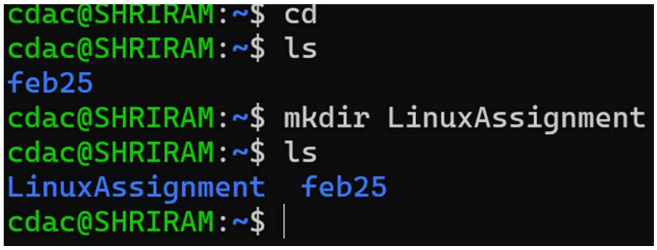
Assignment – 01

Problem-1:

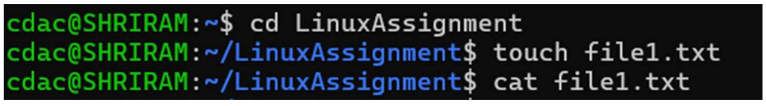
Ans-a ->

1. Use **cd** command, this will redirect you to home directory.
2. Use **ls** command to list all the directories present in the home directory.
3. As LinuxAssignment directory isn't present, we need to create it using command: **mkdir LinuxAssignment**
4. Use **cd** command to go into the newly created directory.



Ans-b ->

1. Use **cd LinuxAssignment** to move into LinuxAssignment directory.
2. Use **touch file1.txt** command to create a new file.
3. With help of **cat** command**,** try to display the contents of file1.txt. No contents will be seen as touch command creates an empty file. We can write anything in it by using nano editor.



Ans-c ->

1. Use **mkdir** command to create a new directory named docs.
2. Use **ls** command to list the contents of LinuxAssignment directory.

```
cdac@SHRIRAM:~/LinuxAssignment$ mkdir docs
cdac@SHRIRAM:~/LinuxAssignment$ ls
docs  file1.txt
```

Ans-d ->

1. Use **cp** command to copy the file file1.txt to another directory.
2. Once the file is copied into another directory, use **mv** command to rename file1.txt to file2.txt.

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

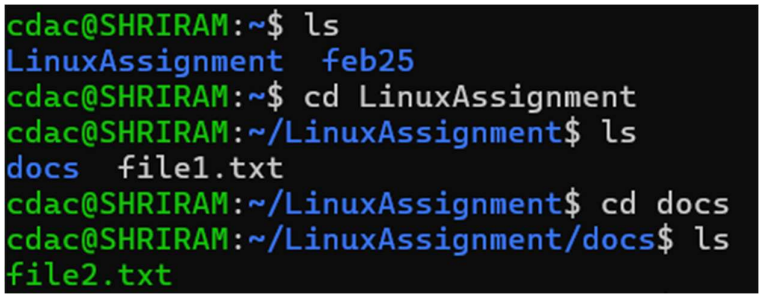
Ans-e ->

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 read permissions to other users.
3. Use **chown** command to assign the ownership of file2.txt to the user.

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

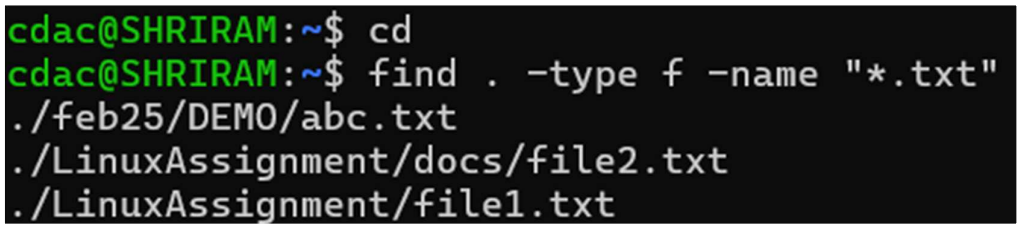
Ans-f ->

1. Use **cd** command to go to home directory.
2. Then use **ls** command to list the contents of home directory.
3. Change the directory to LinuxAssignment with the help of **cd** command.
4. List the contents of LinuxAssignment directory by again using the **cd** command.
5. Change the directory to docs with the help of **cd** command.
6. List the contents of docs directory by again using the **cd** command.



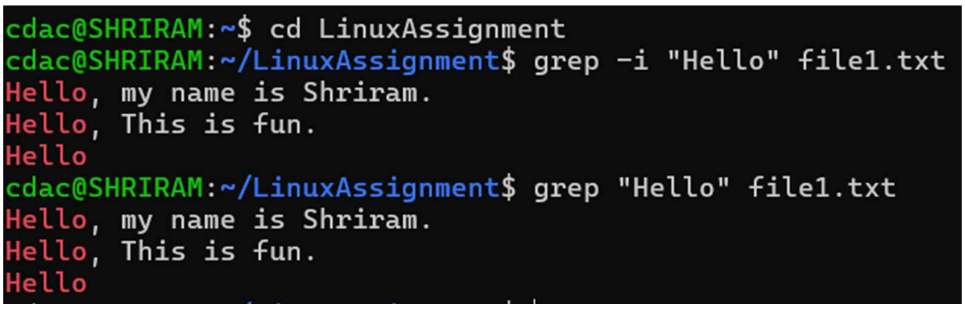
Ans-g.a ->

1. Use **cd** command to change the directory to home directory
2. Use command **find . -type f -name "*.txt"** to search the for all files with the extension ".txt" in the current directory and its subdirectories**.**



