

**COSA**

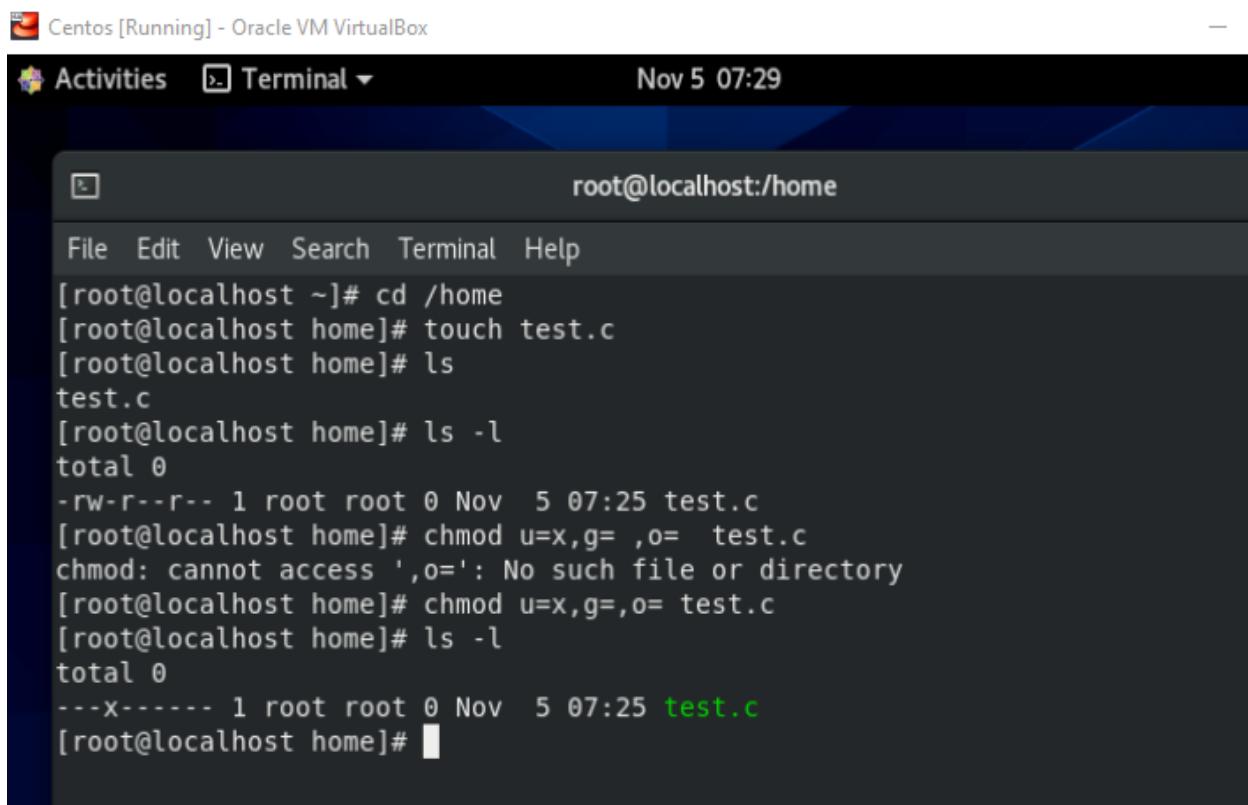
**Assignment - 06**

**Date:-04/11/2022**

**Name :- Prithviraj Nikam**

**5. Create a file named “test.c” on your home directory. Check the permission of the newly created file.**

**a. Write a command to add an execute permission to the owner of the file.**



The screenshot shows a terminal window titled "root@localhost:/home". The terminal output is as follows:

```
[root@localhost ~]# cd /home
[root@localhost home]# touch test.c
[root@localhost home]# ls
test.c
[root@localhost home]# ls -l
total 0
-rw-r--r-- 1 root root 0 Nov  5 07:25 test.c
[root@localhost home]# chmod u=x,g= ,o= test.c
chmod: cannot access ',o=': No such file or directory
[root@localhost home]# chmod u=x,g=,o= test.c
[root@localhost home]# ls -l
total 0
---x----- 1 root root 0 Nov  5 07:25 test.c
[root@localhost home]#
```

