Operating System

Lab Report

Lab 03

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Class	Operating System (**BCE-5B**)
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In Lab Tasks

Question 1: Activity 1:

This activity is related to file permission. Perform the following tasks

1. Create a new directory named test in root directory as superuser

2. Make this directory public for all

3. Create a file "testfile.txt" in /test directory

4. Change its permissions that no boy can write the file, but the owner can read it.

5. Create another user "Usama"

6. Run the shell with user Usama

7. Try to read the "testfile.txt"

8. Logout as Usama

9. Change the permission of testfile.txt so that everyone can read, write and execute it

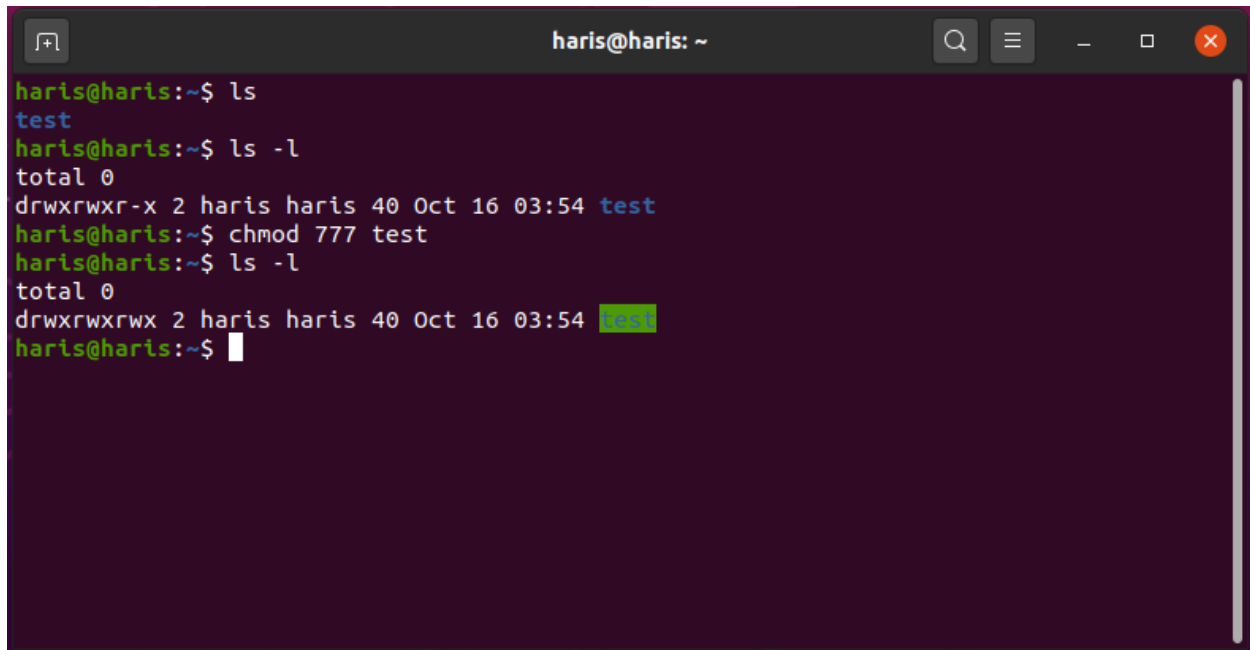**10. Run shell as Usama again**

11. Now, read the file.

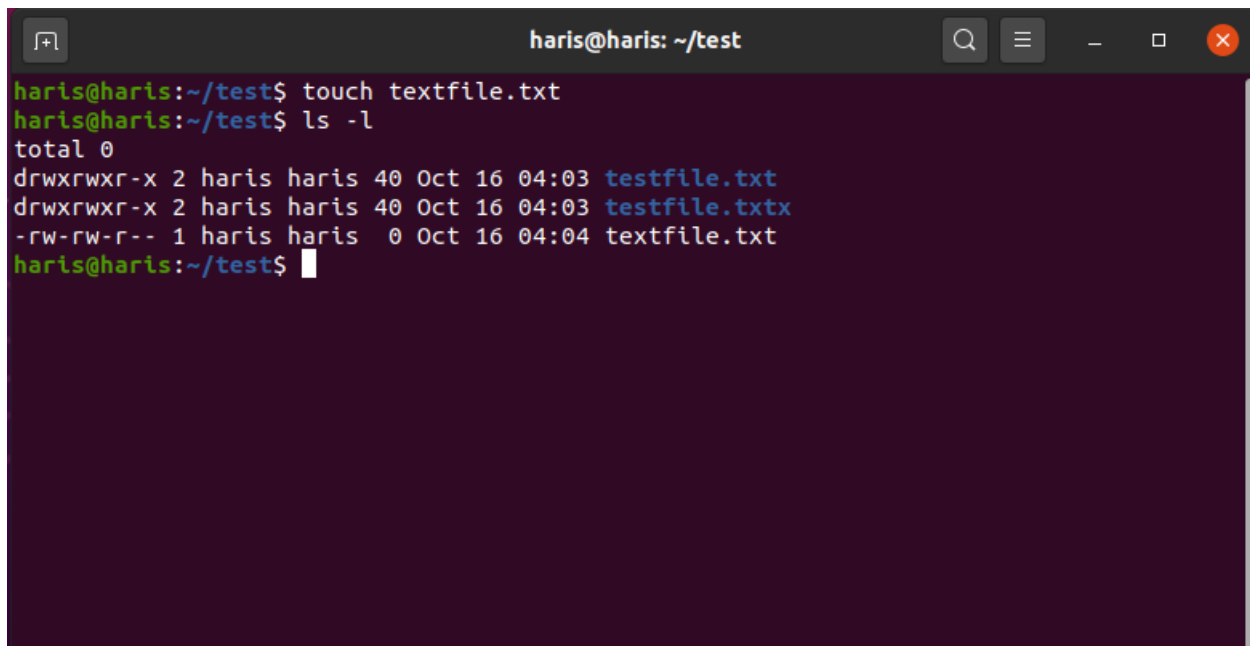## Solution:

1) The Terminal Output is given below,

2) The Terminal Output is given below,

```
                                    haris@haris: ~

haris@haris:~$ ls
test
haris@haris:~$ ls -l
total 0
drwxrwxr-x 2 haris haris 40 Oct 16 03:54 test
haris@haris:~$ chmod 777 test
haris@haris:~$ ls -l
total 0
drwxrwxrwx 2 haris haris 40 Oct 16 03:54 test
haris@haris:~$
```

