

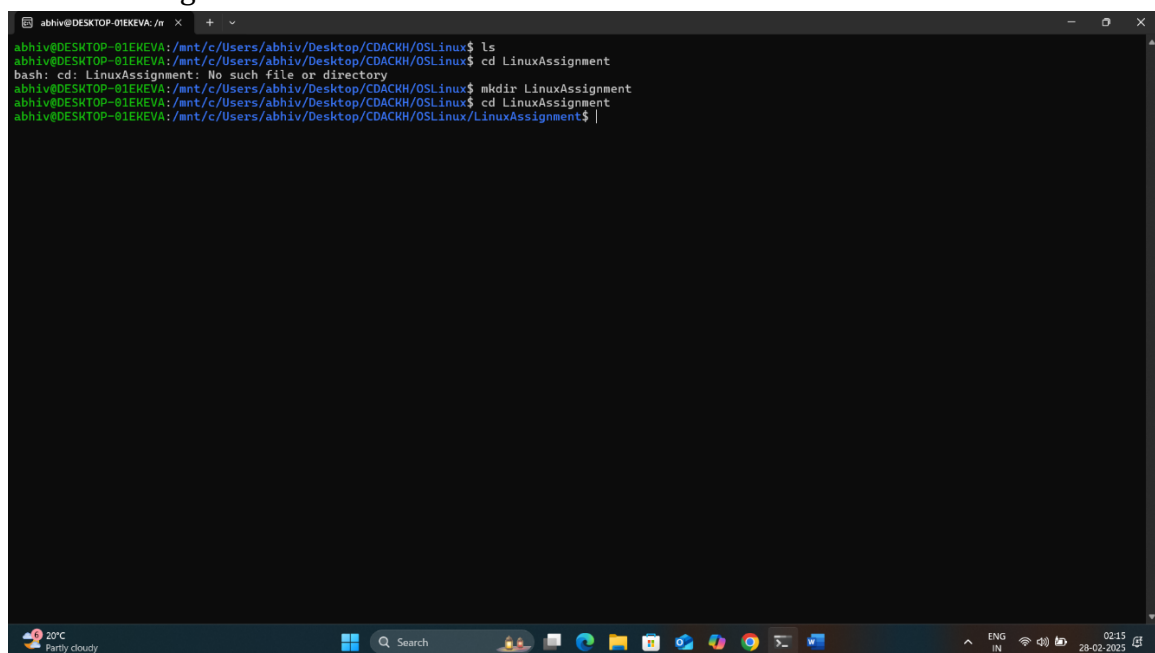
CDAC MUMBAI

Concepts of Operating System

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.

```
abhiv@DESKTOP-01EKEVA:/mnt/c/Users/abhiv/Desktop/CDACKH/OSLinux$ ls
abhiv@DESKTOP-01EKEVA:/mnt/c/Users/abhiv/Desktop/CDACKH/OSLinux$
cd LinuxAssignment
bash: cd: LinuxAssignment: No such file or directory
abhiv@DESKTOP-01EKEVA:/mnt/c/Users/abhiv/Desktop/CDACKH/OSLinux$
mkdir LinuxAssignment
abhiv@DESKTOP-01EKEVA:/mnt/c/Users/abhiv/Desktop/CDACKH/OSLinux$
cd LinuxAssignment
```



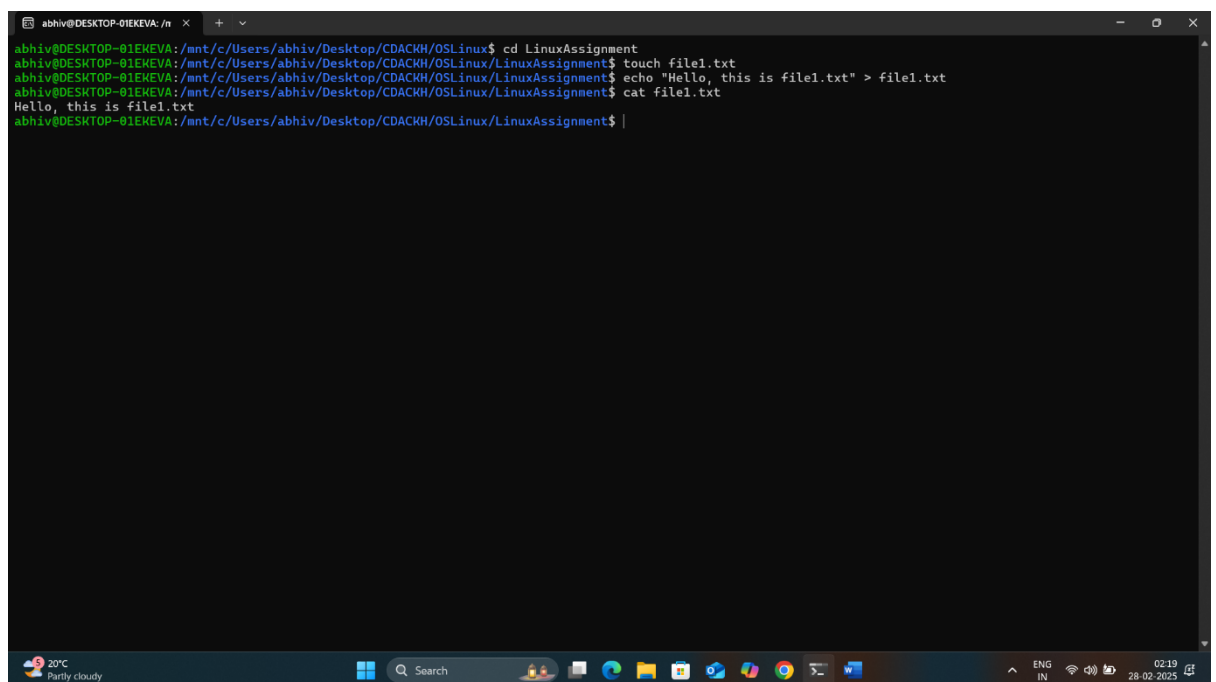
The screenshot shows a Windows terminal window with a dark background. The terminal displays the following commands and their outputs:

```
abhiv@DESKTOP-01EKEVA:/mnt/c/Users/abhiv/Desktop/CDACKH/OSLinux$ ls
abhiv@DESKTOP-01EKEVA:/mnt/c/Users/abhiv/Desktop/CDACKH/OSLinux$ cd LinuxAssignment
bash: cd: LinuxAssignment: No such file or directory
abhiv@DESKTOP-01EKEVA:/mnt/c/Users/abhiv/Desktop/CDACKH/OSLinux$ mkdir LinuxAssignment
abhiv@DESKTOP-01EKEVA:/mnt/c/Users/abhiv/Desktop/CDACKH/OSLinux$ cd LinuxAssignment
```

