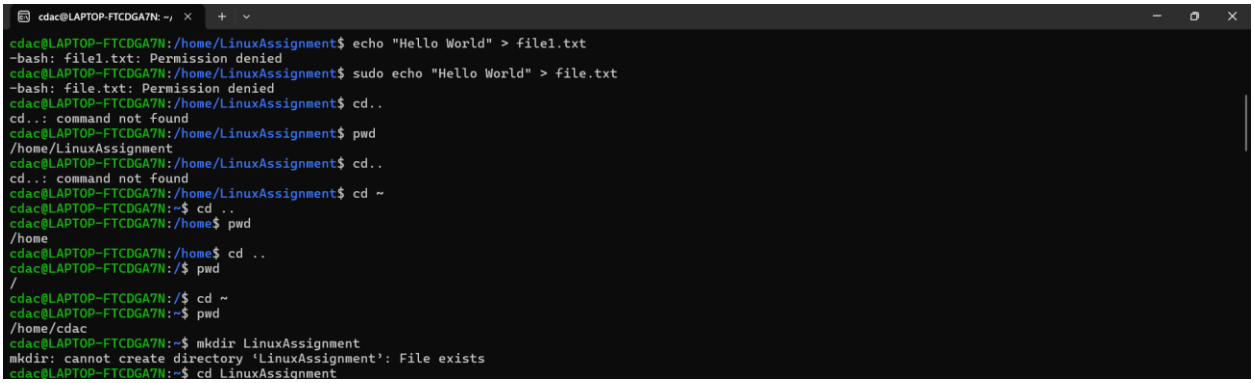
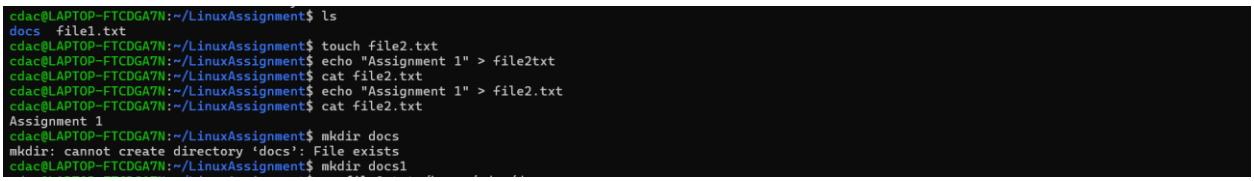
Module 1 Assignment 1

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.

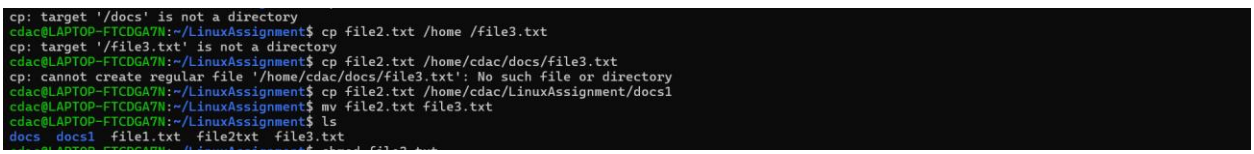


B) File Management: a. Inside the "LinuxAssignment" directory, create a new file named "file1.txt". Display its contents

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



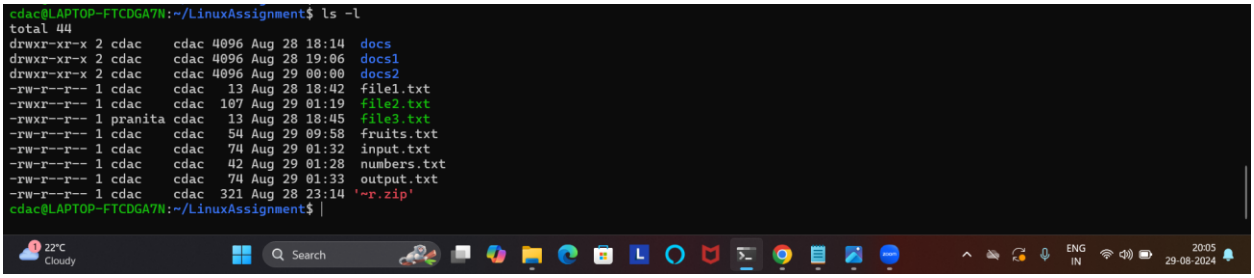
d)Copy and Move Files: a. Copy the "file1.txt" file into the "docs" directory and rename it to "file2.txt".