3) The Terminal Output is given below,

```
                                    haris@haris: ~/test

haris@haris:~/test$ touch textfile.txt
haris@haris:~/test$ ls -l
total 0
drwxrwxr-x 2 haris haris 40 Oct 16 04:03 testfile.txt
drwxrwxr-x 2 haris haris 40 Oct 16 04:03 testfile.txtx
-rw-rw-r-- 1 haris haris  0 Oct 16 04:04 textfile.txt
haris@haris:~/test$
```
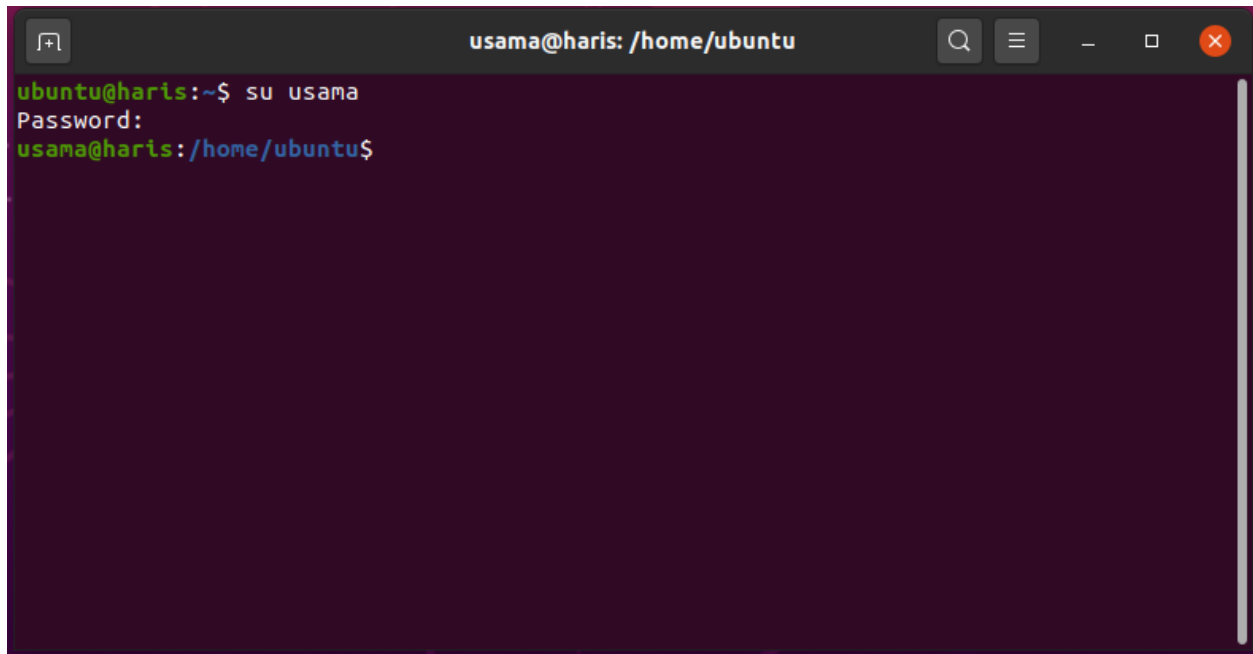
4) The Terminal Output is given below,


```
haris@haris:~/test$ chmod 444 testfile.txt
haris@haris:~/test$ ls -l
total 0
dr--r--r-- 2 haris haris 40 Oct 16 04:03 testfile.txt
drwxrwxr-x 2 haris haris 40 Oct 16 04:03 testfile.txtx
-rw-rw-r-- 1 haris haris  0 Oct 16 04:04 textfile.txt
haris@haris:~/test$
```

