Assignment No.1

Problem 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.

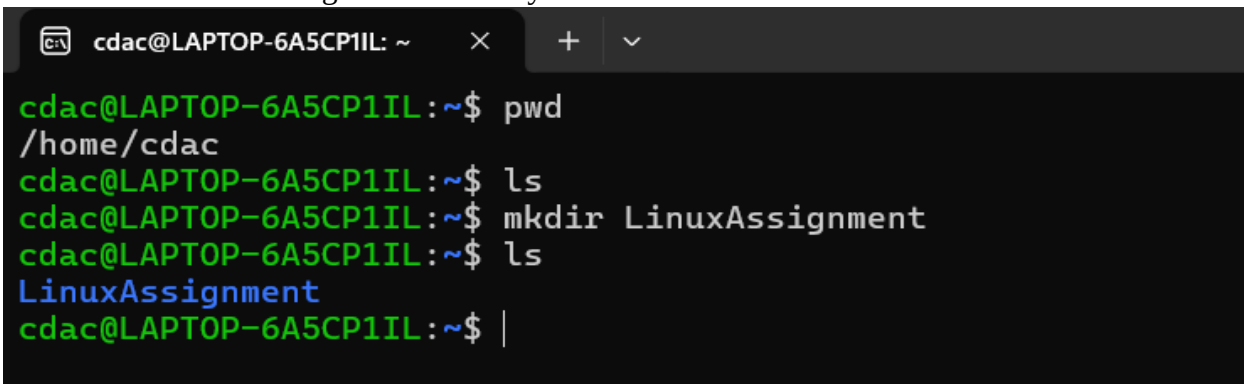
Ans :

1. Use cd command , this will redirect you to home directory(root directory)

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

3. As LinuxAssignment directory is not present we need to create it using command : mkdir LinuxAssignment

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



b) File Management:

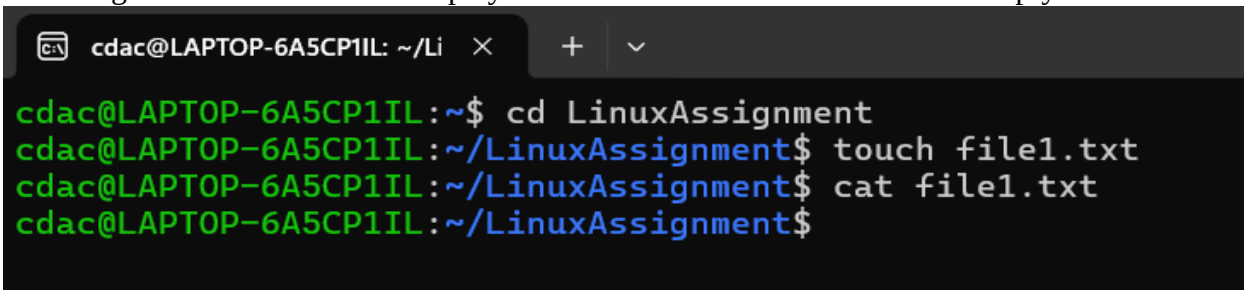
a. Inside the "LinuxAssignment" directory, create a new file named "file1.txt". Display its contents.

Ans :

1. Use cd LinuxAssignment to move into LinuxAssignment directory.

2. Use touch command we can create file1.txt new file.

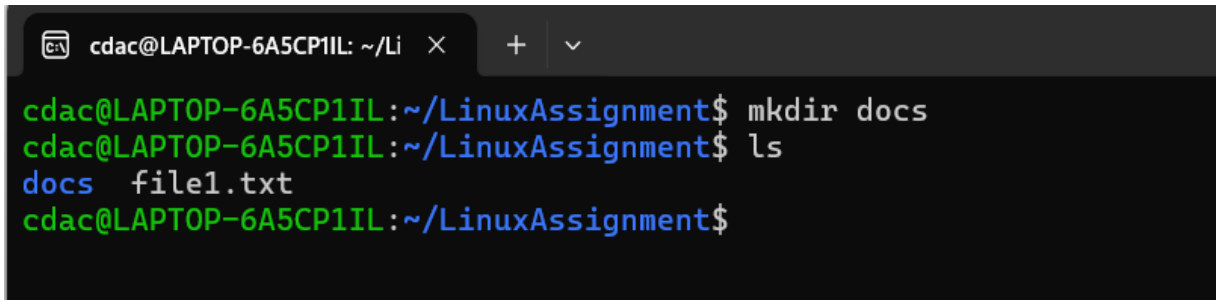
3. using cat command we can display the content of file1.txt but it we it is empty file.



c) Directory Management:

a. Create a new directory named "docs" inside the "LinuxAssignment" directory.

Ans:



Create a new directory using mkdir docs command inside linuxAssignment directory.

