CST365-3

SYSTEM LEVEL PROGRAMMING

UWU/CST/17/054
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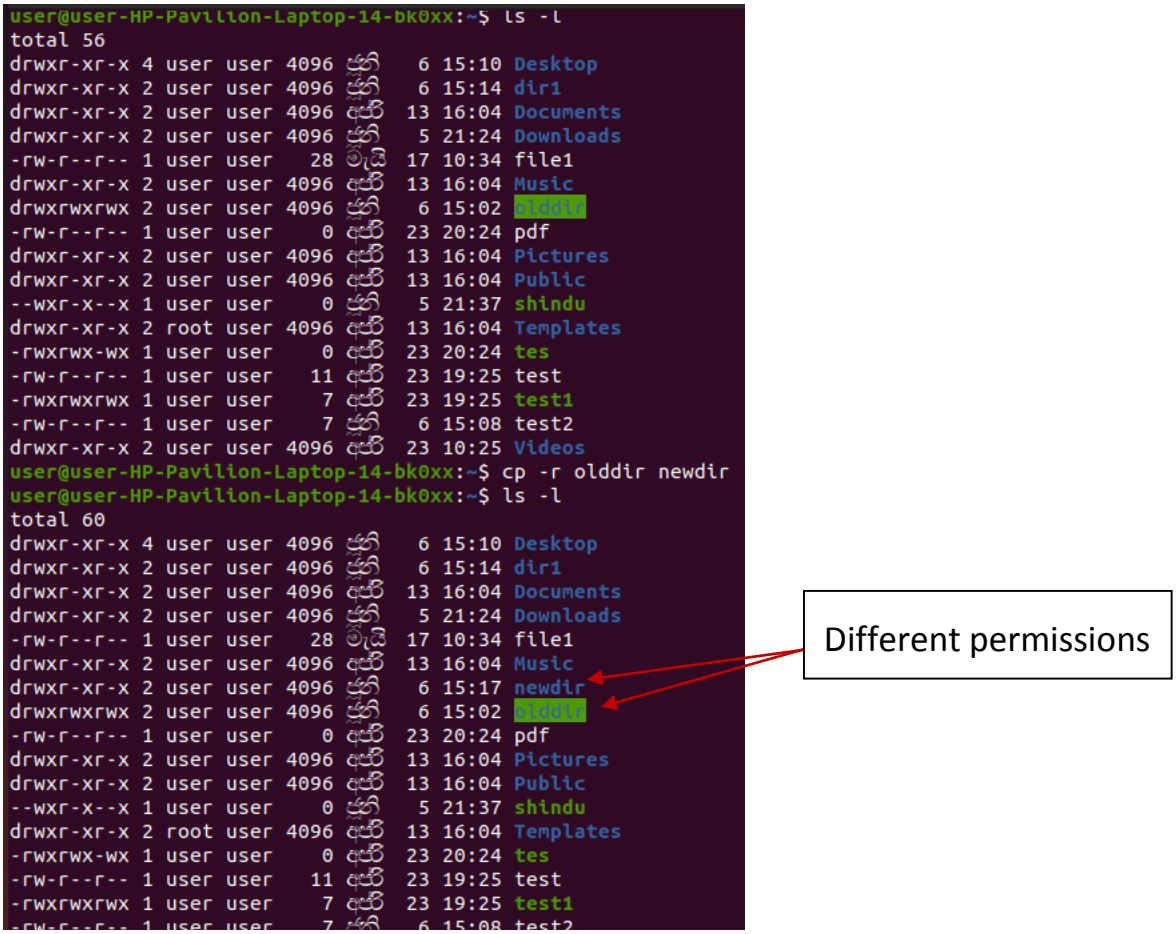
PRACTICAL ASSIGNMENT-02

Use UNIX file permission concepts to answer following questions

1. **What is the permission of a new directory which is created by copying an existing directory having its permissions as 'r w x r w x r w x'**?

   I got a different permission when I copy from existing directory which having 'rwxrwxrwx' into newdirectory. I got 'rwxr-xr-x' permission for new directory(r for read the file,w for modify the file and x for use the file as command.First three bits represent owner's permission,next three bits represent grop permissions and last three bits represents others permissions). So we can't copy the permissions one directory to another using '**cp –r dir1 dir2'** command.