The terminal window has a title bar that reads "abhiv@DESKTOP-01EKEVA: /". The Windows taskbar is visible at the bottom, showing the Start button, a search bar, and several application icons. The system tray on the right indicates the temperature is 20°C, the weather is "Partly cloudy", and the date is 29-02-2025.

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

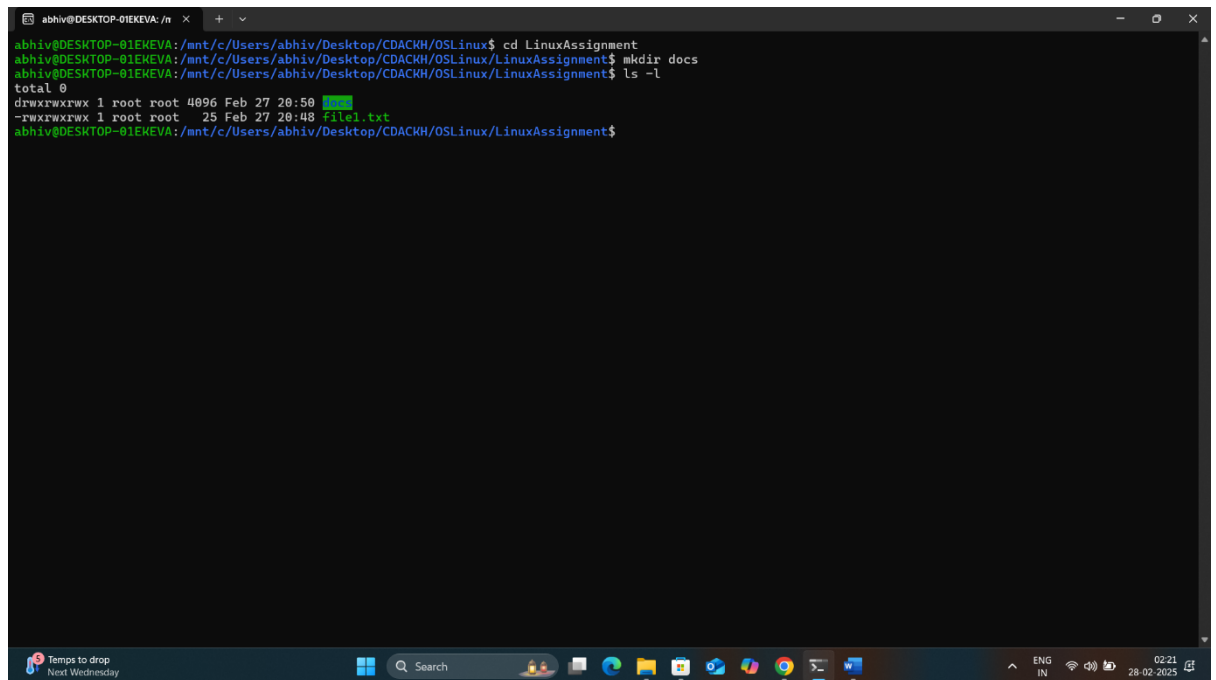
```
abhim@DESKTOP-01EKEVA:/mnt/c/Users/abhim/Desktop/CDACKH/OSLinux$  
cd LinuxAssignment  
abhim@DESKTOP-  
01EKEVA:/mnt/c/Users/abhim/Desktop/CDACKH/OSLinux/LinuxAssignment$  
touch file1.txt  
abhim@DESKTOP-  
01EKEVA:/mnt/c/Users/abhim/Desktop/CDACKH/OSLinux/LinuxAssignment$  
echo "Hello, this is file1.txt" > file1.txt  
abhim@DESKTOP-  
01EKEVA:/mnt/c/Users/abhim/Desktop/CDACKH/OSLinux/LinuxAssignment$  
cat file1.txt  
Hello, this is file1.txt
```



```
abhim@DESKTOP-01EKEVA:/n  
abhim@DESKTOP-01EKEVA:/mnt/c/Users/abhim/Desktop/CDACKH/OSLinux$ cd LinuxAssignment  
abhim@DESKTOP-01EKEVA:/mnt/c/Users/abhim/Desktop/CDACKH/OSLinux/LinuxAssignment$ touch file1.txt  
abhim@DESKTOP-01EKEVA:/mnt/c/Users/abhim/Desktop/CDACKH/OSLinux/LinuxAssignment$ echo "Hello, this is file1.txt" > file1.txt  
abhim@DESKTOP-01EKEVA:/mnt/c/Users/abhim/Desktop/CDACKH/OSLinux/LinuxAssignment$ cat file1.txt  
Hello, this is file1.txt  
abhim@DESKTOP-01EKEVA:/mnt/c/Users/abhim/Desktop/CDACKH/OSLinux/LinuxAssignment$ |
```