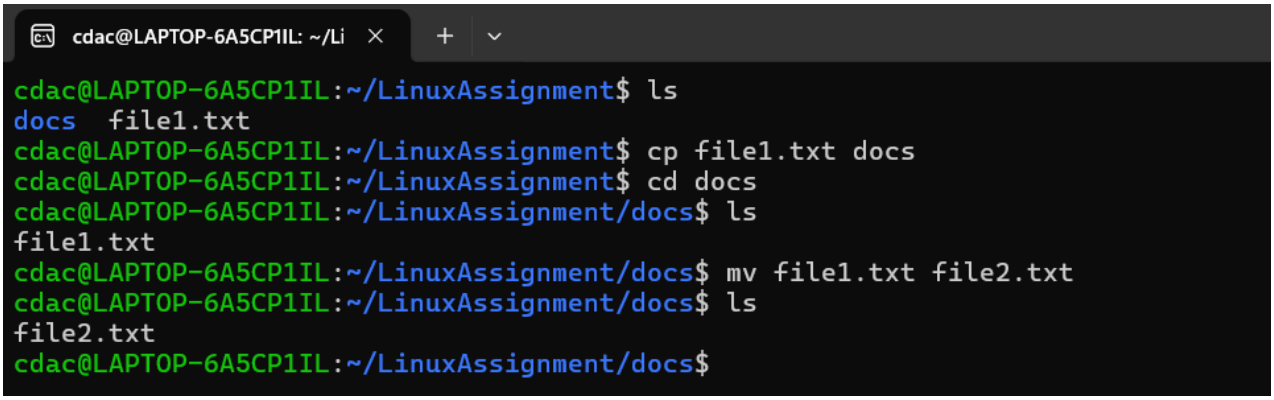
d) Copy and Move Files:

a. Copy the "file1.txt" file into the "docs" directory and rename it to "file2.txt".

Ans:

1. Use cp command to copy file.txt to another directory.

2. Once the file is copied into another directory, use mv command to rename fil1.txt to file2.txt

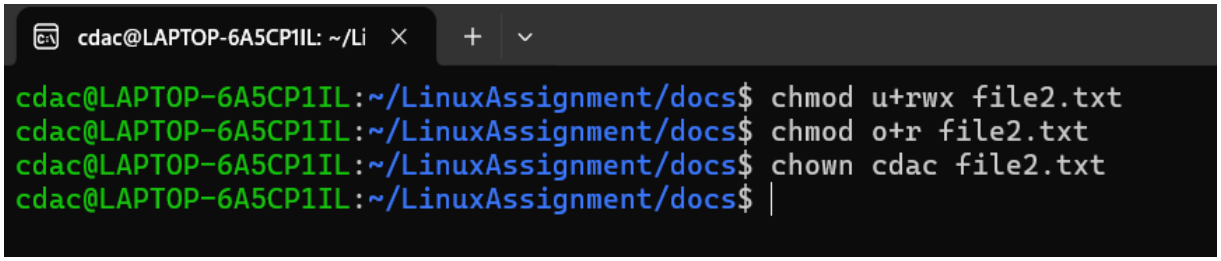


e) Permissions and Ownership:

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.

Ans:

1. Use chmod u+wrx command to allocate read, write, 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



f) Final Checklist:

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

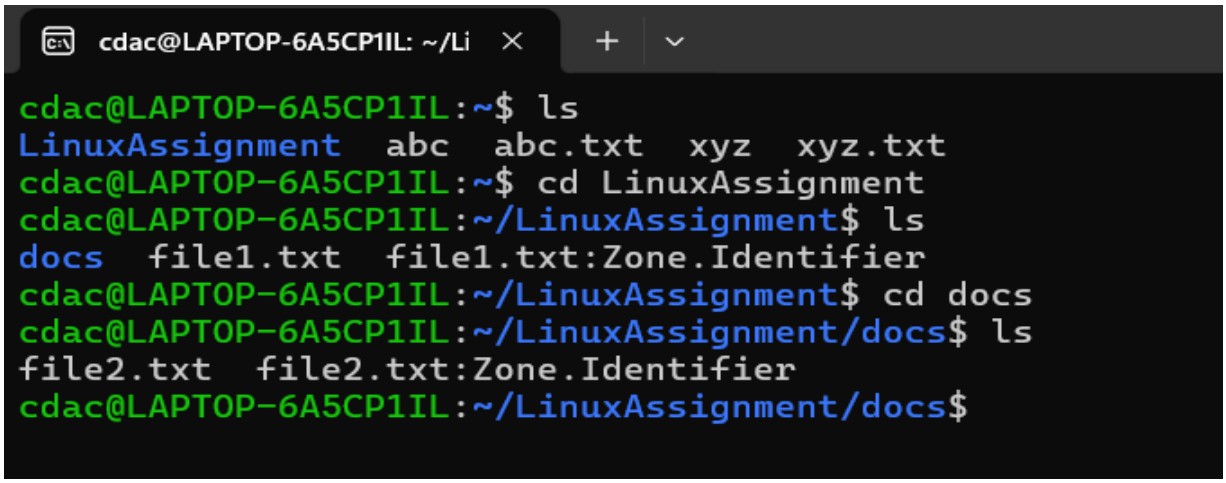
Ans.

1. Use cd command to go to home directory.

2. Then use Is command to list the content of home directory

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

4. Finally, list the content of LinuxAssignment directory by again using the command



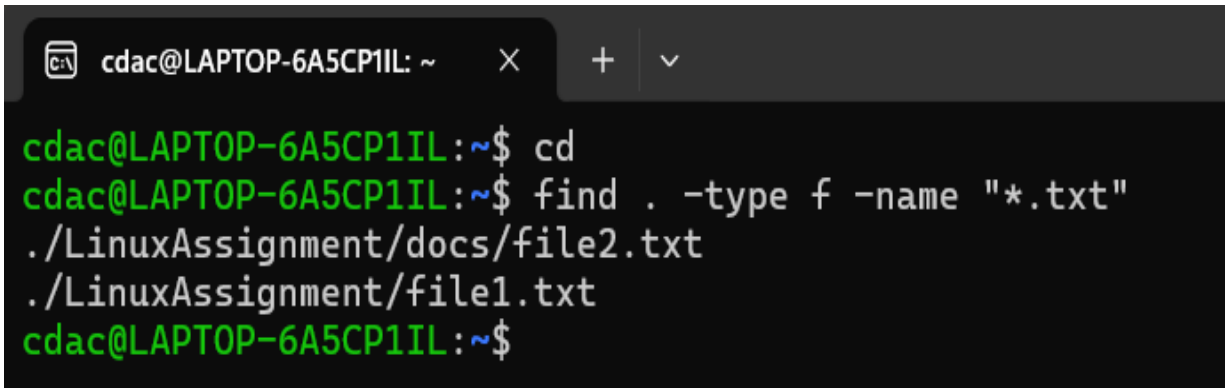
g) File Searching:

a. Search for all files with the extension ".txt" in the current directory and its subdirectories.

