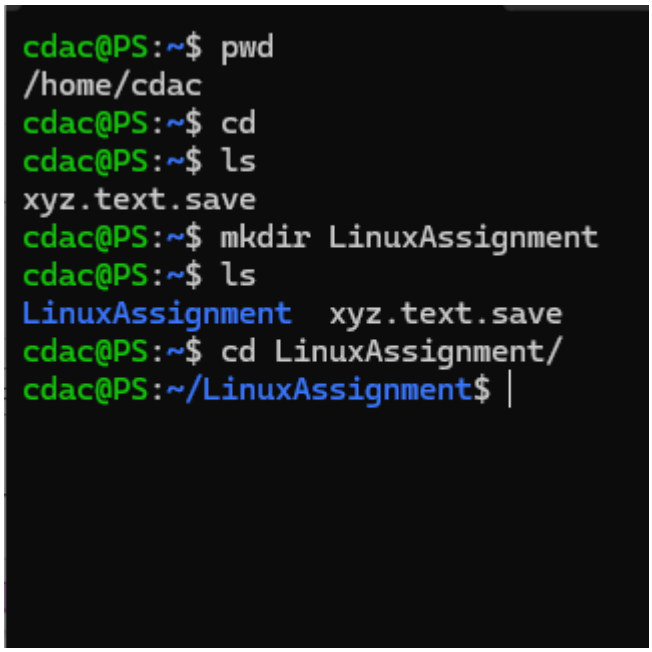
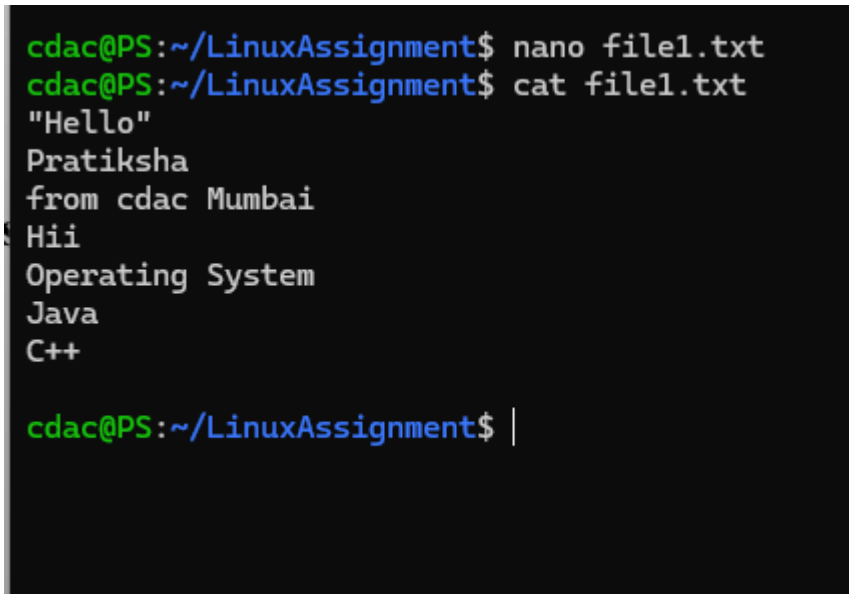
a) Navigate and List:

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.



Directory Management:

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

```
cdac@PS:~$ cd
cdac@PS:~$ ls
CDAC             LinuxAssignmentDocs  data1.txt      fruit.txt  numbers.txt
LinuxAssignment  data.txt             duplicate.txt  inpt.txt   output.txt
cdac@PS:~$ cd LinuxAssignment
cdac@PS:~/LinuxAssignment$ touch file1.txt
cdac@PS:~/LinuxAssignment$ cat file1.txt
cdac@PS:~/LinuxAssignment$ mkdir docs
cdac@PS:~/LinuxAssignment$ ls
docs  file1.txt
cdac@PS:~/LinuxAssignment$
```

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

```
cdac@PS:~/LinuxAssignment/docs$ cd docs
-bash: cd: docs: No such file or directory
cdac@PS:~/LinuxAssignment/docs$ cd doc
-bash: cd: doc: No such file or directory
cdac@PS:~/LinuxAssignment/docs$ ls
file2.txt
cdac@PS:~/LinuxAssignment/docs$ cd
cdac@PS:~$ cd LinuxAssignment
cdac@PS:~/LinuxAssignment$ cd dox
-bash: cd: dox: No such file or directory
cdac@PS:~/LinuxAssignment$ cd docs
cdac@PS:~/LinuxAssignment/docs$ ls
file2.txt
cdac@PS:~/LinuxAssignment/docs$ chmod 744 file2.txt
cdac@PS:~/LinuxAssignment/docs$ chmod $(whoami) file.txt
chmod: invalid mode: ‘cdac’
Try 'chmod --help' for more information.
cdac@PS:~/LinuxAssignment/docs$ cdac\ $(whoami) file.txt
cdac cdac: command not found
cdac@PS:~/LinuxAssignment/docs$ cdac $(whoami) file.txt
Command 'cdac' not found, did you mean:
  command 'crac' from deb crac (2.5.2+dfsg-5)
Try: sudo apt install <deb name>
```

e) Permissions and Ownership:

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@PS:~/LinuxAssignment$ touch file1.txt
cdac@PS:~/LinuxAssignment$ cat file1.txt
cdac@PS:~/LinuxAssignment$ mkdir docs
mkdir: cannot create directory ‘docs’: File exists
cdac@PS:~/LinuxAssignment$ ls
docs  file1.txt
cdac@PS:~/LinuxAssignment$ cp file1.txt docs/file2.txt
cdac@PS:~/LinuxAssignment$ ls
docs  file1.txt
cdac@PS:~/LinuxAssignment$ cd docs
cdac@PS:~/LinuxAssignment/docs$ ls
file2.txt
cdac@PS:~/LinuxAssignment/docs$
```

f) Final Checklist

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

```
cdac@PS:~/LinuxAssignment$ cd ~/LinuxAssignment
cdac@PS:~/LinuxAssignment$ ls -l
total 8
drwxr-xr-x 2 cdac cdac 4096 Feb 26 16:59 docs
-rw-r--r-- 1 cdac cdac   66 Feb 26 16:51 file1.txt
```

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).

```
cdac@PS:~/LinuxAssignment/docs$ nano file1.txt
cdac@PS:~/LinuxAssignment/docs$ y
y: command not found
cdac@PS:~/LinuxAssignment/docs$ find . -type f -name " x.txt"
cdac@PS:~/LinuxAssignment/docs$ grep "focused" file1.txt
grep: file1.txt: No such file or directory
cdac@PS:~/LinuxAssignment/docs$ grep "focused" file.txt
```

Section 2:

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@PS:~$ nano data.txt
cdac@PS:~$ head -10 data.txt
1."Hello"
2.Hii
3.My name
4.is
5.Pratiksha
6.Manohar
7.Shilimkarasically
8.I
9.am
10.from
```

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@PS:~$ tail -5 data.txt

So let's embrace this journey true,
With hope in our hearts, and skies of blue.
For life is a story, and we are the pen,
Writing new chapters again and again.
cdac@PS:~$
```

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

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

```
cdac@PS:~$ tail -3 numbers.txt
24
25
```

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."

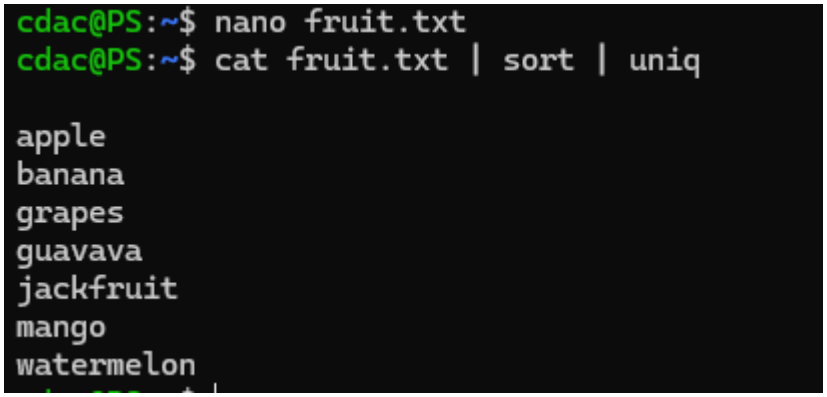
```
cdac@PS:~$ nano inpt.txt
cdac@PS:~$ tr 'a-z' 'A-Z' <input.txt> output.txt
-bash: input.txt: No such file or directory
cdac@PS:~$ tr 'a-z' 'A-Z' <inpt.txt> output.txt
cdac@PS:~$ ls
CDAC  LinuxAssignmentDocs  data.txt  data1.txt  inpt.txt  numbers.txt  output.txt
cdac@PS:~$ cat output.txt
HII
HELLO
PRATIKSHA
CDAC
MUMBAI
PUNE
PQR
XYZ

cdac@PS:~$
```

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@PS:~$ nano duplicate.txt
cdac@PS:~$ cat duplicate.txt | sort |uniq
mountain,tree,river,forest,ocean,rain,wind
cdac@PS:~$
```

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@PS:~$ nano fruit.txt
cdac@PS:~$ cat fruit.txt | sort | uniq
apple
banana
grapes
guavava
jackfruit
mango
watermelon