

## Concepts of Operating System

### Assignment. 1

Problem 1: Read the instructions carefully and answer accordingly. If there is any need to insert some data then do that as well.

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.

-->>

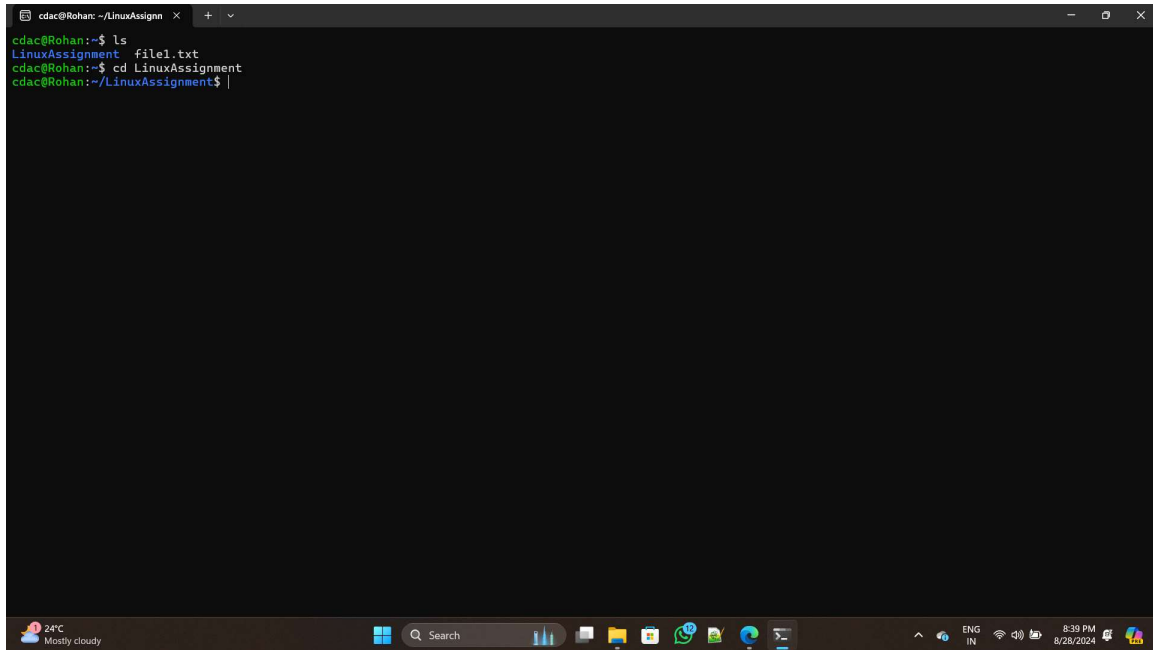
ls

Directory Created Using :-

**mkdir LinuxAssignment**

To navigate the directory then :-

## cd LinuxAssignment

A screenshot of a Windows terminal window with a dark background. The window title bar shows 'cdac@Rohan: ~/LinuxAssignn' and standard window controls. The terminal displays the following commands and output:

```
cdac@Rohan:~$ ls
LinuxAssignment  file1.txt
cdac@Rohan:~$ cd LinuxAssignment
cdac@Rohan:~/LinuxAssignment$ |
```

The Windows taskbar is visible at the bottom, showing the Start button, a search bar, and various application icons. The system tray on the right indicates the temperature is 24°C, the weather is 'Mostly cloudy', and the time is 8:38 PM on 8/28/2024.

### b) File Management:

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

Display its

contents.

-->>

1.) Navigate the directory by using :-

```
cd ~/LinuxAssignment
```

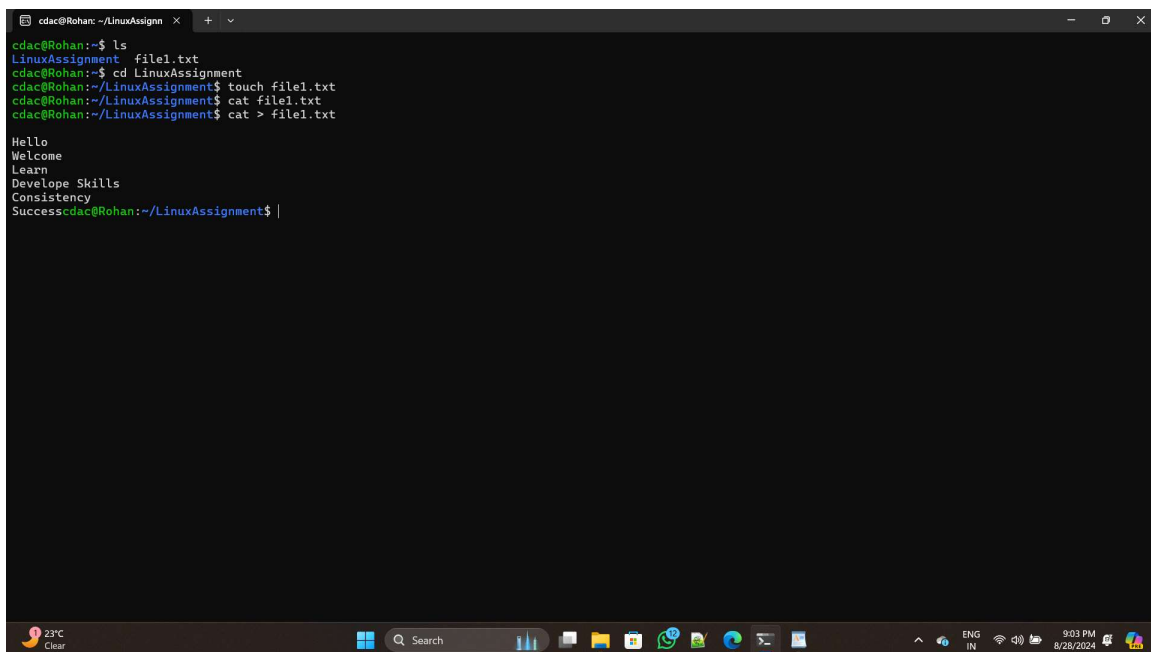
2.) Create a new file by using :-

```
touch file1.txt
```