**b. Add readable and writable permissions to the group owner of the file.**

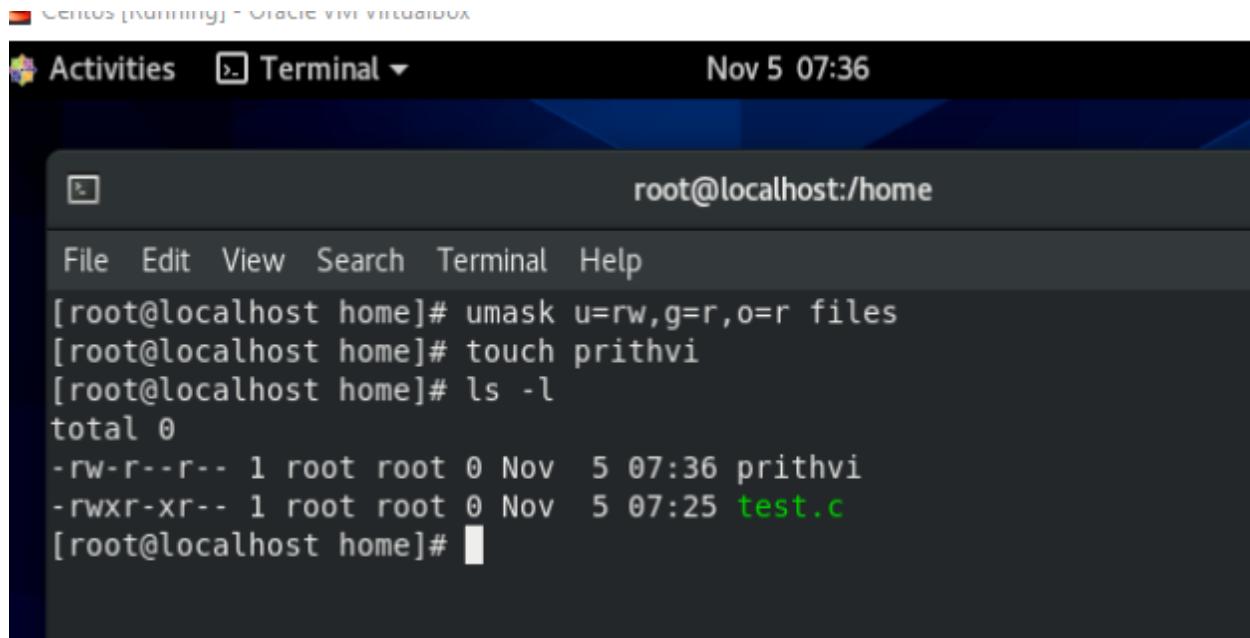
```
[root@localhost home]# chmod u=,g=rw,o= test.c
[root@localhost home]# ls -l
total 0
---rw---- 1 root root 0 Nov  5 07:25 test.c
[root@localhost home]#
```

c. Write a command to set the following permission: i. Owner of the file – “r w x” ii. Group Owner – “r - x” iii. Others – “r - -“

```
[root@localhost home]# chmod u=rwx,g=rx,o=r test.c
[root@localhost home]# ls -l
total 0
-rwxr-xr-- 1 root root 0 Nov  5 07:25 test.c
[root@localhost home]# █
```

**6. Write a command to set the default permission to the following:**

- a. Resulting permission for new file: “r w - r - - r - -“ and new Directories: “r w x r -x- r - x“**