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

```
abhib@DESKTOP-01EKEVA:/mnt/c/Users/abhib/Desktop/CDACKH/OSLinux$  
cd LinuxAssignment  
abhib@DESKTOP-  
01EKEVA:/mnt/c/Users/abhib/Desktop/CDACKH/OSLinux/LinuxAssignment$  
mkdir docs  
abhib@DESKTOP-  
01EKEVA:/mnt/c/Users/abhib/Desktop/CDACKH/OSLinux/LinuxAssignment$  
ls -l  
total 0  
drwxrwxrwx 1 root root 4096 Feb 27 20:50 docs  
-rwxrwxrwx 1 root root 25 Feb 27 20:48 file1.txt
```

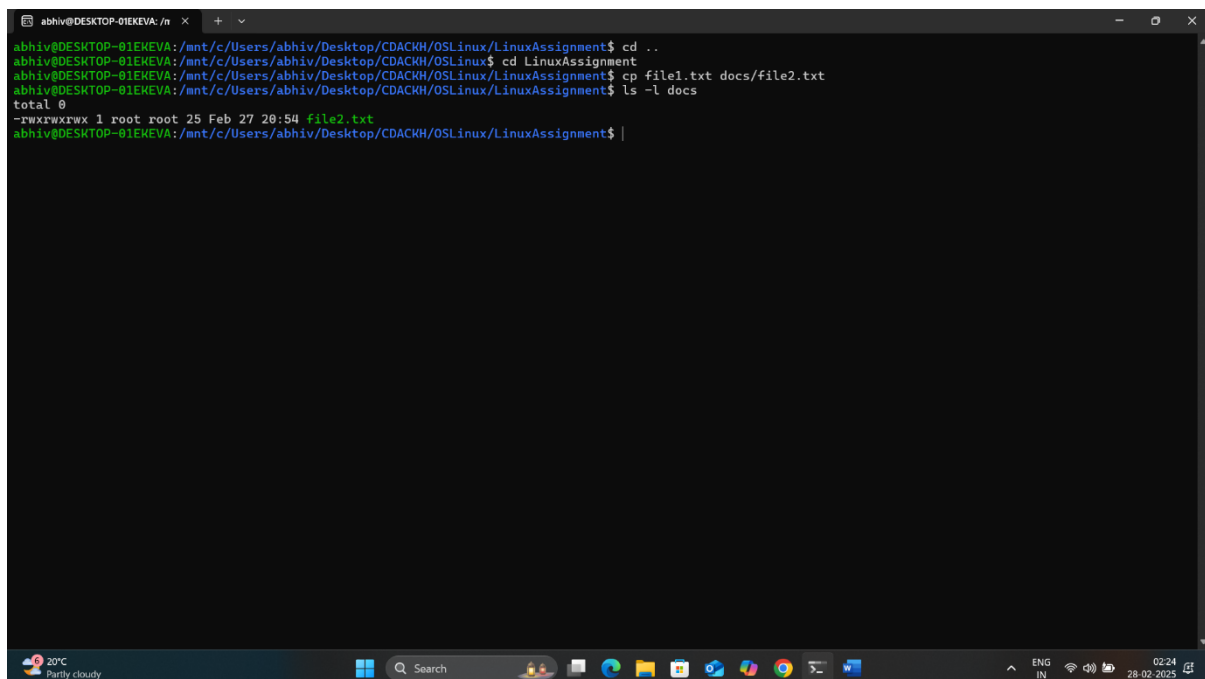


The screenshot shows a Windows terminal window with the title bar 'abhib@DESKTOP-01EKEVA: /n'. The terminal output matches the text in the previous block, showing the user navigating to the 'LinuxAssignment' directory, creating a 'docs' directory, and listing the contents. The 'ls -l' command shows a 'docs' directory with permissions 'drwxrwxrwx' and a file 'file1.txt' with permissions '-rwxrwxrwx'. The Windows taskbar at the bottom shows the date '28-02-2025' and time '02:21'.

```
abhib@DESKTOP-01EKEVA:/mnt/c/Users/abhib/Desktop/CDACKH/OSLinux$ cd LinuxAssignment  
abhib@DESKTOP-01EKEVA:/mnt/c/Users/abhib/Desktop/CDACKH/OSLinux/LinuxAssignment$ mkdir docs  
abhib@DESKTOP-01EKEVA:/mnt/c/Users/abhib/Desktop/CDACKH/OSLinux/LinuxAssignment$ ls -l  
total 0  
drwxrwxrwx 1 root root 4096 Feb 27 20:50 docs  
-rwxrwxrwx 1 root root 25 Feb 27 20:48 file1.txt  
abhib@DESKTOP-01EKEVA:/mnt/c/Users/abhib/Desktop/CDACKH/OSLinux/LinuxAssignment$
```

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

```
abhiv@DESKTOP-01EKEVA:/mnt/c/Users/abhiv/Desktop/CDACKH/OSLinux/LinuxAssignment$ cd ..
abhiv@DESKTOP-01EKEVA:/mnt/c/Users/abhiv/Desktop/CDACKH/OSLinux$ cd LinuxAssignment
abhiv@DESKTOP-01EKEVA:/mnt/c/Users/abhiv/Desktop/CDACKH/OSLinux/LinuxAssignment$ cp file1.txt docs/file2.txt
abhiv@DESKTOP-01EKEVA:/mnt/c/Users/abhiv/Desktop/CDACKH/OSLinux/LinuxAssignment$ ls -l docs
total 0
-rwxrwxrwx 1 root root 25 Feb 27 20:54 file2.txt
```