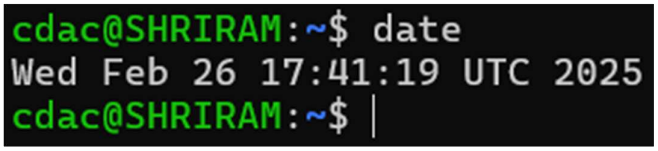
Ans-g.b ->

1. Use **cd** command to change the directory to directory containing target text file.
2. In order to get some output, add some text in the file using nano editor.
3. Use command **grep -i “Hello” file1.txt** to display lines containing a specific word (Hello) in a file (file1.txt).



Ans-h ->

1. Use **date** command to display the current system date and time.



Ans-i ->

1. Use **hostname -I** command to display the current system date and time.
2. Use **ping** command to Ping a remote server (google.com) to check connectivity. Use

```
cdac@SHRIRAM:~$ hostname -I
192.168.178.152
cdac@SHRIRAM:~$ ping -c 10 www.google.com
PING www.google.com (142.250.71.100) 56(84) bytes of data.
64 bytes from pnbomb-ad-in-f4.1e100.net (142.250.71.100): icmp_seq=1 ttl=111 time=545 ms
64 bytes from pnbomb-ad-in-f4.1e100.net (142.250.71.100): icmp_seq=2 ttl=111 time=360 ms
64 bytes from pnbomb-ad-in-f4.1e100.net (142.250.71.100): icmp_seq=3 ttl=111 time=234 ms
64 bytes from pnbomb-ad-in-f4.1e100.net (142.250.71.100): icmp_seq=4 ttl=111 time=18.1 ms
64 bytes from pnbomb-ad-in-f4.1e100.net (142.250.71.100): icmp_seq=5 ttl=111 time=18.7 ms
64 bytes from pnbomb-ad-in-f4.1e100.net (142.250.71.100): icmp_seq=6 ttl=111 time=17.2 ms
64 bytes from pnbomb-ad-in-f4.1e100.net (142.250.71.100): icmp_seq=7 ttl=111 time=17.9 ms
64 bytes from pnbomb-ad-in-f4.1e100.net (142.250.71.100): icmp_seq=8 ttl=111 time=18.7 ms
64 bytes from pnbomb-ad-in-f4.1e100.net (142.250.71.100): icmp_seq=9 ttl=111 time=17.8 ms
64 bytes from pnbomb-ad-in-f4.1e100.net (142.250.71.100): icmp_seq=10 ttl=111 time=16.5 ms

--- www.google.com ping statistics ---
10 packets transmitted, 10 received, 0% packet loss, time 9164ms
rtt min/avg/max/mdev = 16.456/126.264/544.516/179.788 ms
cdac@SHRIRAM:~$
```

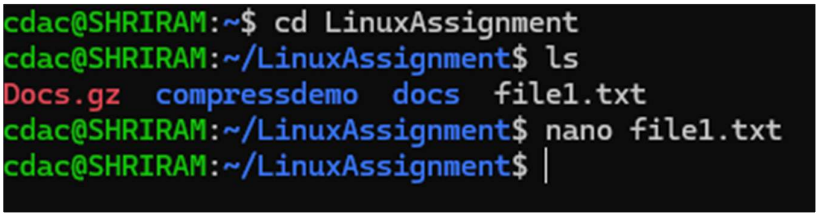
Ans-j ->

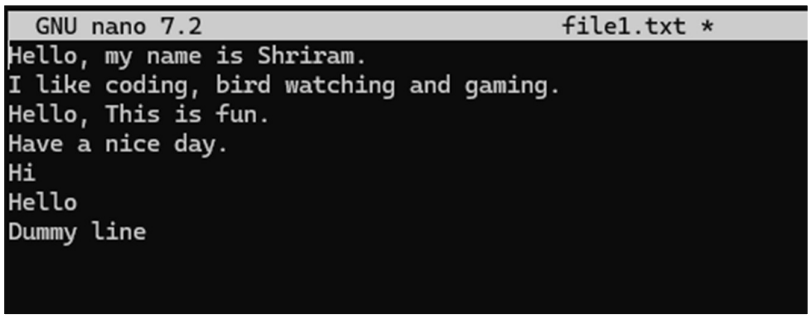
1. Use **tar -cvzf “Docs.gz” docs/** command to compress the docs directory into file “Docs.gz”.
2. Use **ls** command to the display the contents of current directory.
3. Use **mkdir new** command to create a directory with name “new”.
4. Then, use command **tar -xzf “Docs.zip” -C new/** to extract the contents of Docs.zip into new/ directory.
5. Finally use **ls** command to see the results.