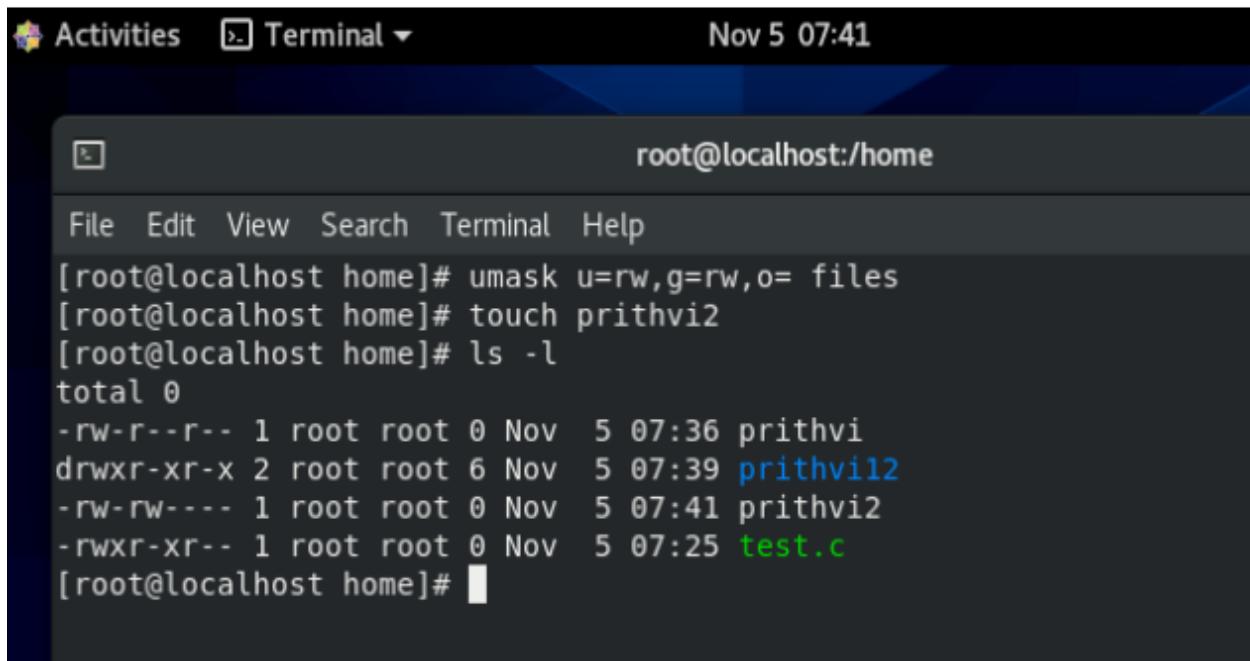
A screenshot of a Linux desktop environment. At the top, there is a header bar with the text "Activities" and "Terminal". The date and time "Nov 5 07:36" are also displayed. Below this is a terminal window titled "root@localhost:/home". The terminal window has a menu bar with "File", "Edit", "View", "Search", "Terminal", and "Help". The main area of the terminal shows the following command-line session:

```
[root@localhost home]# umask u=rw,g=r,o=r files
[root@localhost home]# touch prithvi
[root@localhost home]# ls -l
total 0
-rw-r--r-- 1 root root 0 Nov  5 07:36 prithvi
-rwxr-xr-- 1 root root 0 Nov  5 07:25 test.c
[root@localhost home]#
```

```
[root@localhost home]# umask u=rwx,g=rx,o=rx directory
[root@localhost home]# mkdir prithvi
mkdir: cannot create directory 'prithvi': File exists
[root@localhost home]# mkdir prithvil2
[root@localhost home]# ls -l
total 0
-rw-r--r-- 1 root root 0 Nov  5 07:36 prithvi
drwxr-xr-x 2 root root 6 Nov  5 07:39 prithvil2
-rwxr-xr-- 1 root root 0 Nov  5 07:25 test.c
[root@localhost home]#
```

**b. Resulting permission for new file: “r w - r w - - - “ and new Directories: “r w x r w x - - -”**

Centos [Running] - Oracle VM VirtualBox



A screenshot of a Linux desktop environment showing a terminal window. The terminal title is "root@localhost:/home". The window contains the following command-line session:

```
[root@localhost home]# umask u=rw,g=rw,o= files
[root@localhost home]# touch prithvi2
[root@localhost home]# ls -l
total 0
-rw-r--r-- 1 root root 0 Nov  5 07:36 prithvi
drwxr-xr-x 2 root root 6 Nov  5 07:39 prithvi12
-rw-rw---- 1 root root 0 Nov  5 07:41 prithvi2
-rwxr-xr-- 1 root root 0 Nov  5 07:25 test.c
[root@localhost home]#
```

```
[root@localhost home]# umask u=rwx,g=rwx,o= directory
[root@localhost home]# mkdir prithvi34
[root@localhost home]# ls -l
total 0
-rw-r--r-- 1 root root 0 Nov  5 07:36 prithvi
drwxr-xr-x 2 root root 6 Nov  5 07:39 prithvi12
-rw-rw---- 1 root root 0 Nov  5 07:41 prithvi2
drwxrwx--- 2 root root 6 Nov  5 07:43 prithvi34
-rwxr-xr-- 1 root root 0 Nov  5 07:25 test.c
[root@localhost home]#
```

