

# Operating System

## Lab Report

### Lab 02



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Class	Operating System ( <b>BCE-5B</b> )
Instructor's Name	Sir Wasif

# In Lab Tasks

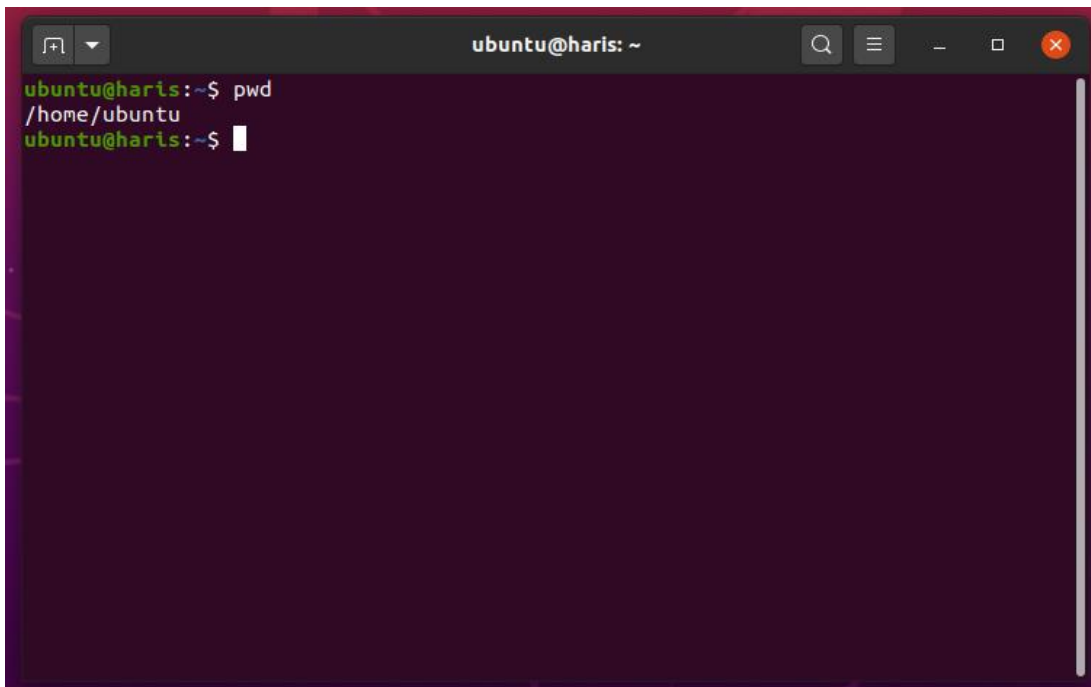
## Question 1: Activity 1:

In this activity, you are required to perform tasks given below:

1. Display your current directory.
2. Change to the /etc directory.
3. Go to the parent directory of the current directory.
4. Go to the root directory.
5. List the contents of the root directory.
6. List a long listing of the root directory.
7. Stay where you are, and list the contents of /etc.
8. Stay where you are, and list the contents of /bin and /sbin.
9. Stay where you are, and list the contents of ~.
10. List all the files (including hidden files) in your home directory.
11. List the files in /boot in a human readable format.

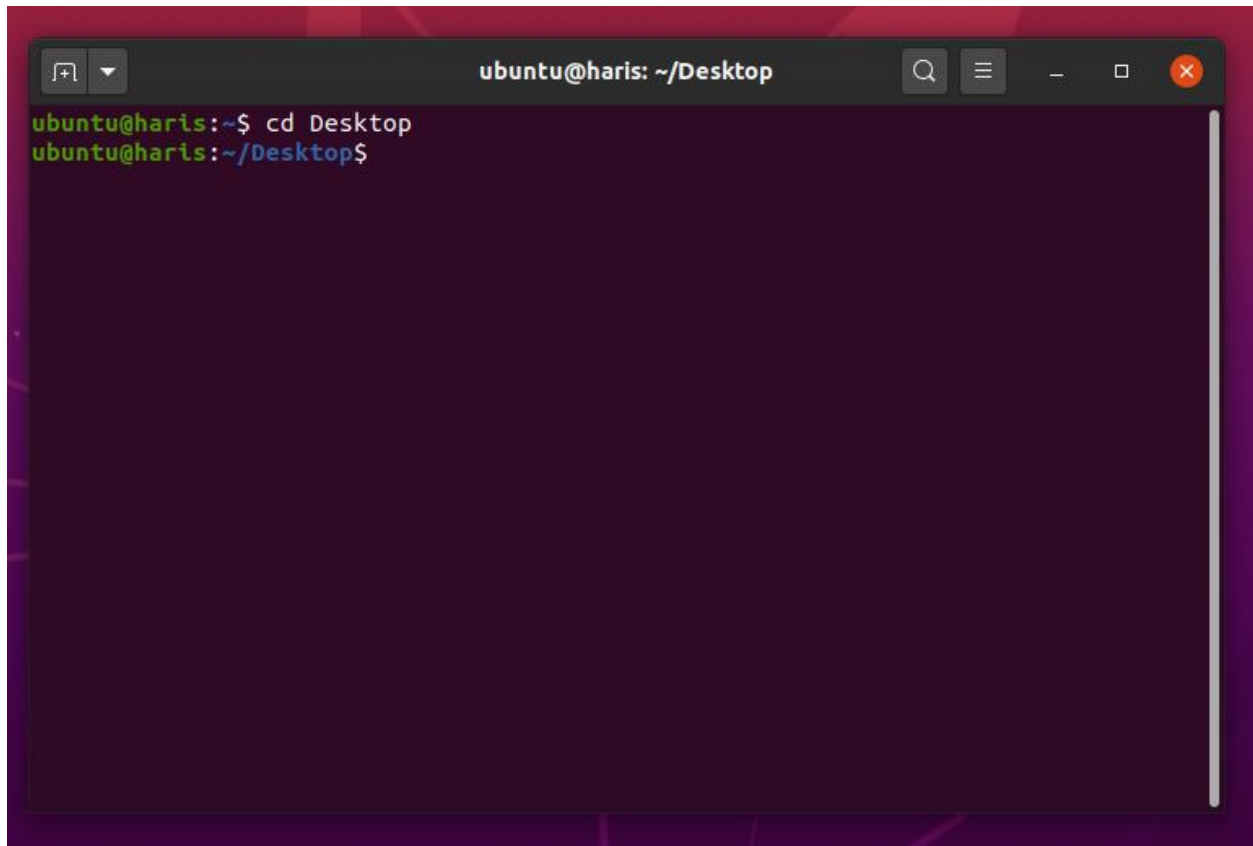
## Solution:

1) The Terminal Output is given below,

A terminal window with a dark purple background and a title bar that reads 'ubuntu@haris: ~'. The terminal shows the command 'pwd' being entered, followed by the output '/home/ubuntu' on the next line. The prompt 'ubuntu@haris:~\$' is visible at the end of the line.

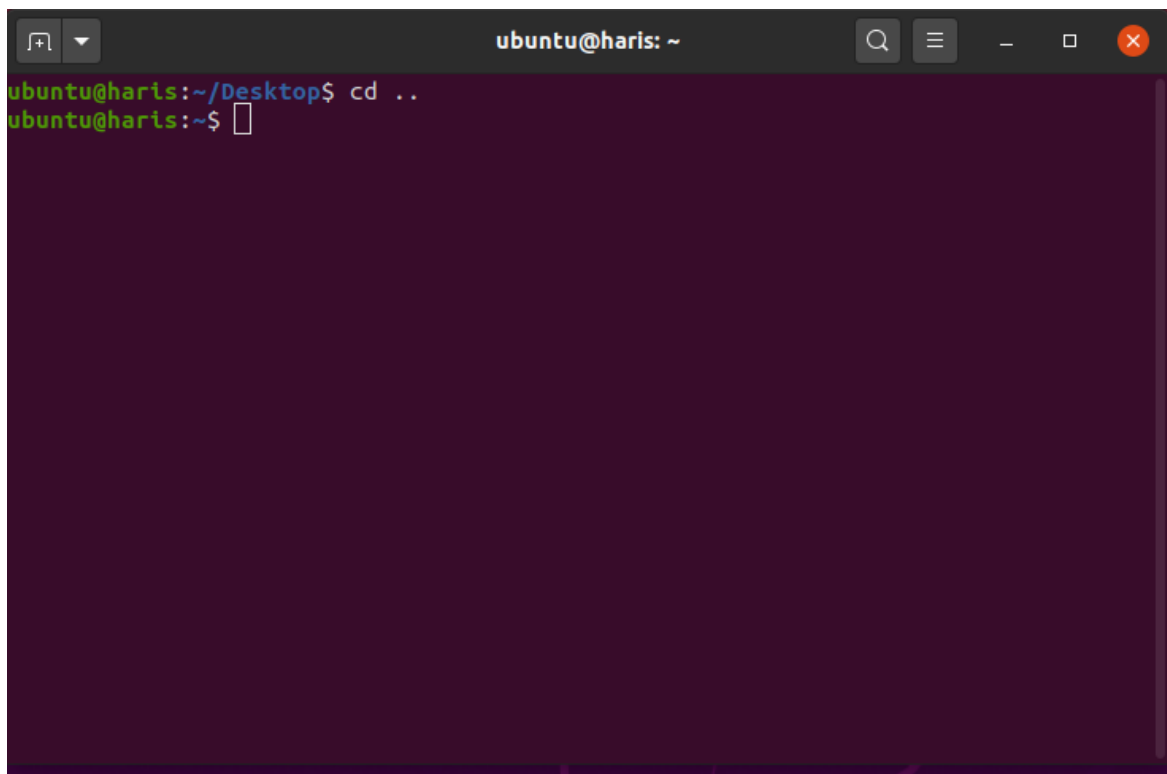
```
ubuntu@haris:~$ pwd
/home/ubuntu
ubuntu@haris:~$
```

2) The Terminal Output is given below,

A terminal window titled 'ubuntu@haris: ~/Desktop' with standard window controls. The terminal shows the command 'cd Desktop' being executed, changing the current directory from '~' to '~/Desktop'.

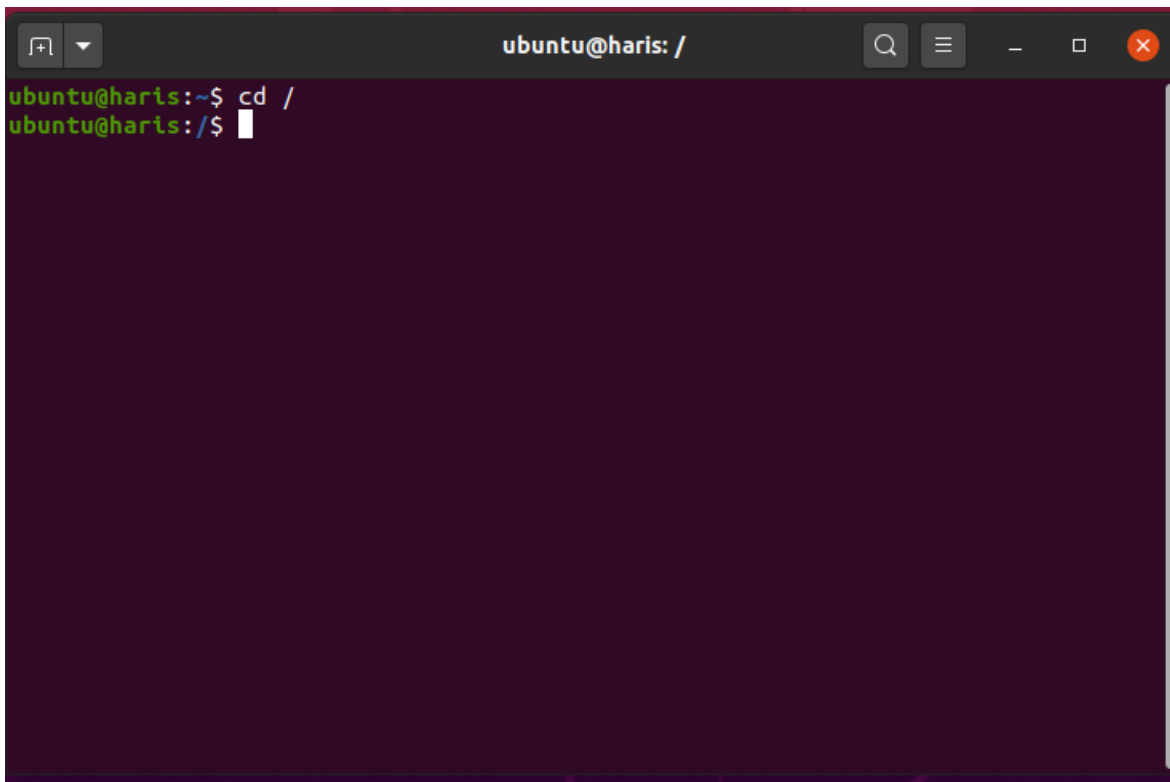
```
ubuntu@haris:~$ cd Desktop
ubuntu@haris:~/Desktop$
```

3) The Terminal Output is given below,

A terminal window titled 'ubuntu@haris: ~' with standard window controls. The terminal shows the command 'cd ..' being executed, changing the current directory from '~/Desktop' back to '~'.

```
ubuntu@haris:~/Desktop$ cd ..
ubuntu@haris:~$
```

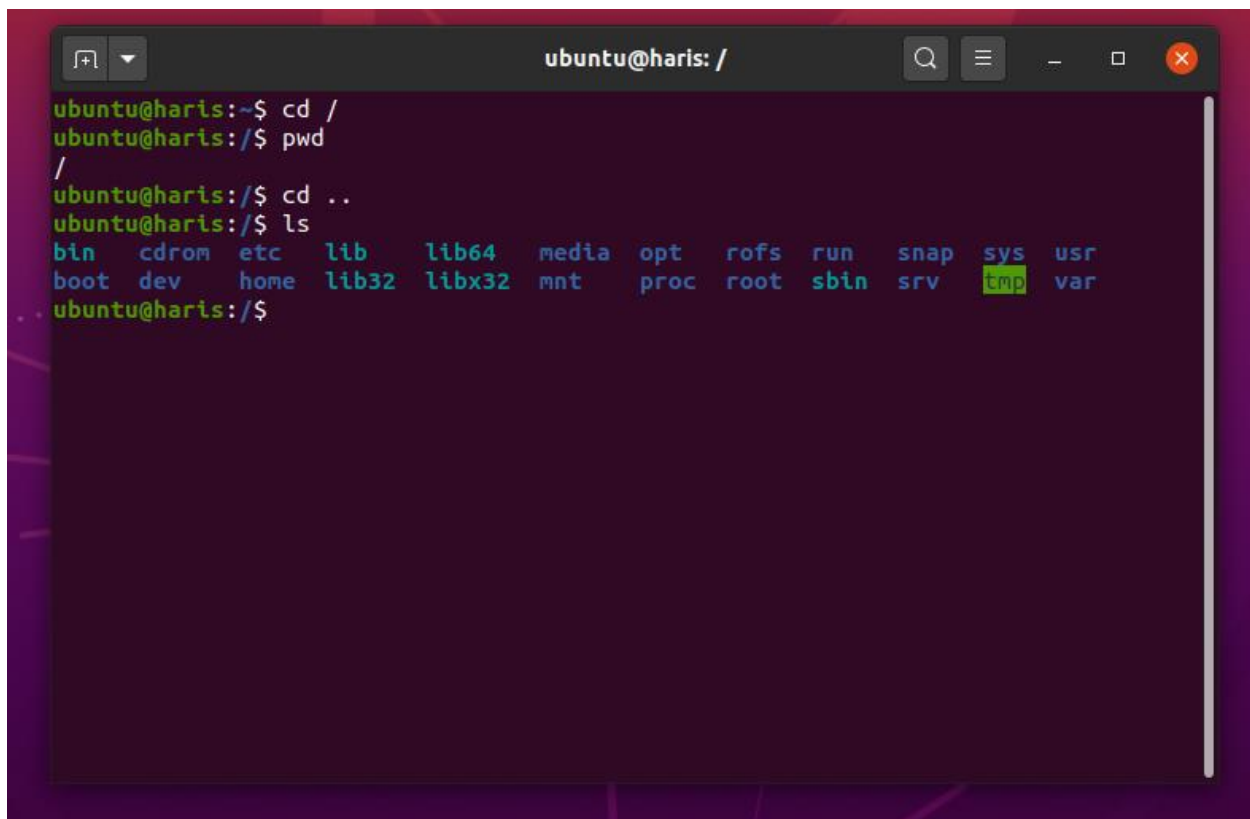
4) The Terminal Output is given below,



```
ubuntu@haris: /  
ubuntu@haris:~$ cd /  
ubuntu@haris:/$
```

A terminal window with a dark purple background. The title bar shows 'ubuntu@haris: /'. The prompt is 'ubuntu@haris:~\$'. The user enters 'cd /' and the prompt changes to 'ubuntu@haris:/\$'.