Ans:

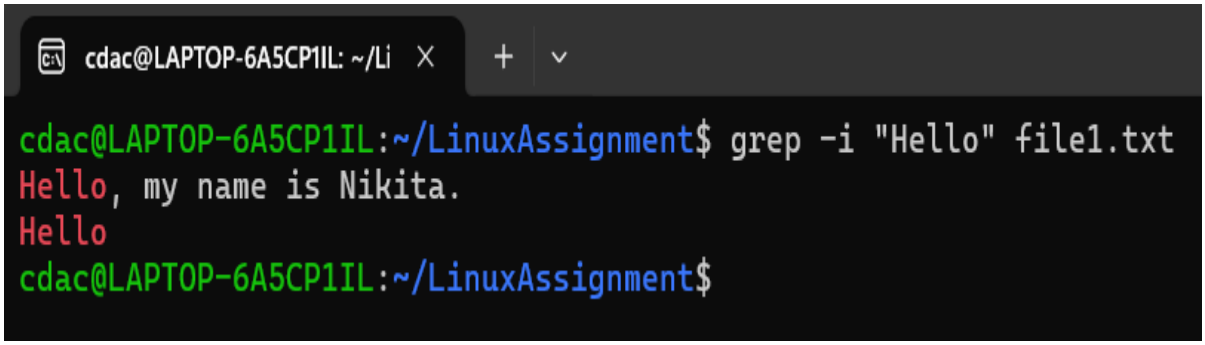
1. Use cd command to change the directory to home directory

2. Use command find . -type f -name “*.txt” to search for all files with the extention “*.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).

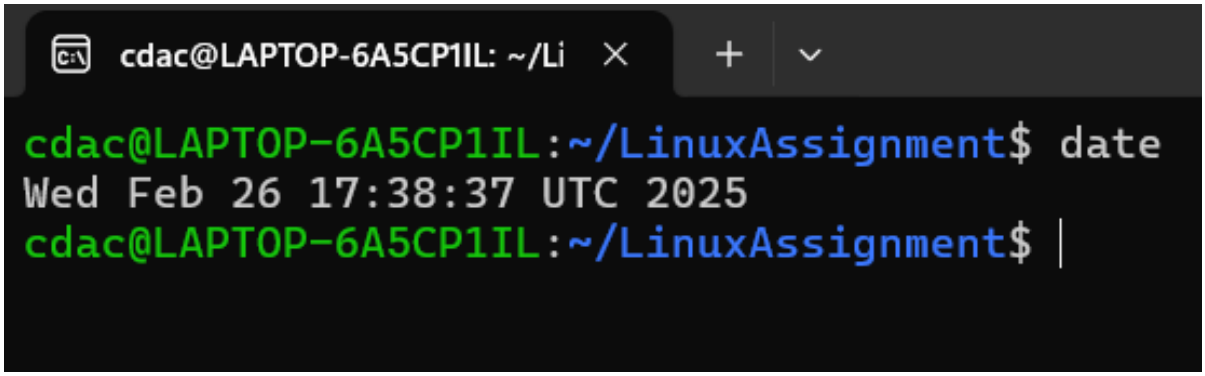
Ans:



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 file1.txt.
3. Use Command grep -i “Hello” file1.txt for displaying the lines containing a specific word.

h) System Information:

a. Display the current system date and time.



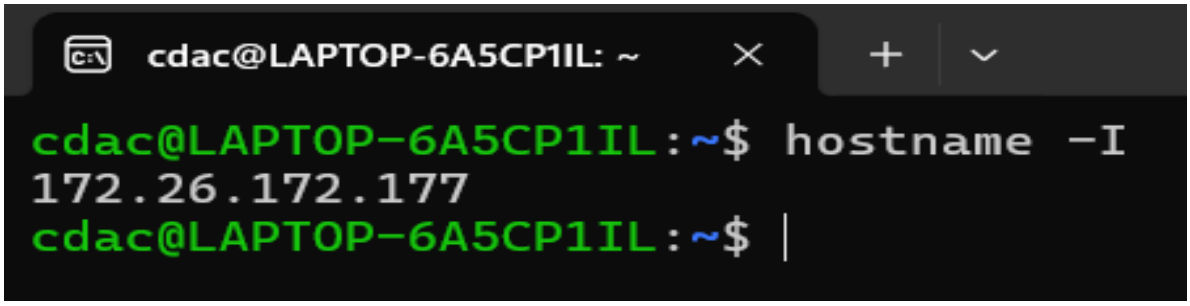
Ans:

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

i) Networking:

