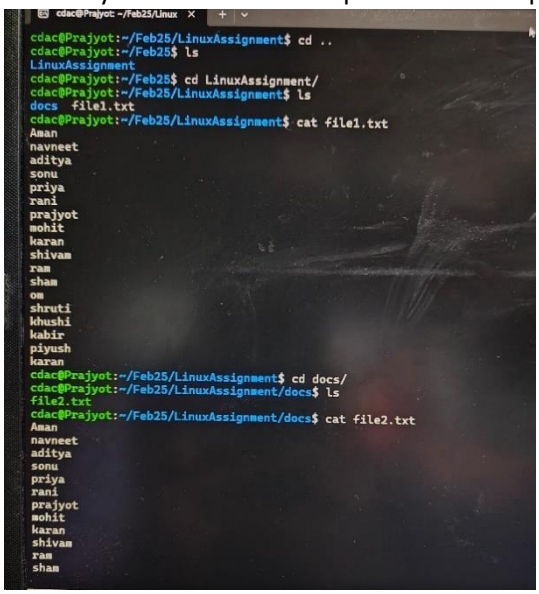
d) Copy and Move Files: **a.** Copy the "file1.txt" file into the "docs" directory and rename it to "file2.txt".



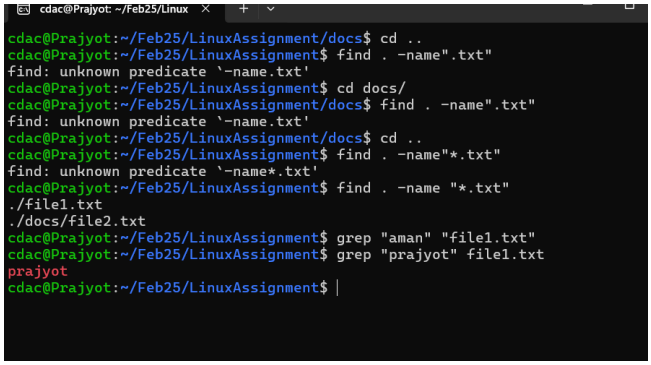
e) Permissions and Ownership: **a**. Change the permissions of "file2.txt" to allow read, write, and execute permissions for the owner and only read permissions for others. Then, change the owner of "file2.txt" to the current user.



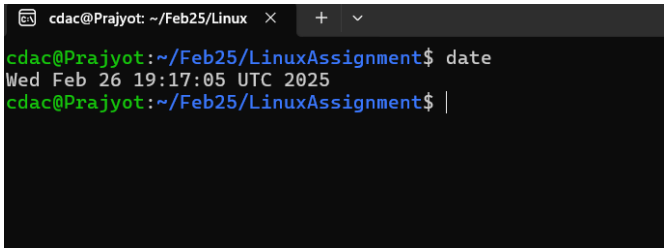
f) Final Checklist: **a**. Finally, list the contents of the "LinuxAssignment" directory and the root directory to ensure that all operations were performed correctly.



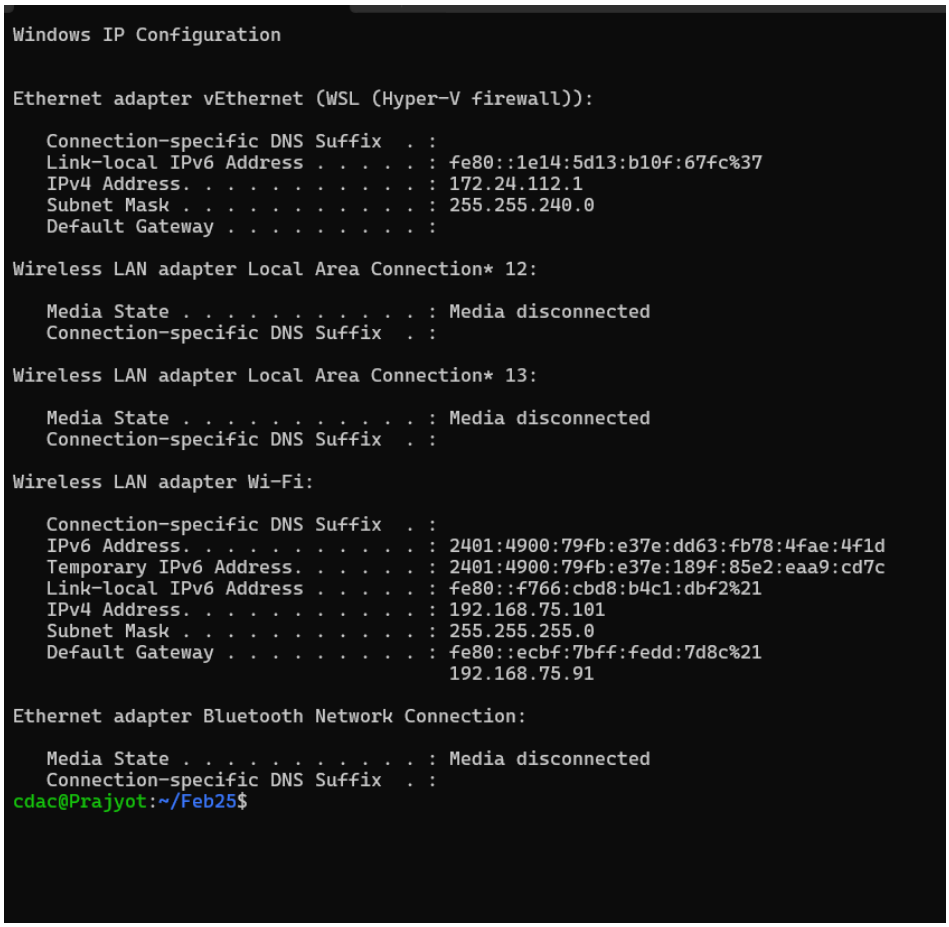
g) File Searching: **a**. Search for all files with the extension ".txt" in the current directory and its subdirectories. **b**. Display lines containing a specific word in a file (provide a file name and the specific word to search).



