Problem-1:

Ans-a:

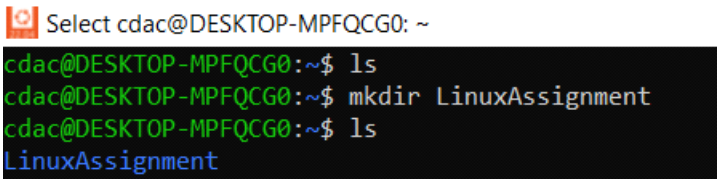
1. Use cd command,to redirect your home directory.

2.ls command to display all the directories present in home directory.

3.As LinuxAssignment directory isn't present in the home directory.

4. Use cd command to go into the newly created direcotry.

code:



Ans b:

1. Use cd LinuxAssignment to go inside LinuxAssignment directory

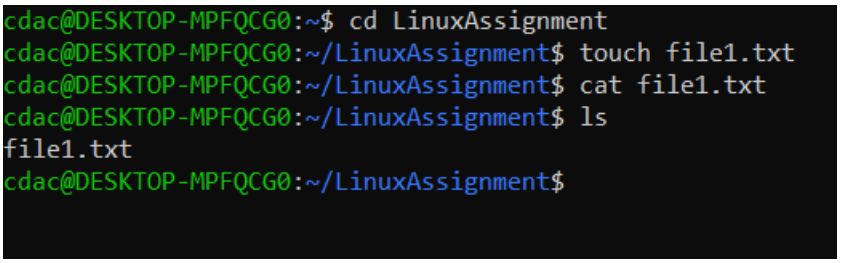
2.Use touch file1.txt to create a new file.

3. using cat command.try to display the contents of file1.txt.

Nothing is display inside file1.txt because using touch command it is creating empty file.

we can write anything using nano editor.

code:



Ans c:

1- Use mkdir command to create a new directory named docs.

2-Use le command to display

code :

```
cdac@DESKTOP-MPFQCG0:~/LinuxAssignment$ mkdir docs
cdac@DESKTOP-MPFQCG0:~/LinuxAssignment$ ls
docs  file1.txt
cdac@DESKTOP-MPFQCG0:~/LinuxAssignment$
```

Ans d:

Copy and Move Files:

ls

1-use cp command to copy the file1.txt to another directory

once the file is copied.

2-use cd command to go inside docs command

3-use ls command to display directory

4-use mv command to rename file1.txt dir name to file2.txt

5-again use ls command to di

splay file which is file2.txt

code:

```
cdac@DESKTOP-MPFQCG0:~/LinuxAssignment$ cp file1.txt docs
cdac@DESKTOP-MPFQCG0:~/LinuxAssignment$ ls
docs  file1.txt
cdac@DESKTOP-MPFQCG0:~/LinuxAssignment$ cd docs
cdac@DESKTOP-MPFQCG0:~/LinuxAssignment/docs$ ls
file1.txt
cdac@DESKTOP-MPFQCG0:~/LinuxAssignment/docs$ mv file1.txt file2.txt
cdac@DESKTOP-MPFQCG0:~/LinuxAssignment/docs$ ls
file2.txt
```

Ans e:

Permissions and Ownership:

1- Use chmod u+wrx command to allocate read ,write,and execute permissions to the current user.

2- Use chmod u+r command to allocate to read permissions to other users.

3-Use chown command to assign the ownership of file2.txt to the user.

code:

```
cdac@DESKTOP-MPFQCG0:~/LinuxAssignment/docs$ chmod u+rwx file2.txt
cdac@DESKTOP-MPFQCG0:~/LinuxAssignment/docs$ chmod o+r file2.txt
cdac@DESKTOP-MPFQCG0:~/LinuxAssignment/docs$ chown cdac file2.txt
cdac@DESKTOP-MPFQCG0:~/LinuxAssignment/docs$
```

Ans f:

Final Checklist:

1-Use cd command to go home directory.

2-Then use ls command to list the contents of home directory.

3-Then change the directory to LinuxAssignment with the help of cd command.