3.) Now, create & add content at the same time by using :-

```
cat > file1.txt
```

After running cat command, type the content & press Ctrl+D to save & exit.

A screenshot of a Windows terminal window with a dark background. The window title is 'cdac@Rohan: ~/LinuxAssignn'. The terminal shows the following commands and output:

```
cdac@Rohan:~$ ls
LinuxAssignment  file1.txt
cdac@Rohan:~$ cd LinuxAssignment
cdac@Rohan:~/LinuxAssignment$ touch file1.txt
cdac@Rohan:~/LinuxAssignment$ cat file1.txt
cdac@Rohan:~/LinuxAssignment$ cat > file1.txt

Hello
Welcome
Learn
Develope Skills
Consistency
Successcdac@Rohan:~/LinuxAssignment$ |
```

The output of the 'cat' command is displayed line by line. The terminal window has a standard Windows taskbar at the bottom showing the date as 8/28/2024 and time as 9:03 PM.

c) Directory Management:

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

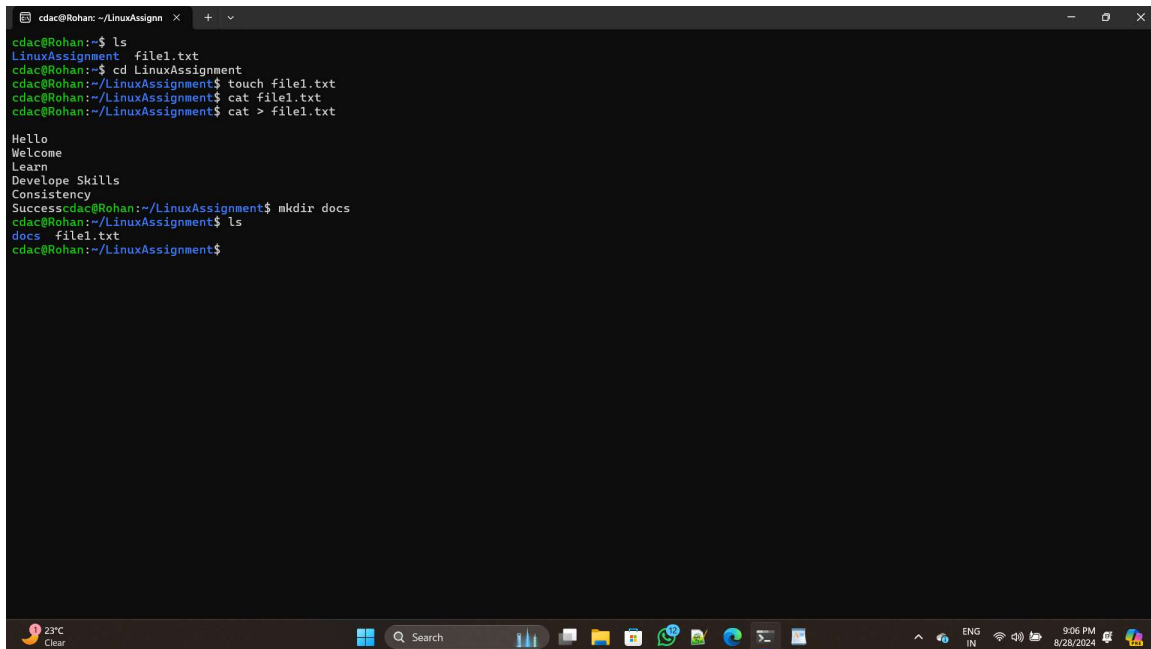
-->>

To create new directory named docs use command :-

`mkdir docs`

And to verify the directory created or not then use this command :-

`ls`

A terminal window titled 'cdac@Rohan: ~/LinuxAssignn' with a dark background and light green text. The terminal shows a sequence of commands and their outputs: 'ls' lists 'file1.txt'; 'cd LinuxAssignment' changes the directory; 'touch file1.txt' creates a new file; 'cat file1.txt' and 'cat > file1.txt' show the file's content, which is a list of skills: 'Hello', 'Welcome', 'Learn', 'Develope Skills', 'Consistency'. Then, 'mkdir docs' is executed successfully. Finally, 'ls' is run again, showing 'docs' and 'file1.txt' in the current directory. The Windows taskbar is visible at the bottom with a date of 8/28/2024.

```
cdac@Rohan:~/LinuxAssignn$ ls
LinuxAssignment file1.txt
cdac@Rohan:~/LinuxAssignment$ cd LinuxAssignment
cdac@Rohan:~/LinuxAssignment$ touch file1.txt
cdac@Rohan:~/LinuxAssignment$ cat file1.txt
cdac@Rohan:~/LinuxAssignment$ cat > file1.txt

Hello
Welcome
Learn
Develope Skills
Consistency
Successcdac@Rohan:~/LinuxAssignment$ mkdir docs
cdac@Rohan:~/LinuxAssignment$ ls
docs file1.txt
cdac@Rohan:~/LinuxAssignment$
```

d) Copy and Move Files:

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

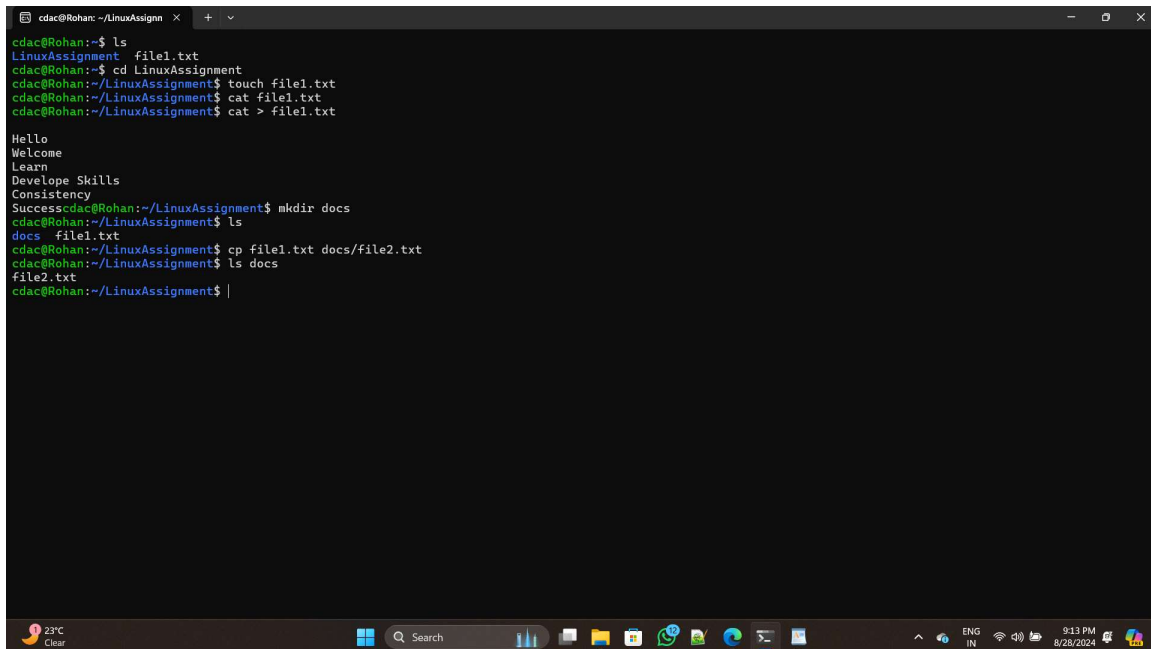
-->>

To copy "file1.txt" to the "docs" directory & rename it to "file2.txt":-

```
cp file1.txt docs/file2.txt
```

And to confirm the rename :-

```
ls docs
```

A terminal window titled 'cdac@Rohan: ~/LinuxAssignn' with a dark background. It shows a series of commands and their outputs: 'ls' lists 'file1.txt'; 'cd LinuxAssignment' changes the directory; 'touch file1.txt' creates the file; 'cat file1.txt' and 'cat > file1.txt' show the file content as 'Hello', 'Welcome', 'Learn', 'Develop Skills', and 'Consistency'; 'mkdir docs' creates the 'docs' directory; 'ls' shows 'docs' and 'file1.txt'; 'cp file1.txt docs/file2.txt' copies the file; and a final 'ls docs' shows 'file2.txt'. The Windows taskbar at the bottom shows the date as 8/28/2024 and time as 9:13 PM.

```
cdac@Rohan:~$ ls
LinuxAssignment  file1.txt
cdac@Rohan:~$ cd LinuxAssignment
cdac@Rohan:~/LinuxAssignment$ touch file1.txt
cdac@Rohan:~/LinuxAssignment$ cat file1.txt
Hello
Welcome
Learn
Develop Skills
Consistency
Successcdac@Rohan:~/LinuxAssignment$ mkdir docs
cdac@Rohan:~/LinuxAssignment$ ls
docs  file1.txt
cdac@Rohan:~/LinuxAssignment$ cp file1.txt docs/file2.txt
cdac@Rohan:~/LinuxAssignment$ ls docs
file2.txt
cdac@Rohan:~/LinuxAssignment$ |
```

## 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.

-->>

1.) Change the permissions of "file2.txt":

If we want to set the permissions to: Read, write, and execute for the owner & Read-only for others.