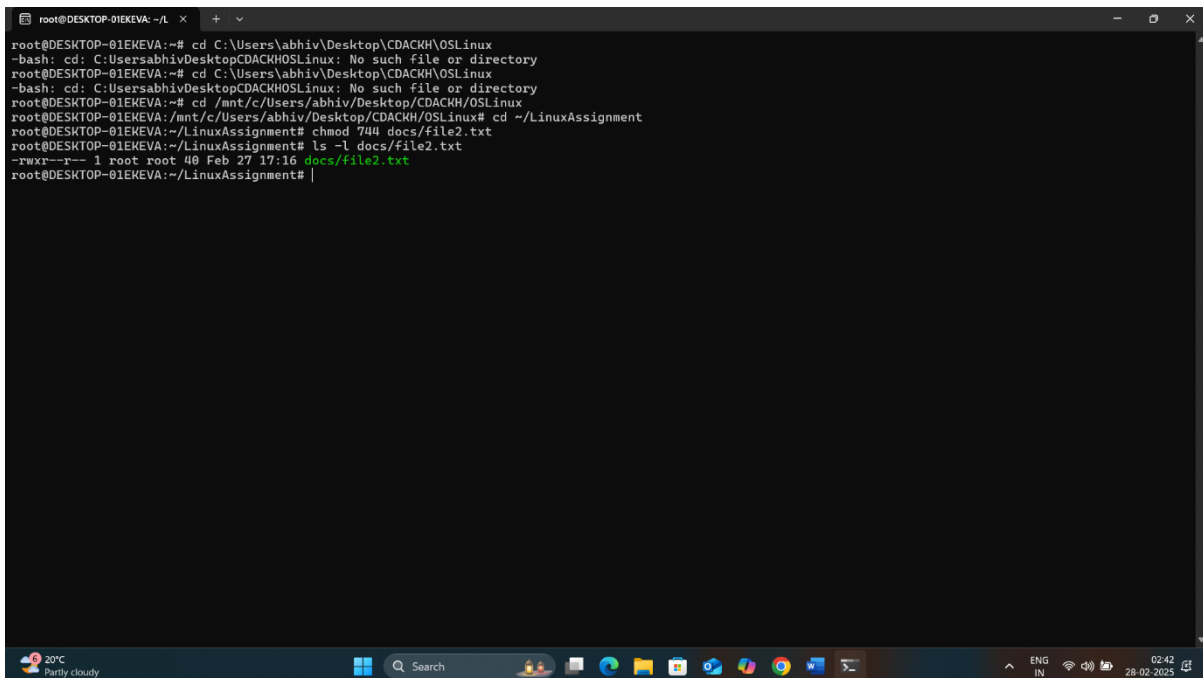
The screenshot shows a Windows terminal window with a dark background. The title bar indicates the user is 'abhiv' on 'DESKTOP-01EKEVA'. The terminal displays the following commands and their outputs:

```
abhiv@DESKTOP-01EKEVA:/mnt/c/Users/abhiv/Desktop/CDACKH/OSLinux/LinuxAssignment$ cd ..
abhiv@DESKTOP-01EKEVA:/mnt/c/Users/abhiv/Desktop/CDACKH/OSLinux$ cd LinuxAssignment
abhiv@DESKTOP-01EKEVA:/mnt/c/Users/abhiv/Desktop/CDACKH/OSLinux/LinuxAssignment$ cp file1.txt docs/file2.txt
abhiv@DESKTOP-01EKEVA:/mnt/c/Users/abhiv/Desktop/CDACKH/OSLinux/LinuxAssignment$ ls -l docs
total 0
-rwxrwxrwx 1 root root 25 Feb 27 20:54 file2.txt
abhiv@DESKTOP-01EKEVA:/mnt/c/Users/abhiv/Desktop/CDACKH/OSLinux/LinuxAssignment$ |
```

The Windows taskbar is visible at the bottom, showing the Start button, a search bar, and several pinned application icons. The system tray on the right shows the date and time as 02:24 on 28-02-2025, along with icons for network, volume, and battery.

- 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.

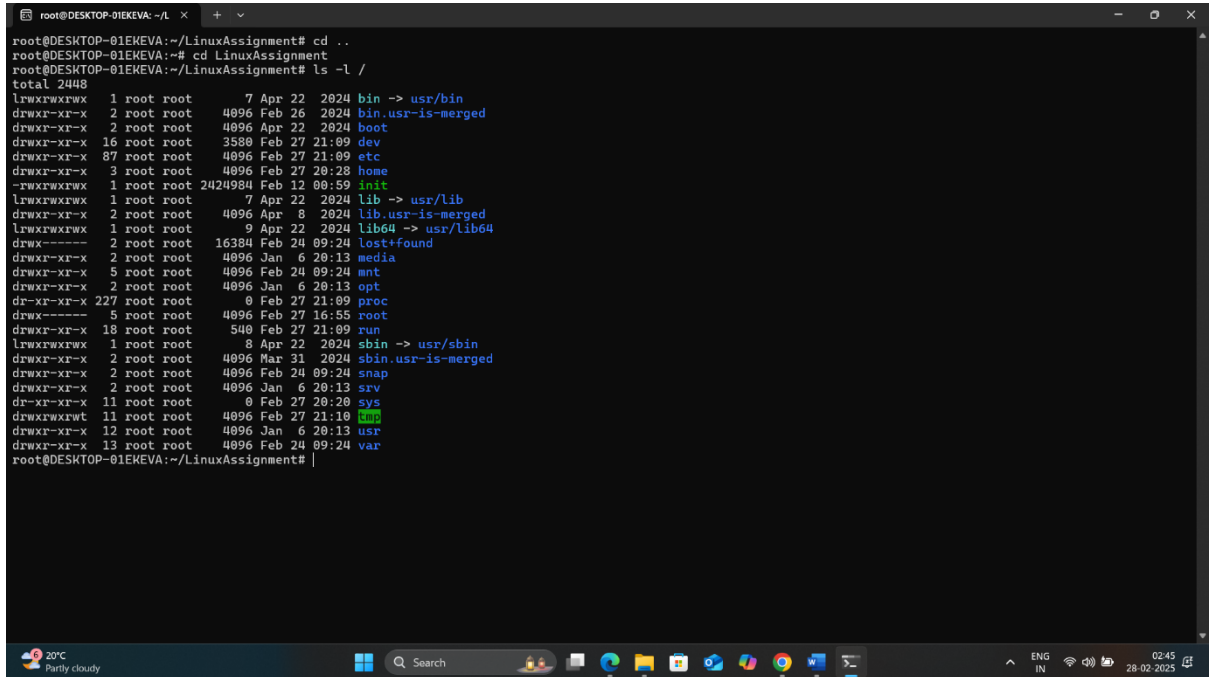
```
root@DESKTOP-01EKEVA:~# cd C:\Users\abhiv\Desktop\CDACKH\OSLinux
-bash: cd: C:UsersabhivDesktopCDACKHOSLinux: No such file or directory
root@DESKTOP-01EKEVA:~# cd C:\Users\abhiv\Desktop\CDACKH\OSLinux
-bash: cd: C:UsersabhivDesktopCDACKHOSLinux: No such file or directory
root@DESKTOP-01EKEVA:~# cd /mnt/c/Users/abhiv/Desktop/CDACKH/OSLinux
root@DESKTOP-01EKEVA:/mnt/c/Users/abhiv/Desktop/CDACKH/OSLinux# cd
LinuxAssignment
root@DESKTOP-01EKEVA:~/LinuxAssignment# chmod 744 docs/file2.txt
root@DESKTOP-01EKEVA:~/LinuxAssignment# ls -l docs/file2.txt
-rwxr--r-- 1 root root 40 Feb 27 17:16 docs/file2.txt
```



```
root@DESKTOP-01EKEVA:~/L
root@DESKTOP-01EKEVA:~# cd C:\Users\abhiv\Desktop\CDACKH\OSLinux
-bash: cd: C:UsersabhivDesktopCDACKHOSLinux: No such file or directory
root@DESKTOP-01EKEVA:~# cd C:\Users\abhiv\Desktop\CDACKH\OSLinux
-bash: cd: C:UsersabhivDesktopCDACKHOSLinux: No such file or directory
root@DESKTOP-01EKEVA:~# cd /mnt/c/Users/abhiv/Desktop/CDACKH/OSLinux
root@DESKTOP-01EKEVA:/mnt/c/Users/abhiv/Desktop/CDACKH/OSLinux# cd ~/LinuxAssignment
root@DESKTOP-01EKEVA:~/LinuxAssignment# chmod 744 docs/file2.txt
root@DESKTOP-01EKEVA:~/LinuxAssignment# ls -l docs/file2.txt
-rwxr--r-- 1 root root 40 Feb 27 17:16 docs/file2.txt
root@DESKTOP-01EKEVA:~/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.