5) The Terminal Output is given below,



```
ubuntu@haris: /  
ubuntu@haris:~$ cd /  
ubuntu@haris:/$ pwd  
/  
ubuntu@haris:/$ cd ..  
ubuntu@haris:/$ ls  
bin  cdrom  etc  lib  lib64  media  opt  rofs  run  snap  sys  usr  
boot dev  home lib32 libx32 mnt  proc  root sbin  srv  tmp  var  
ubuntu@haris:/$
```

A terminal window with a dark purple background. The title bar shows 'ubuntu@haris: /'. The prompt is 'ubuntu@haris:~\$'. The user enters a series of commands: 'cd /', 'pwd', 'cd ..', and 'ls'. The output of 'pwd' is '/' and the output of 'ls' is a list of system directories. The prompt returns to 'ubuntu@haris:/\$'.

6) The Terminal Output is given below,

```
ubuntu@haris: /  
ubuntu@haris:/$ ls -l  
total 2  
lrwxrwxrwx 1 root root 7 Jul 31 16:27 bin -> usr/bin  
drwxr-xr-x 1 root root 60 Jul 31 16:35 boot  
dr-xr-xr-x 1 root root 2048 Jul 31 16:48 cdrom  
drwxr-xr-x 19 root root 4060 Oct 9 03:41 dev  
drwxr-xr-x 1 root root 660 Oct 9 03:51 etc  
drwxr-xr-x 1 root root 80 Oct 9 03:49 home  
lrwxrwxrwx 1 root root 7 Jul 31 16:27 lib -> usr/lib  
lrwxrwxrwx 1 root root 9 Jul 31 16:27 lib32 -> usr/lib32  
lrwxrwxrwx 1 root root 9 Jul 31 16:27 lib64 -> usr/lib64  
lrwxrwxrwx 1 root root 10 Jul 31 16:27 libx32 -> usr/libx32  
drwxr-xr-x 1 root root 60 Oct 9 03:41 media  
drwxr-xr-x 2 root root 3 Jul 31 16:27 mnt  
drwxr-xr-x 2 root root 3 Jul 31 16:27 opt  
dr-xr-xr-x 239 root root 0 Oct 9 03:40 proc  
drwxr-xr-x 18 root root 308 Jul 31 16:35 rofs  
drwx----- 3 root root 60 Jul 31 16:34 root  
drwxr-xr-x 32 root root 980 Oct 9 03:42 run  
lrwxrwxrwx 1 root root 8 Jul 31 16:27 sbin -> usr/sbin  
drwxr-xr-x 1 root root 180 Oct 9 03:43 snap  
drwxr-xr-x 2 root root 3 Jul 31 16:27 srv  
dr-xr-xr-x 13 root root 0 Oct 9 03:40 sys  
drwxrwxrwt 16 root root 380 Oct 9 04:00 tmp
```

7) The Terminal Output is given below,

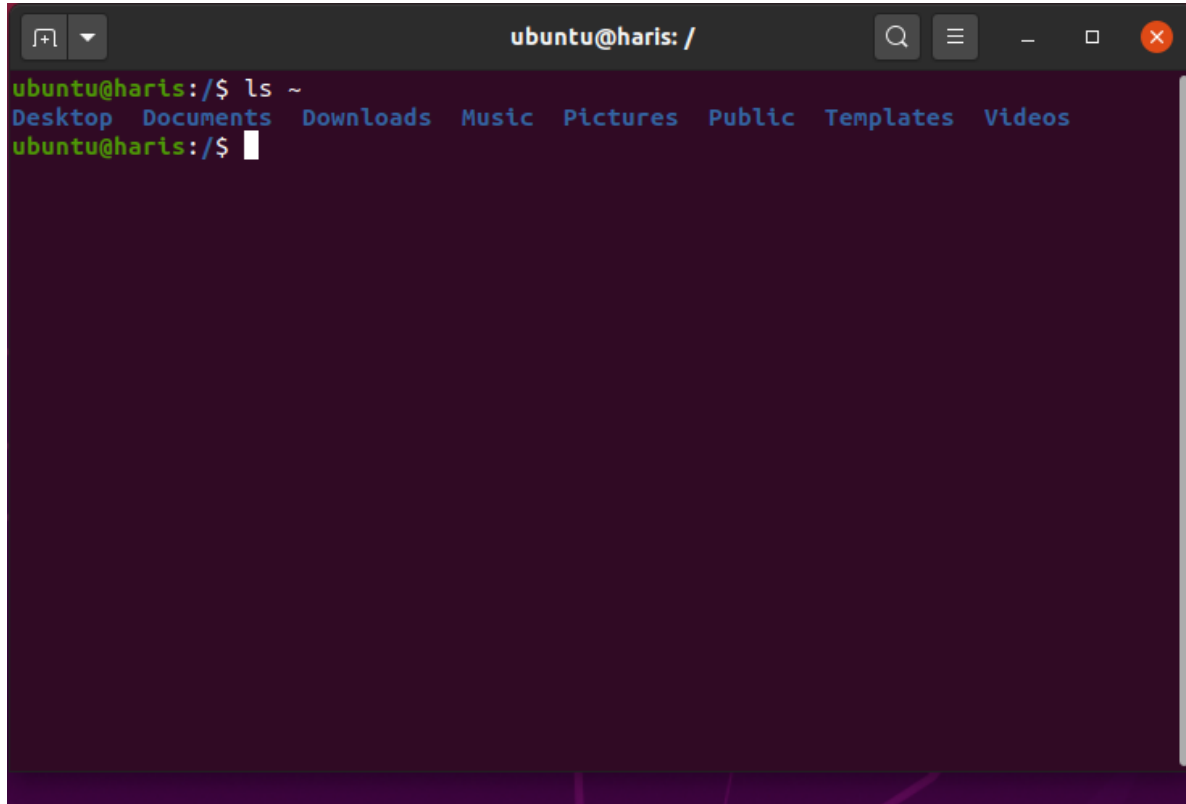
```
ubuntu@haris: /  
drwxr-xr-x 19 root root 4060 Oct 9 03:41 dev  
drwxr-xr-x 1 root root 660 Oct 9 03:51 etc  
drwxr-xr-x 1 root root 80 Oct 9 03:49 home  
lrwxrwxrwx 1 root root 7 Jul 31 16:27 lib -> usr/lib  
lrwxrwxrwx 1 root root 9 Jul 31 16:27 lib32 -> usr/lib32  
lrwxrwxrwx 1 root root 9 Jul 31 16:27 lib64 -> usr/lib64  
lrwxrwxrwx 1 root root 10 Jul 31 16:27 libx32 -> usr/libx32  
drwxr-xr-x 1 root root 60 Oct 9 03:41 media  
drwxr-xr-x 2 root root 3 Jul 31 16:27 mnt  
drwxr-xr-x 2 root root 3 Jul 31 16:27 opt  
dr-xr-xr-x 239 root root 0 Oct 9 03:40 proc  
drwxr-xr-x 18 root root 308 Jul 31 16:35 rofs  
drwx----- 3 root root 60 Jul 31 16:34 root  
drwxr-xr-x 32 root root 980 Oct 9 03:42 run  
lrwxrwxrwx 1 root root 8 Jul 31 16:27 sbin -> usr/sbin  
drwxr-xr-x 1 root root 180 Oct 9 03:43 snap  
drwxr-xr-x 2 root root 3 Jul 31 16:27 srv  
dr-xr-xr-x 13 root root 0 Oct 9 03:40 sys  
drwxrwxrwt 16 root root 380 Oct 9 04:00 tmp  
drwxr-xr-x 1 root root 100 Jul 31 16:28 usr  
drwxr-xr-x 1 root root 180 Jul 31 16:35 var  
ubuntu@haris:/$ ls /media  
cdrom  
ubuntu@haris:/$
```

## 8) The Terminal Output is given below,

```
ubuntu@haris: /  
ubuntu@haris:/$ ls / sbin  
/:  
bin  cdrom  etc  lib  lib64  media  opt  rofs  run  snap  sys  usr  
boot dev  home lib32 libx32 mnt  proc  root  sbin  srv  tmp  var  
  
sbin:  
ModemManager          grub-macbless          pvs  
NetworkManager        grub-mkconfig          pvscan  
aa-remove-unknown     grub-mkdevicemap      pwck  
aa-status              grub-probe             pwconv  
aa-teardown            grub-reboot            pwunconv  
accessdb               grub-set-default       raw  
acpid                  halt                   rdate  
add-shell              hdparm                 readprofile  
addgnupghome           hwclock                 reboot  
addgroup               iconvconfig            regdbdump  
adduser                iio-sensor-proxy       reiserfsck  
agetty                 init                   reiserfstune  
alsa                   insmod                 remove-default-ispell  
alsa-info              install-sgmlcatalog    remove-default-wordlist  
alsabat-test           installkernel          remove-shell  
alsactl                integritysetup         resize2fs  
anacron                invoke-rc.d            resize_reiserfs  
anacron.distrib        ip                     rfkill
```

```
ubuntu@haris: /  
ubuntu@haris:/$ ls -bin  
total 2  
1 lrwxrwxrwx 1 0 0 7 Jul 31 16:27 bin -> usr/bin  
20707 drwxr-xr-x 1 0 0 60 Jul 31 16:35 boot  
1280 dr-xr-xr-x 1 0 0 2048 Jul 31 16:48 cdrom  
2 drwxr-xr-x 19 0 0 4060 Oct 9 03:41 dev  
10751 drwxr-xr-x 1 0 0 660 Oct 9 03:51 etc  
18981 drwxr-xr-x 1 0 0 80 Oct 9 03:49 home  
2826 lrwxrwxrwx 1 0 0 7 Jul 31 16:27 lib -> usr/lib  
2827 lrwxrwxrwx 1 0 0 9 Jul 31 16:27 lib32 -> usr/lib32  
2828 lrwxrwxrwx 1 0 0 9 Jul 31 16:27 lib64 -> usr/lib64  
2829 lrwxrwxrwx 1 0 0 10 Jul 31 16:27 libx32 -> usr/libx32  
101450 drwxr-xr-x 1 0 0 60 Oct 9 03:41 media  
101451 drwxr-xr-x 2 0 0 3 Jul 31 16:27 mnt  
101452 drwxr-xr-x 2 0 0 3 Jul 31 16:27 opt  
1 dr-xr-xr-x 239 0 0 0 Oct 9 03:40 proc  
200949 drwxr-xr-x 18 0 0 308 Jul 31 16:35 rofs  
19145 drwx----- 3 0 0 60 Jul 31 16:34 root  
2 drwxr-xr-x 32 0 0 980 Oct 9 03:42 run  
2871 lrwxrwxrwx 1 0 0 8 Jul 31 16:27 sbin -> usr/sbin  
17399 drwxr-xr-x 1 0 0 180 Oct 9 03:43 snap  
18982 drwxr-xr-x 2 0 0 3 Jul 31 16:27 srv  
1 dr-xr-xr-x 13 0 0 0 Oct 9 03:40 sys  
2 drwxrwxrwt 16 0 0 380 Oct 9 04:00 tmp
```

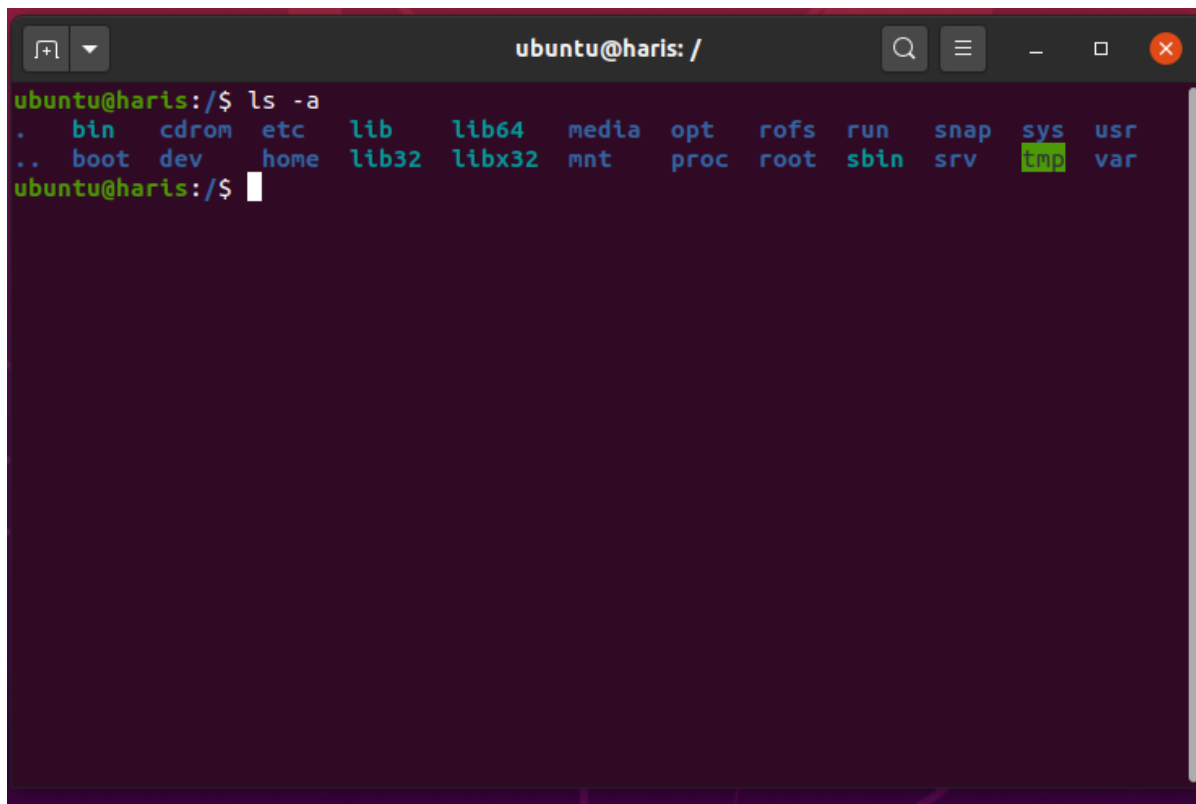
9) The Terminal Output is given below,



```
ubuntu@haris: /
ubuntu@haris:/$ ls ~
Desktop  Documents  Downloads  Music  Pictures  Public  Templates  Videos
ubuntu@haris:/$
```

A terminal window titled 'ubuntu@haris: /' with a search icon, a menu icon, and window control buttons. The command 'ls ~' has been executed, displaying a list of directories in the user's home directory: Desktop, Documents, Downloads, Music, Pictures, Public, Templates, and Videos. The prompt 'ubuntu@haris:/\$' is shown at the bottom.