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

```
cdac@LAPTOP-FTCDGA7N:~/LinuxAssignment$ chmod u+rwx file3.txt
chmod: changing permissions of 'file3.txt': Operation not permitted
cdac@LAPTOP-FTCDGA7N:~/LinuxAssignment$ chmod u+rwx file2.txt
cdac@LAPTOP-FTCDGA7N:~/LinuxAssignment$ ls -l
total 44
drwxr-xr-x 2 cdac    cdac 4096 Aug 28 18:14  docs
drwxr-xr-x 2 cdac    cdac 4096 Aug 28 19:06  docs1
drwxr-xr-x 2 cdac    cdac 4096 Aug 29 00:00  docs2
-rw-r--r-- 1 cdac    cdac   13 Aug 28 18:42  file1.txt
-rwxr--r-- 1 cdac    cdac  107 Aug 29 01:19  file2.txt
-rwxr--r-- 1 pranita cdac   13 Aug 28 18:45  file3.txt
-rw-r--r-- 1 cdac    cdac   54 Aug 29 09:58  fruits.txt
-rw-r--r-- 1 cdac    cdac   74 Aug 29 01:32  input.txt
-rw-r--r-- 1 cdac    cdac   42 Aug 29 01:28  numbers.txt
-rw-r--r-- 1 cdac    cdac   74 Aug 29 01:33  output.txt
-rw-r--r-- 1 cdac    cdac  321 Aug 28 23:14 '~r.zip'
cdac@LAPTOP-FTCDGA7N:~/LinuxAssignment$ whoami
cdac
cdac@LAPTOP-FTCDGA7N:~/LinuxAssignment$ chown cdac file2.txt
cdac@LAPTOP-FTCDGA7N:~/LinuxAssignment$ ls -l
total 44
```

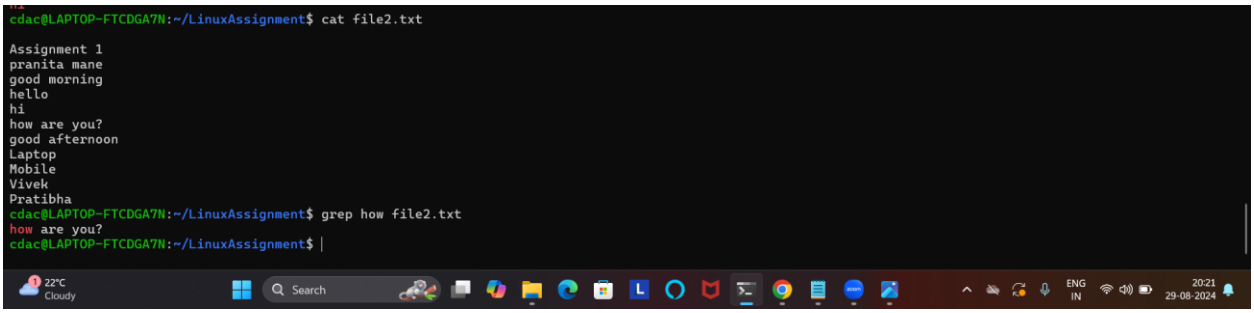
f) Finally, list the contents of the "LinuxAssignment" directory and the root directory to ensure that all operations were performed correctly.



G) 1. Search for all files with the extension ".txt" in the current directory and its subdirectories.

```
cdac@LAPTOP-FTCDGA7N:~/LinuxAssignment$ find . -type f -name "*.txt"
./file3.txt
./file1.txt
./docs1/file2.txt
./file2.txt
cdac@LAPTOP-FTCDGA7N:~/LinuxAssignment$ sudo adduser user2
adduser: The user `user2' already exists.
```

2. Display lines containing a specific word in a file (provide a file name and the specific word to search).



H) Display the current system date and time.

```
Assignment 1
cdac@LAPTOP-FTCDGA7N:~/LinuxAssignment$ date
Wed Aug 28 22:46:42 IST 2024
cdac@LAPTOP-FTCDGA7N:~/LinuxAssignment$ ip addr show
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
       valid_lft forever preferred_lft forever
    inet 10.255.255.254/32 brd 10.255.255.254 scope global lo
```

f) a. Display the IP address of the system.

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

```
cdac@LAPTOP-FTCDGA7N:~/LinuxAssignment$ ip addr show
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
       valid_lft forever preferred_lft forever
    inet 10.255.255.254/32 brd 10.255.255.254 scope global lo
       valid_lft forever preferred_lft forever
    inet6 ::1/128 scope host
       valid_lft forever preferred_lft forever
2: eth0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc mq state UP group default qlen 1000
    link/ether 00:15:5d:0b:17:83 brd ff:ff:ff:ff:ff:ff
    inet 172.27.150.74/20 brd 172.27.159.255 scope global eth0
       valid_lft forever preferred_lft forever
    inet6 fe80::215:5dff:fe0b:1783/64 scope link
       valid_lft forever preferred_lft forever
```

```
cdac@LAPTOP-FTCDGA7N:~/LinuxAssignment$ ping 8.8.8.8
PING 8.8.8.8 (8.8.8.8) 56(84) bytes of data.
64 bytes from 8.8.8.8: icmp_seq=1 ttl=59 time=13.8 ms
64 bytes from 8.8.8.8: icmp_seq=2 ttl=59 time=15.3 ms
64 bytes from 8.8.8.8: icmp_seq=3 ttl=59 time=206 ms
64 bytes from 8.8.8.8: icmp_seq=4 ttl=59 time=16.8 ms
64 bytes from 8.8.8.8: icmp_seq=5 ttl=59 time=11.3 ms
64 bytes from 8.8.8.8: icmp_seq=6 ttl=59 time=7.68 ms
64 bytes from 8.8.8.8: icmp_seq=7 ttl=59 time=8.34 ms
64 bytes from 8.8.8.8: icmp_seq=8 ttl=59 time=7.83 ms
```

j) File Compression:

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

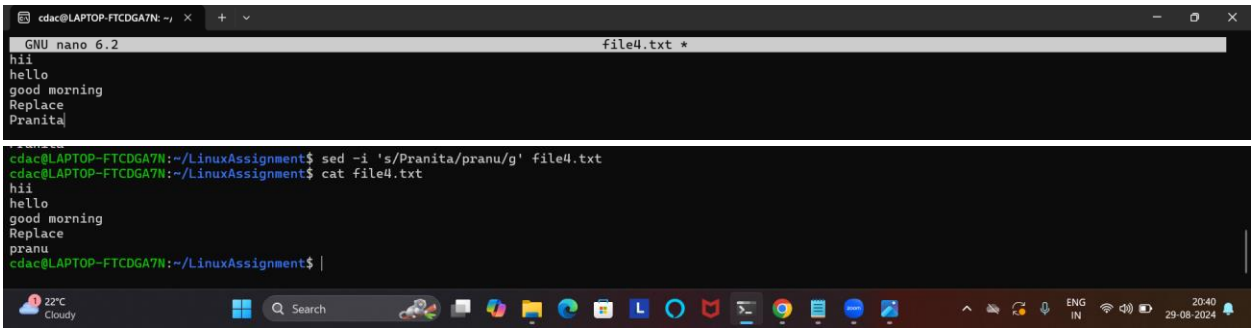
b. Extract the contents of the zip file into a new directory.

```
cdac@LAPTOP-FTCDGA7N:~/LinuxAssignment$ zip -r docs1 file2.txt
Command 'zip' not found, but can be installed with:
sudo apt install zip
cdac@LAPTOP-FTCDGA7N:~/LinuxAssignment$ sudo apt install zip
[sudo] password for cdac:
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  unzip
The following NEW packages will be installed:
  unzip zip
0 upgraded, 2 newly installed, 0 to remove and 128 not upgraded.
Need to get 350 kB of archives.
After this operation, 930 kB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://archive.ubuntu.com/ubuntu jammy-updates/main amd64 unzip amd64 6.0-26ubuntu3.2 [175 kB]
Get:2 http://archive.ubuntu.com/ubuntu jammy/main amd64 zip amd64 3.0-12build2 [176 kB]
Fetched 350 kB in 2s (147 kB/s)
Selecting previously unselected package unzip.
(Reading database ... 24208 files and directories currently installed.)
Preparing to unpack .../unzip_6.0-26ubuntu3.2_amd64.deb ...
Unpacking unzip (6.0-26ubuntu3.2) ...
Selecting previously unselected package zip.
Preparing to unpack .../zip_3.0-12build2_amd64.deb ...
Unpacking zip (3.0-12build2) ...
Setting up unzip (6.0-26ubuntu3.2) ...
Setting up zip (3.0-12build2) ...
Processing triggers for man-db (2.10.2-1) ...
cdac@LAPTOP-FTCDGA7N:~/LinuxAssignment$ zip -r docs1 file2.txt
  adding: docs1/ (stored 0%)
  adding: file2.txt (stored 0%)
```

k) File Editing:

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



Problem 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.

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

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

```
15
cdac@LAPTOP-FTCDGA7N:~/LinuxAssignment$ tail -3 numbers.txt
15
16
17
```

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@LAPTOP-FTCDGA7N:~/LinuxAssignment$ touch input.txt
cdac@LAPTOP-FTCDGA7N:~/LinuxAssignment$ nano input.txt
cdac@LAPTOP-FTCDGA7N:~/LinuxAssignment$ cat input.txt
good morning
hii
hello
how are you?
tell me about yourself?
cdac mumbai

cdac@LAPTOP-FTCDGA7N:~/LinuxAssignment$ tr 'a-z' 'A-Z' < input.txt > output.txt
cdac@LAPTOP-FTCDGA7N:~/LinuxAssignment$ cat output.txt
GOOD MORNING
HII
HELLO
HOW ARE YOU?
TELL ME ABOUT YOURSELF?
CDAC MUMBAI
```

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@LAPTOP-FTCDGA7N:~/LinuxAssignment$ touch fruits.txt
cdac@LAPTOP-FTCDGA7N:~/LinuxAssignment$ nano fruits.txt
cdac@LAPTOP-FTCDGA7N:~/LinuxAssignment$ sort fruits.txt|uniq -c
      1
      1 Apple
      1 Chiku
      1 Grapes
      1 Mango
      1 Papaya
      1 Pineapple
      1 Strawberry
cdac@LAPTOP-FTCDGA7N:~/LinuxAssignment$ sort fruits.txt|uniq -5

cdac@LAPTOP-FTCDGA7N:~/LinuxAssignment$ sort fruits.txt|uniq -4
```