5) The Terminal Output is given below,


```
ubuntu@haris:~$ sudo adduser usama
Adding user `usama' ...
Adding new group `usama' (1001) ...
Adding new user `usama' (1001) with group `usama' ...
Creating home directory `/home/usama' ...
Copying files from `/etc/skel' ...
New password:
Retype new password:
passwd: password updated successfully
Changing the user information for usama
Enter the new value, or press ENTER for the default
        Full Name []:
        Room Number []:
        Work Phone []:
        Home Phone []:
        Other []:
Is the information correct? [Y/n] Y
ubuntu@haris:~$
```
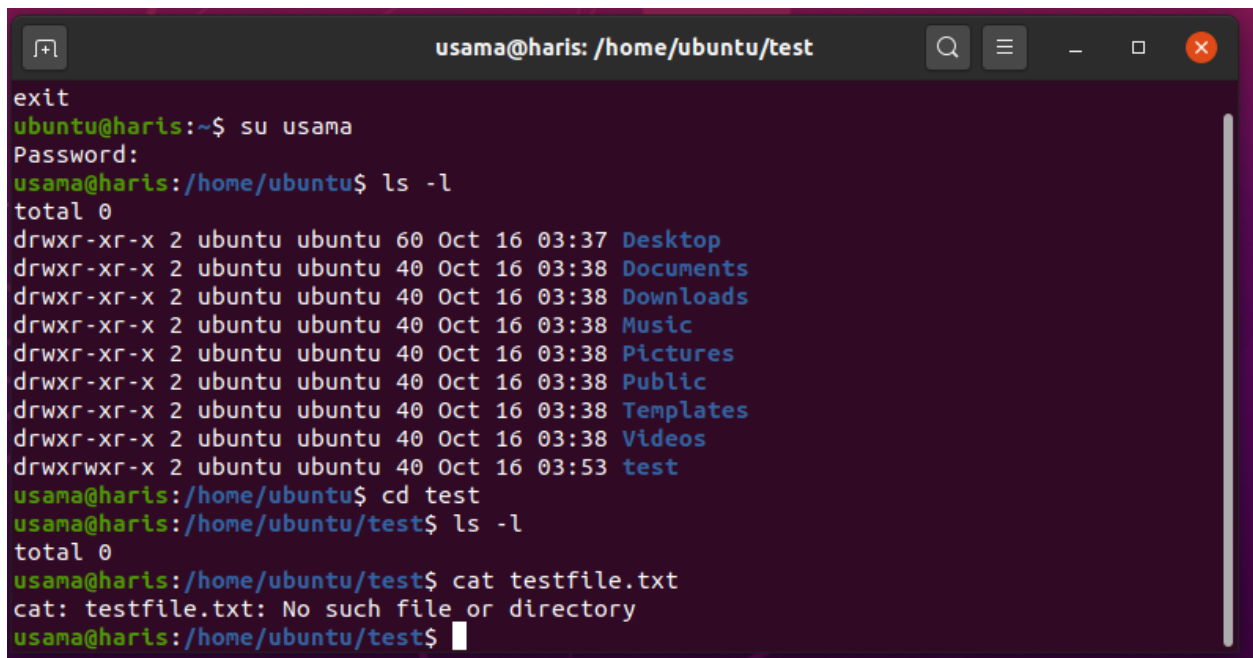
6) The Terminal Output is given below,

```
                        usama@haris: /home/ubuntu
ubuntu@haris:~$ su usama
Password:
usama@haris:/home/ubuntu$
```
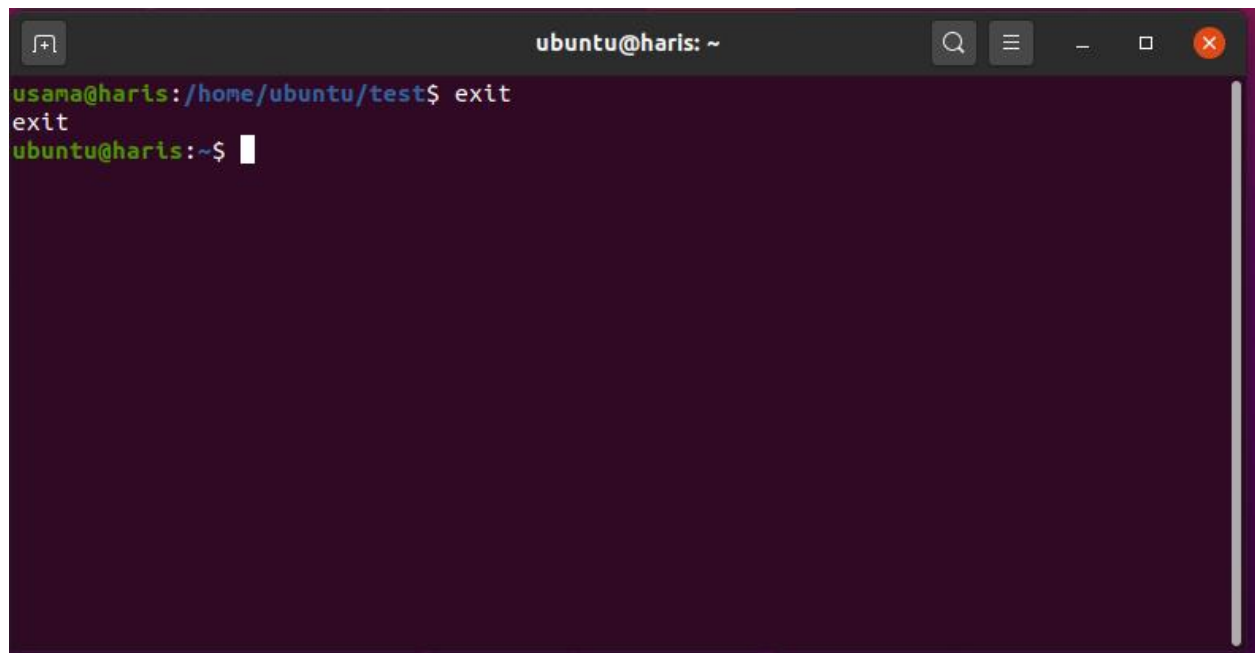
7) The Terminal Output is given below,

```
                    usama@haris: /home/ubuntu/test
exit
ubuntu@haris:~$ su usama
Password:
usama@haris:/home/ubuntu$ ls -l
total 0
drwxr-xr-x 2 ubuntu ubuntu 60 Oct 16 03:37 Desktop
drwxr-xr-x 2 ubuntu ubuntu 40 Oct 16 03:38 Documents
drwxr-xr-x 2 ubuntu ubuntu 40 Oct 16 03:38 Downloads
drwxr-xr-x 2 ubuntu ubuntu 40 Oct 16 03:38 Music
drwxr-xr-x 2 ubuntu ubuntu 40 Oct 16 03:38 Pictures
drwxr-xr-x 2 ubuntu ubuntu 40 Oct 16 03:38 Public
drwxr-xr-x 2 ubuntu ubuntu 40 Oct 16 03:38 Templates
drwxr-xr-x 2 ubuntu ubuntu 40 Oct 16 03:38 Videos
drwxrwxr-x 2 ubuntu ubuntu 40 Oct 16 03:53 test
usama@haris:/home/ubuntu$ cd test
usama@haris:/home/ubuntu/test$ ls -l
total 0
usama@haris:/home/ubuntu/test$ cat testfile.txt
cat: testfile.txt: No such file or directory
usama@haris:/home/ubuntu/test$
```
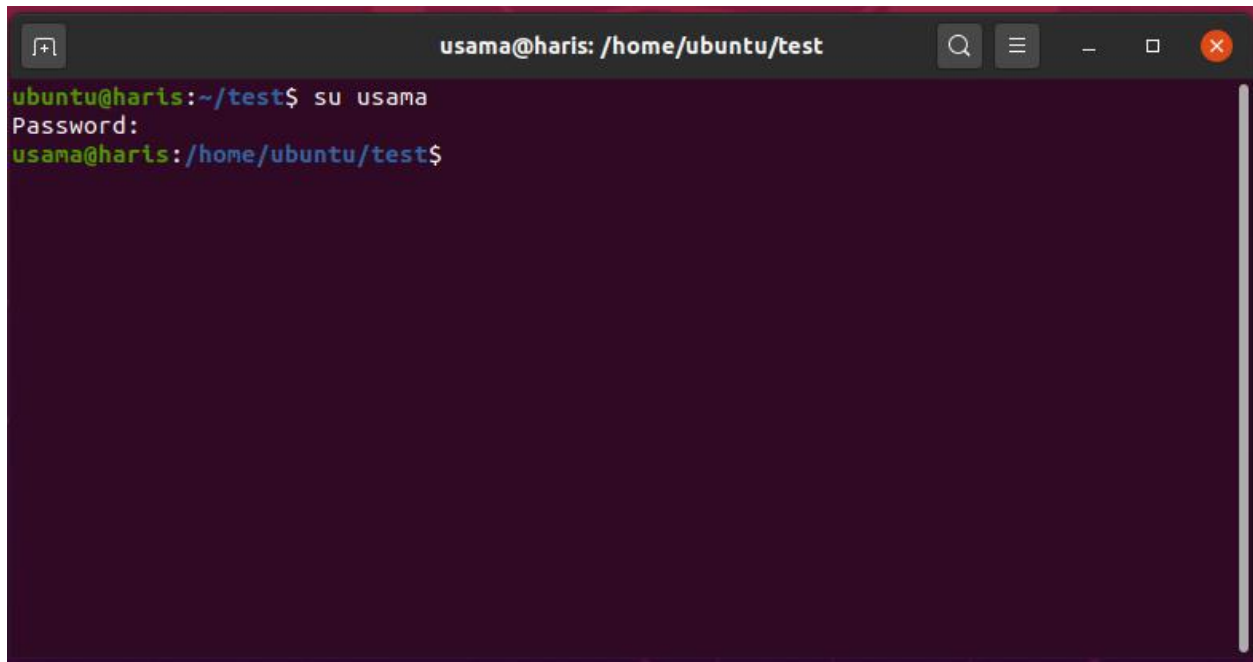
8) The Terminal Output is given below,

```
ubuntu@haris: ~

usama@haris:/home/ubuntu/test$ exit
exit
ubuntu@haris:~$ 
```
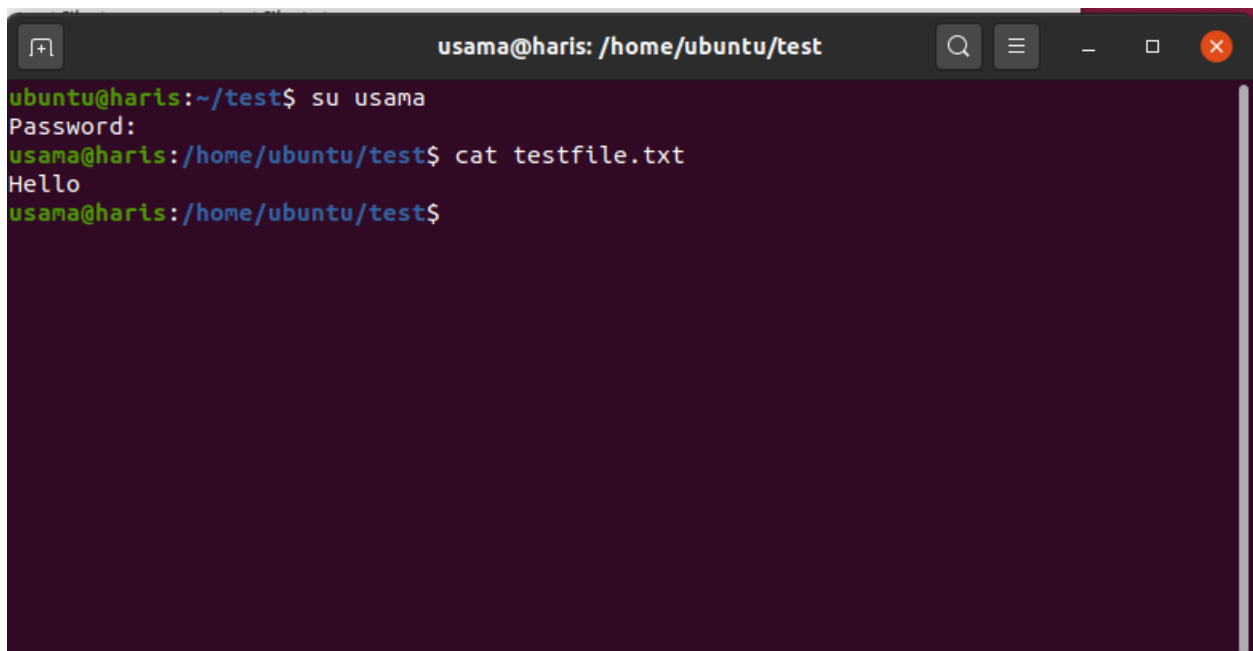
9) The Terminal Output is given below,

```
haris@haris: ~/test

haris@haris:~/test$ chmod 777 testfile.txt
haris@haris:~/test$ ls -l
total 0
drwxrwxrwx 2 haris haris 40 Oct 16 04:03 testfile.txt
drwxrwxr-x 2 haris haris 40 Oct 16 04:03 testfile.txtx
-rw-rw-r-- 1 haris haris  0 Oct 16 04:04 textfile.txt
haris@haris:~/test$ 
```