4-In last ,list the contents of LinuxAssignments directory by again using the cd command.

code:

```
cdac@DESKTOP-MPFQCG0:~/LinuxAssignment/docs$ cd ..
cdac@DESKTOP-MPFQCG0:~/LinuxAssignment$ ls
docs  file1.txt
cdac@DESKTOP-MPFQCG0:~/LinuxAssignment$
```

ans G(a):

File Searching

1-Use cd command to go Home directory.

2-Use command "find. -type f -name "*.txt" to search for all files with

the extension of ".txt" in the current diretory and its subdiretories.

The -name option filters files by name and

the quotes ensure the shell does not expand the wilrdcard before the command

code:

```
cdac@DESKTOP-MPFQCG0:~$ cd
cdac@DESKTOP-MPFQCG0:~$ find . -type f -name "*.txt"
./LinuxAssignment/file1.txt
./LinuxAssignment/docs/file2.txt
cdac@DESKTOP-MPFQCG0:~$
```

AnsG(b):

1-USe cd command to change the directory to containg target text file.

2-Use command grep -i "Hello" file1.txt to display lines.

code:

```
cdac@DESKTOP-MPFQCG0:~/LinuxAssignment$ nano file1.txt
cdac@DESKTOP-MPFQCG0:~/LinuxAssignment$ cat file1.txt
Hello,My name is Dipshi Verma.I like Linux command.
I love coding.
I like OS.
cdac@DESKTOP-MPFQCG0:~/LinuxAssignment$ grep -i "Hello" file1.txt
Hello,My name is Dipshi Verma.I like Linux command.
cdac@DESKTOP-MPFQCG0:~/LinuxAssignment$
```

or

cdac@DESKTOP-MPFQCG0:~/LinuxAssignment$ grep "Hello" file1.txt

Hello,My name is Dipshi Verma.I Like Linux command.

Ans h-> System Information:

1-Use date command to display the current system date and time

code:

```
cdac@DESKTOP-MPFQCG0:~/LinuxAssignment$ date
Thu Feb 27 18:49:15 IST 2025
cdac@DESKTOP-MPFQCG0:~/LinuxAssignment$
```

Ans-I-> Networking:

1-USe hostname -I command to display IP address

2-Use ping command to ping a remote server (google.com)to check connectivity.

code:

```
cdac@DESKTOP-MPFQCG0: ~
cdac@DESKTOP-MPFQCG0:~/LinuxAssignment$ cd
cdac@DESKTOP-MPFQCG0:~$ hostname -I
172.21.144.173
cdac@DESKTOP-MPFQCG0:~$ ping -c 4 www.google.com
PING www.google.com (142.250.193.36) 56(84) bytes of data.
64 bytes from del11s15-in-f4.1e100.net (142.250.193.36): icmp_seq=1 ttl=110 time=40.9 ms
64 bytes from del11s15-in-f4.1e100.net (142.250.193.36): icmp_seq=2 ttl=110 time=72.6 ms
64 bytes from del11s15-in-f4.1e100.net (142.250.193.36): icmp_seq=3 ttl=110 time=70.5 ms
64 bytes from del11s15-in-f4.1e100.net (142.250.193.36): icmp_seq=4 ttl=110 time=66.9 ms

--- www.google.com ping statistics ---
4 packets transmitted, 4 received, 0% packet loss, time 3125ms
rtt min/avg/max/mdev = 40.882/62.715/72.551/12.763 ms
```

Ans-J->

File Compression:

1-Use tar -cvzf "doc.gz" docs/ command to compress the docs directory into file "Docs.gz".

2-Use Is command to the display the contents of current directory.

3-USe mkdir command to create a new directory with new name.

4-use command tar -xzf "doc-zip" -C new/ to extract the contents of Docs.zip into new/directory.