In numerical mode, this translates to 744 (owner: 7 = read, write, execute; others: 4 = read). Use this command to set these permissions:

```
chmod 744 docs/file2.txt
```

Determine the current username:

```
whoami
```

To change the owner to the current user, use the chown command:-

```
sudo chown cdac docs/file2.txt
```

Now, verify the changes with :-

```
ls -l docs/file2.txt
```

```
cdac@Rohan: ~/LinuxAssignn x + v
cdac@Rohan:~$ ls
LinuxAssignment file1.txt
cdac@Rohan:~$ cd LinuxAssignment
cdac@Rohan:~/LinuxAssignment$ touch file1.txt
cdac@Rohan:~/LinuxAssignment$ cat file1.txt
cdac@Rohan:~/LinuxAssignment$ cat > file1.txt

Hello
Welcome
Learn
Develop Skills
Consistency
Success
cdac@Rohan:~/LinuxAssignment$ mkdir docs
cdac@Rohan:~/LinuxAssignment$ ls
docs file1.txt
cdac@Rohan:~/LinuxAssignment$ cp file1.txt docs/file2.txt
cdac@Rohan:~/LinuxAssignment$ ls docs
file2.txt
cdac@Rohan:~/LinuxAssignment$ chmod 744 docs/file2.txt
cdac@Rohan:~/LinuxAssignment$ whoami
^[[Acdac
cdac@Rohan:~/LinuxAssignment$ whoami
cdac
cdac@Rohan:~/LinuxAssignment$ sudo chown cdac docs/file2.txt
[sudo] password for cdac:
cdac@Rohan:~/LinuxAssignment$ ls -l docs/file2.txt
-rwxr--r-- 1 cdac cdac 60 Aug 28 21:12 docs/file2.txt
cdac@Rohan:~/LinuxAssignment$
```

## f) Final Checklist:

a. Finally, list the contents of the "LinuxAssignment" directory and the root directory to

ensure that all operations were performed correctly.

-->>

To List the contents of the "LinuxAssignment" directory :-

`ls -l`

And to see the contents of the root directory :-

ls -l /

```
cdac@Rohan: ~/LinuxAssignn x + v
file2.txt
cdac@Rohan:~/LinuxAssignment$ chmod 744 docs/file2.txt
cdac@Rohan:~/LinuxAssignment$ whoami
^[[Acdac
cdac@Rohan:~/LinuxAssignment$ whoami
cdac
cdac@Rohan:~/LinuxAssignment$ sudo chown cdac docs/file2.txt
[sudo] password for cdac:
cdac@Rohan:~/LinuxAssignment$ ls -l docs/file2.txt
-rwxr--r-- 1 cdac cdac 60 Aug 28 21:12 docs/file2.txt
cdac@Rohan:~/LinuxAssignment$ ls -l
total 8
drwxr-xr-x 2 cdac cdac 4096 Aug 28 21:12 docs
-rw-r--r-- 1 cdac cdac 60 Aug 28 20:55 file1.txt
cdac@Rohan:~/LinuxAssignment$ ls -l /
total 2144
lrwxrwxrwx 1 root root 7 Nov 23 2023 bin -> usr/bin
drwxr-xr-x 2 root root 4096 Apr 18 2022 boot
drwxr-xr-x 16 root root 3560 Aug 28 20:28 dev
drwxr-xr-x 73 root root 4096 Aug 28 20:37 etc
drwxr-xr-x 3 root root 4096 Aug 28 12:52 home
-rwxrwxrwx 1 root root 2127224 Apr 25 23:47 init
lrwxrwxrwx 1 root root 7 Nov 23 2023 lib -> usr/lib
lrwxrwxrwx 1 root root 9 Nov 23 2023 lib32 -> usr/lib32
lrwxrwxrwx 1 root root 9 Nov 23 2023 lib64 -> usr/lib64
lrwxrwxrwx 1 root root 10 Nov 23 2023 libx32 -> usr/libx32
drwx----- 2 root root 16384 Aug 28 12:52 lost+found
drwxr-xr-x 2 root root 4096 Nov 23 2023 media
drwxr-xr-x 7 root root 4096 Aug 28 12:52 mnt
drwxr-xr-x 2 root root 4096 Nov 23 2023 opt
dr-xr-xr-x 239 root root 0 Aug 28 20:28 proc
drwx----- 4 root root 4096 Aug 28 12:53 root
drwxr-xr-x 18 root root 540 Aug 28 20:28 run
lrwxrwxrwx 1 root root 8 Nov 23 2023/sbin -> usr/sbin
drwxr-xr-x 8 root root 4096 Nov 23 2023 snap
drwxr-xr-x 2 root root 4096 Nov 23 2023 srv
dr-xr-xr-x 11 root root 0 Aug 28 20:27 sys
drwxrwxrwt 10 root root 4096 Aug 28 20:38 tmp
drwxr-xr-x 14 root root 4096 Nov 23 2023 usr
drwxr-xr-x 13 root root 4096 Nov 23 2023 var
cdac@Rohan:~/LinuxAssignment$
```

## g) File Searching:

- Search for all files with the extension ".txt" in the current directory and its subdirectories.
- Display lines containing a specific word in a file (provide a file name and the specific word to search).