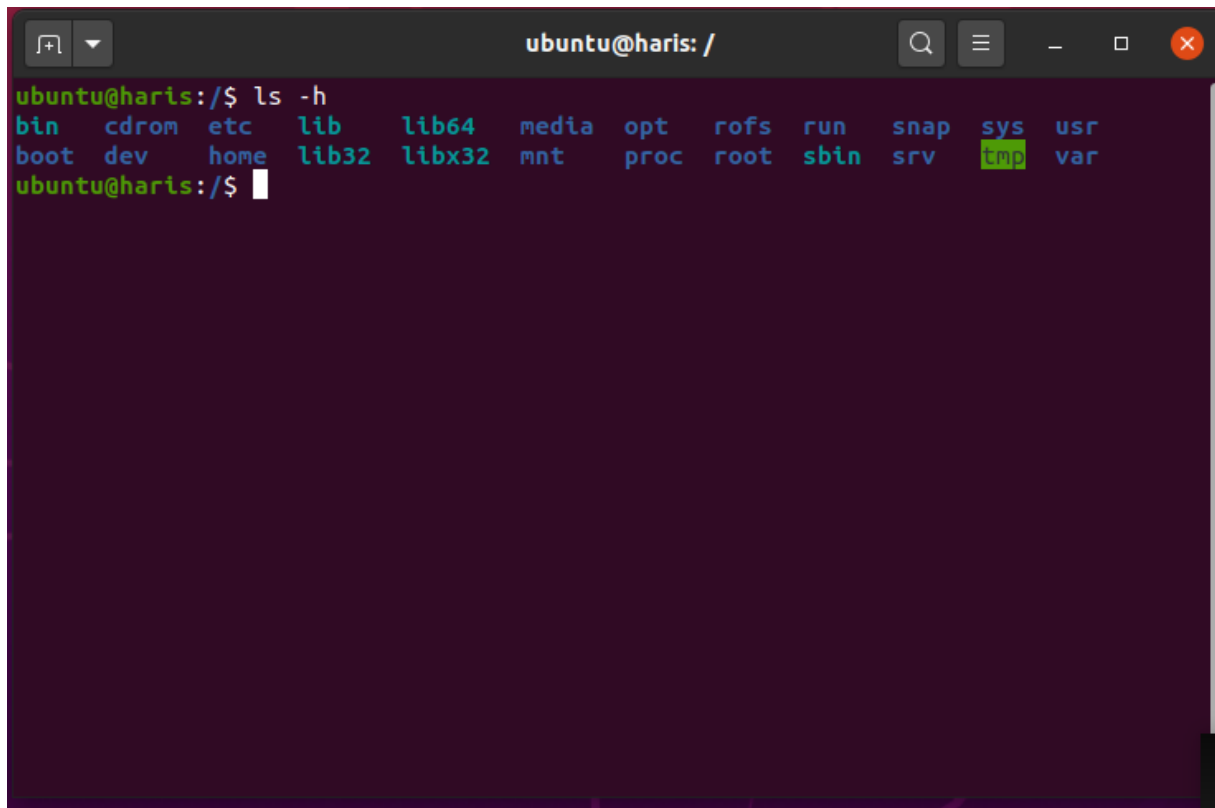
10) The Terminal Output is given below,



```
ubuntu@haris: /
ubuntu@haris:/$ ls -a
.  bin  cdrom  etc  lib  lib64  media  opt  rofs  run  snap  sys  usr
.. boot dev  home lib32 libx32 mnt  proc  root  sbin  srv  tmp  var
ubuntu@haris:/$
```

A terminal window titled 'ubuntu@haris: /' with a search icon, a menu icon, and window control buttons. The command 'ls -a' has been executed, displaying a list of all files and directories in the root of the filesystem, including hidden files like . and .., and system directories like bin, cdrom, etc, lib, lib64, media, opt, rofs, run, snap, sys, usr, boot, dev, home, lib32, libx32, mnt, proc, root, sbin, srv, tmp, and var. The prompt 'ubuntu@haris:/\$' is shown at the bottom.

**11)** The Terminal Output is given below,

A terminal window titled 'ubuntu@haris: /' with standard window controls. The command 'ls -h' has been executed, displaying a list of system directories in two rows. The first row contains 'bin', 'cdrom', 'etc', 'lib', 'lib64', 'media', 'opt', 'rofs', 'run', 'snap', 'sys', and 'usr'. The second row contains 'boot', 'dev', 'home', 'lib32', 'libx32', 'mnt', 'proc', 'root', 'sbin', 'srv', 'tmp', and 'var'. The 'tmp' directory is highlighted with a green background. The prompt 'ubuntu@haris:/\$' is visible at the bottom left of the terminal area.

```
ubuntu@haris:/$ ls -h
bin  cdrom  etc    lib    lib64  media  opt    rofs   run    snap   sys    usr
boot dev    home  lib32  libx32 mnt    proc   root   sbin   srv    tmp    var
ubuntu@haris:/$
```

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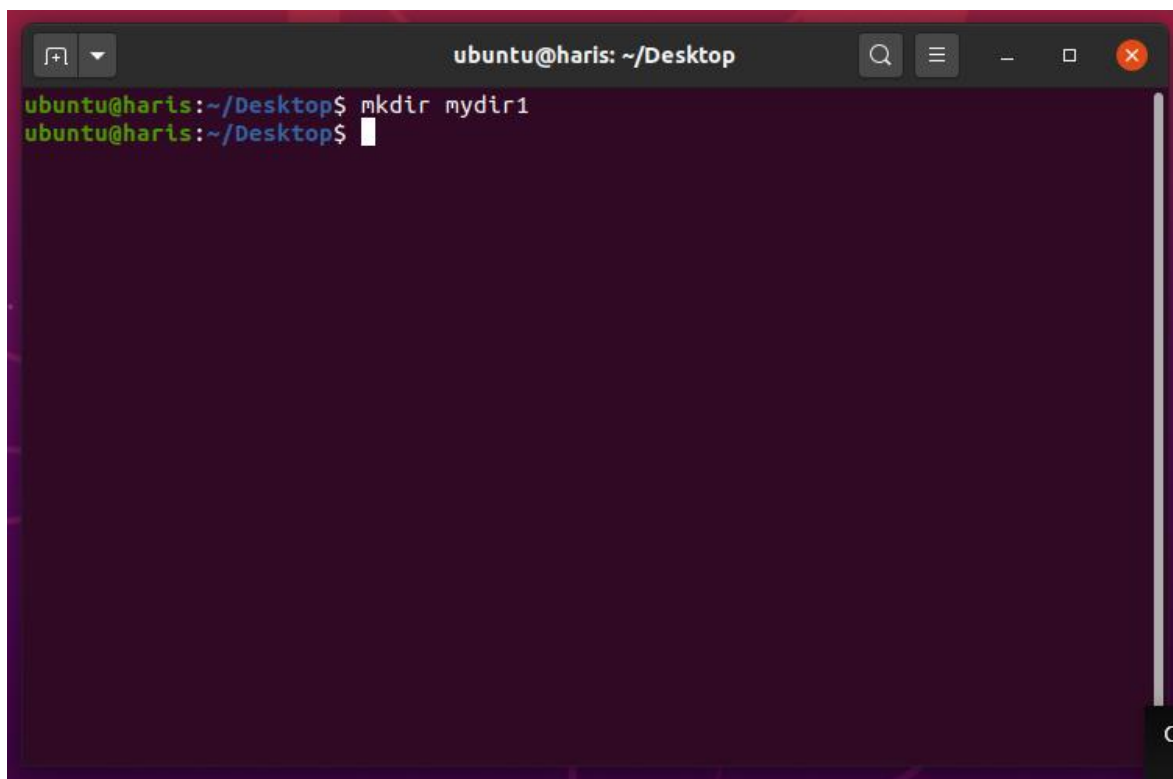
## Question 2: Activity 2:

Perform the following tasks using Linux CLI:

1. Create a directory “mydir1” in Desktop Directory. Inside mydir1 create another directory “mydir2”.
2. Change your current directory to “mydir2” using absolute path
3. Now, change you current directory to Documents using relative path
4. Create mydir3 directory in Documents directory and go into it
5. Now, change your current directory to mydir2 using relative path

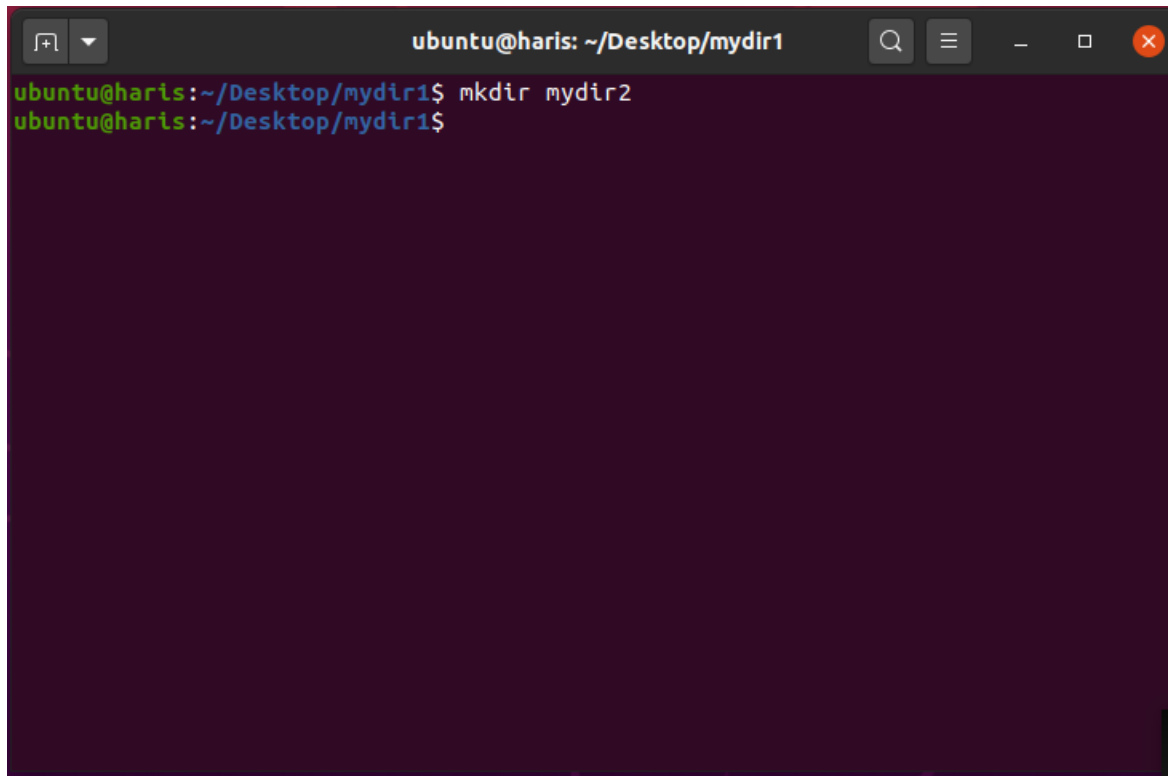
Solution:

1) The Terminal Output is given below,



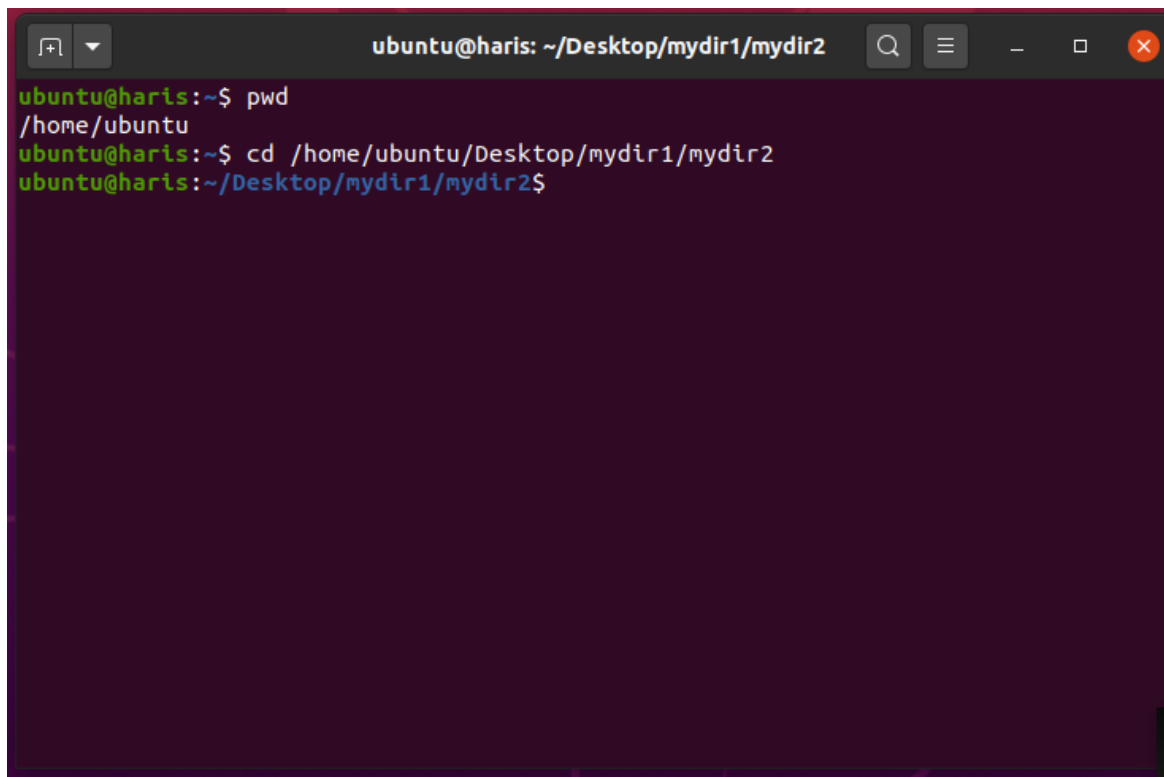
```
ubuntu@haris: ~/Desktop
ubuntu@haris:~/Desktop$ mkdir mydir1
ubuntu@haris:~/Desktop$
```

The image shows a terminal window titled 'ubuntu@haris: ~/Desktop'. The prompt is 'ubuntu@haris:~/Desktop\$'. The user has entered the command 'mkdir mydir1', and the prompt is now on a new line, indicating the command has been executed successfully.