5-Finally use ls command to see the results:

code:

```
cdac@DESKTOP-MPFQCG0:~/LinuxAssignment$ ls
docs  file1.txt
cdac@DESKTOP-MPFQCG0:~/LinuxAssignment$ tar -cvzf "Docs.gz" docs/
docs/
docs/file2.txt
cdac@DESKTOP-MPFQCG0:~/LinuxAssignment$ ls
Docs.gz  docs  file1.txt
cdac@DESKTOP-MPFQCG0:~/LinuxAssignment$ mkdir compressdemo
cdac@DESKTOP-MPFQCG0:~/LinuxAssignment$ ls
Docs.gz  compressdemo  docs  file1.txt
cdac@DESKTOP-MPFQCG0:~/LinuxAssignment$ tar -xzf "Docs.gz" -C compressdemo/
cdac@DESKTOP-MPFQCG0:~/LinuxAssignment$ ls
Docs.gz  compressdemo  docs  file1.txt
cdac@DESKTOP-MPFQCG0:~/LinuxAssignment$ cd compressdemo
cdac@DESKTOP-MPFQCG0:~/LinuxAssignment/compressdemo$ ls
docs
cdac@DESKTOP-MPFQCG0:~/LinuxAssignment/compressdemo$
```

Ans K(a):

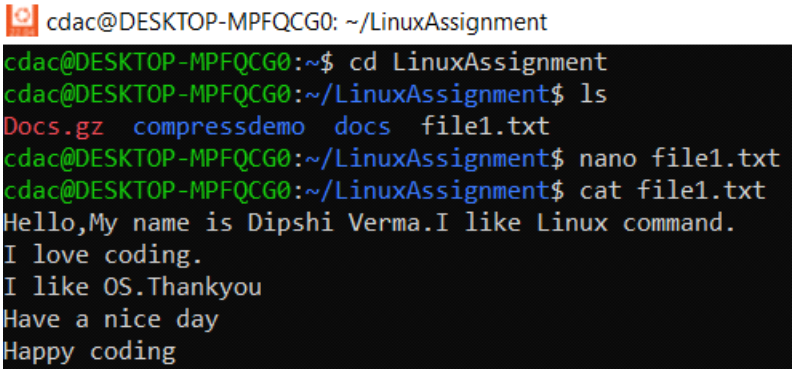
File Editing:

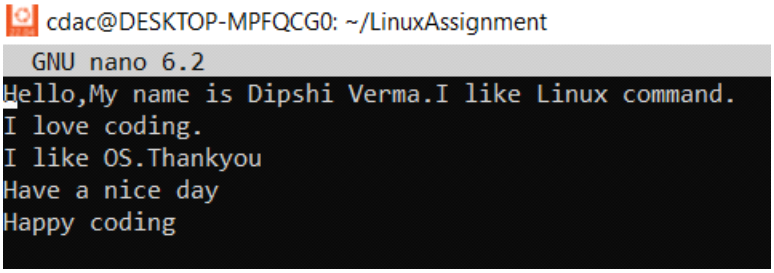
1-Open the directory containing the file1.txt

2-use nano command for using editor and add some text inside file1.txt.

3-use cat command to display content from that file.

code:





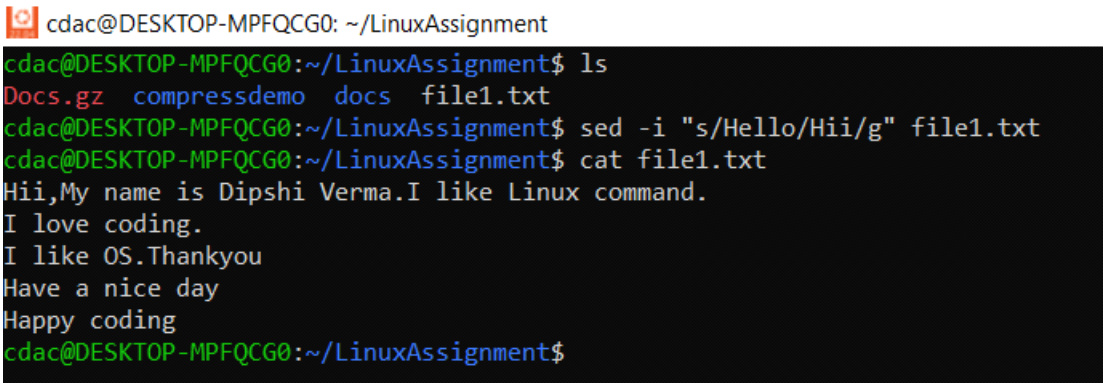
Ans K(b)-

1-use ls command to display files inside LinuxAssignment directory.

2-use command sed-i "s/Hello/Hii/g" to sustitute for word Hello with Hii in file1.txt file.