10) The Terminal Output is given below,

```
ubuntu@haris:~/test$ su usama
Password:
usama@haris:/home/ubuntu/test$
```

11) The Terminal Output is given below,

```
ubuntu@haris:~/test$ su usama
Password:
usama@haris:/home/ubuntu/test$ cat testfile.txt
Hello
usama@haris:/home/ubuntu/test$
```
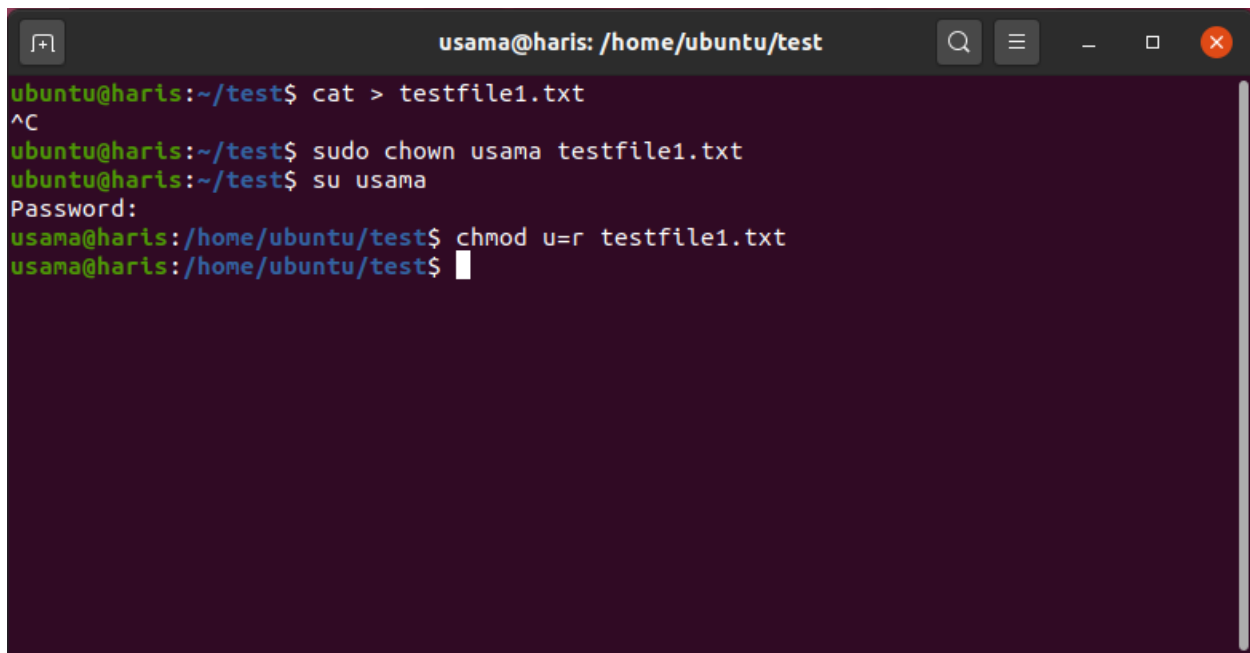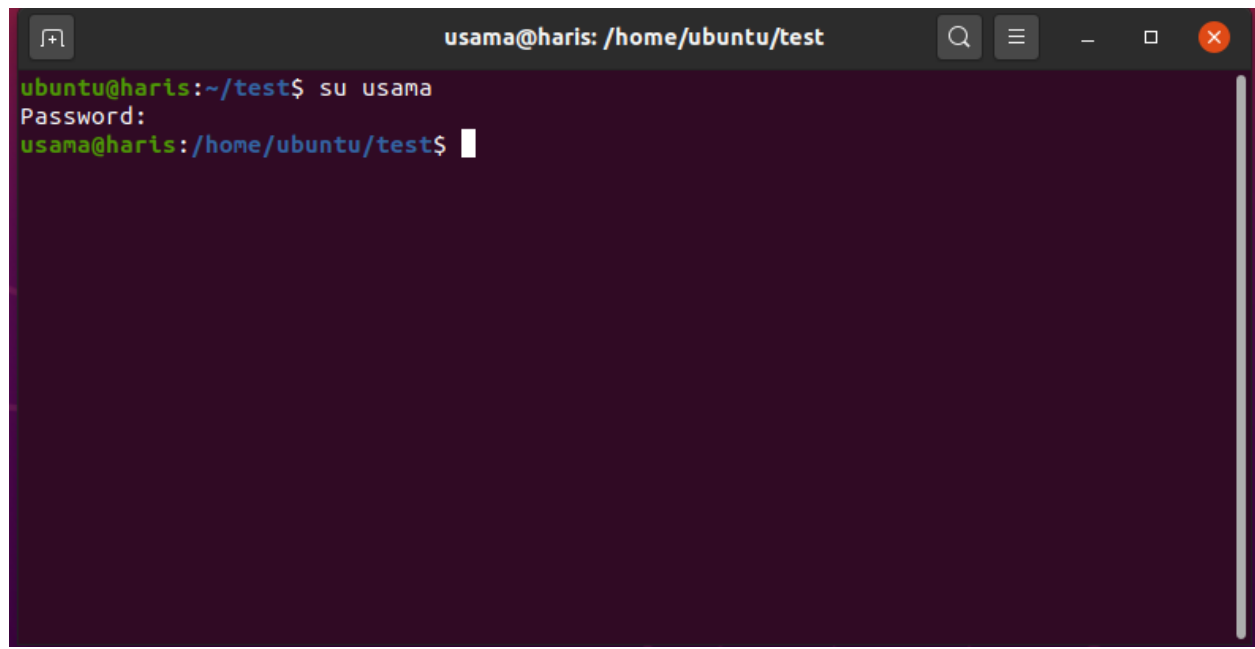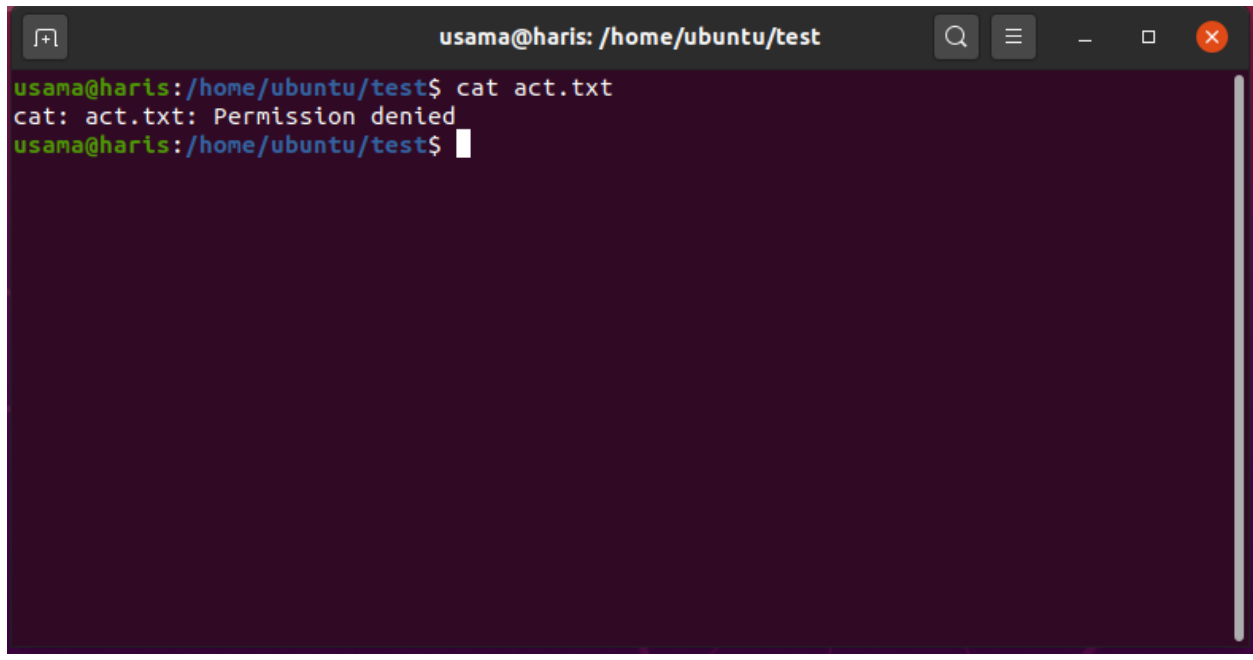
Question 2: Activity 2:

Perform the following tasks
1. Set the permission such that a newly created file is readable only to the owner
2. Create a text file "act.txt" in /test directory crated in previous activity
3. Run the shell as user "usama" (created previously)
4. Access the file "act.txt"
5. Logout as usama
6. Now change the ownership of the file from ubuntu to usama
7. Run the shell again as usama
8. Read the file "act.txt" using cat command
9. Logout as usama
10. Now access the act.txt with user ubuntu
Solution:
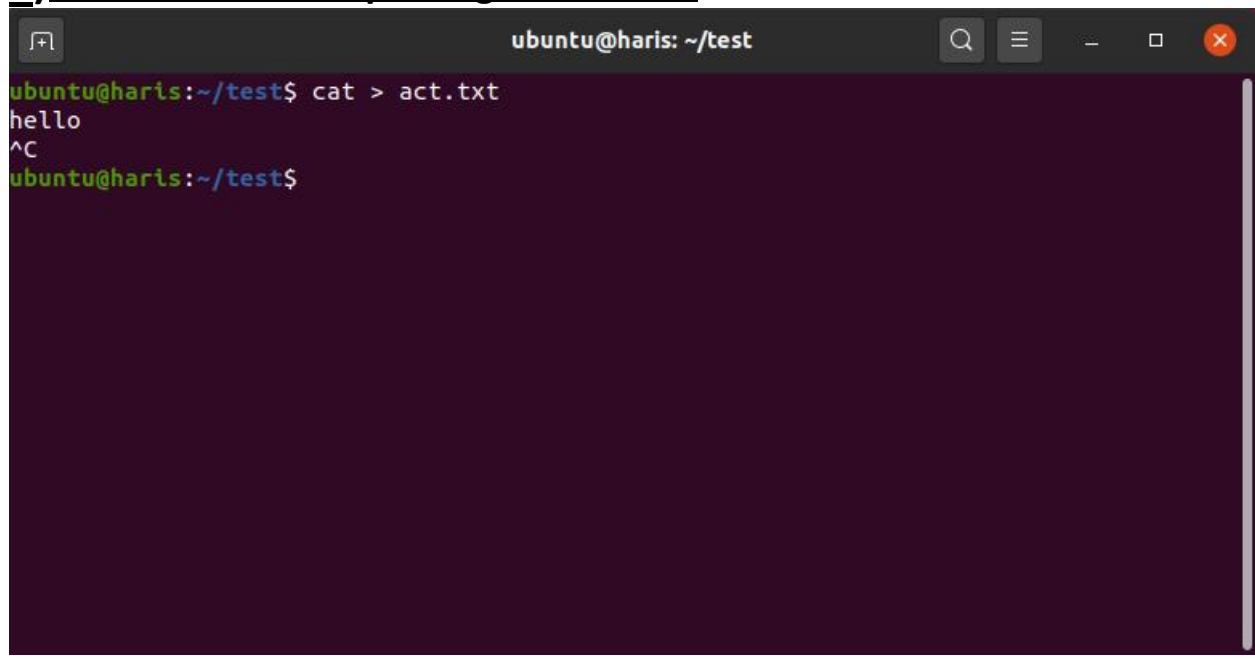
1) The Terminal Output is given below,