A terminal window titled 'ubuntu@haris: ~/Desktop/mydir1' with standard window controls. The prompt is 'ubuntu@haris:~/Desktop/mydir1\$'. The command 'mkdir mydir2' has been entered and executed, resulting in a new prompt 'ubuntu@haris:~/Desktop/mydir1\$'.

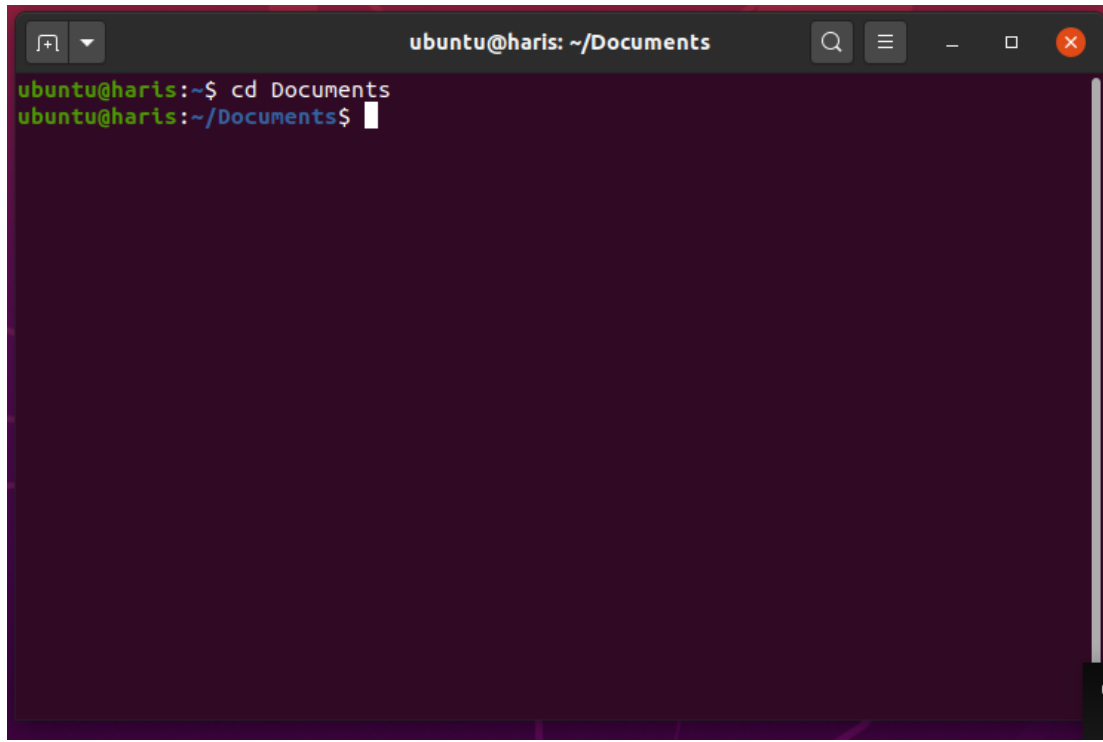
```
ubuntu@haris:~/Desktop/mydir1$ mkdir mydir2
ubuntu@haris:~/Desktop/mydir1$
```

2) The Terminal Output is given below,

A terminal window titled 'ubuntu@haris: ~/Desktop/mydir1/mydir2' with standard window controls. The prompt is 'ubuntu@haris:~\$'. The command 'pwd' is entered, outputting '/home/ubuntu'. Then, the command 'cd /home/ubuntu/Desktop/mydir1/mydir2' is entered, and the prompt changes to 'ubuntu@haris:~/Desktop/mydir1/mydir2\$'.

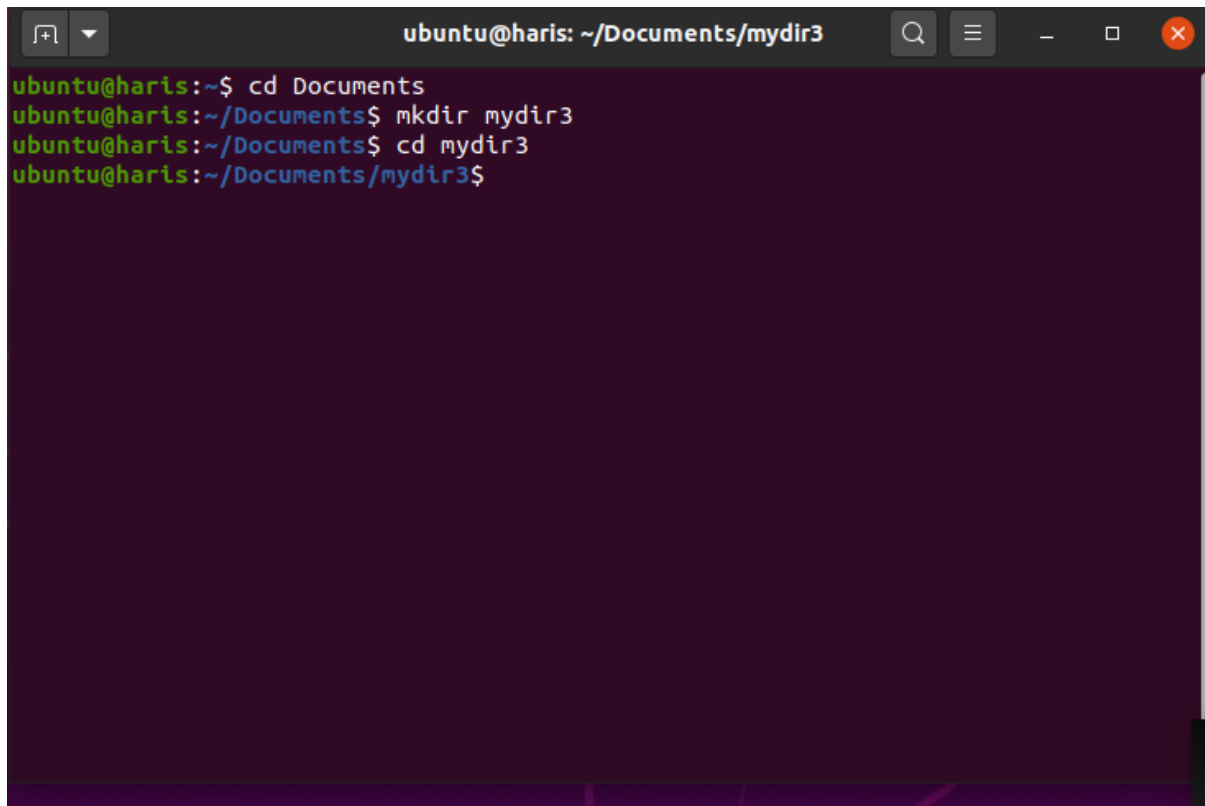
```
ubuntu@haris:~$ pwd
/home/ubuntu
ubuntu@haris:~$ cd /home/ubuntu/Desktop/mydir1/mydir2
ubuntu@haris:~/Desktop/mydir1/mydir2$
```

### 3) The Terminal Output is given below,

A terminal window titled 'ubuntu@haris: ~/Documents' with standard window controls. The terminal shows the command 'cd Documents' being executed, changing the current directory from the home directory to the Documents directory.

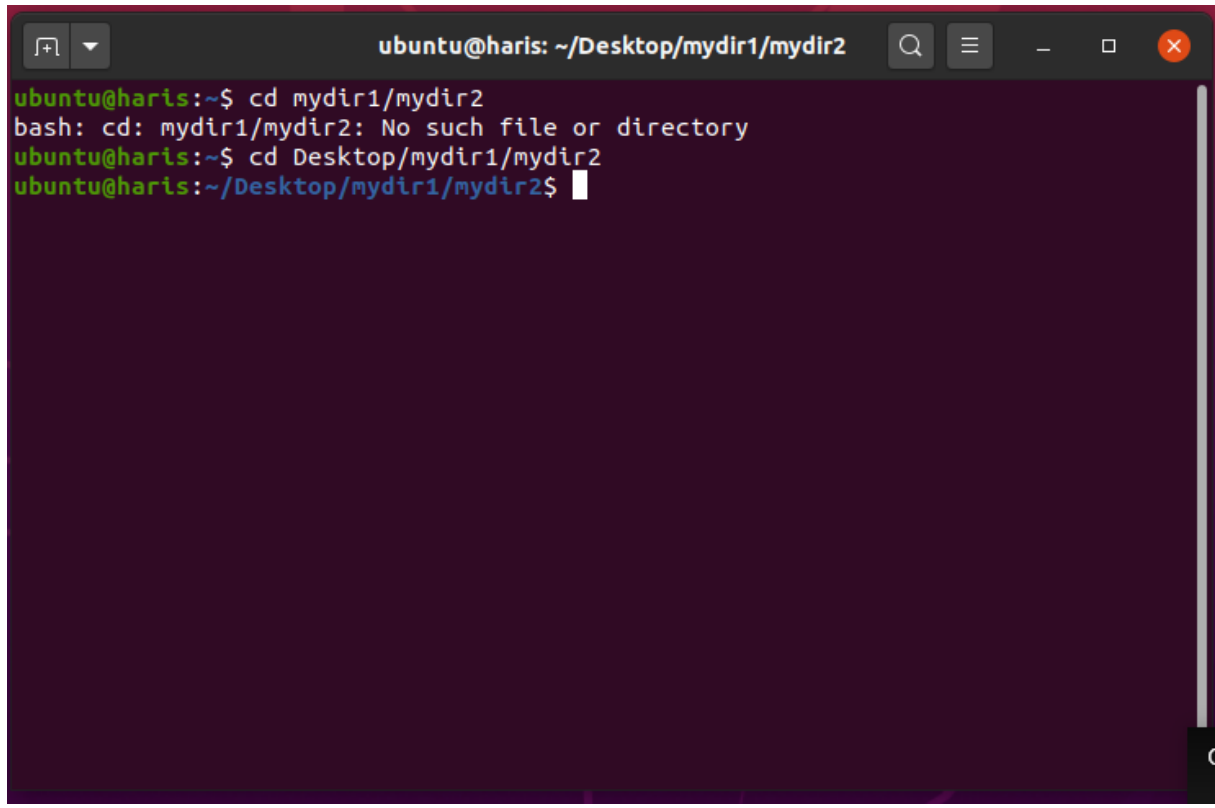
```
ubuntu@haris:~$ cd Documents
ubuntu@haris:~/Documents$
```

### 4) The Terminal Output is given below,

A terminal window titled 'ubuntu@haris: ~/Documents/mydir3' with standard window controls. The terminal shows a sequence of commands: 'cd Documents' to move to the Documents directory, 'mkdir mydir3' to create a new directory named mydir3, and 'cd mydir3' to enter the newly created directory.

```
ubuntu@haris:~$ cd Documents
ubuntu@haris:~/Documents$ mkdir mydir3
ubuntu@haris:~/Documents$ cd mydir3
ubuntu@haris:~/Documents/mydir3$
```

**5) The Terminal Output is given below,**



```
ubuntu@haris: ~/Desktop/mydir1/mydir2
ubuntu@haris:~$ cd mydir1/mydir2
bash: cd: mydir1/mydir2: No such file or directory
ubuntu@haris:~$ cd Desktop/mydir1/mydir2
ubuntu@haris:~/Desktop/mydir1/mydir2$
```

The image shows a terminal window with a dark purple background. The title bar at the top reads "ubuntu@haris: ~/Desktop/mydir1/mydir2". The terminal content shows a user attempting to change directories. The first command is "cd mydir1/mydir2", which results in an error message: "bash: cd: mydir1/mydir2: No such file or directory". The second command is "cd Desktop/mydir1/mydir2", which is successful, and the prompt changes to "ubuntu@haris:~/Desktop/mydir1/mydir2\$".