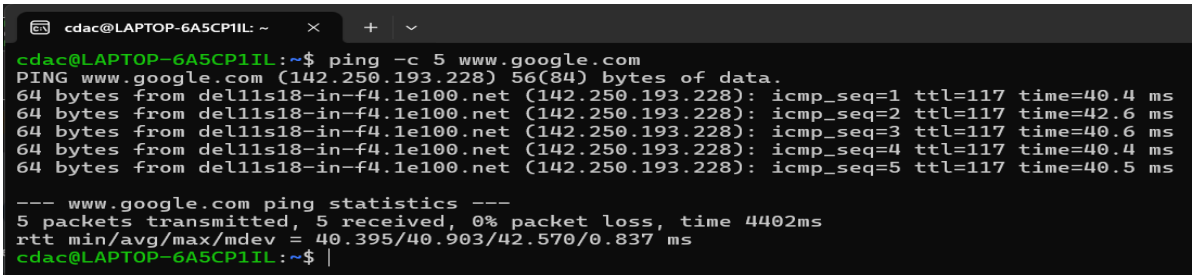
a. Display the IP address of the system

Ans:



1. First installing the package using sudo apt install net-tools command.
2. For displaying the IP address of system use hostname -I command.

b. Ping a remote server to check connectivity (provide a remote server address to ping)



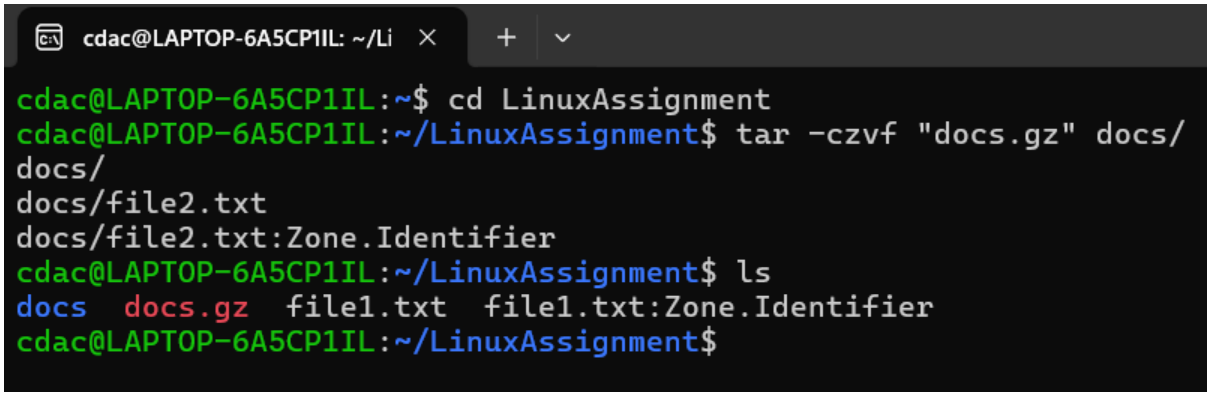
Ans:

Use ping -c 5 www.google .com command in order to ping the remote server to check connectivity.

j) File Compression:

a. Compress the "docs" directory into a zip file

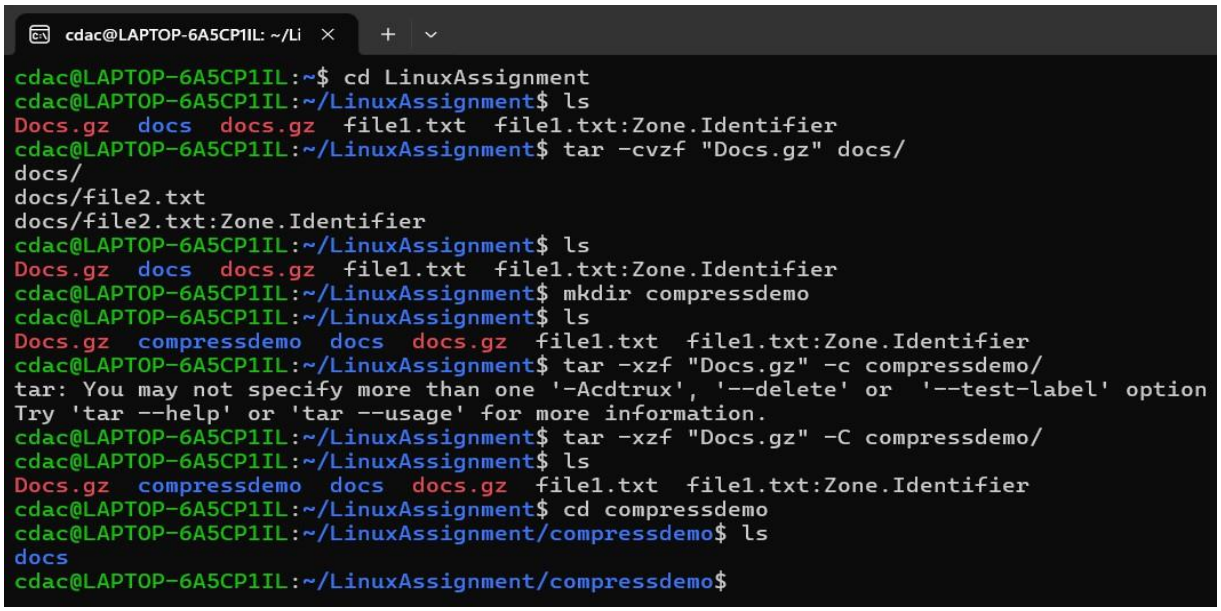
Ans:



Use tar -czvf "docs.gz" docs/ command if you want to compress the "docs" directory intozip file.