(for text editing or modification or transforming).

code:



Problem-2

1-Use nano command to create a file called data.txt containing several lines in it.

2-Use head -10 to display only 10 lines from top.

code:

```
cdac@DESKTOP-MPFQCG0:~/LinuxAssignment$ nano data.txt
cdac@DESKTOP-MPFQCG0:~/LinuxAssignment$ head -10 data.txt
Line 1
Line 2
Line 3
Line 4
Line 5
Line 6
Line 7
Line 8
Line 9
Line 10
cdac@DESKTOP-MPFQCG0:~/LinuxAssignment$ tail -5 data.txt
Line 7
Line 8
Line 9
Line 10
Line 11
cdac@DESKTOP-MPFQCG0:~/LinuxAssignment$
```

b-Use tail -5 to display last 5 lines from bottom.

code:

```
cdac@DESKTOP-MPFQCG0:~/LinuxAssignment$ nano data.txt
cdac@DESKTOP-MPFQCG0:~/LinuxAssignment$ head -10 data.txt
Line 1
Line 2
Line 3
Line 4
Line 5
Line 6
Line 7
Line 8
Line 9
Line 10
cdac@DESKTOP-MPFQCG0:~/LinuxAssignment$ tail -5 data.txt
Line 7
Line 8
Line 9
Line 10
Line 11
cdac@DESKTOP-MPFQCG0:~/LinuxAssignment$
```

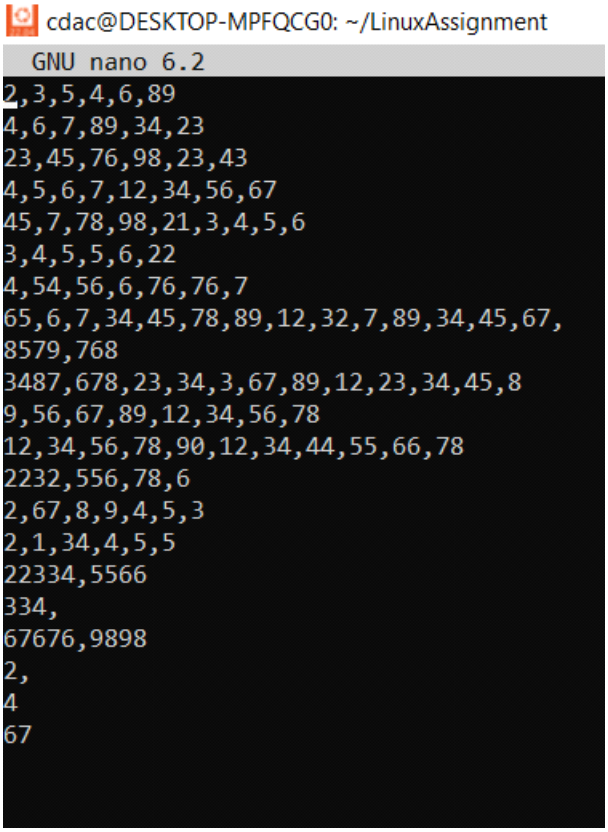
c-1-Use touch command to create numbers.txt file

2-Use nano command to open editor and add data .

3-Then use head -15 command to display 15 number's series from top.

code:

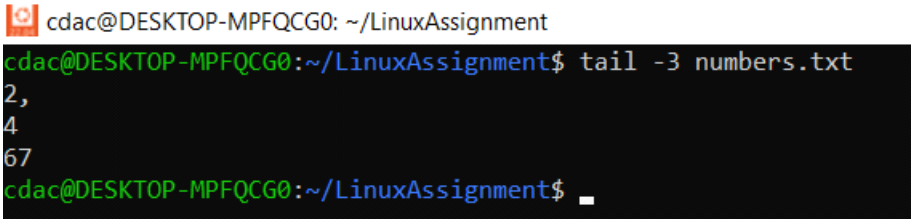
```
cdac@DESKTOP-MPFQCG0:~/LinuxAssignment$ nano numbers.txt
cdac@DESKTOP-MPFQCG0:~/LinuxAssignment$ head -15 numbers.txt
2,3,5,4,6,89
4,6,7,89,34,23
23,45,76,98,23,43
4,5,6,7,12,34,56,67
45,7,78,98,21,3,4,5,6
3,4,5,5,6,22
4,54,56,6,76,76,7
65,6,7,34,45,78,89,12,32,7,89,34,45,67,
8579,768
3487,678,23,34,3,67,89,12,23,34,45,8
9,56,67,89,12,34,56,78
12,34,56,78,90,12,34,44,55,66,78
2232,556,78,6
2,67,8,9,4,5,3
2,1,34,4,5,5
cdac@DESKTOP-MPFQCG0:~/LinuxAssignment$
```