2) The Terminal Output is given below,


```
ubuntu@haris:~/test$ cat > act.txt
hello
^C
ubuntu@haris:~/test$
```

3) The Terminal Output is given below,
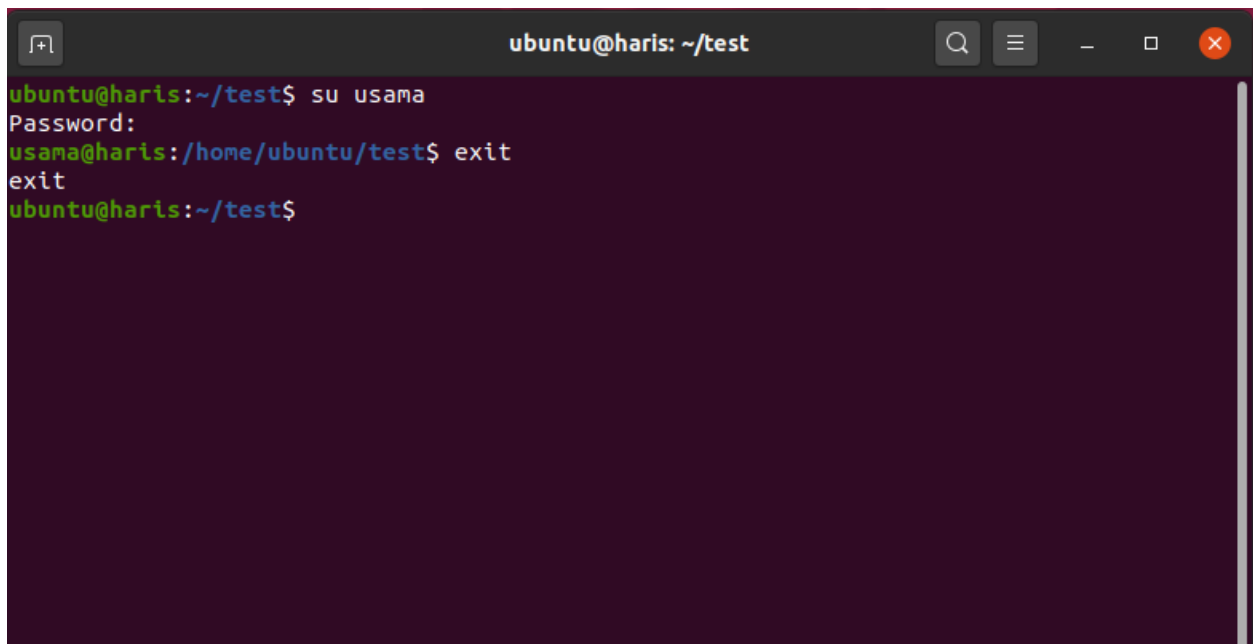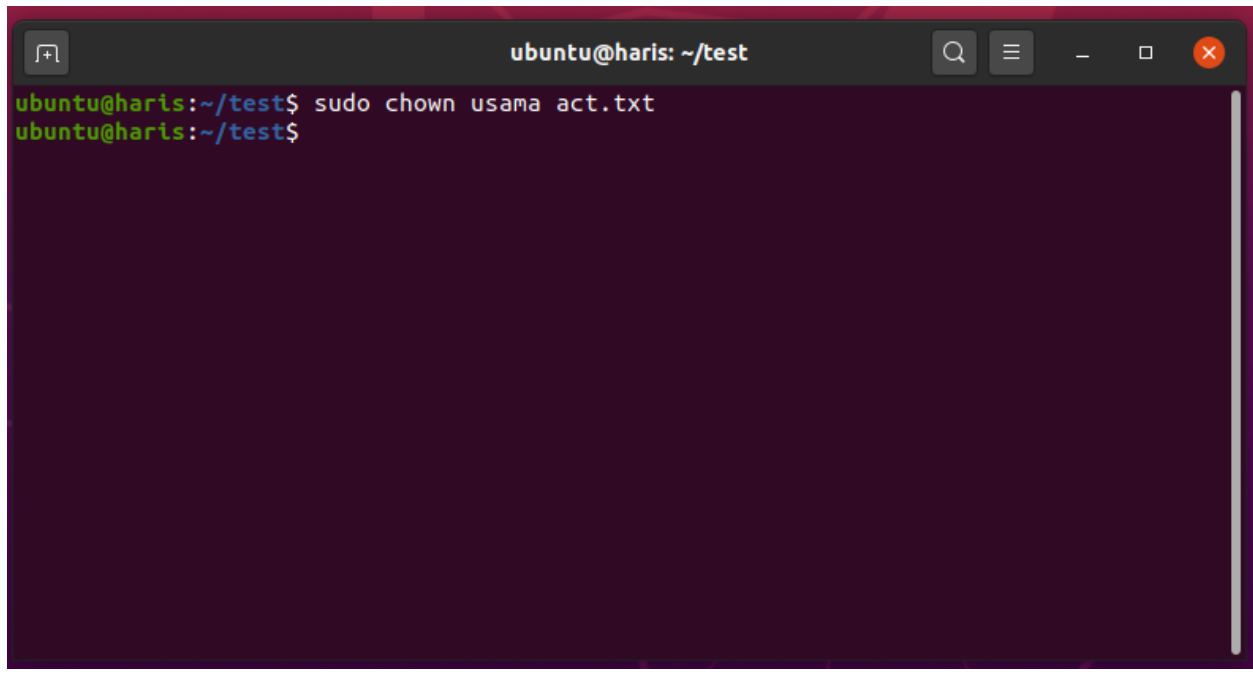


```
ubuntu@haris:~/test$ su usama
Password:
usama@haris:/home/ubuntu/test$
```

4) The Terminal Output is given below,

```
usama@haris:/home/ubuntu/test$ cat act.txt
cat: act.txt: Permission denied
usama@haris:/home/ubuntu/test$ 
```