```
root@DESKTOP-01EKEVA:~/LinuxAssignment# cd ..
root@DESKTOP-01EKEVA:~# cd LinuxAssignment
root@DESKTOP-01EKEVA:~/LinuxAssignment# ls -l /
```



```
root@DESKTOP-01EKEVA:~/LinuxAssignment# cd ..
root@DESKTOP-01EKEVA:~# cd LinuxAssignment
root@DESKTOP-01EKEVA:~/LinuxAssignment# ls -l /
total 2448
lrwxrwxrwx 1 root root 7 Apr 22 2024 bin -> usr/bin
drwxr-xr-x 2 root root 4096 Feb 26 2024 bin.usr-is-merged
drwxr-xr-x 2 root root 4096 Apr 22 2024 boot
drwxr-xr-x 16 root root 3580 Feb 27 21:09 dev
drwxr-xr-x 87 root root 4096 Feb 27 21:09 etc
drwxr-xr-x 3 root root 4096 Feb 27 20:28 home
-rwxrwxrwx 1 root root 2424984 Feb 12 00:59 init
lrwxrwxrwx 1 root root 7 Apr 22 2024 lib -> usr/lib
drwxr-xr-x 2 root root 4096 Apr 8 2024 lib.usr-is-merged
lrwxrwxrwx 1 root root 9 Apr 22 2024 lib64 -> usr/lib64
drwx----- 2 root root 16384 Feb 24 00:24 lost+found
drwxr-xr-x 2 root root 4096 Jan 6 20:13 media
drwxr-xr-x 5 root root 4096 Feb 24 09:24 mnt
drwxr-xr-x 2 root root 4096 Jan 6 20:13 opt
dr-xr-xr-x 227 root root 0 Feb 27 21:09 proc
drwx----- 5 root root 4096 Feb 27 16:55 root
drwxr-xr-x 18 root root 540 Feb 27 21:09 run
lrwxrwxrwx 1 root root 8 Apr 22 2024 sbin -> usr/sbin
drwxr-xr-x 2 root root 4096 Mar 31 2024 sbin.usr-is-merged
drwxr-xr-x 2 root root 4096 Feb 24 09:24 snap
drwxr-xr-x 2 root root 4096 Jan 6 20:13 srv
dr-xr-xr-x 11 root root 0 Feb 27 20:20 sys
drwxrwxrwt 11 root root 4096 Feb 27 21:10 tmp
drwxr-xr-x 12 root root 4096 Jan 6 20:13 usr
drwxr-xr-x 13 root root 4096 Feb 24 09:24 var
root@DESKTOP-01EKEVA:~/LinuxAssignment# |
```

- 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).