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

Ans:

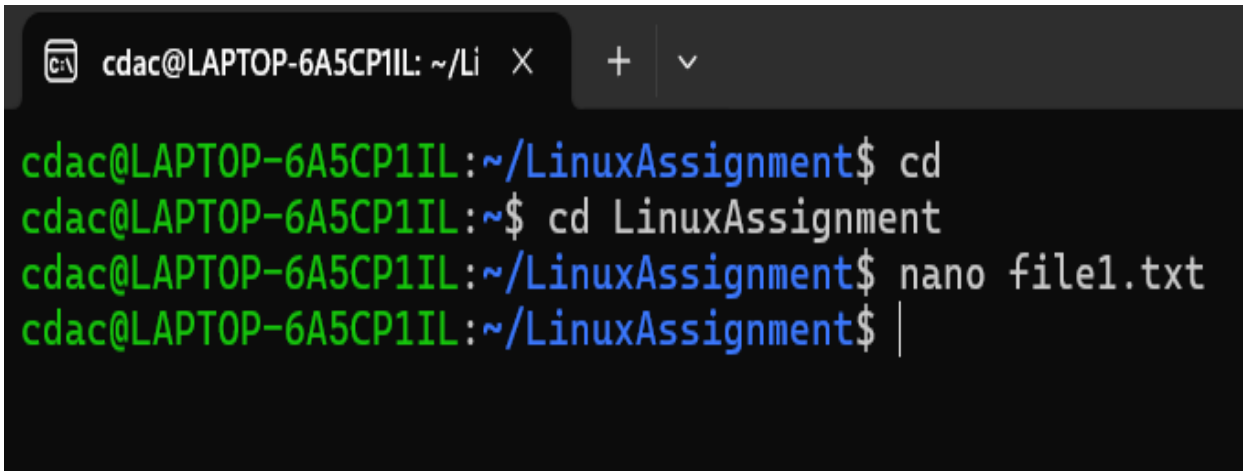


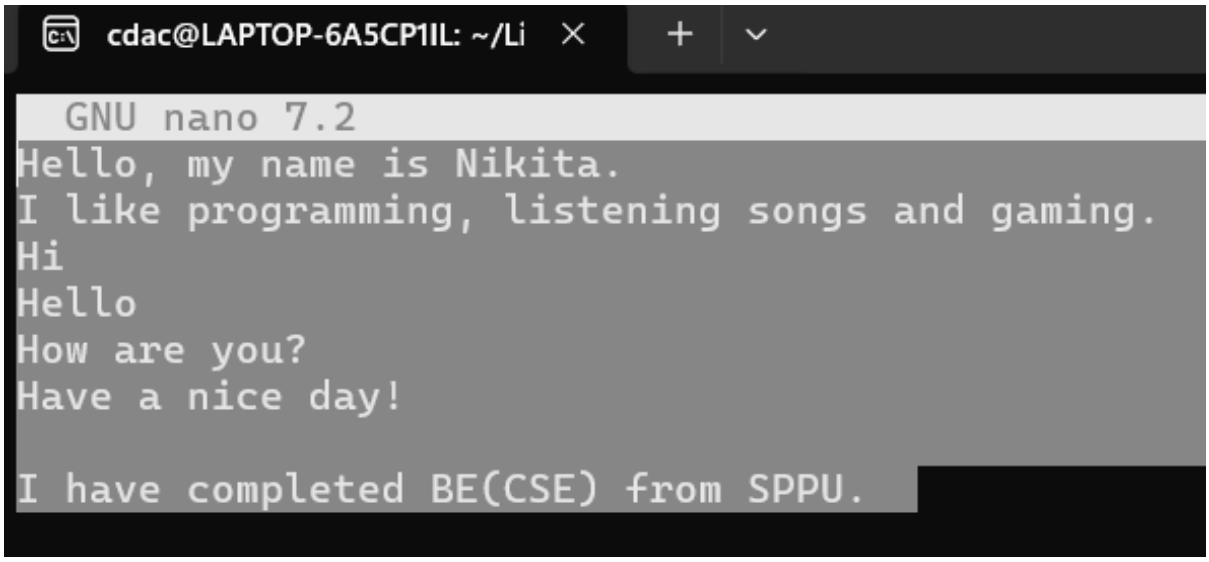
1. Use tar-cvzf"Docs.gz" docs/ command to compress the docs directory into file "Docs.gz".
2. Use is command to the display the contents of current directory.
3. Use mkdir command to create a new directory with name.
4. Then, use command tar -xzf"Docs.zip"-c new/ to extract the contents of Docs.zip into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

k) File Editing:

a. Open the "file1.txt" file in a text editor and add some text to it

Ans:

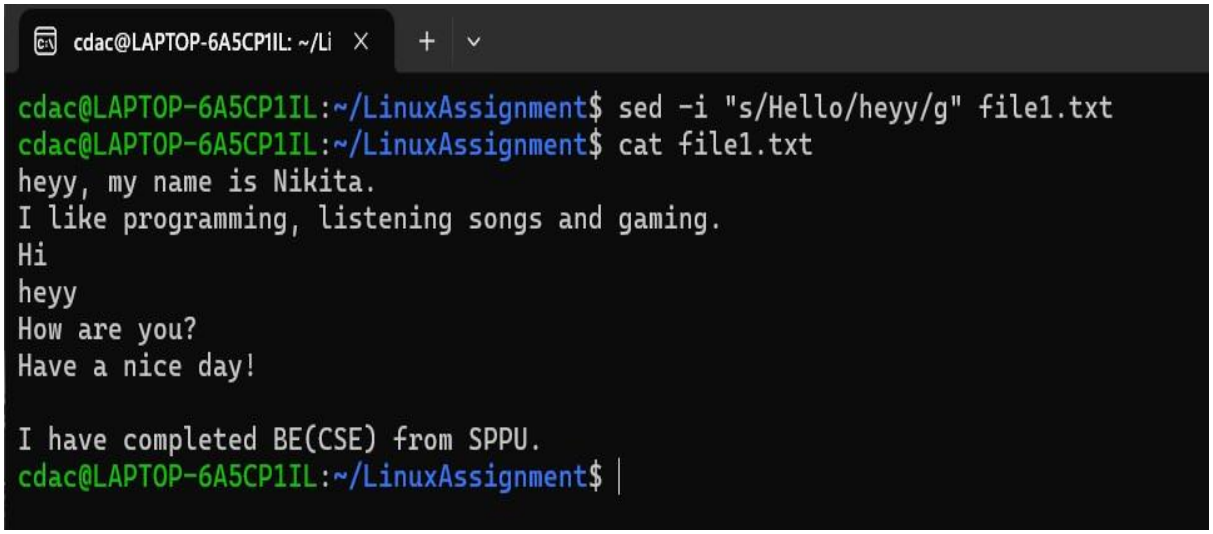




1. Open the directory containing target file using cd command.
2. Use nano target_file.txt command in order to add some text in it.

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

Ans:



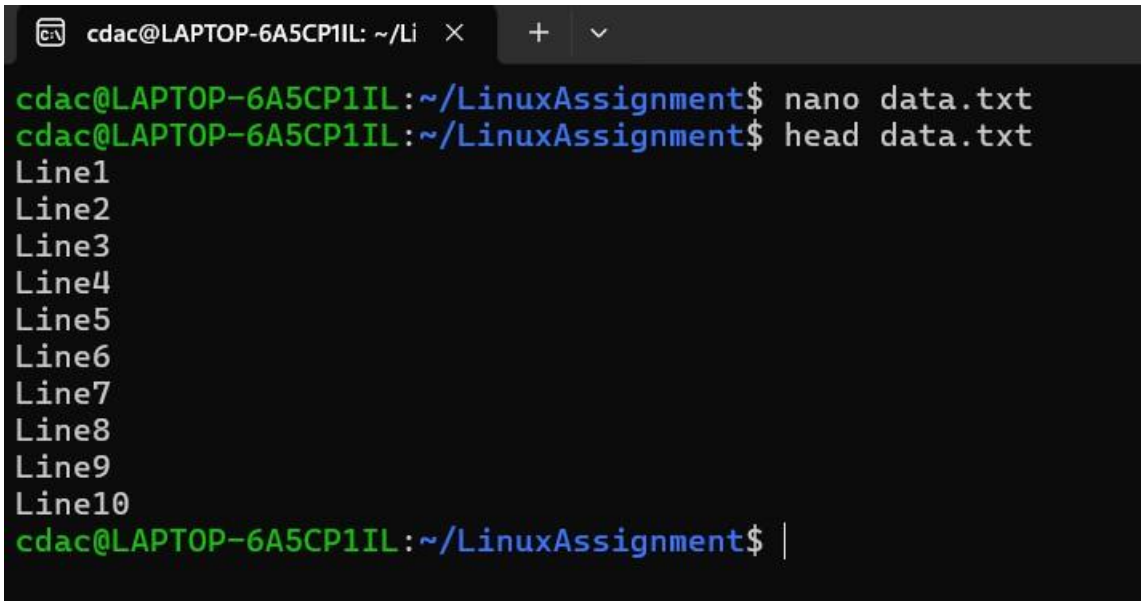
Use sed -i "s/Hello/heyy/g" file1.txt command to replace a specific word in the "file1.txt" file with another word.

Problem 2:

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

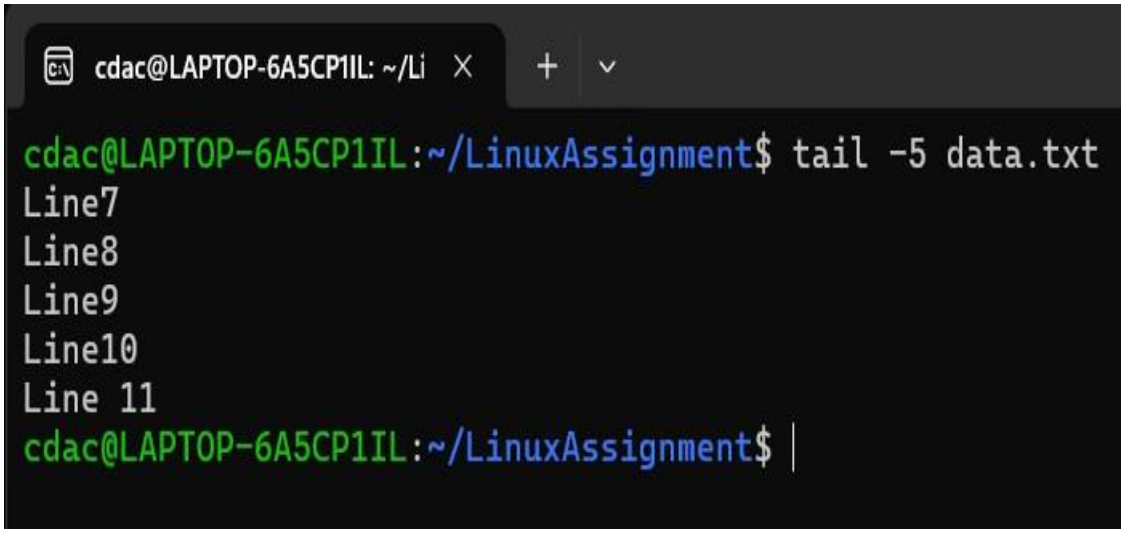
a. Suppose you have a file named "data.txt" containing important information. Display the first 10 lines of this file to quickly glance at its contents using a command.