-->>

a.) -> Search for All Files with the Extension .txt :-

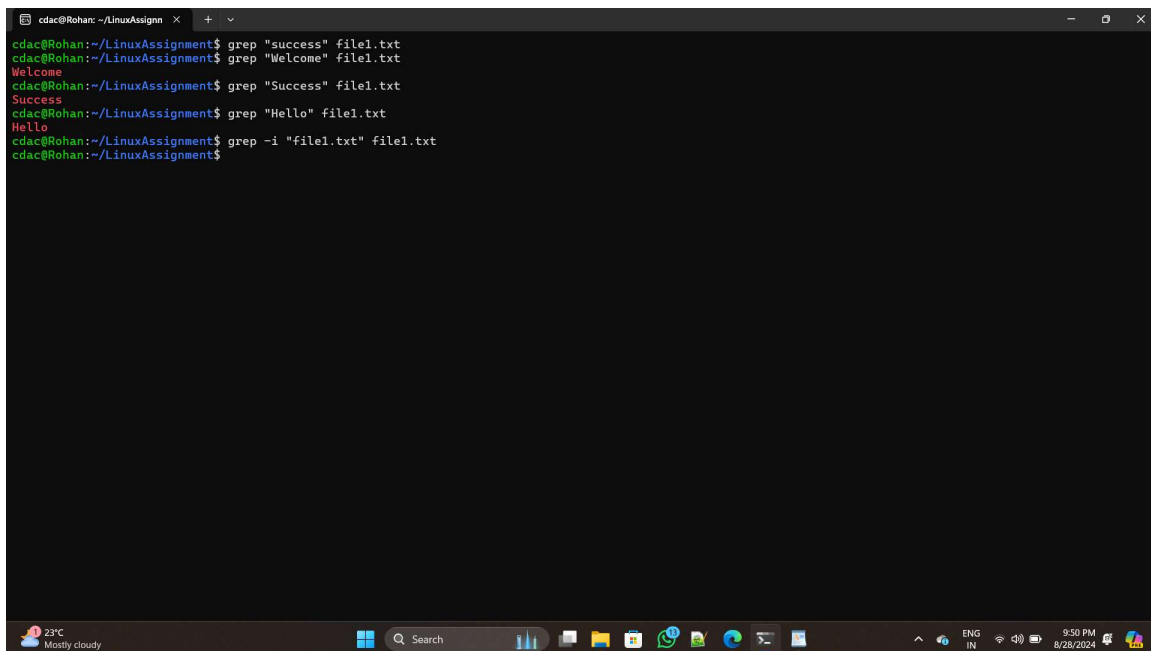


`find . -type f -name "*.txt"`

b.) Display lines containing a specific word in a file :-

If we want to search for the word "error" in a file named file1.txt, use:

`grep "Hello" file1.txt`      \_\_ ("\_\_\_" here there must be the contents(keyword) in the file.)



```
cdac@Rohan: ~/LinuxAssignment
cdac@Rohan:~/LinuxAssignment$ grep "success" file1.txt
cdac@Rohan:~/LinuxAssignment$ grep "Welcome" file1.txt
Welcome
cdac@Rohan:~/LinuxAssignment$ grep "Success" file1.txt
Success
cdac@Rohan:~/LinuxAssignment$ grep "Hello" file1.txt
Hello
cdac@Rohan:~/LinuxAssignment$ grep -i "file1.txt" file1.txt
cdac@Rohan:~/LinuxAssignment$
```

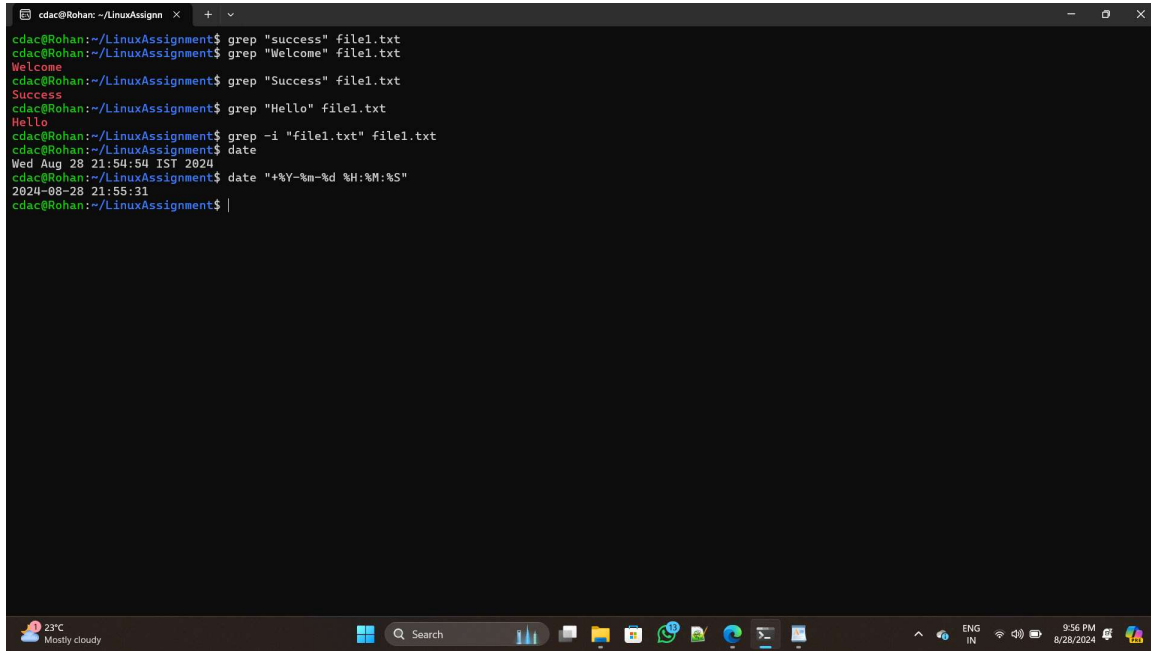
h) System Information:

a. Display the current system date and time.