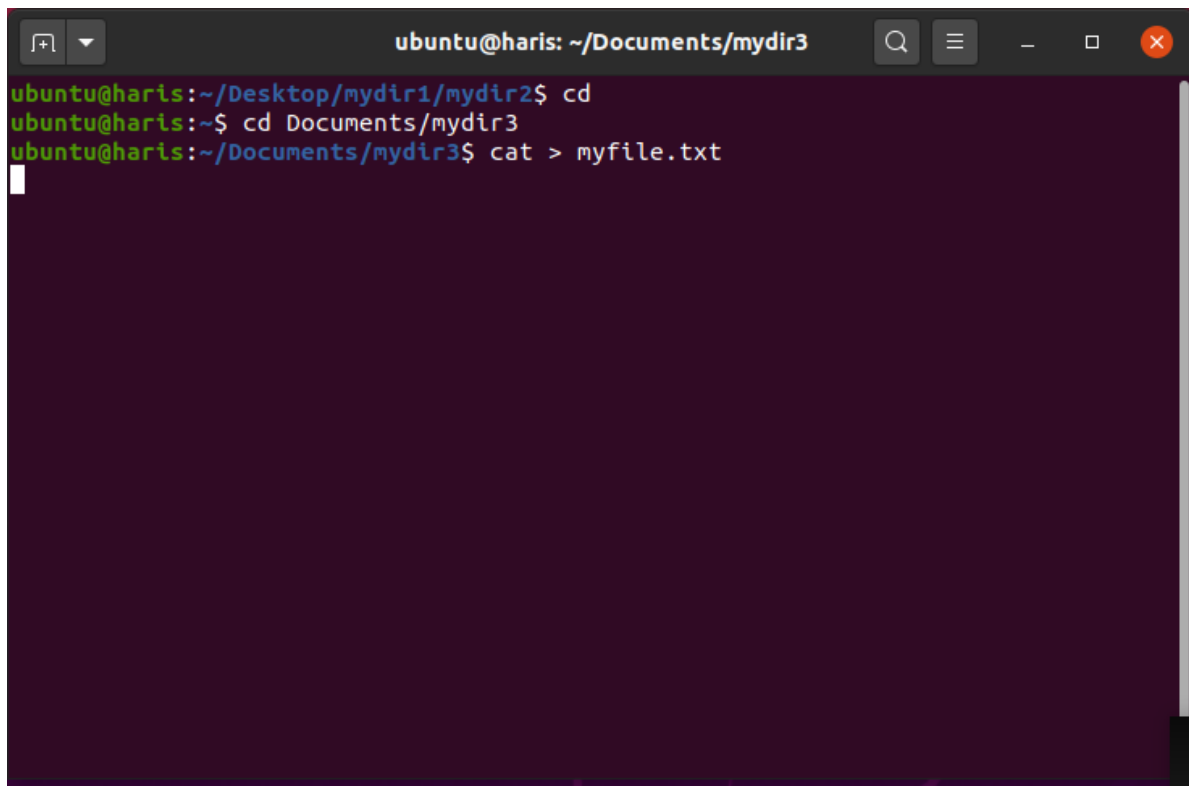
### Question 3: Activity 3:

Considering the directories created in Activity 2, perform the following tasks:

1. Go to mydir3 and create an empty file myfile using cat command
2. Add text the text “Hello World” to myfile
3. Append myfile with text “Hello World again”
4. View the contents of myfile

### Solution:

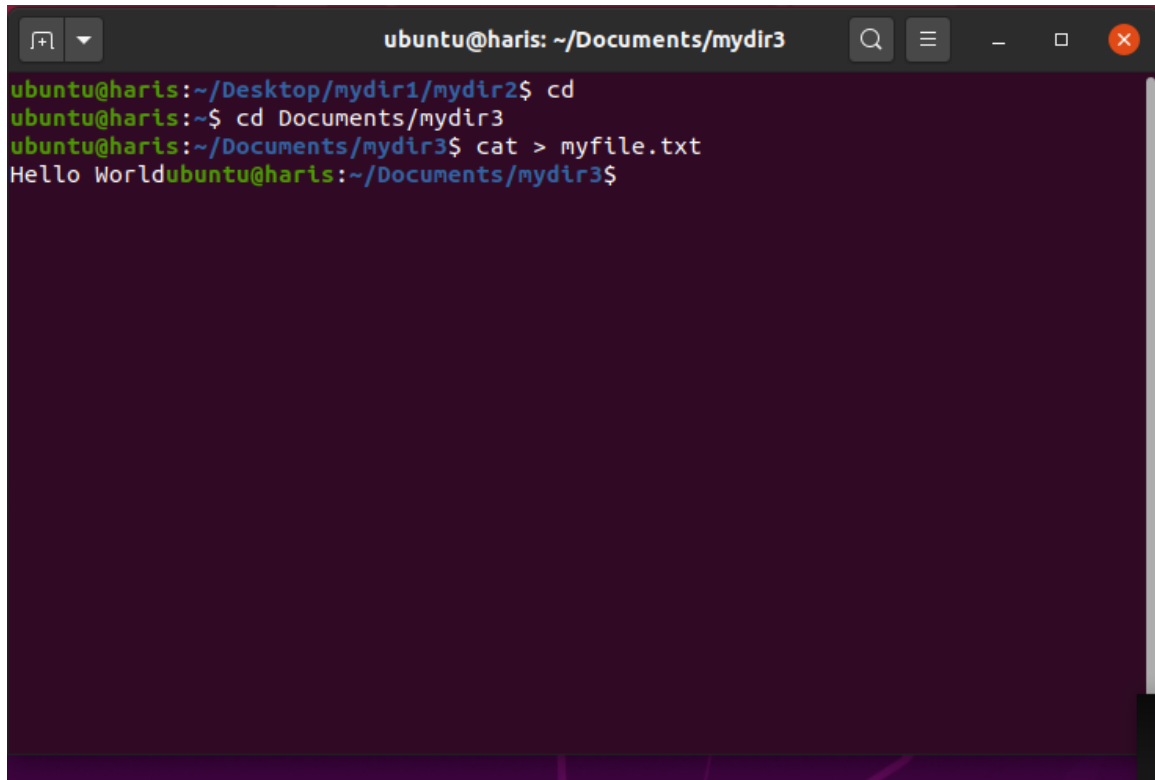
1) The Terminal Output is given below,

A terminal window titled 'ubuntu@haris: ~/Documents/mydir3' with standard window controls. The terminal shows the following commands and output:

```
ubuntu@haris:~/Desktop/mydir1/mydir2$ cd
ubuntu@haris:~$ cd Documents/mydir3
ubuntu@haris:~/Documents/mydir3$ cat > myfile.txt
```

A white cursor is visible on the line following the last command.

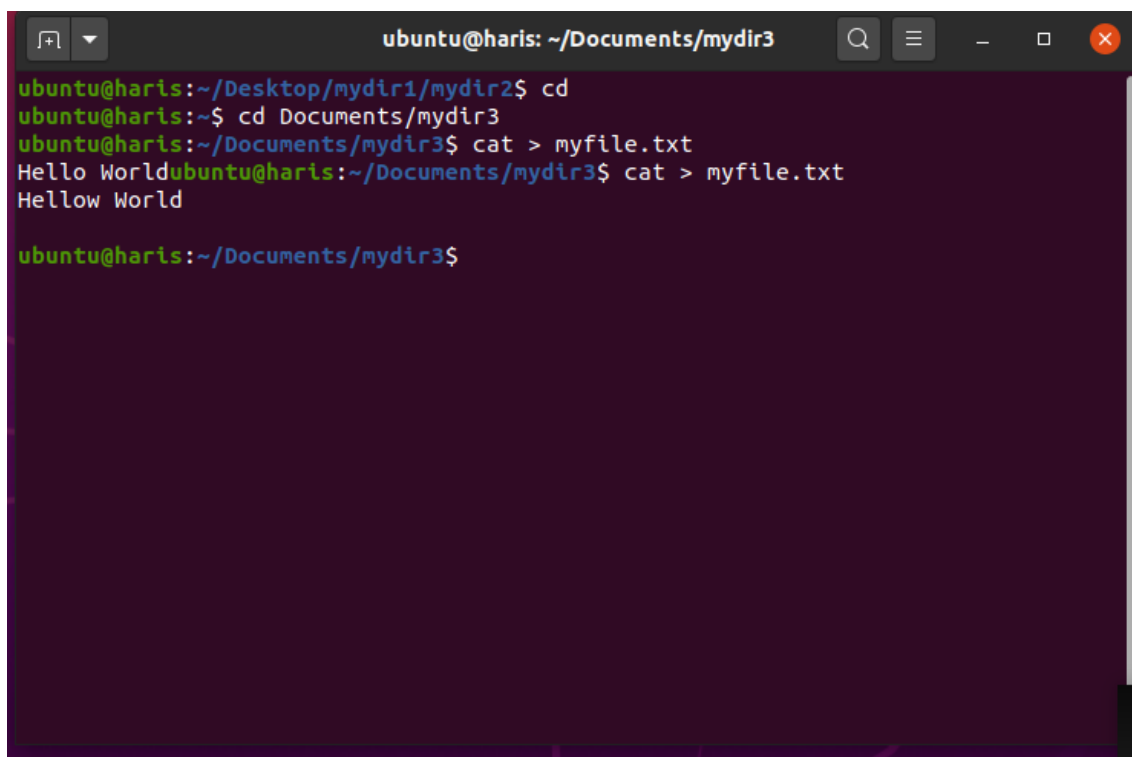
## 2) The Terminal Output is given below,



```
ubuntu@haris: ~/Documents/mydir3
ubuntu@haris:~/Desktop/mydir1/mydir2$ cd
ubuntu@haris:~$ cd Documents/mydir3
ubuntu@haris:~/Documents/mydir3$ cat > myfile.txt
Hello Worldubuntu@haris:~/Documents/mydir3$
```

A terminal window with a dark purple background. The title bar shows 'ubuntu@haris: ~/Documents/mydir3'. The terminal content shows a sequence of commands: 'cd' from a desktop directory, 'cd Documents/mydir3' to move to the current directory, and 'cat > myfile.txt' to create a new file. The output 'Hello World' is displayed on the same line as the last command. The prompt 'ubuntu@haris:~/Documents/mydir3\$' is visible at the end of the line.

## 3) The Terminal Output is given below,

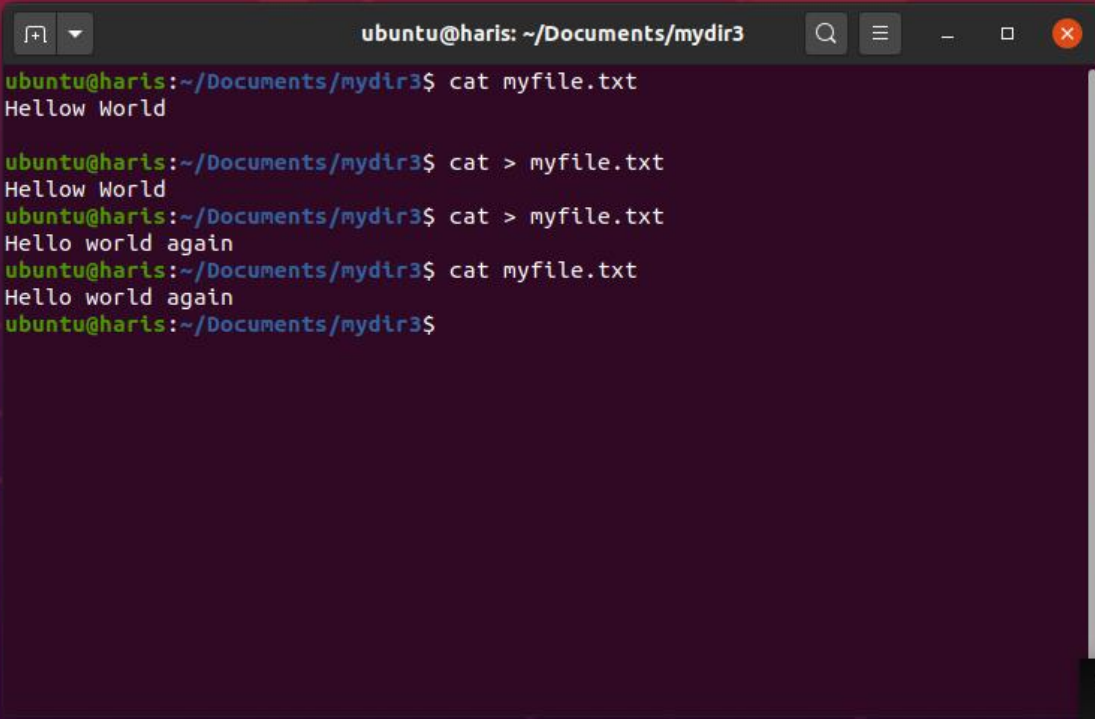


```
ubuntu@haris: ~/Documents/mydir3
ubuntu@haris:~/Desktop/mydir1/mydir2$ cd
ubuntu@haris:~$ cd Documents/mydir3
ubuntu@haris:~/Documents/mydir3$ cat > myfile.txt
Hello Worldubuntu@haris:~/Documents/mydir3$ cat > myfile.txt
Hellow World

ubuntu@haris:~/Documents/mydir3$
```

A terminal window with a dark purple background. The title bar shows 'ubuntu@haris: ~/Documents/mydir3'. The terminal content shows a sequence of commands: 'cd' from a desktop directory, 'cd Documents/mydir3' to move to the current directory, and 'cat > myfile.txt' to create a new file. The output 'Hello World' is displayed on the same line as the last command. The prompt 'ubuntu@haris:~/Documents/mydir3\$' is visible at the end of the line. The terminal content is identical to the previous image, but the prompt is repeated at the end of the line.

#### 4) The Terminal Output is given below,



A terminal window titled 'ubuntu@haris: ~/Documents/mydir3' with standard window controls. The terminal shows the following sequence of commands and outputs:

```
ubuntu@haris:~/Documents/mydir3$ cat myfile.txt
Hellow World

ubuntu@haris:~/Documents/mydir3$ cat > myfile.txt
Hellow World

ubuntu@haris:~/Documents/mydir3$ cat > myfile.txt
Hello world again

ubuntu@haris:~/Documents/mydir3$ cat myfile.txt
Hello world again

ubuntu@haris:~/Documents/mydir3$
```

The terminal output demonstrates creating a file, writing to it, overwriting its content, and then reading it back. The window has a dark theme and a scrollbar on the right side.