Ans:



1. create data.txt file using nano data.txt command which is also enable you to put the data.
2. Display first 10 lines with the help of head -10 data.txt command.

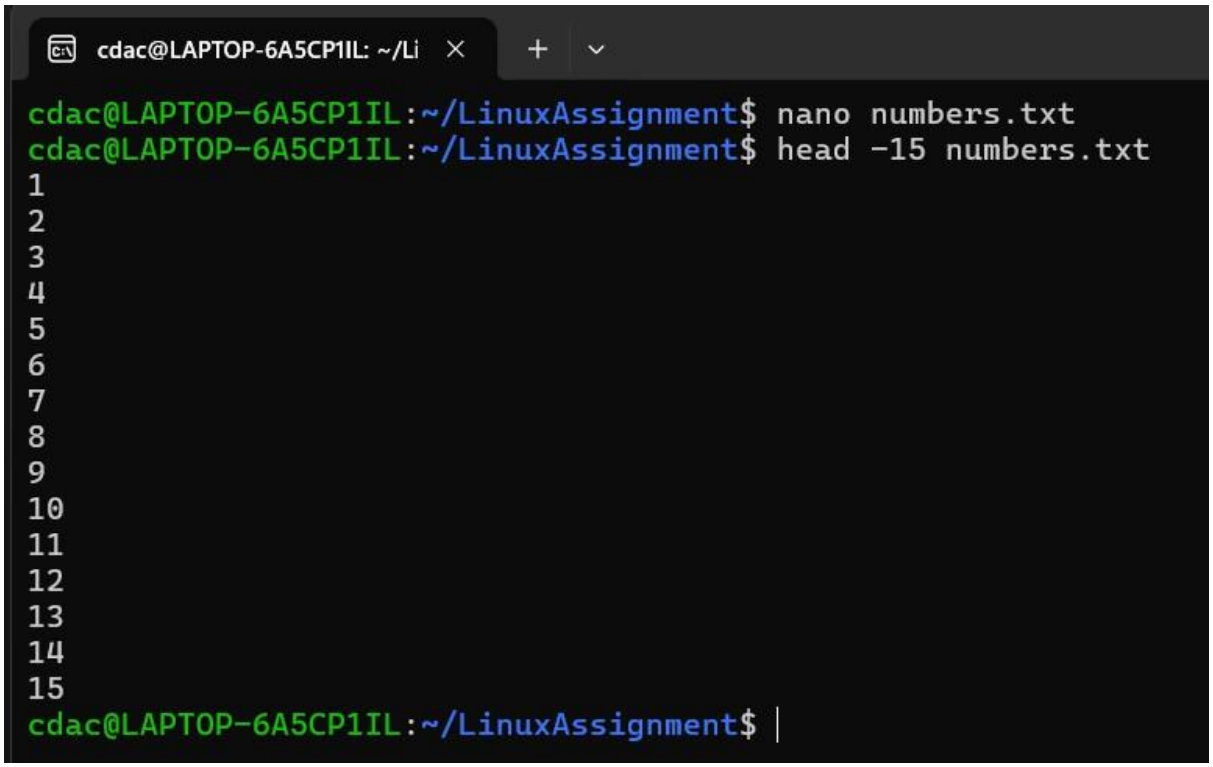
b. Now, to check the end of the file for any recent additions, display the last 5 lines of "data.txt" using another command.



Display the last 5 lines of data from data.txt file using tail -5 data.txt command.

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.

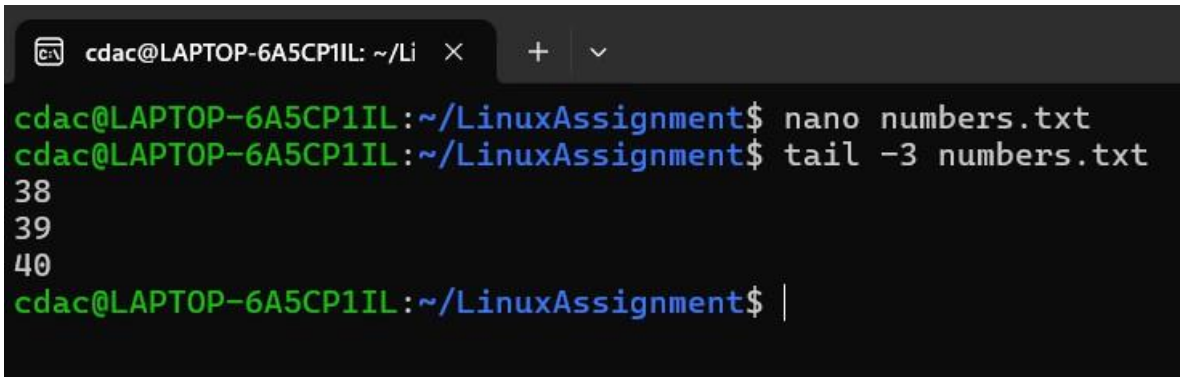
Ans:



1. Create a number.txt file with the help of nano numbers.txt command it will give you privilege to put data into the file.
2. Display first 15 lines using head -15 numbers.txt command.