-->>>

Here, to display the current system date & time use the command :-

*date*

A terminal window titled 'cdac@Rohan: ~/LinuxAssignn' with a dark background. It shows a series of commands and their outputs: 'grep "success" file1.txt' returns 'Success'; 'grep "Welcome" file1.txt' returns 'Welcome'; 'grep "Hello" file1.txt' returns 'Hello'; 'grep -i "file1.txt" file1.txt' returns 'file1.txt'; 'date' returns 'Wed Aug 28 21:54:54 IST 2024'; and 'date +%Y-%m-%d %H:%M:%S' returns '2024-08-28 21:55:31'. The Windows taskbar is visible at the bottom with a temperature of 23°C and the date 8/28/2024.

```
cdac@Rohan:~/LinuxAssignn$ grep "success" file1.txt
Success
cdac@Rohan:~/LinuxAssignn$ grep "Welcome" file1.txt
Welcome
cdac@Rohan:~/LinuxAssignn$ grep "Hello" file1.txt
Hello
cdac@Rohan:~/LinuxAssignn$ grep -i "file1.txt" file1.txt
file1.txt
cdac@Rohan:~/LinuxAssignn$ date
Wed Aug 28 21:54:54 IST 2024
cdac@Rohan:~/LinuxAssignn$ date +%Y-%m-%d %H:%M:%S
2024-08-28 21:55:31
cdac@Rohan:~/LinuxAssignn$
```

## i) Networking:

- a. Display the IP address of the system.
- b. Ping a remote server to check connectivity (provide a remote server address to ping).

-->>

a.) -> To display the IP address of your system:

*ip addr show*

To find just the IP address of the primary network interface more directly :-

`hostname -I`

To Ping Google's public DNS server:

`ping 8.8.8.8`

```
cdac@Rohan: ~/LinuxAssignn x + v
cdac@Rohan:~/LinuxAssignment$ grep "Hello" file1.txt
Hello
cdac@Rohan:~/LinuxAssignment$ grep -i "file1.txt" file1.txt
cdac@Rohan:~/LinuxAssignment$ date
Wed Aug 28 21:54:54 IST 2024
cdac@Rohan:~/LinuxAssignment$ date +%Y-%m-%d %H:%M:%S
2024-08-28 21:55:31
cdac@Rohan:~/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:02:28:34 brd ff:ff:ff:ff:ff:ff
    inet 172.18.133.83/20 brd 172.18.143.255 scope global eth0
        valid_lft forever preferred_lft forever
    inet6 fe80::215:5dff:fe42:2834/64 scope link
        valid_lft forever preferred_lft forever
cdac@Rohan:~/LinuxAssignment$ ifconfig
Command 'ifconfig' not found, but can be installed with:
sudo apt install net-tools
cdac@Rohan:~/LinuxAssignment$ hostname -I
172.18.133.83
cdac@Rohan:~/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=116 time=10.2 ms
64 bytes from 8.8.8.8: icmp_seq=2 ttl=116 time=9.05 ms
64 bytes from 8.8.8.8: icmp_seq=3 ttl=116 time=9.63 ms
64 bytes from 8.8.8.8: icmp_seq=4 ttl=116 time=9.31 ms
64 bytes from 8.8.8.8: icmp_seq=5 ttl=116 time=8.32 ms
64 bytes from 8.8.8.8: icmp_seq=6 ttl=116 time=9.28 ms
64 bytes from 8.8.8.8: icmp_seq=7 ttl=116 time=9.92 ms
64 bytes from 8.8.8.8: icmp_seq=8 ttl=116 time=9.03 ms
64 bytes from 8.8.8.8: icmp_seq=9 ttl=116 time=9.14 ms
64 bytes from 8.8.8.8: icmp_seq=10 ttl=116 time=11.9 ms
64 bytes from 8.8.8.8: icmp_seq=11 ttl=116 time=9.18 ms
64 bytes from 8.8.8.8: icmp_seq=12 ttl=116 time=7.82 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.

-->>

a.) -> To compress the "docs" directory into a zip file:

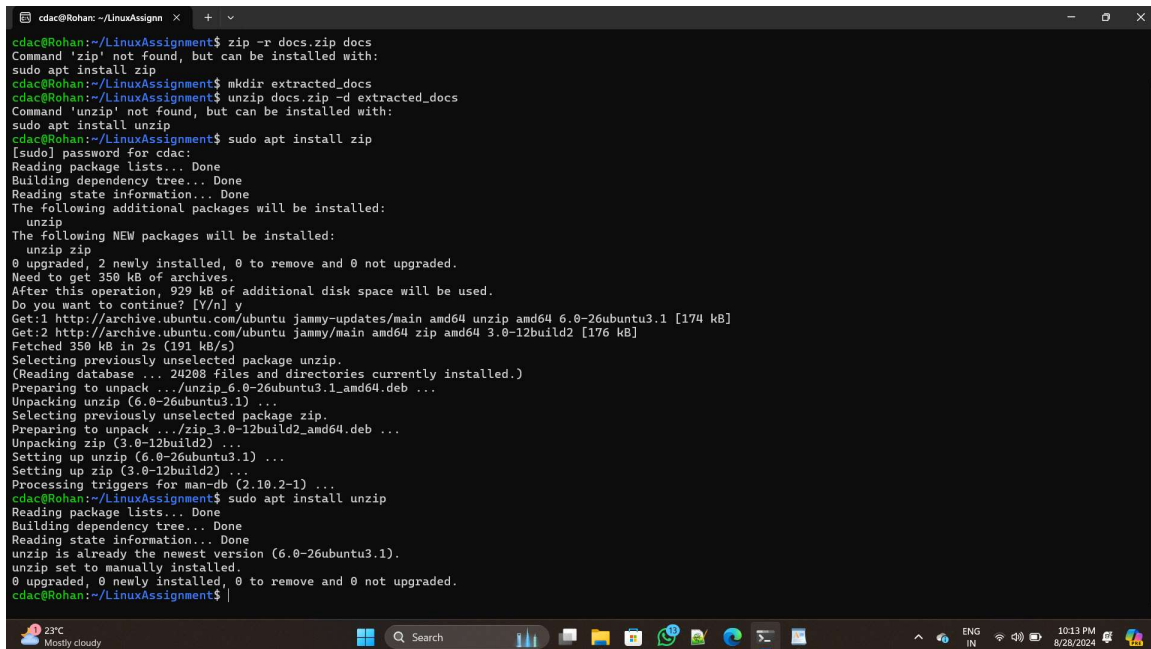
`zip -r docs.zip docs`

b.) -> To create a new directory for extraction :

`mkdir extracted_docs`

Now, extract the contents of the zip file into the new directory by :

`unzip docs.zip -d extracted_docs`