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

Ans-k.a ->

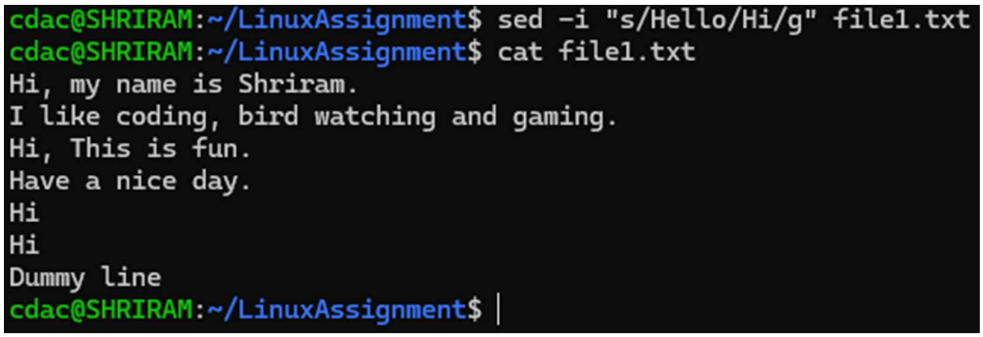
1. Open the directory containing target file using **cd** command,
2. Use **nano target_file.txt** command to open nano editor to add few contents in it.





Ans-k.b ->

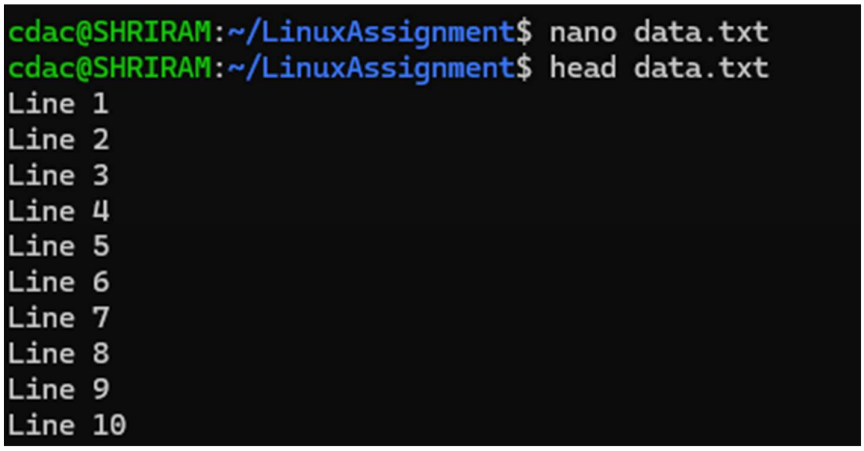
1. Use the command **sed -i "s/Hello/Hi /g" file1.txt** to substitute the word Hello with Hi in target file (file1.txt).
2. -i indicates the shell to ignore case distinction, s represents the substitution and g indicates the shell to replace all occurrences in each line.



Problem-2:

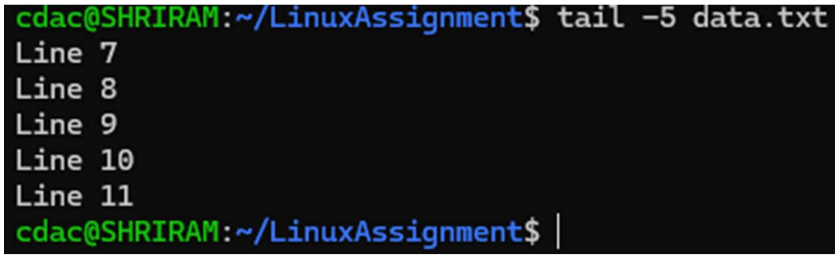
Ans-a ->

1. Use nano command to create a file called data.txt containing several lines in it.
2. Use **head data.txt** command to display first 10 lines of file "data.txt"