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

Ans:



Display the last 3 lines of data from numbers.txt file using tail -5 numbers.txt command.

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."

Ans:

```
cdac@LAPTOP-6A5CP1IL: ~/Li
cdac@LAPTOP-6A5CP1IL:~/LinuxAssignment$ nano input.txt
cdac@LAPTOP-6A5CP1IL:~/LinuxAssignment$ tr 'a-z' 'A-Z' <input.txt> output.txt
cdac@LAPTOP-6A5CP1IL:~/LinuxAssignment$ cat input.txt
"I do not believe in half-measures or partial commitments.
If I am doing something, I give my everything to it.
"He is dedication to fitness, training,
and performance reflects this mindset,
making him one of the most disciplined cricketers in the world.
cdac@LAPTOP-6A5CP1IL:~/LinuxAssignment$ cat output.txt
"I DO NOT BELIEVE IN HALF-MEASURES OR PARTIAL COMMITMENTS.
IF I AM DOING SOMETHING, I GIVE MY EVERYTHING TO IT.
"HE IS DEDICATION TO FITNESS, TRAINING,
AND PERFORMANCE REFLECTS THIS MINDSET,
MAKING HIM ONE OF THE MOST DISCIPLINED CRICKETERS IN THE WORLD.
cdac@LAPTOP-6A5CP1IL:~/LinuxAssignment$
```

1. **Create a input.txt file with nano input.txt command it will give access to write content.**
2. **Use command tr 'a-z' 'A-Z' <input.txt> output.txt in order to convert all lowercase to uppercase content and store it in new file that is output.txt.**
3. **Use cat output.txt command to see output.**

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."

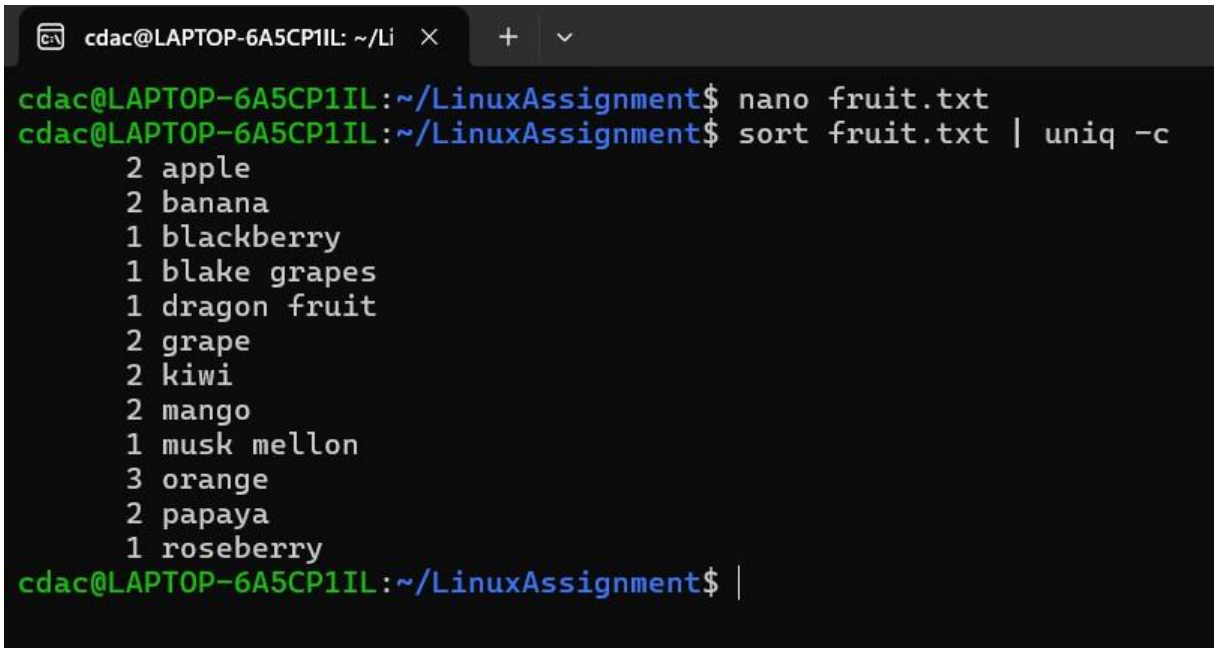
Ans

```
cdac@LAPTOP-6A5CP1IL: ~/Li
cdac@LAPTOP-6A5CP1IL:~$ cd LinuxAssignment
cdac@LAPTOP-6A5CP1IL:~/LinuxAssignment$ rm duplicate.txt
cdac@LAPTOP-6A5CP1IL:~/LinuxAssignment$ nano duplicate.txt
cdac@LAPTOP-6A5CP1IL:~/LinuxAssignment$ cat duplicate.txt
apple
banana
apple
orange
grape
banana
kiwi
orange
mango
grape
apple
kiwi
cdac@LAPTOP-6A5CP1IL:~/LinuxAssignment$ sort duplicate.txt | uniq
apple
banana
grape
kiwi
mango
orange
cdac@LAPTOP-6A5CP1IL:~/LinuxAssignment$
```

1. Create duplicate.txt file using nano duplicate.txt command it will give you a privilege to write some content in it.
2. Use sort duplicates.txt | uniq command to display unique content lines from duplicate.txt file.

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."

Ans:



1. Create a file name fruit.txt with nano fruit.txt and put some fruit names repeatedly.
2. Use sort fruit.txt | uniq -c command in order to display each unique fruit along with the count of its occurrences in "fruit.txt."