```
cdac@Rohan: ~/LinuxAssignn x + v
cdac@Rohan:~/LinuxAssignment$ zip -r docs.zip docs
Command 'zip' not found, but can be installed with:
sudo apt install zip
cdac@Rohan:~/LinuxAssignment$ mkdir extracted_docs
cdac@Rohan:~/LinuxAssignment$ unzip docs.zip -d extracted_docs
Command 'unzip' not found, but can be installed with:
sudo apt install unzip
cdac@Rohan:~/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 0 not upgraded.
Need to get 350 kB of archives.
After this operation, 929 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 6.0-26ubuntu3.1 [174 kB]
Get:2 http://archive.ubuntu.com/ubuntu jammy/main amd64 zip amd64 3.0-12build2 [176 kB]
Fetched 350 kB in 2s (191 kB/s)
Selecting previously unselected package unzip.
(Reading database ... 24208 files and directories currently installed.)
Preparing to unpack .../unzip_6.0-26ubuntu3.1_amd64.deb ...
Unpacking unzip (6.0-26ubuntu3.1) ...
Selecting previously unselected package zip.
Preparing to unpack .../zip_3.0-12build2_amd64.deb ...
Unpacking zip (3.0-12build2) ...
Setting up unzip (6.0-26ubuntu3.1) ...
Setting up zip (3.0-12build2) ...
Processing triggers for man-db (2.10.2-1) ...
cdac@Rohan:~/LinuxAssignment$ sudo apt install unzip
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
unzip is already the newest version (6.0-26ubuntu3.1).
unzip set to manually installed.
0 upgraded, 0 newly installed, 0 to remove and 0 not upgraded.
cdac@Rohan:~/LinuxAssignment$
```

```
cdac@Rohan: ~/LinuxAssignn x + v
cdac@Rohan:~/LinuxAssignment$ zip -r docs.zip docs
adding: docs/ (stored 0%)
adding: docs/file2.txt (stored 0%)
cdac@Rohan:~/LinuxAssignment$ mkdir extracted_docs
mkdir: cannot create directory 'extracted_docs': File exists
cdac@Rohan:~/LinuxAssignment$ unzip docs.zip -d extracted_docs
Archive:  docs.zip
  creating: extracted_docs/docs/
  extracting: extracted_docs/docs/file2.txt
cdac@Rohan:~/LinuxAssignment$
```

### 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).

-->>

- a.) -> 1.)\_ Open the file in nano:

**nano file1.txt**

By using vim:

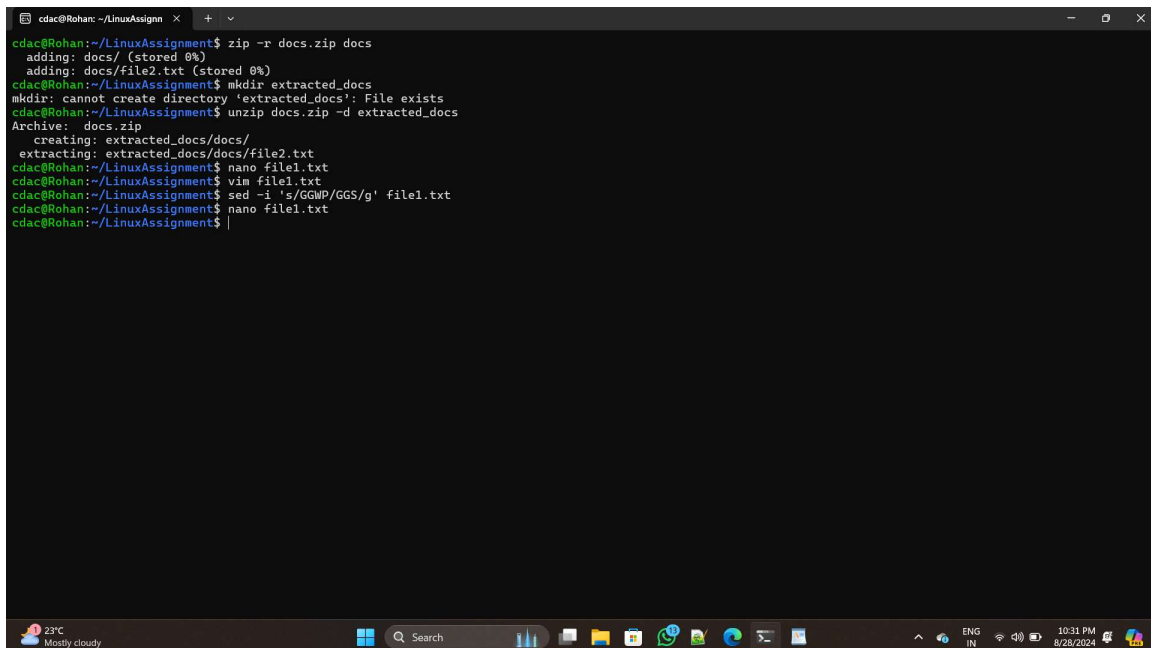
Open the file in vim:

`vim file1.txt`

(Use i to insert new content and then esc and :wq & press enter to save and exit).

b.) -> To replace a specific word with another word, we can use the sed command like :-

`sed -i 's/GGWP/GGS/g' file1.txt`