OS Lab 02

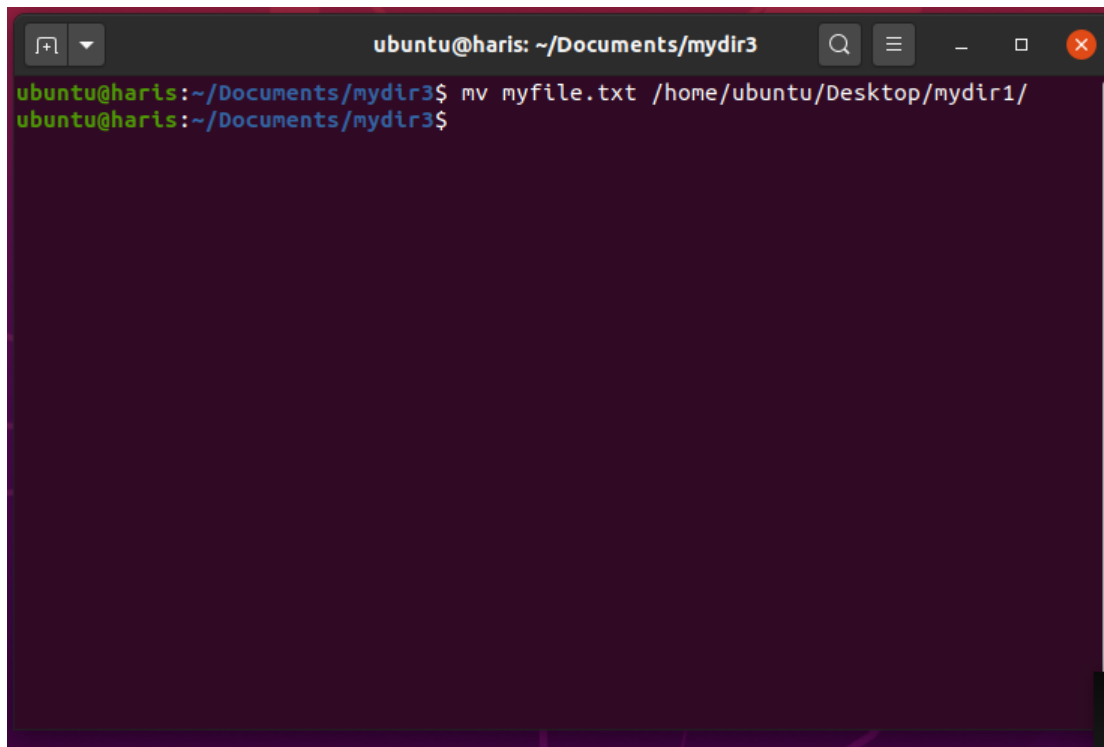
## Question 4: Activity 4:

Considering the above activities, perform the following tasks

1. move myfile to mydir1
2. copy myfile to mydir2
3. copy mydir2 on Desktop
4. delete mydir1 (get confirmation before deleting)
5. Rename myfile to mynewfile

### Solution:

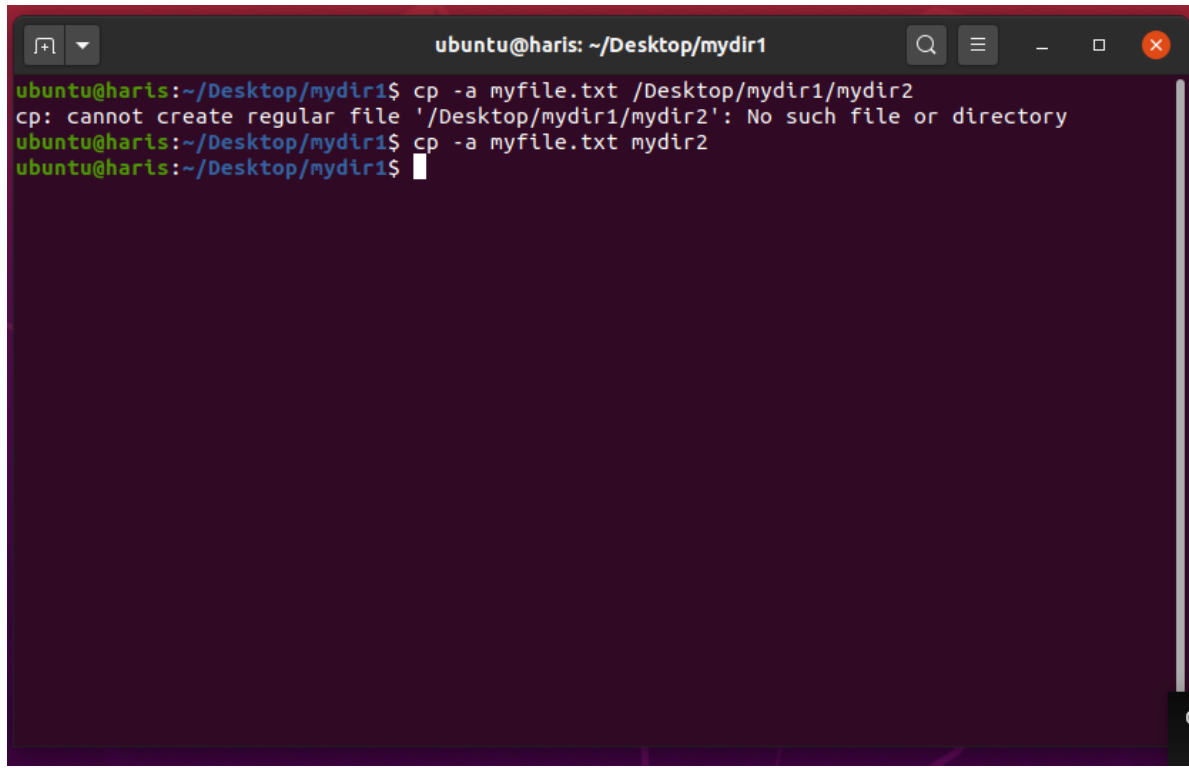
1) The Terminal Output is given below,

A terminal window with a dark purple background. The title bar at the top shows 'ubuntu@haris: ~/Documents/mydir3' and standard window controls. The terminal text shows the command 'mv myfile.txt /home/ubuntu/Desktop/mydir1/' being executed, followed by a new prompt line.

```
ubuntu@haris: ~/Documents/mydir3
ubuntu@haris:~/Documents/mydir3$ mv myfile.txt /home/ubuntu/Desktop/mydir1/
ubuntu@haris:~/Documents/mydir3$
```



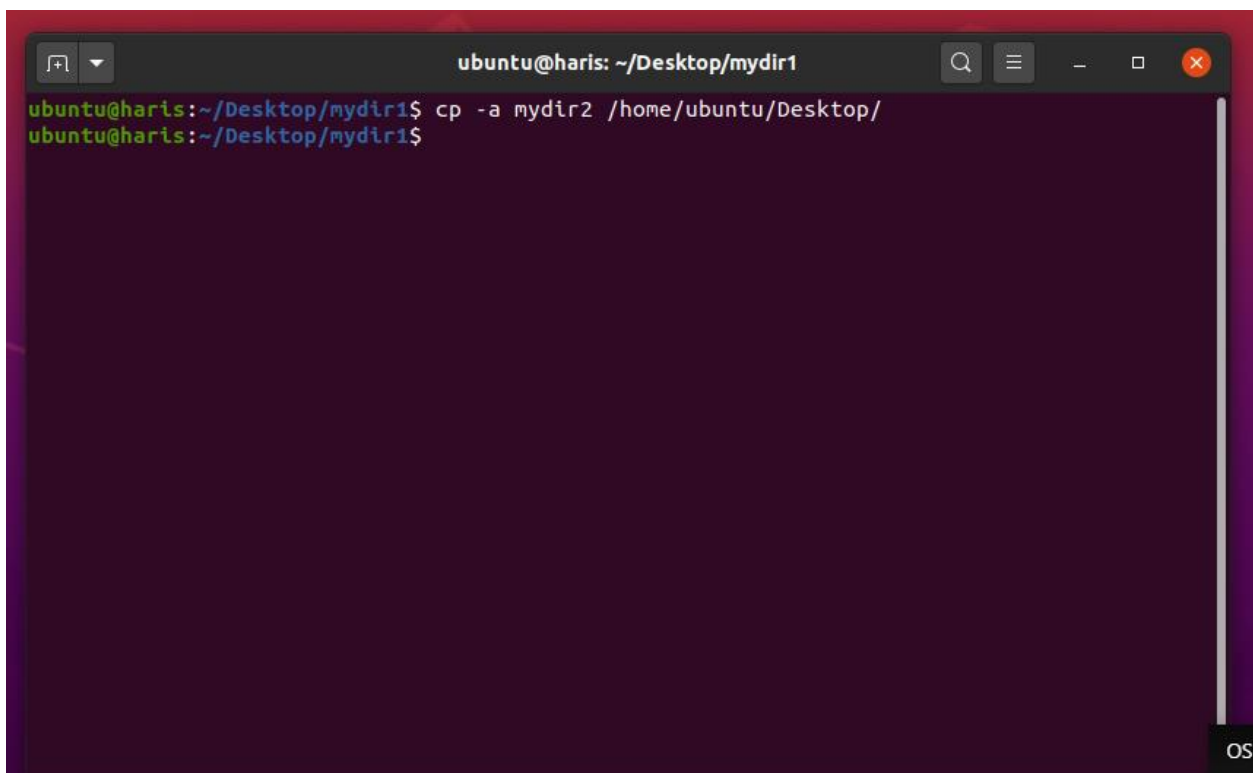
## 2) The Terminal Output is given below,



```
ubuntu@haris: ~/Desktop/mydir1
ubuntu@haris:~/Desktop/mydir1$ cp -a myfile.txt /Desktop/mydir1/mydir2
cp: cannot create regular file '/Desktop/mydir1/mydir2': No such file or directory
ubuntu@haris:~/Desktop/mydir1$ cp -a myfile.txt mydir2
ubuntu@haris:~/Desktop/mydir1$
```

A terminal window titled 'ubuntu@haris: ~/Desktop/mydir1' with search, menu, and window control icons. It shows a user attempting to copy 'myfile.txt' to a subdirectory 'mydir2' that does not exist, resulting in an error. The user then successfully copies 'myfile.txt' to 'mydir2'.

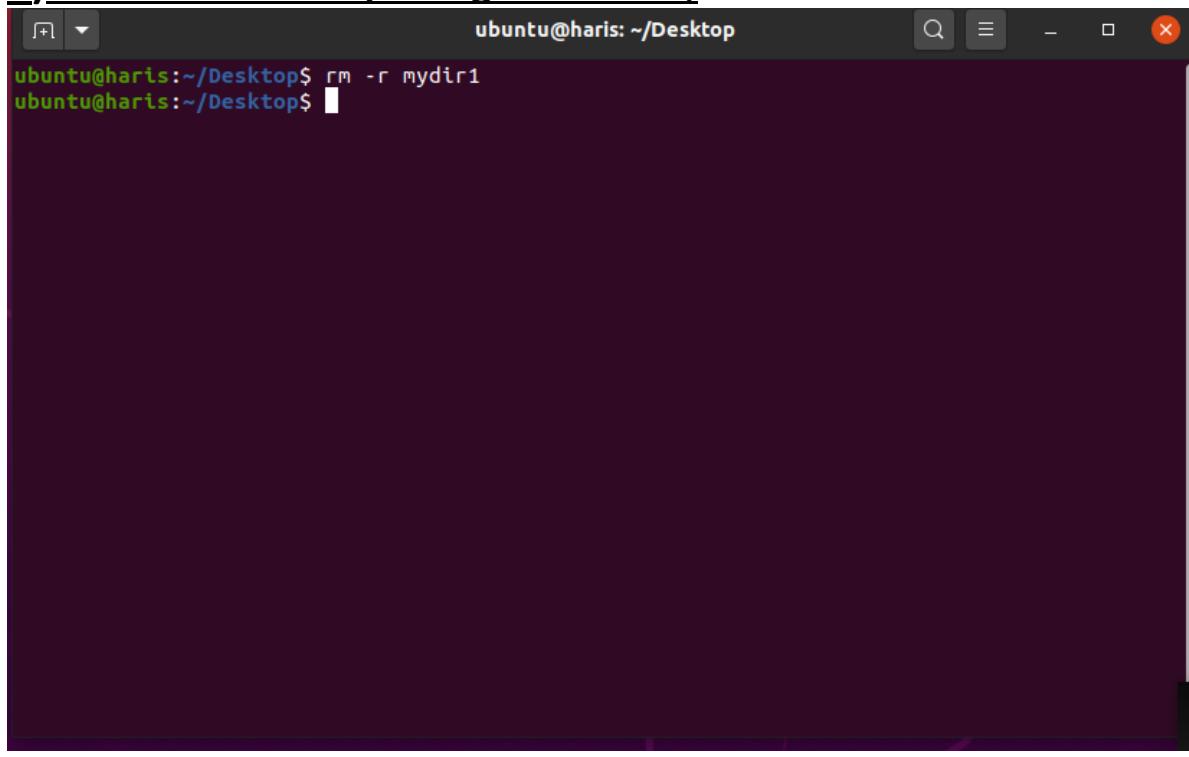
## 3) The Terminal Output is given below,



```
ubuntu@haris: ~/Desktop/mydir1
ubuntu@haris:~/Desktop/mydir1$ cp -a mydir2 /home/ubuntu/Desktop/
ubuntu@haris:~/Desktop/mydir1$
```

A terminal window titled 'ubuntu@haris: ~/Desktop/mydir1' with search, menu, and window control icons. It shows a user successfully copying 'mydir2' to '/home/ubuntu/Desktop/'.

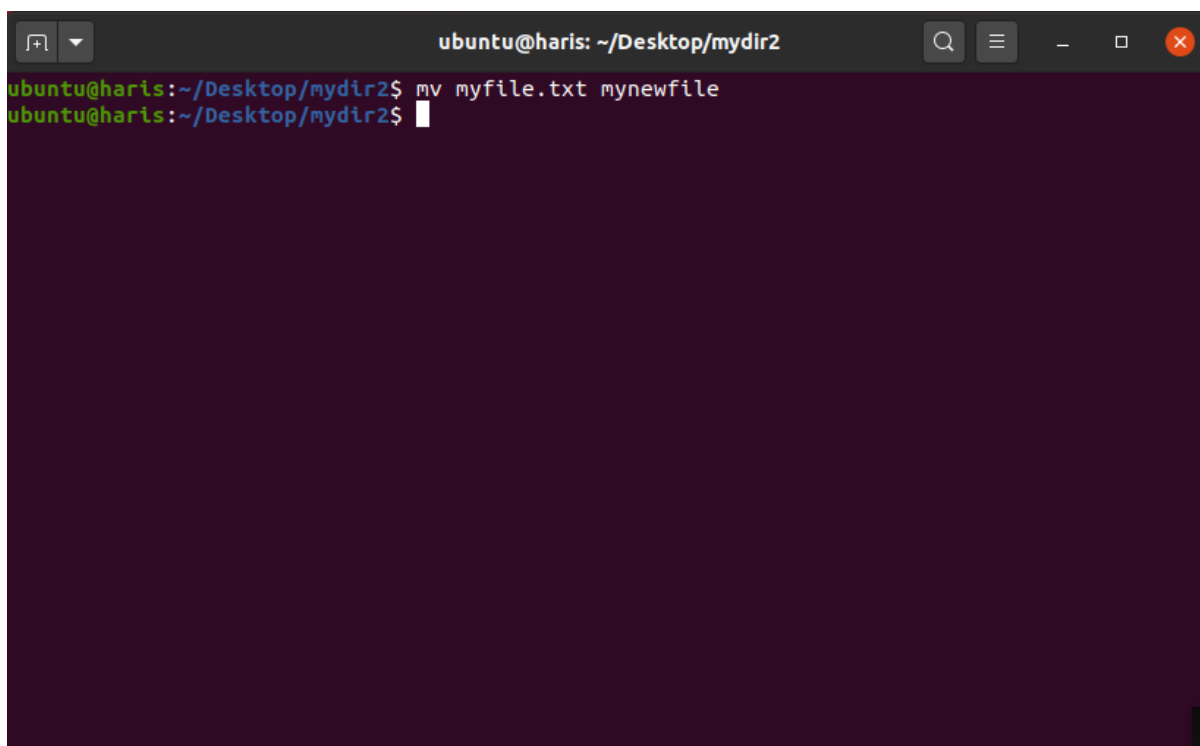
#### 4) The Terminal Output is given below,



```
ubuntu@haris: ~/Desktop
ubuntu@haris:~/Desktop$ rm -r mydir1
ubuntu@haris:~/Desktop$
```

A terminal window with a dark purple background. The title bar shows 'ubuntu@haris: ~/Desktop'. The prompt is 'ubuntu@haris:~/Desktop\$'. The first command entered is 'rm -r mydir1', and the second prompt is shown without any further input.