```
root@DESKTOP-01EKEVA:~# cd LinuxAssignment
root@DESKTOP-01EKEVA:~/LinuxAssignment# find . -type f -name "*.txt"
./docs/file2.txt
./file1.txt
root@DESKTOP-01EKEVA:~/LinuxAssignment#
root@DESKTOP-01EKEVA:~/LinuxAssignment# grep "testos" file1.txt
root@DESKTOP-01EKEVA:~/LinuxAssignment# grep -i "testos" file1.txt
root@DESKTOP-01EKEVA:~/LinuxAssignment# grep -n "testos" file1.txt
root@DESKTOP-01EKEVA:~/LinuxAssignment# grep -r "testos" file1.txt
root@DESKTOP-01EKEVA:~/LinuxAssignment# grep -r "testos" *.txt
root@DESKTOP-01EKEVA:~/LinuxAssignment# find . -type f -name "testos"
root@DESKTOP-01EKEVA:~/LinuxAssignment# find . -type f -name "*.txt"
./docs/file2.txt
./file1.txt
```

```
root@DESKTOP-01EKEVA: ~# cd ..
root@DESKTOP-01EKEVA: ~# cd LinuxAssignment
root@DESKTOP-01EKEVA: ~/LinuxAssignment# find . -type f -name "*.txt"
./docs/file2.txt
./file1.txt
root@DESKTOP-01EKEVA: ~/LinuxAssignment# grep "testos" file1.txt
root@DESKTOP-01EKEVA: ~/LinuxAssignment# grep -i "testos" file1.txt
root@DESKTOP-01EKEVA: ~/LinuxAssignment# grep -n "testos" file1.txt
root@DESKTOP-01EKEVA: ~/LinuxAssignment# grep -r "testos" file1.txt
root@DESKTOP-01EKEVA: ~/LinuxAssignment# grep -r "testos" *.txt
root@DESKTOP-01EKEVA: ~/LinuxAssignment# find . -type f -name "testos"
root@DESKTOP-01EKEVA: ~/LinuxAssignment# find . -type f -name "*.txt"
./docs/file2.txt
./file1.txt
root@DESKTOP-01EKEVA: ~/LinuxAssignment# |
```

h) System Information: a. Display the current system date and time.

```
root@DESKTOP-01EKEVA:~/LinuxAssignment# date
```

```
Fri Feb 28 10:30:53 UTC 2025
```

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).

```
root@DESKTOP-01EKEVA: ~# ip a
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:a5:b7:4f brd ff:ff:ff:ff:ff:ff
    inet 172.30.65.188/20 brd 172.30.79.255 scope global eth0
        valid_lft forever preferred_lft forever
    inet6 fe80::215:5dff:fea5:b74f/64 scope link
        valid_lft forever preferred_lft forever
root@DESKTOP-01EKEVA: ~# ping -c 4 google.com
PING google.com (142.250.193.174) 56(84) bytes of data:
64 bytes from maa05s26-in-f14.1e100.net (142.250.193.174): icmp_seq=1 ttl=117 time=39.9 ms
64 bytes from maa05s26-in-f14.1e100.net (142.250.193.174): icmp_seq=2 ttl=117 time=41.9 ms
64 bytes from maa05s26-in-f14.1e100.net (142.250.193.174): icmp_seq=3 ttl=117 time=41.3 ms
64 bytes from maa05s26-in-f14.1e100.net (142.250.193.174): icmp_seq=4 ttl=117 time=42.2 ms

--- google.com ping statistics ---
4 packets transmitted, 4 received, 0% packet loss, time 3262ms
rtt min/avg/max/mdev = 39.867/41.333/42.209/0.901 ms
root@DESKTOP-01EKEVA: ~#
```

- j) **File Compression:** a. Compress the "docs" directory into a zip file. b. Extract the contents of the zip file into a new directory.

```
root@DESKTOP-01EKEVA: /mr  x  +  v
root@DESKTOP-01EKEVA:~# cd C:\Users\abhiv\Desktop\CDACKH\OSLinux
-bash: cd: C:\Users\abhiv\Desktop\CDACKH\OSLinux: No such file or directory
root@DESKTOP-01EKEVA:~# cd /mnt/c/Users/abhiv/Desktop/CDACKH/OSLinux
root@DESKTOP-01EKEVA:/mnt/c/Users/abhiv/Desktop/CDACKH/OSLinux# cd LinuxAssignment
root@DESKTOP-01EKEVA:/mnt/c/Users/abhiv/Desktop/CDACKH/OSLinux/LinuxAssignment# zip -r docs.zip docs
Command 'zip' not found, but can be installed with:
apt install zip
root@DESKTOP-01EKEVA:/mnt/c/Users/abhiv/Desktop/CDACKH/OSLinux/LinuxAssignment# apt install zip
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 93 not upgraded.
Need to get 350 kB of archives.
After this operation, 933 kB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 unzip amd64 6.0-28ubuntu4.1 [174 kB]
Get:2 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 zip amd64 3.0-13ubuntu0.2 [176 kB]
Fetched 350 kB in 3s (139 kB/s)
Selecting previously unselected package unzip.
(Reading database ... 40799 files and directories currently installed.)
Preparing to unpack .../unzip_6.0-28ubuntu4.1_amd64.deb ...
Unpacking unzip (6.0-28ubuntu4.1) ...
Selecting previously unselected package zip.
Preparing to unpack .../zip_3.0-13ubuntu0.2_amd64.deb ...
Unpacking zip (3.0-13ubuntu0.2) ...
Setting up unzip (6.0-28ubuntu4.1) ...
Setting up zip (3.0-13ubuntu0.2) ...
Processing triggers for man-db (2.12.0-4build2) ...
root@DESKTOP-01EKEVA:/mnt/c/Users/abhiv/Desktop/CDACKH/OSLinux/LinuxAssignment# zip -r docs.zip docs
  adding: docs/ (stored 0%)
  adding: docs/file2.txt (stored 0%)
root@DESKTOP-01EKEVA:/mnt/c/Users/abhiv/Desktop/CDACKH/OSLinux/LinuxAssignment# mkdir extracted_docs
root@DESKTOP-01EKEVA:/mnt/c/Users/abhiv/Desktop/CDACKH/OSLinux/LinuxAssignment# unzip docs.zip -d extracted_docs
Archive: docs.zip
  creating: extracted_docs/docs/
  extracting: extracted_docs/docs/file2.txt
root@DESKTOP-01EKEVA:/mnt/c/Users/abhiv/Desktop/CDACKH/OSLinux/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).

```
root@DESKTOP-01EKEVA: /mr  x  +  v
root@DESKTOP-01EKEVA:/mnt/c/Users/abhiv/Desktop/CDACKH/OSLinux/LinuxAssignment# nano file1.txt
root@DESKTOP-01EKEVA:/mnt/c/Users/abhiv/Desktop/CDACKH/OSLinux/LinuxAssignment# nano file1.txt
root@DESKTOP-01EKEVA:/mnt/c/Users/abhiv/Desktop/CDACKH/OSLinux/LinuxAssignment# sed -i 's/oldword/newword/g' file1.txt
root@DESKTOP-01EKEVA:/mnt/c/Users/abhiv/Desktop/CDACKH/OSLinux/LinuxAssignment# nano file1.txt
root@DESKTOP-01EKEVA:/mnt/c/Users/abhiv/Desktop/CDACKH/OSLinux/LinuxAssignment# sed -i 's/test/testing/g' file1.txt
root@DESKTOP-01EKEVA:/mnt/c/Users/abhiv/Desktop/CDACKH/OSLinux/LinuxAssignment# |
```

```
https://github.com/Skar0fire-detection • New Text Document.txt • Aug24 PGDAC_COSSDM Syllabus_74hr.do file1.txt
File Edit View
Hello, this is just a testing file1.txt
```