5) The Terminal Output is given below,

```
ubuntu@haris:~/test$ su usama
Password:
usama@haris:/home/ubuntu/test$ exit
exit
ubuntu@haris:~/test$ 
```
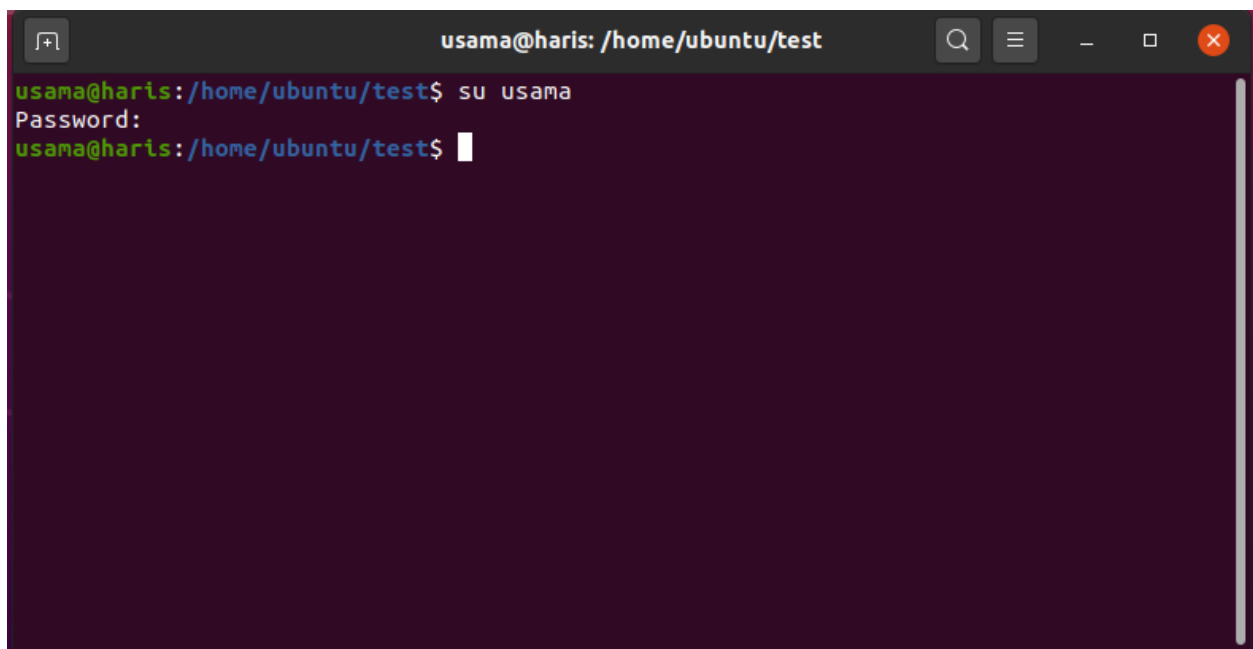
6) The Terminal Output is given below,
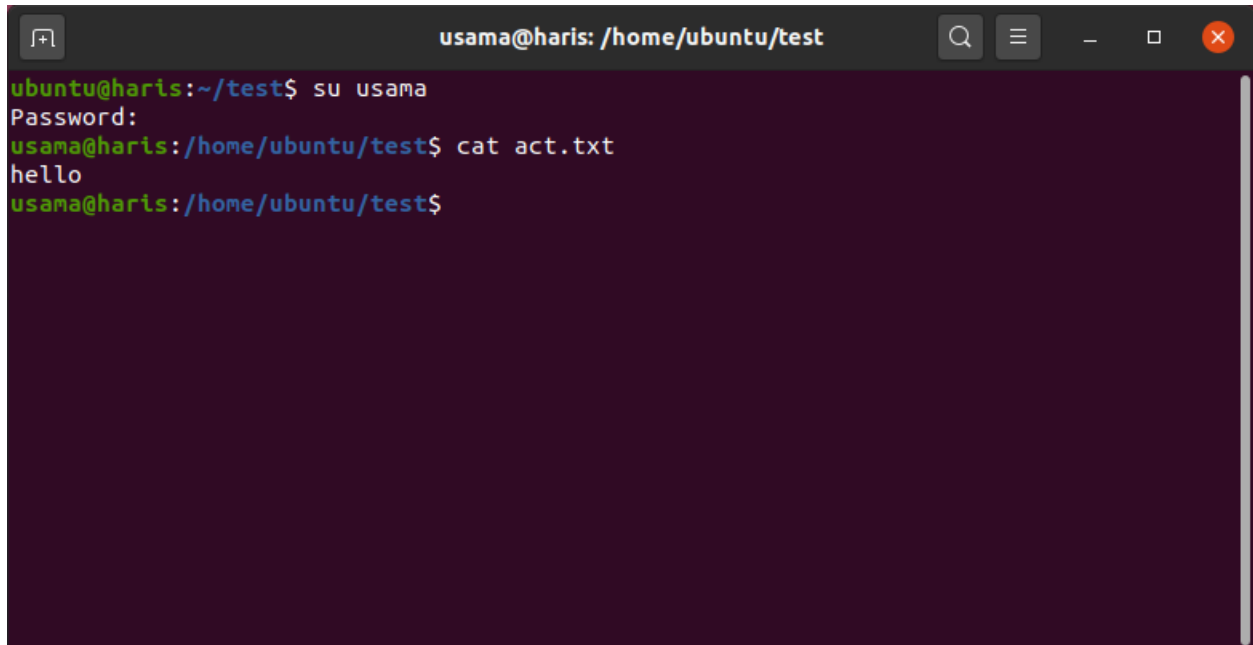
```
ubuntu@haris: ~/test
ubuntu@haris:~/test$ sudo chown usama act.txt
ubuntu@haris:~/test$
```

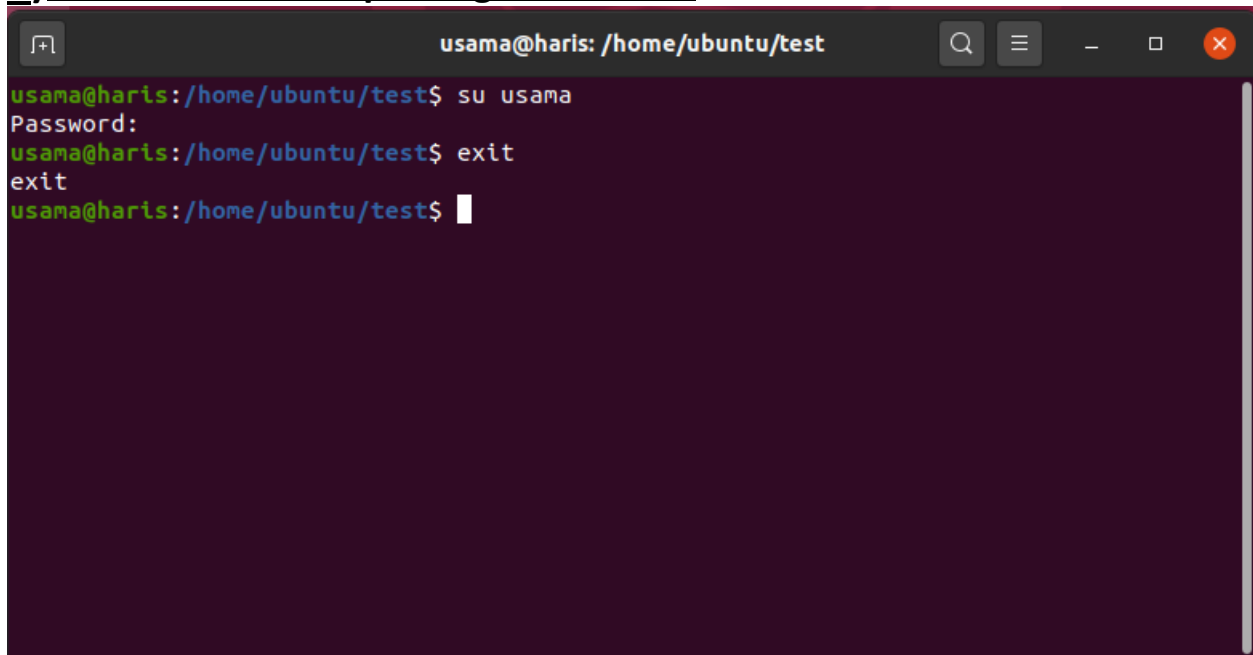## 7) The Terminal Output is given below,

```
usama@haris: /home/ubuntu/test
usama@haris:/home/ubuntu/test$ su usama
Password:
usama@haris:/home/ubuntu/test$ 
```