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



i) 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@Prajyot:~/Feb25/LinuxAssignment$ ping -c 4 google.com
PING google.com (142.250.199.174) 56(84) bytes of data.
64 bytes from bom07s37-in-f14.1e100.net (142.250.199.174): icmp_seq=1 ttl=57 time=63.6 ms
64 bytes from bom07s37-in-f14.1e100.net (142.250.199.174): icmp_seq=2 ttl=57 time=33.0 ms
64 bytes from bom07s37-in-f14.1e100.net (142.250.199.174): icmp_seq=3 ttl=57 time=30.8 ms
64 bytes from bom07s37-in-f14.1e100.net (142.250.199.174): icmp_seq=4 ttl=57 time=30.8 ms

--- google.com ping statistics ---
4 packets transmitted, 4 received, 0% packet loss, time 3002ms
rtt min/avg/max/mdev = 30.764/39.537/63.617/13.931 ms
cdac@Prajyot:~/Feb25/LinuxAssignment$
```

j) File Compression: **a.** Compress the "docs" directory into a zip file.

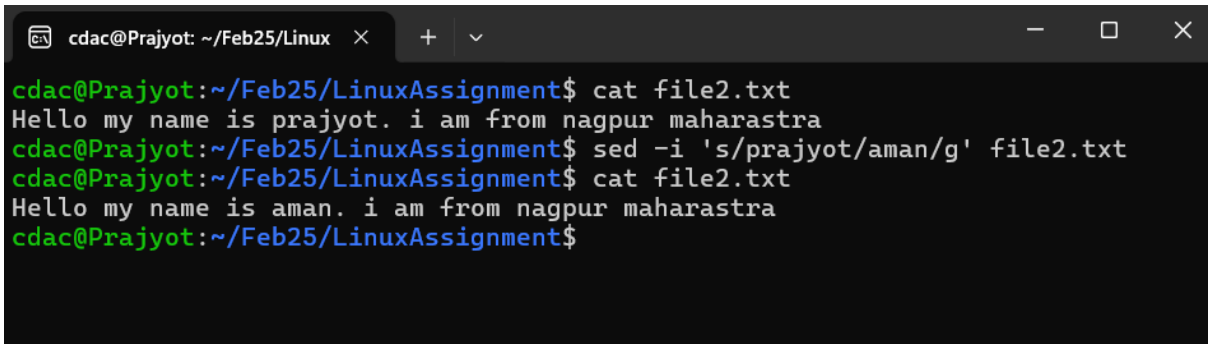
b. Extract the contents of the zip file into a new directory.