**7. Login as root user and create a directory “/suidtest” and set the permission 755. Login as normal user and try to delete the directory “/suidtest” using “rm” command. Add suid permission to the “/bin/rm” file. Now try to delete “/suidtest”.**

```
[root@localhost ~]# mkdir /suidtest
[root@localhost ~]# chmod 755 /suidtest
[root@localhost ~]# ls -ld /suidtest
drwxr-xr-x 2 root root 6 Nov  5 08:06 /suidtest
[root@localhost ~]# chmod u+s /bin/rm /suidtest
chmod: cannot access '/suidtest': No such file or directory
[root@localhost ~]# mkdir /suidtest
[root@localhost ~]# chmod u+s /bin/rm /suidtest
[root@localhost ~]# mkdir /suidtest
[root@localhost ~]# chmod u-s /bin/rm /suidtest
[root@localhost ~]#
```

```
[prithvi1@localhost ~]$ ls -ld /suidtest
drwxr-xr-x 2 root root 6 Nov  5 08:06 /suidtest
[prithvi1@localhost ~]$ rm -rf /suidtest
[prithvi1@localhost ~]$ rm -rf /suidtest
[prithvi1@localhost ~]$ rm -rf /suidtest
rm: cannot remove '/suidtest': Permission denied
[prithvi1@localhost ~]$
```

8. As root create “/sgidtest” and set the permission 755. Add sgid permission to “/sgidtest”. Now login as normal user do following:

a. Create a file “test.txt” in “/sgidtest” and see its permission.

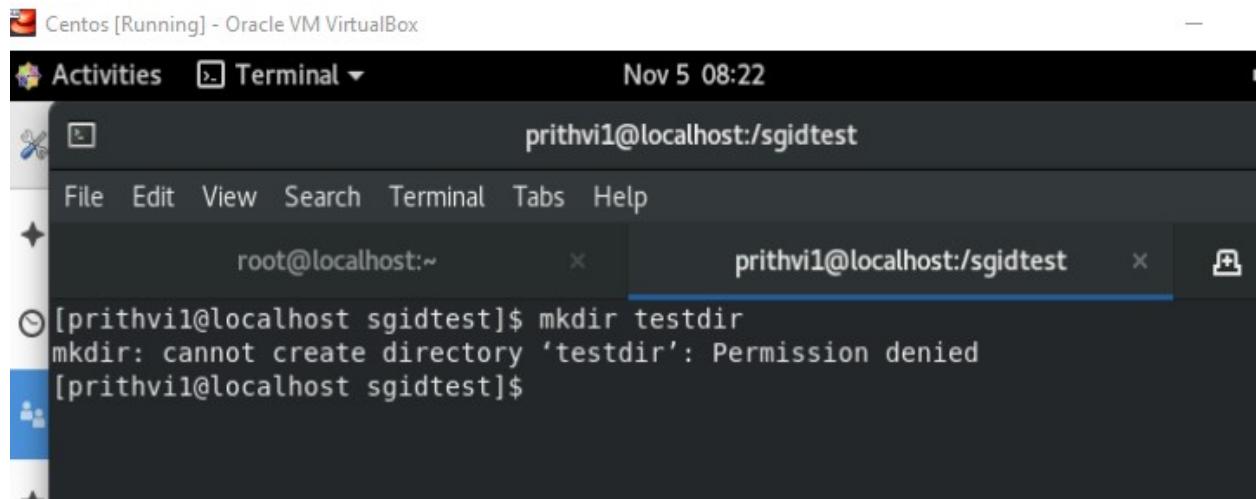
A screenshot of a Linux desktop environment showing a terminal window. The title bar says "Centos [Running] - Oracle VM VirtualBox". The terminal window has two tabs: "root@localhost:~" and "prithvi1@localhost:/sgidtest". The "root@localhost:~" tab is active. The terminal shows the following commands and output:

```
[root@localhost ~]# mkdir /sgidtest
[root@localhost ~]# chmod 755 /sgidtest
[root@localhost ~]# ls -l
total 8
-rw-----. 1 root root 1032 Oct 27 10:14 anaconda-ks.cfg
drwxr-xr-x. 2 root root 6 Oct 27 10:17 Desktop
drwxr-xr-x. 2 root root 6 Oct 27 10:17 Documents
drwxr-xr-x. 4 root root 120 Oct 27 14:44 Downloads
-rw-r--r--. 1 root root 1430 Oct 27 10:17 initial-setup-ks.cfg
drwxr-xr-x. 2 root root 6 Oct 27 10:17 Music
drwxr-xr-x. 2 root root 6 Oct 27 10:17 Pictures
drwxr-xr-x. 2 root root 6 Oct 27 10:17 Public
drwxr-xr-x. 2 root root 6 Oct 27 10:17 Templates
drwxr-xr-x. 2 root root 6 Oct 27 10:17 Videos
[root@localhost ~]# ls -ld /sgidtest
drwxr-xr-x 2 root root 6 Nov 5 08:15 /sgidtest
[root@localhost ~]# chmod g+s /sgidtest
[root@localhost ~]# ls -ld /sgidtest
drwxr-sr-x 2 root root 6 Nov 5 08:15 /sgidtest
[root@localhost ~]#
```