8) The Terminal Output is given below,

```
ubuntu@haris:~/test$ su usama
Password:
usama@haris:/home/ubuntu/test$ cat act.txt
hello
usama@haris:/home/ubuntu/test$
```

9) The Terminal Output is given below,

```
usama@haris:/home/ubuntu/test$ su usama
Password:
usama@haris:/home/ubuntu/test$ exit
exit
usama@haris:/home/ubuntu/test$
```
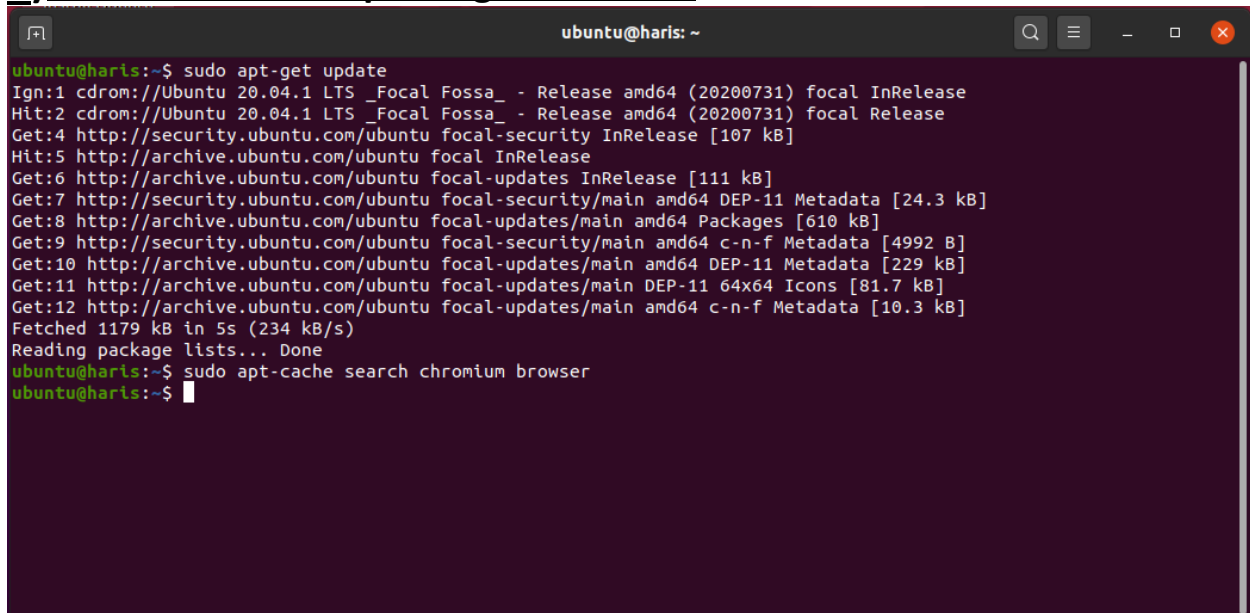
10) The Terminal Output is given below,

Question 3: Activity 3:

Perform the following tasks
1. search apt repository for the chromium browser
2. install the chromium browser using command line
3. write the command to update and upgrade the repository
4. list the software installed on your machine and write output on a file list.txt
5. read the list.txt file using cat command

Solution:

1) The Terminal Output is given below,

```
ubuntu@haris:~$ sudo apt-get update
Ign:1 cdrom://Ubuntu 20.04.1 LTS _Focal Fossa_ - Release amd64 (20200731) focal InRelease
Hit:2 cdrom://Ubuntu 20.04.1 LTS _Focal Fossa_ - Release amd64 (20200731) focal Release
Get:4 http://security.ubuntu.com/ubuntu focal-security InRelease [107 kB]
Hit:5 http://archive.ubuntu.com/ubuntu focal InRelease
Get:6 http://archive.ubuntu.com/ubuntu focal-updates InRelease [111 kB]
Get:7 http://security.ubuntu.com/ubuntu focal-security/main amd64 DEP-11 Metadata [24.3 kB]
Get:8 http://archive.ubuntu.com/ubuntu focal-updates/main amd64 Packages [610 kB]
Get:9 http://security.ubuntu.com/ubuntu focal-security/main amd64 c-n-f Metadata [4992 B]
Get:10 http://archive.ubuntu.com/ubuntu focal-updates/main amd64 DEP-11 Metadata [229 kB]
Get:11 http://archive.ubuntu.com/ubuntu focal-updates/main DEP-11 64x64 Icons [81.7 kB]
Get:12 http://archive.ubuntu.com/ubuntu focal-updates/main amd64 c-n-f Metadata [10.3 kB]
Fetched 1179 kB in 5s (234 kB/s)
Reading package lists... Done
ubuntu@haris:~$ sudo apt-cache search chromium browser
ubuntu@haris:~$ 
```

2) The Terminal Output is given below,

```
InRelease
Hit:2 cdrom://Ubuntu 20.04.1 LTS _Focal Fossa_ - Release amd64 (20200731) focal
Release
Hit:4 http://archive.ubuntu.com/ubuntu focal InRelease
Hit:5 http://security.ubuntu.com/ubuntu focal-security InRelease
Hit:6 http://archive.ubuntu.com/ubuntu focal-updates InRelease
Reading package lists... Done
ubuntu@haris:/$ sudo apt install chromium-browser
Reading package lists... Done
Building dependency tree
Reading state information... Done
E: Unable to locate package chromium-browser
ubuntu@haris:/$ sudo apt install chromium-bsu
Reading package lists... Done
Building dependency tree
Reading state information... Done
E: Unable to locate package chromium-bsu
ubuntu@haris:/$ sudo apt install chromium browser
Reading package lists... Done
Building dependency tree
Reading state information... Done
E: Unable to locate package chromium
E: Unable to locate package browser
ubuntu@haris:/$ 
```

3) The Terminal Output is given below,

```
ubuntu@haris:/$ sudo apt-get update
Ign:1 cdrom://Ubuntu 20.04.1 LTS _Focal Fossa_ - Release amd64 (20200731) focal InRelease
Hit:2 cdrom://Ubuntu 20.04.1 LTS _Focal Fossa_ - Release amd64 (20200731) focal Release
Hit:4 http://archive.ubuntu.com/ubuntu focal InRelease
Hit:5 http://security.ubuntu.com/ubuntu focal-security InRelease
Hit:6 http://archive.ubuntu.com/ubuntu focal-updates InRelease
Reading package lists... Done
ubuntu@haris:/$ 
```

4) The Terminal Output is given below,

5) The Terminal Output is given below,

_____THE END_____