```
cdac@Prajyot:~/Feb25/LinuxAssignment$ zip -r docs.zip docs
  adding: docs/ (stored 0%)
  adding: docs/file2.txt (deflated 27%)
cdac@Prajyot:~/Feb25/LinuxAssignment$ ls
docs  docs.zip  file1.txt
cdac@Prajyot:~/Feb25/LinuxAssignment$ unzip -d newdata docs.zip
Archive:  docs.zip
   creating: newdata/docs/
  inflating: newdata/docs/file2.txt
cdac@Prajyot:~/Feb25/LinuxAssignment$ ls
docs  docs.zip  file1.txt  newdata
cdac@Prajyot:~/Feb25/LinuxAssignment$ cd newdata/
cdac@Prajyot:~/Feb25/LinuxAssignment/newdata$ ls
docs
cdac@Prajyot:~/Feb25/LinuxAssignment/newdata$ cd docs/
cdac@Prajyot:~/Feb25/LinuxAssignment/newdata/docs$ ls
file2.txt
cdac@Prajyot:~/Feb25/LinuxAssignment/newdata/docs$
```

k) File Editing: **a**. Open the "file1.txt" file in a text editor and add some text to it.

```
cdac@Prajyot: ~/Feb25/Linux
docs  docs.zip  file1.txt  newdata
cdac@Prajyot:~/Feb25/LinuxAssignment$ cat file1.txt
Aman
navneet
aditya
sonu
priya
rani
prajyot
mohit
karan
shivam
ram
sham
om
shruti
khushi
kabir
piyush
karan
cdac@Prajyot:~/Feb25/LinuxAssignment$ nano file1.txt
cdac@Prajyot:~/Feb25/LinuxAssignment$ cat
docs/      docs.zip   file1.txt  newdata/
cdac@Prajyot:~/Feb25/LinuxAssignment$ cat
docs/      docs.zip   file1.txt  newdata/
cdac@Prajyot:~/Feb25/LinuxAssignment$ cat file1.txt
Aman
navneet
aditya
sonu
priya
rani
prajyot
mohit
karan
shivam
ram
sham
om
shruti
khushi
```

b. Replace a specific word in the "file1.txt" file with another word (provide the original word and the word to replace it with).



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@Prajyot:~/Feb25/LinuxAssignment$ head -10 data.txt
aman
om
navneet
ravi
ishika
prajyot
ram
sham
ranu
geeta
cdac@Prajyot:~/Feb25/LinuxAssignment$
```

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@Prajyot:~/Feb25/LinuxAssignment$ tail -5 data.txt
pari
abhi
danish
yug
shita
cdac@Prajyot:~/Feb25/LinuxAssignment$
```

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.

```
cdac@Prajyot:~/Feb25/LinuxAssignment$ head -15 numbers.txt
12
45
78
53
52
8
85
46
82
87
95
93
94
27
15
cdac@Prajyot:~/Feb25/LinuxAssignment$
```

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

```
cdac@Prajyot:~/Feb25/LinuxAssignment$ tail -3 numbers.txt
60
80
20
cdac@Prajyot:~/Feb25/LinuxAssignment$
```

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."

```
cdac@Prajyot:~/Feb25/LinuxAssignment$ ls
data.txt           docs      file1.txt  newdata
datalowercase.txt  docs.zip  file2.txt  numbers.txt
cdac@Prajyot:~/Feb25/LinuxAssignment$ cat datalowercase.txt
AMAN
OM
NAVNEET
RAVI
ISHIKA
PRAJYOT
RAM
SHAM
RANU
GEETA
SHRUTI
JIVITA
PARI
ABHI
DANISH
YUG
SHITA
cdac@Prajyot:~/Feb25/LinuxAssignment$
cdac@Prajyot:~/Feb25/LinuxAssignment$
```

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@Prajyot:~/Feb25/LinuxAssignment$ ls
data.txt  datalowercase.txt  docs  docs.zip  duplicate.txt  file1.txt  file2.txt  newdata  numbers.txt
cdac@Prajyot:~/Feb25/LinuxAssignment$ cat duplicate.txt
aman
navneet
om
sonu
aman
om

cdac@Prajyot:~/Feb25/LinuxAssignment$ sort duplicate.txt | uniq

aman
navneet
om
sonu
cdac@Prajyot:~/Feb25/LinuxAssignment$
```

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@Prajyot:~/Feb25/LinuxAssignment$ ls
data.txt  datalowercase.txt  docs  docs.zip  duplicate.txt  file1.txt  file2.txt  fruit.txt  newdata  numbers.txt
cdac@Prajyot:~/Feb25/LinuxAssignment$ cat fruit.txt
mango
banana
orange
watermelon
papaya
graphs
mango
orange
cdac@Prajyot:~/Feb25/LinuxAssignment$ sort fruit.txt | uniq -n
uniq: invalid option -- 'n'
Try 'uniq --help' for more information.
cdac@Prajyot:~/Feb25/LinuxAssignment$ sort fruit.txt | uniq -c
      1 banana
      1 graphs
      2 mango
      2 orange
      1 papaya
      1 watermelon
cdac@Prajyot:~/Feb25/LinuxAssignment$
```