Ans d-

1-Use head -3 numbers.txt command to display first 3 lines of file "numbers.txt"

code:

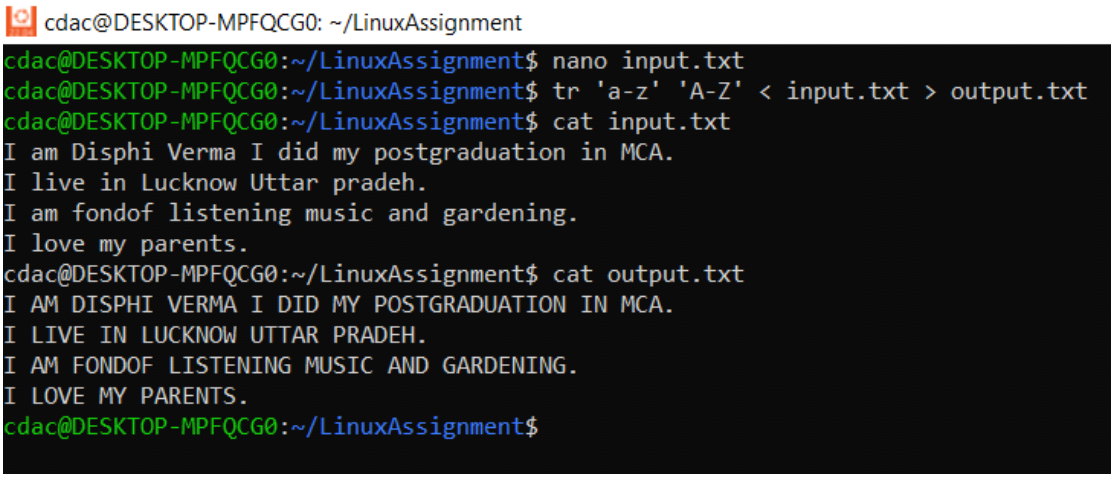


Ans-e:

1-Use nano command to create a file named input.txt and add some content in input.txt.

2-Use tr 'a-z' 'A-Z' <input.txt> output.txt command to convert the content of input.txt to upper case and store it in new file (output.txt).

code:



Ans-f:

1-Use nano command to create a file named duplicate.txt and put some repetitive textual content in it.

2-Use sort duplicate.txt to display all the contents in sorting form and it showing all the duplicates.

3-And Uniq command is used for display uniq contents only

code:

```
cdac@DESKTOP-MPFQCG0:~/LinuxAssignment$ nano duplicate.txt
cdac@DESKTOP-MPFQCG0:~/LinuxAssignment$ sort duplicate.txt | uniq
Anupam
Arun
Dipshi
PArul
Parul
Pushpa
Reem
Sejal
Shruti
Vishnu
cdac@DESKTOP-MPFQCG0:~/LinuxAssignment$
```

Ans G-

1-Create a file named fruit.txt using nano command and put some data.

2-Use the command sort fruit.txt |uniq -c to display the name of all fruits distinctly along with its counts of each fruit name.

code:

cdac@DESKTOP-MPFQCG0: ~/LinuxAssignment

```
cdac@DESKTOP-MPFQCG0:~/LinuxAssignment$ nano fruit.txt
cdac@DESKTOP-MPFQCG0:~/LinuxAssignment$ sort fruit.txt |uniq -c
      2 apple
      2 banana
      1 dragan fruit
      1 grapess
      1 guava
      1 jamun
      1 kiwi
      2 lichi
      2 mango
      1 strawberry
cdac@DESKTOP-MPFQCG0:~/LinuxAssignment$
```