#### 5) The Terminal Output is given below,



```
ubuntu@haris: ~/Desktop/mydir2
ubuntu@haris:~/Desktop/mydir2$ mv myfile.txt mynewfile
ubuntu@haris:~/Desktop/mydir2$
```

A terminal window with a dark purple background. The title bar shows 'ubuntu@haris: ~/Desktop/mydir2'. The prompt is 'ubuntu@haris:~/Desktop/mydir2\$'. The command entered is 'mv myfile.txt mynewfile', and the second prompt is shown without any further input.

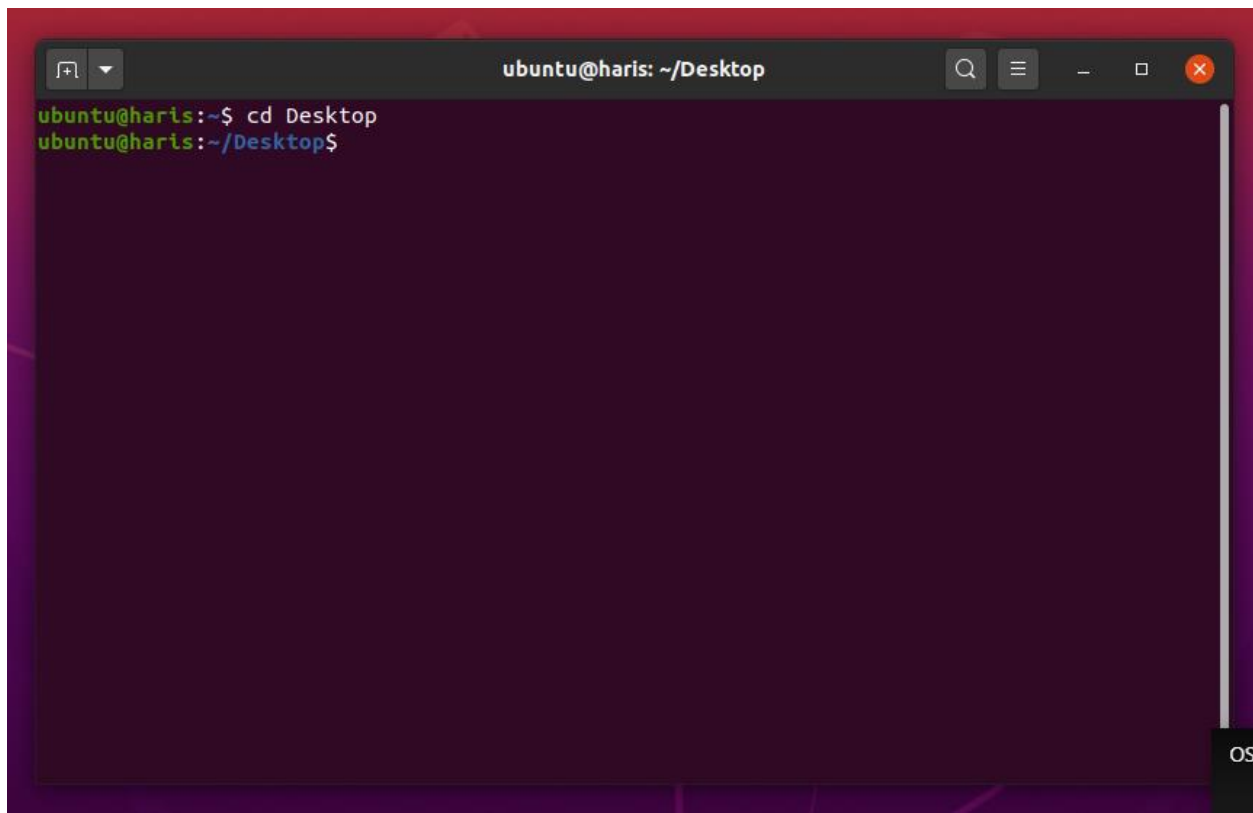
## Question 5: Activity 5:

This activity is related to I/O redirection

1. Go to Desktop directory
2. Write the long-listing of contents of Desktop on an empty file output-file
3. View contents of out-put-file

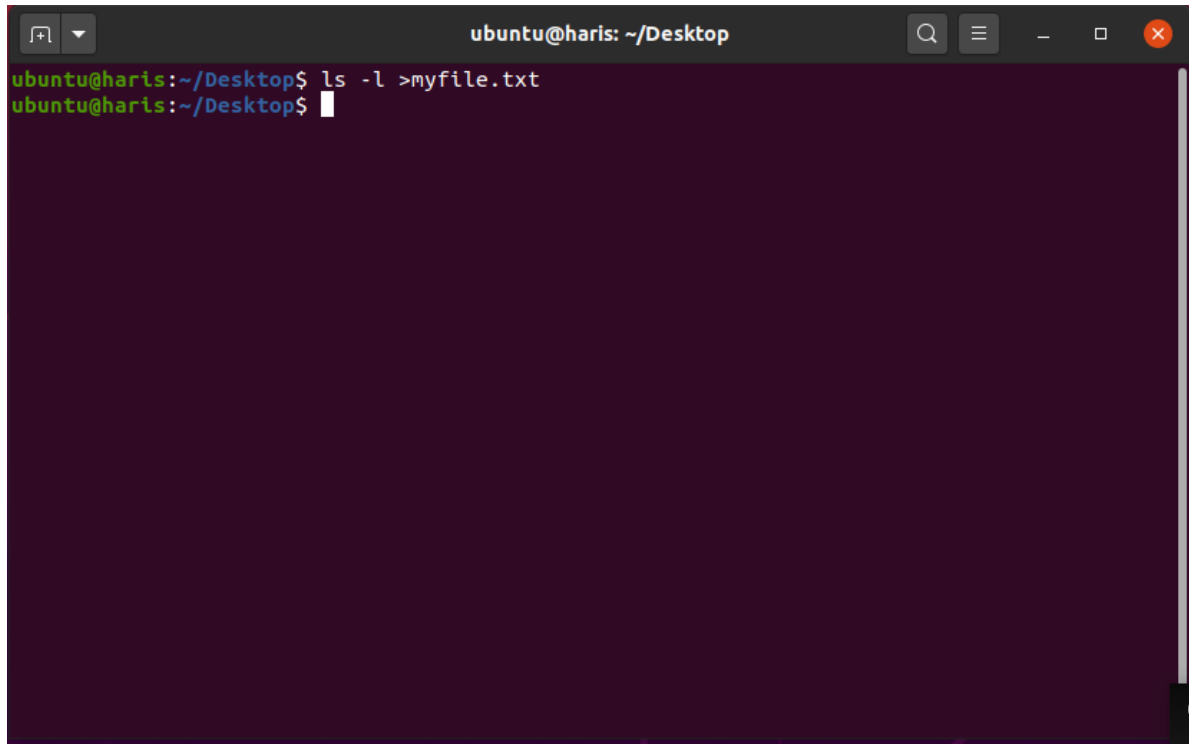
### Solution:

1) The Terminal Output is given below,

A terminal window titled 'ubuntu@haris: ~/Desktop' with standard window controls. The terminal shows the command 'cd Desktop' being executed, changing the current directory from '~' to '~/Desktop'. The prompt changes from 'ubuntu@haris:~\$' to 'ubuntu@haris:~/Desktop\$'.

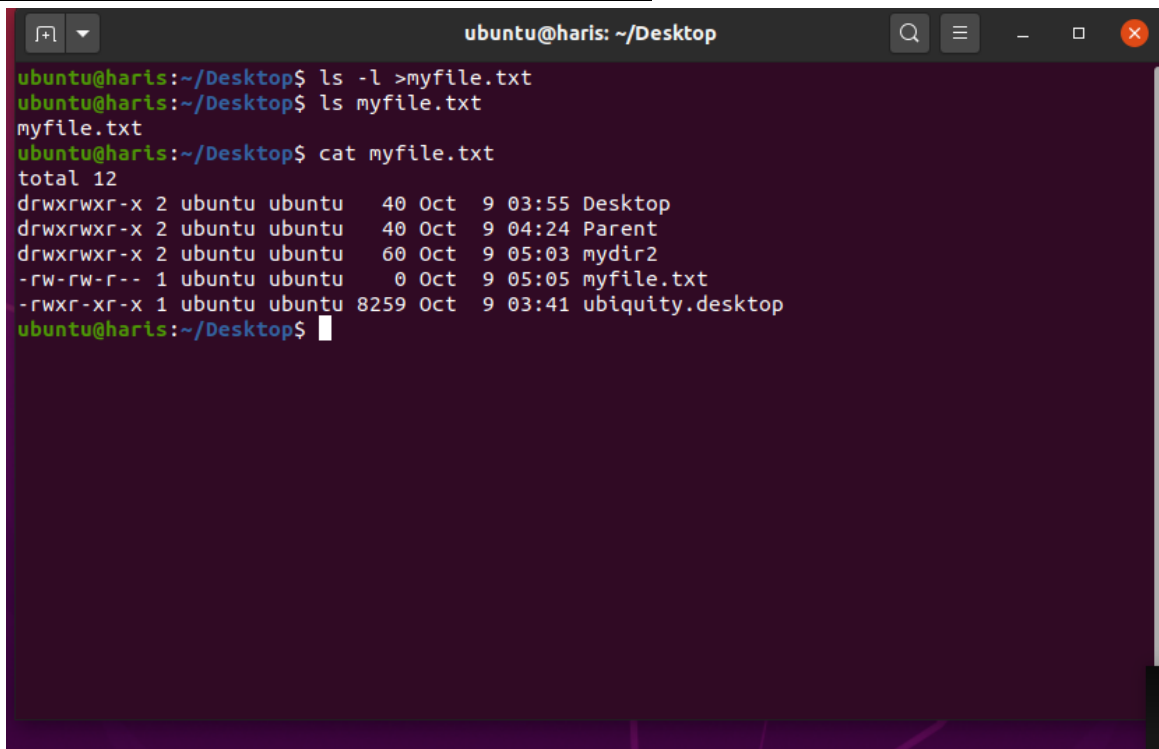
```
ubuntu@haris:~$ cd Desktop
ubuntu@haris:~/Desktop$
```

## 2) The Terminal Output is given below,



```
ubuntu@haris: ~/Desktop
ubuntu@haris:~/Desktop$ ls -l >myfile.txt
ubuntu@haris:~/Desktop$
```

## 3) The Terminal Output is given below,



```
ubuntu@haris: ~/Desktop
ubuntu@haris:~/Desktop$ ls -l >myfile.txt
ubuntu@haris:~/Desktop$ ls myfile.txt
myfile.txt
ubuntu@haris:~/Desktop$ cat myfile.txt
total 12
drwxrwxr-x 2 ubuntu ubuntu 40 Oct 9 03:55 Desktop
drwxrwxr-x 2 ubuntu ubuntu 40 Oct 9 04:24 Parent
drwxrwxr-x 2 ubuntu ubuntu 60 Oct 9 05:03 mydir2
-rw-rw-r-- 1 ubuntu ubuntu 0 Oct 9 05:05 myfile.txt
-rwxr-xr-x 1 ubuntu ubuntu 8259 Oct 9 03:41 ubiquity.desktop
ubuntu@haris:~/Desktop$
```

# POST LAB (Home Activities)

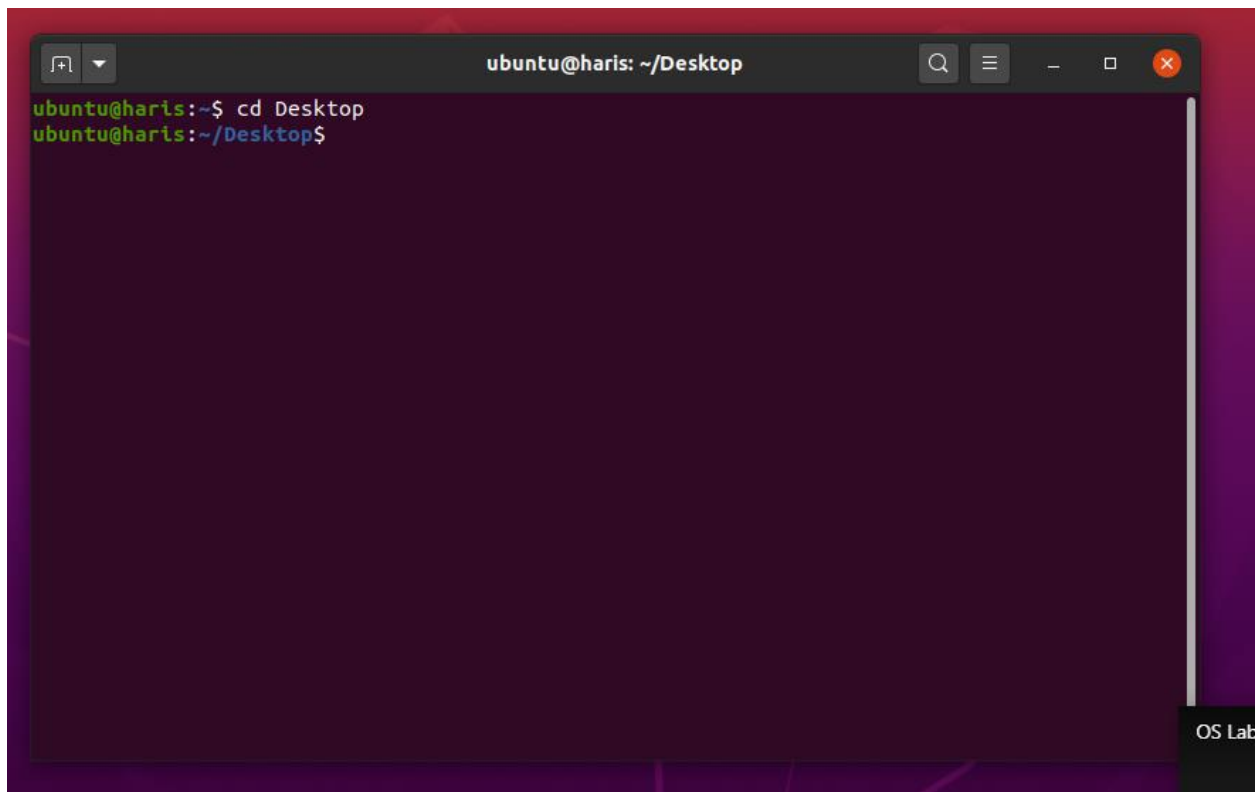
## Task 1 Home Activity 1:

Considering the lab activities, perform the following tasks

1. Go to Desktop directory
2. write the contents of mynewfile to newfile
3. view the output of both mynewfile and newfile on screen
4. write the combined output of mynewfile and newfile to a third file out-put-file