A screenshot of a Linux desktop environment showing a terminal window. The title bar says "Centos [Running] - Oracle VM VirtualBox". The terminal window has two tabs: "root@localhost:~" and "prithvi1@localhost:/sgidtest". The "prithvi1@localhost:/sgidtest" tab is active. The terminal shows the following commands and output:

```
[prithvi1@localhost ~]$ cd /sgidtest
[prithvi1@localhost sgidtest]$ touch test.txt
touch: cannot touch 'test.txt': Permission denied
[prithvi1@localhost sgidtest]$ touch test.txt
touch: cannot touch 'test.txt': Permission denied
[prithvi1@localhost sgidtest]$
```

**b. Create the directory “testdir” in “/sgidtest” and see its permission.**



The screenshot shows a Linux desktop environment with a terminal window open. The terminal window title is "Activities Terminal" and the date and time are "Nov 5 08:22". The terminal session is running under user "prithvi1" at the host "localhost" in a directory named "sgidtest". There are two tabs visible: one for the root user at the host and another for the current user "prithvi1". The user "prithvi1" is attempting to create a directory named "testdir" in their current directory, but receives an error message: "mkdir: cannot create directory 'testdir': Permission denied".

```
[prithvi1@localhost sgidtest]$ mkdir testdir
mkdir: cannot create directory 'testdir': Permission denied
[prithvi1@localhost sgidtest]$
```

**9. Create a folder named /assignments using root account. change the permission of this folder to 777. login as normal user and try to create files in it. Using other normal user account delete the files u have created in /assignments folder.**

Centos [Running] - Oracle VM VirtualBox

Activities Terminal Nov 5 08:29

root@localhost:~

File Edit View Search Terminal Tabs Help

root@localhost:~ x prithvi1@localhost:/a... x prithviraj1@localhost... x

```
[root@localhost ~]# mkdir /assignments
[root@localhost ~]# chmod 777 /assignments
[root@localhost ~]# ls -ld /assignments
drwxrwxrwx 2 root root 6 Nov  5 08:23 /assignments
[root@localhost ~]#
```

Centos [Running] - Oracle VM VirtualBox

Activities Terminal Nov 5 08:29

prithvi1@localhost:/assignments

File Edit View Search Terminal Tabs Help

root@localhost:~ x prithvi1@localhost:/a... x prithviraj1@localhost... x

```
[prithvi1@localhost ~]$ cd /assignments
[prithvi1@localhost assignments]$ touch prithviassignment
[prithvi1@localhost assignments]$ ll
total 0
-rw-rw-r-- 1 prithvi1 prithvi1 0 Nov  5 08:25 prithviassignment
[prithvi1@localhost assignments]$
```

```
prithviraj1@localhost:/assignments
File Edit View Search Terminal Tabs Help
root@localhost:~ x prithvi1@localhost:/a... x prithviraj1@localhost... x
[prithviraj1@localhost ~]$ cd /assignments
[prithviraj1@localhost assignments]$ ls
prithviassignment
[prithviraj1@localhost assignments]$ rm prithviassignment
rm: remove write-protected regular empty file 'prithviassignment'? y
[prithviraj1@localhost assignments]$ ls
[prithviraj1@localhost assignments]$
```

Add sticky bit on /assignments folder using root account. Now again login using normal user and try to create files in it. Using other normal user account delete the files u have created

```
[root@localhost ~]# chmod o+t /assignments
[root@localhost ~]# ls -ld /assignments
drwxrwxrwt 2 root root 6 Nov  5 08:28 /assignments
[root@localhost ~]#
```

```
[prithvi1@localhost assignments]$ touch prithviassignment
[prithvi1@localhost assignments]$ ll
total 0
-rw-rw-r-- 1 prithvil prithvil 0 Nov  5 08:31 prithviassignment
[prithvi1@localhost assignments]$
```

```
[prithviraj1@localhost assignments]$ rm prithviassignment
rm: remove write-protected regular empty file 'prithviassignment'? y
rm: cannot remove 'prithviassignment': Operation not permitted
[prithviraj1@localhost assignments]$ █
```