```
cdac@Rohan: ~/LinuxAssignn x + v
cdac@Rohan:~/LinuxAssignment$ zip -r docs.zip docs
adding: docs/ (stored 0%)
adding: docs/file2.txt (stored 0%)
cdac@Rohan:~/LinuxAssignment$ mkdir extracted_docs
mkdir: cannot create directory 'extracted_docs': File exists
cdac@Rohan:~/LinuxAssignment$ unzip docs.zip -d extracted_docs
Archive:  docs.zip
  creating: extracted_docs/docs/
  extracting: extracted_docs/docs/file2.txt
cdac@Rohan:~/LinuxAssignment$ nano file1.txt
cdac@Rohan:~/LinuxAssignment$ vim file1.txt
cdac@Rohan:~/LinuxAssignment$ sed -i 's/GGWP/GGS/g' file1.txt
cdac@Rohan:~/LinuxAssignment$ nano file1.txt
cdac@Rohan:~/LinuxAssignment$
```

The screenshot shows a terminal window with the following commands and output:   
1. `zip -r docs.zip docs`: Creates a zip archive named docs.zip containing the docs directory.   
2. `mkdir extracted_docs`: Attempts to create a directory named extracted\_docs, but fails because it already exists.   
3. `unzip docs.zip -d extracted_docs`: Extracts the contents of docs.zip into the extracted\_docs directory.   
4. `nano file1.txt` and `vim file1.txt`: Attempts to open file1.txt in nano and vim editors respectively.   
5. `sed -i 's/GGWP/GGS/g' file1.txt`: Uses the sed command to replace all occurrences of GGWP with GGS in file1.txt.   
6. `nano file1.txt`: Attempts to open file1.txt in nano editor.   
The terminal window has a title bar with 'cdac@Rohan: ~/LinuxAssignn' and standard window controls. The bottom status bar shows '22°C Mostly cloudy', a search bar, and system icons including network, battery, and time (10:31 PM 8/28/2024).

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.

-->>

```
head -n 10 file1.txt
```

```
cdac@Rohan: ~  
cdac@Rohan:~$ head -n 10 file1.txt  
1  
2  
23  
3  
3  
344  
4  
534  
534  
345  
cdac@Rohan:~$
```

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

-->>

`tail -n 5 file1.txt`



```
cdac@Rohan: ~  
cdac@Rohan:~$ head -n 10 file1.txt  
1  
2  
23  
3  
3  
344  
4  
534  
534  
345  
cdac@Rohan:~$ tail -n 5 file1.txt  
4  
534  
534  
345  
cdac@Rohan:~$
```

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.

-->>

`head -n 15 numbers.txt`

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

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

-->>

`tail -n 3 numbers.txt`

```
cdac@Rohan: ~  
cdac@Rohan:~$ tail -n 3 numbers.txt  
19  
20  
21  
cdac@Rohan:~$ |
```

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."

-->>

```
tr '[:lower:]' '[:upper:]' < input.txt > output.txt
```

```
cdac@Rohan:~$ touch input.txt
cdac@Rohan:~$ touch output.txt
cdac@Rohan:~$ nano input.txt
cdac@Rohan:~$ tr '[:lower:]' '[:upper:]' < input.txt > output.txt
cdac@Rohan:~$ nano output.txt
cdac@Rohan:~$
```

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."

-->>

`sort duplicate.txt | uniq`

`uniq duplicate.txt`

```
cdac@Rohan:~$ sort duplicate.txt | uniq
Bulldog
Champion
Odin
Operator
Phantom
Spectre
Valorant
Vandal
Vandal
cdac@Rohan:~$ uniq duplicate.txt
Valorant
Champion
Vandal
Phantom
Odin
Operator
Spectre
Phantom
Bulldog
Vandal
Valorant
cdac@Rohan:~$ |
```

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."

-->>

```
sort fruit.txt | uniq -c
```

```
cdac@Rohan: ~  
cdac@Rohan:~$ touch fruit.txt  
cdac@Rohan:~$ nano fruit.txt  
cdac@Rohan:~$ sort fruit.txt | uniq -c  
3 apple  
2 banana  
2 cherry  
1 date  
1 elderberry  
1 fig  
2 mango  
cdac@Rohan:~$
```

24°C Mostly cloudy  
Search  
ENG IN  
9:31 PM 8/29/2024