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.

```
root@DESKTOP-01EKEVA: /mnt X + v
System information as of Fri Feb 28 11:43:38 UTC 2025

System load:  0.0          Processes:           59
Usage of /:   0.1% of 1006.85GB Users logged in:      0
Memory usage: 12%         IPv4 address for eth0: 172.30.65.188
Swap usage:   0%

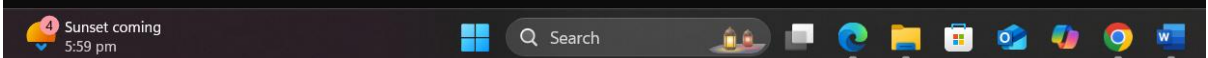
* Strictly confined Kubernetes makes edge and IoT secure. Learn how MicroK8s
  just raised the bar for easy, resilient and secure K8s cluster deployment.

https://ubuntu.com/engage/secure-kubernetes-at-the-edge

This message is shown once a day. To disable it please create the
/root/.hushlogin file.
root@DESKTOP-01EKEVA:~# cd C:\Users\abhiv\Desktop\CDACKH\OSLinux\LinuxAssignment
-bash: cd: C:\Users\abhiv\Desktop\CDACKH\OSLinux\LinuxAssignment: No such file or directory
root@DESKTOP-01EKEVA:~# cd /mnt/c/Users/abhiv/Desktop/CDACKH/OSLinux
root@DESKTOP-01EKEVA:/mnt/c/Users/abhiv/Desktop/CDACKH/OSLinux# cd LinuxAssignment
root@DESKTOP-01EKEVA:/mnt/c/Users/abhiv/Desktop/CDACKH/OSLinux/LinuxAssignment# head -n 10 data.txt
Lemon
orange
apple
mango
pineapple
amla
coconut
ginger
tomato
potato
root@DESKTOP-01EKEVA:/mnt/c/Users/abhiv/Desktop/CDACKH/OSLinux/LinuxAssignment# |
```

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

```
root@DESKTOP-01EKEVA:/mnt/c/Users/abhiv/Desktop/CDACKH/OSLinux/LinuxAssignment# tail -n 5 data.txt
onion
cream
milk
eggs
water
root@DESKTOP-01EKEVA:/mnt/c/Users/abhiv/Desktop/CDACKH/OSLinux/LinuxAssignment#
```



- 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.

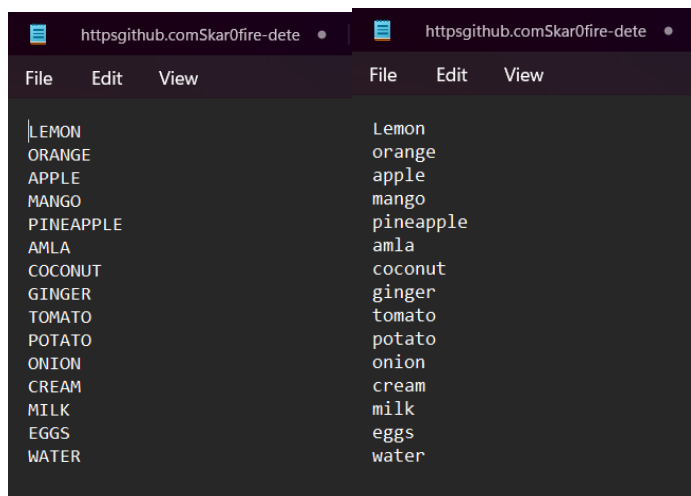
```
root@DESKTOP-01EKEVA:/mnt/c/Users/abhiv/Desktop/CDACKH/OSLinux/LinuxAssignment# head -n 15 numbers.txt
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
```