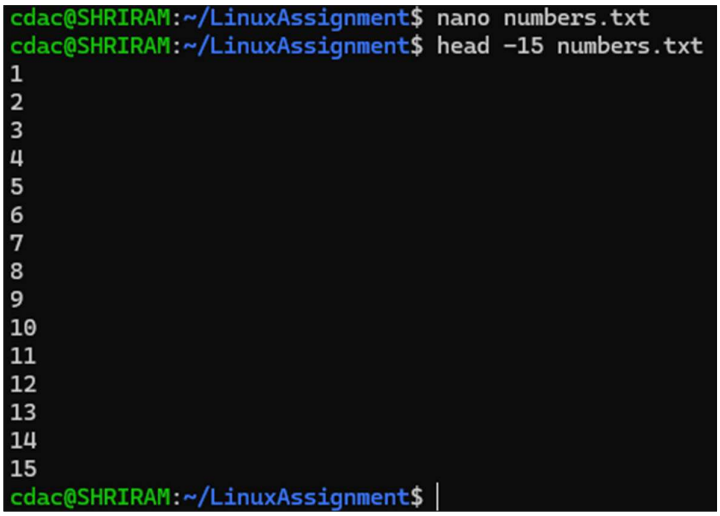
Ans-b ->

1. Use **tail data.txt** command to display last 10 lines of file "data.txt"



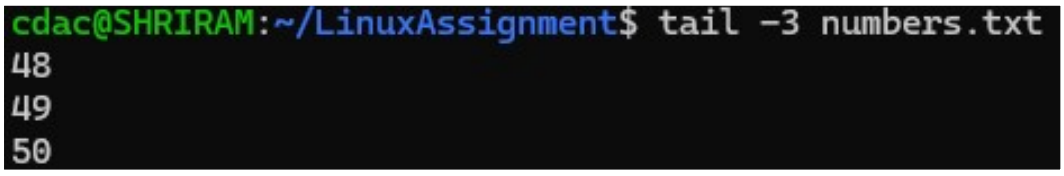
Ans-c ->

1. Use nano command to create a file called numbers.txt containing several number lines in it.
2. Use **head -15 numbers.txt** command to display first 15 lines of file “data.txt”



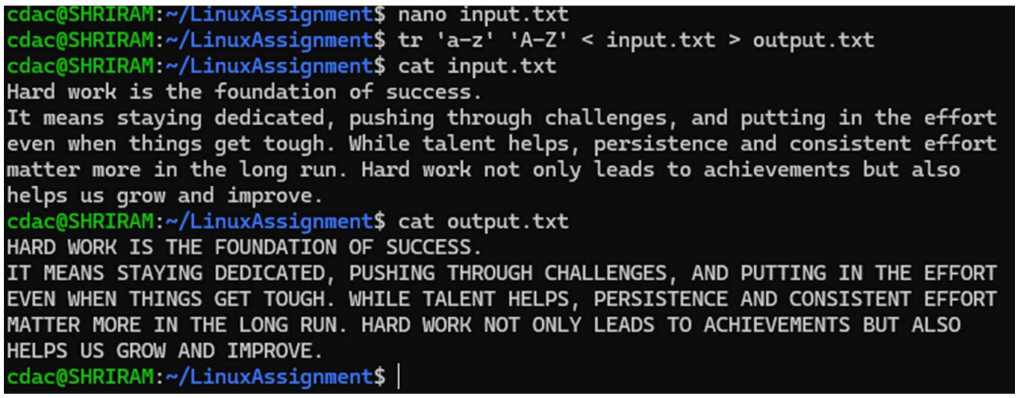
Ans-d ->

1. Use **head -3 numbers.txt** command to display first 3 lines of file “number.txt”



Ans-e ->

1. Use **nano** command to create a file named input.txt and put some textual content in it.
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).



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** command to sort the contents of duplicate.txt file and use uniq command in conjugation with it to get the result as distinct lines of content. uniq only removes **consecutive** duplicate lines.

```
cdac@SHRIRAM:~/LinuxAssignment$ cat duplicate.txt
apple
banana
apple
orange
grape
banana
kiwi
orange
mango
grape
apple
kiwi
cdac@SHRIRAM:~/LinuxAssignment$ sort duplicate.txt | uniq
apple
banana
grape
kiwi
mango
orange
cdac@SHRIRAM:~/LinuxAssignment$
```

Ans-g ->

1. Create a file named fruit.txt using **nano** command and put some fruit names repetitively in it.
2. Use the command **sort fruit.txt | uniq -c** to display the name of all fruits distinctly along with their frequency of occurrence. -c counts and displays the occurrences of each unique line.

```
cdac@SHRIRAM:~/LinuxAssignment$ cat fruit.txt
apple
orange
kiwi
apple
banana
watermelon
dragon fruit
pear
mango
banana
orange
dragon fruit
mango
strawberry
kiwi
kiwi
blueberry
rasberry
grapes
watermelon
melon
apple
kiwi
pear
cdac@SHRIRAM:~/LinuxAssignment$ sort fruit.txt | uniq -c
      3 apple
      2 banana
      1 blueberry
      2 dragon fruit
      1 grapes
      4 kiwi
      2 mango
      1 melon
      2 orange
      2 pear
      1 rasberry
      1 strawberry
      2 watermelon
cdac@SHRIRAM:~/LinuxAssignment$
```