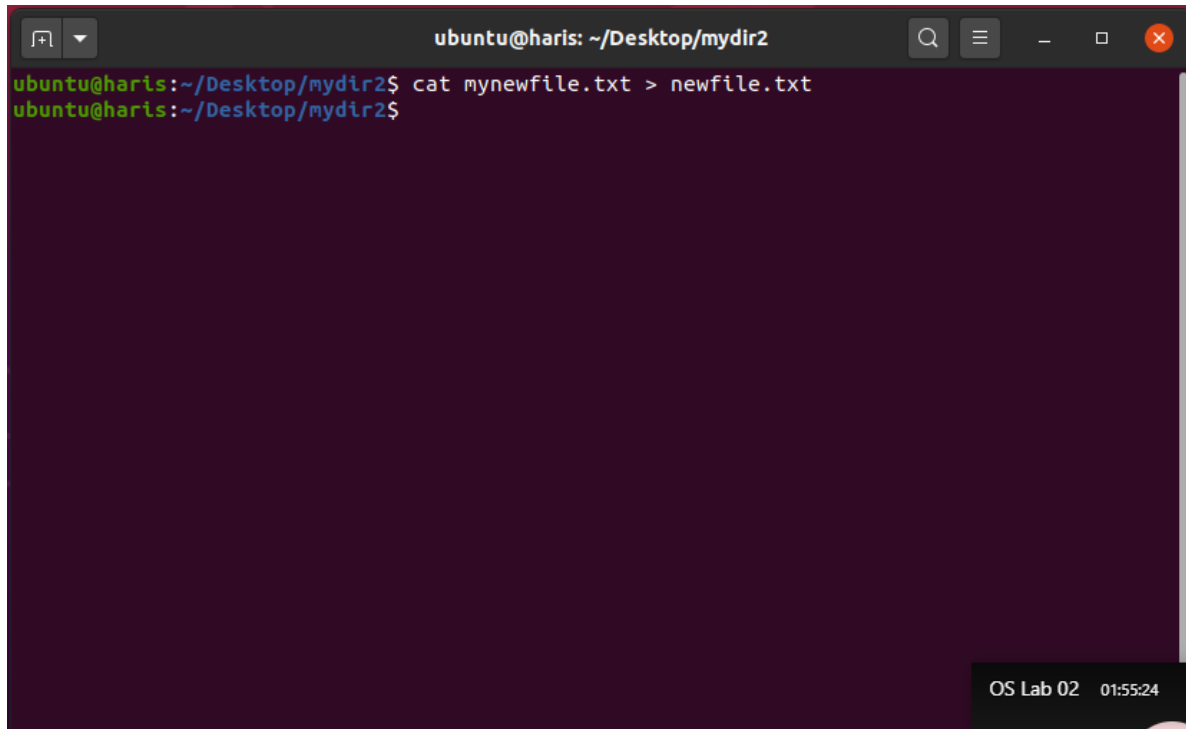
## Solution:

1) The Terminal Output is given below,

A screenshot of a terminal window with a dark purple background. The window title bar shows 'ubuntu@haris: ~/Desktop'. The terminal content shows two lines of text: 'ubuntu@haris:~\$ cd Desktop' and 'ubuntu@haris:~/Desktop\$'. The window has standard Ubuntu window controls (minimize, maximize, close) and a search icon. A small 'OS Lab' logo is visible in the bottom right corner of the terminal area.

```
ubuntu@haris: ~/Desktop
ubuntu@haris:~$ cd Desktop
ubuntu@haris:~/Desktop$
```

## 2) The Terminal Output is given below,

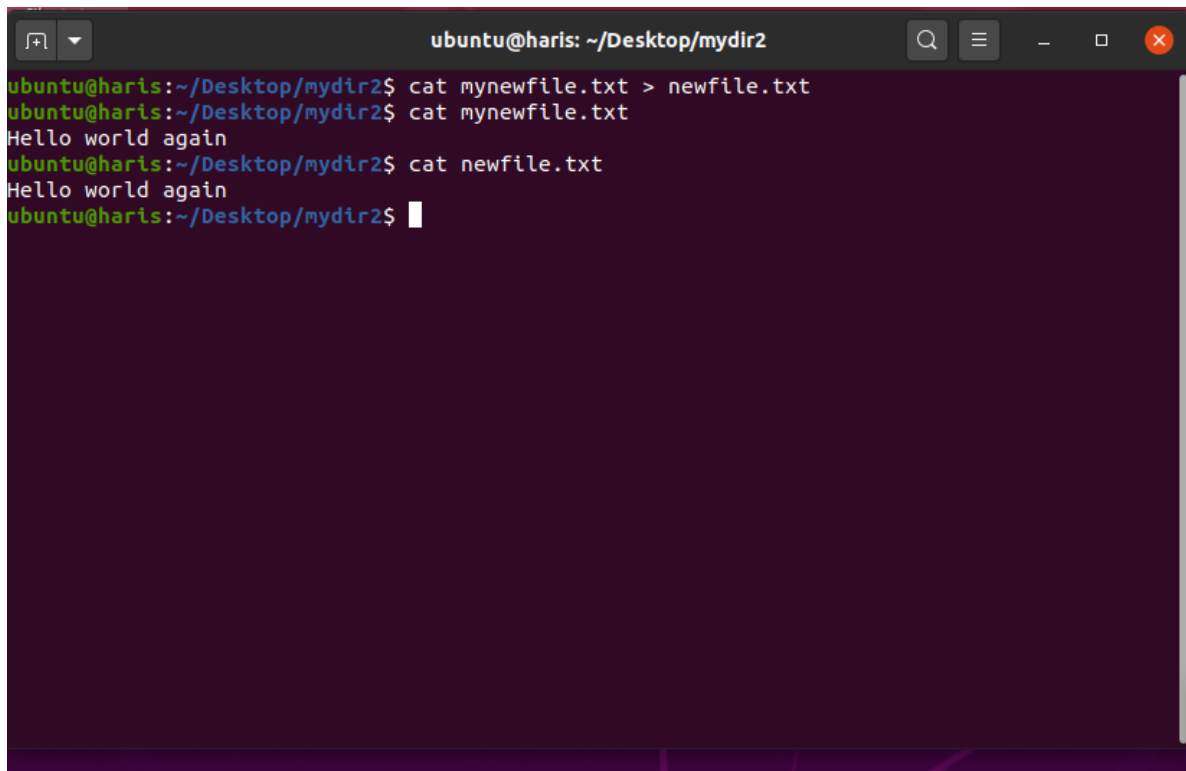


A terminal window titled 'ubuntu@haris: ~/Desktop/mydir2' with standard window controls. The terminal shows the command 'cat mynewfile.txt > newfile.txt' being executed. The prompt returns to 'ubuntu@haris:~/Desktop/mydir2\$'. A status bar at the bottom right shows 'OS Lab 02' and '01:55:24'.

```
ubuntu@haris: ~/Desktop/mydir2
ubuntu@haris:~/Desktop/mydir2$ cat mynewfile.txt > newfile.txt
ubuntu@haris:~/Desktop/mydir2$
```

OS Lab 02 01:55:24

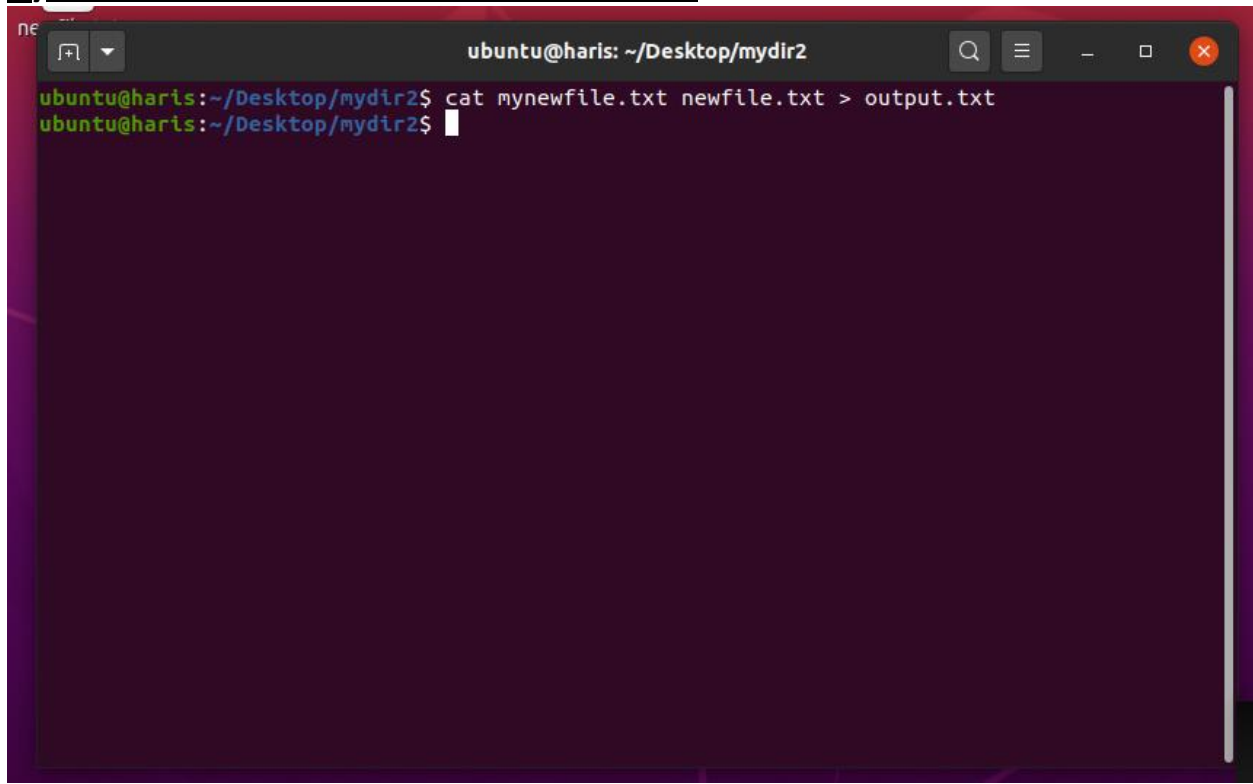
## 3) The Terminal Output is given below,



A terminal window titled 'ubuntu@haris: ~/Desktop/mydir2' with standard window controls. The terminal shows a sequence of commands: 'cat mynewfile.txt > newfile.txt', 'cat mynewfile.txt' (outputting 'Hello world again'), and 'cat newfile.txt' (also outputting 'Hello world again'). The prompt returns to 'ubuntu@haris:~/Desktop/mydir2\$'.

```
ubuntu@haris: ~/Desktop/mydir2
ubuntu@haris:~/Desktop/mydir2$ cat mynewfile.txt > newfile.txt
ubuntu@haris:~/Desktop/mydir2$ cat mynewfile.txt
Hello world again
ubuntu@haris:~/Desktop/mydir2$ cat newfile.txt
Hello world again
ubuntu@haris:~/Desktop/mydir2$
```

#### 4) The Terminal Output is given below,

A terminal window titled 'ubuntu@haris: ~/Desktop/mydir2' with standard window controls. The prompt is 'ubuntu@haris:~/Desktop/mydir2\$'. The command 'cat mynewfile.txt newfile.txt > output.txt' has been entered and executed. The prompt is now 'ubuntu@haris:~/Desktop/mydir2\$' with a cursor. The terminal has a dark purple background and a vertical scrollbar on the right.

```
ubuntu@haris:~/Desktop/mydir2$ cat mynewfile.txt newfile.txt > output.txt
ubuntu@haris:~/Desktop/mydir2$
```

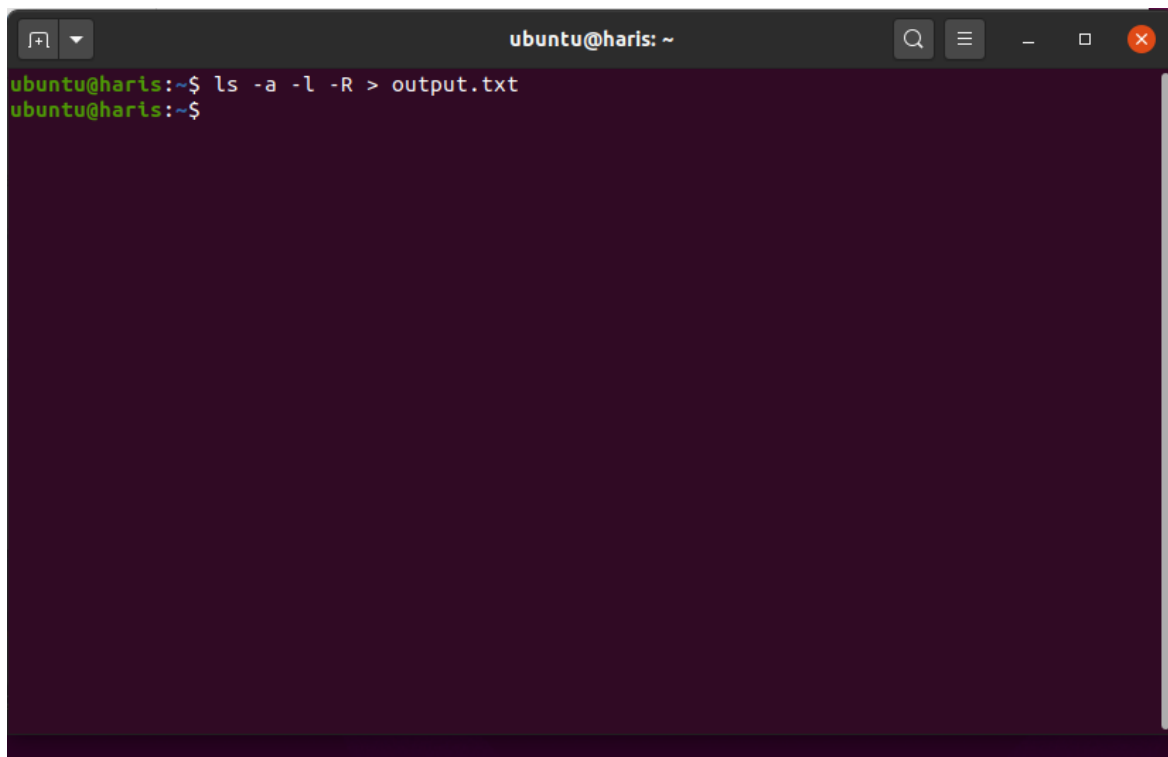
---

## Task 2: Home Activity 2:

Long list all files and directories in your system and write output on a text-file.

### Solution:

The Terminal Output is given below,

A terminal window with a dark purple background. The title bar at the top reads 'ubuntu@haris: ~'. The terminal shows the command 'ls -a -l -R > output.txt' being entered and executed. The prompt 'ubuntu@haris:~\$' is visible before and after the command. The rest of the terminal area is empty.

```
ubuntu@haris: ~  
ubuntu@haris:~$ ls -a -l -R > output.txt  
ubuntu@haris:~$
```

\_\_\_\_\_THE END\_\_\_\_\_

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