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

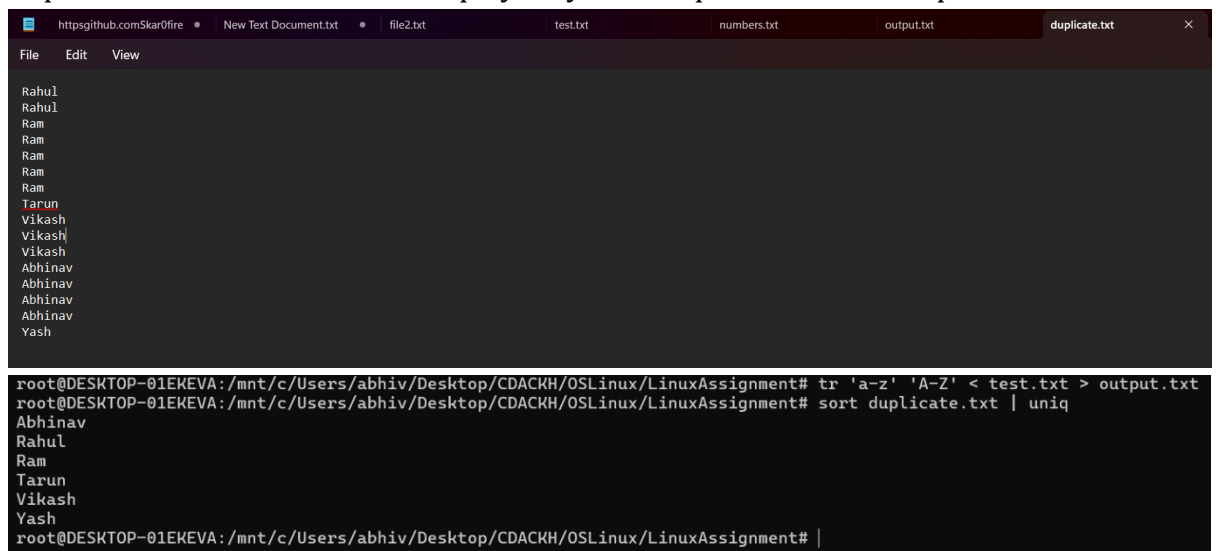
```
15
root@DESKTOP-01EKEVA:/mnt/c/Users/abhiv/Desktop/CDACKH/OSLinux/LinuxAssignment# tail -n 3 numbers.txt
13
14
15
```

- 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."

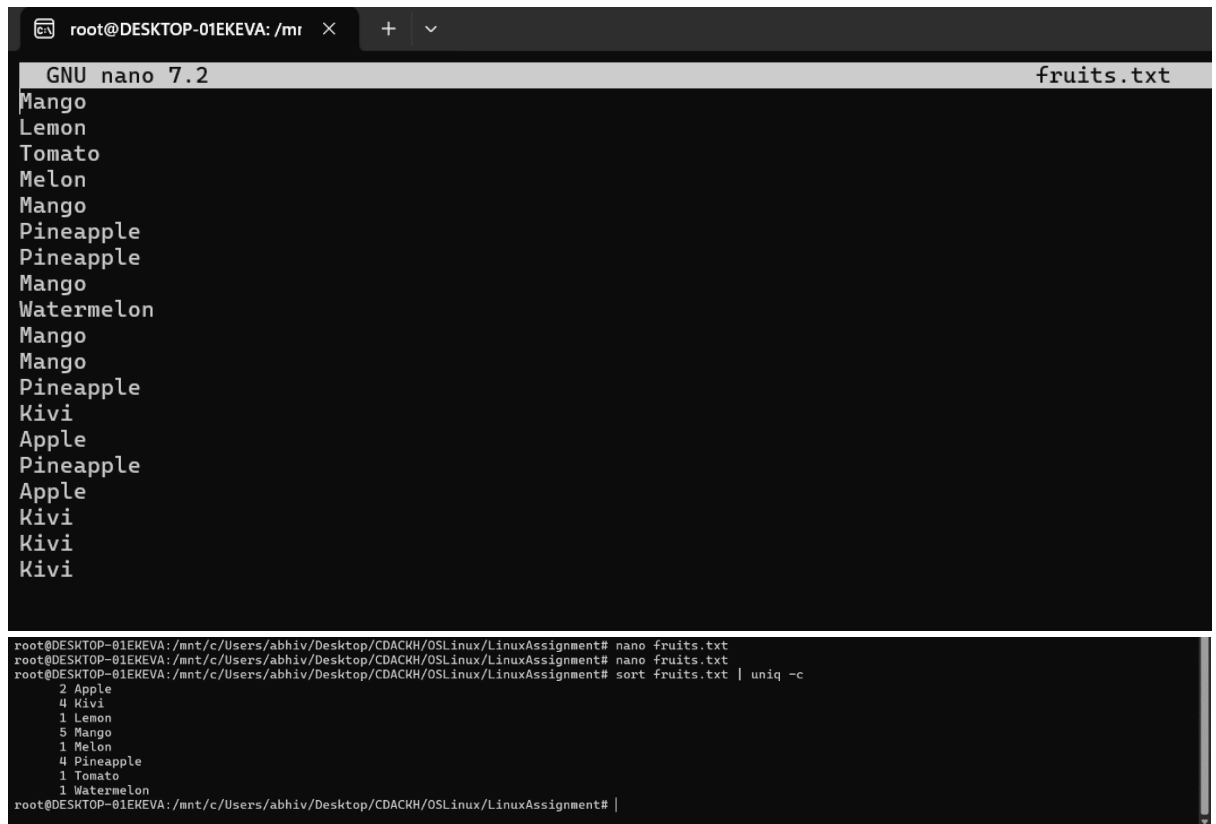
Command - `tr 'a-z' 'A-Z' < input.txt > output.txt`



- 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."



- 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."



```
root@DESKTOP-01EKEVA: /mnt ...  
GNU nano 7.2 fruits.txt  
Mango  
Lemon  
Tomato  
Melon  
Mango  
Pineapple  
Pineapple  
Mango  
Watermelon  
Mango  
Mango  
Pineapple  
Kivi  
Apple  
Pineapple  
Apple  
Kivi  
Kivi  
Kivi  
root@DESKTOP-01EKEVA:/mnt/c/Users/abhiv/Desktop/CDACKH/OSLinux/LinuxAssignment# nano fruits.txt  
root@DESKTOP-01EKEVA:/mnt/c/Users/abhiv/Desktop/CDACKH/OSLinux/LinuxAssignment# nano fruits.txt  
root@DESKTOP-01EKEVA:/mnt/c/Users/abhiv/Desktop/CDACKH/OSLinux/LinuxAssignment# sort fruits.txt | uniq -c  
  2 Apple  
  4 Kivi  
  1 Lemon  
  5 Mango  
  1 Melon  
  4 Pineapple  
  1 Tomato  
  1 Watermelon  
root@DESKTOP-01EKEVA:/mnt/c/Users/abhiv/Desktop/CDACKH/OSLinux/LinuxAssignment# |
```