   Chmod command is used to set permission bit on file or directory. It also allows to copy permission one file/directory to another file/directory.Using - -reference option the chmod command is capable to copy permissions from one file/directory to file/directory.
   $chmod - -reference=existingdir newdir

2. **How to change following permission of a newly created file (when creating the file, name it with your name i.e. praboda.txt) using both symbolic mode and absolute mode**.

   a. remove readability for others

Symbolic mode

chmod o-r shindu.txt

```
user@user-HP-Pavilion-Laptop-14-bk0xx:~$ ls -l shindu
-rw-rw-r-- 1 user user 0 ජූනි   7 09:39 shindu
user@user-HP-Pavilion-Laptop-14-bk0xx:~$ chmod o-r shindu
user@user-HP-Pavilion-Laptop-14-bk0xx:~$ ls -l shindu
-rw-rw---- 1 user user 0 ජූනි   7 09:39 shindu
user@user-HP-Pavilion-Laptop-14-bk0xx:~$
```

Absolute mode

chmod 660 shindu.txt **or** chmod - 004 shindu.txt

```
user@user-HP-Pavilion-Laptop-14-bk0xx:~$ ls -l shindu
-rw-r--r-- 1 user user 0 ජූනි   7 09:51 shindu
user@user-HP-Pavilion-Laptop-14-bk0xx:~$ chmod 660 shindu
user@user-HP-Pavilion-Laptop-14-bk0xx:~$ ls -l shindu
-rw-rw---- 1 user user 0 ජූනි   7 09:51 shindu
user@user-HP-Pavilion-Laptop-14-bk0xx:~$
```

or

```
user@user-HP-Pavilion-Laptop-14-bk0xx:~$ ls -l shindu
-rw-rw-r-- 1 user user 0 ජූනි   7 10:00 shindu
user@user-HP-Pavilion-Laptop-14-bk0xx:~$ chmod -004 shindu
user@user-HP-Pavilion-Laptop-14-bk0xx:~$ ls -l shindu
-rw-rw---- 1 user user 0 ජූනි   7 10:00 shindu
user@user-HP-Pavilion-Laptop-14-bk0xx:~$
```

b. remove writability for group

Symbolic mode

chmod g-w shindu.txt

```
user@user-HP-Pavilion-Laptop-14-bk0xx:~$ ls -l shindu
-rw-rw---- 1 user user 0 ජූනි   7 09:39 shindu
user@user-HP-Pavilion-Laptop-14-bk0xx:~$ chmod g-w shindu
user@user-HP-Pavilion-Laptop-14-bk0xx:~$ ls -l shindu
-rw-r----- 1 user user 0 ජූනි   7 09:39 shindu
user@user-HP-Pavilion-Laptop-14-bk0xx:~$
```

Absolute mode

chmod 640 shindu.txt **or** chmod -020 shindu.txt

```
user@user-HP-Pavilion-Laptop-14-bk0xx:~$ ls -l shindu
-rw-rw---- 1 user user 0 ජූනි   7 09:51 shindu
user@user-HP-Pavilion-Laptop-14-bk0xx:~$ chmod 640 shindu
user@user-HP-Pavilion-Laptop-14-bk0xx:~$ ls -l shindu
-rw-r----- 1 user user 0 ජූනි   7 09:51 shindu
user@user-HP-Pavilion-Laptop-14-bk0xx:~$
```

or

```
user@user-HP-Pavilion-Laptop-14-bk0xx:~$ ls -l shindu
-rw-rw---- 1 user user 0 ජූනි   7 10:00 shindu
user@user-HP-Pavilion-Laptop-14-bk0xx:~$ chmod -020 shindu
user@user-HP-Pavilion-Laptop-14-bk0xx:~$ ls -l shindu
-rw-r----- 1 user user 0 ජූනි   7 10:00 shindu
user@user-HP-Pavilion-Laptop-14-bk0xx:~$
```

c. Add executability for user and group

Symbolic mode

chmod ug+x shindu.txt

```
user@user-HP-Pavilion-Laptop-14-bk0xx:~$ ls -l shindu
-rw-r----- 1 user user 0 ජූනි   7 09:39 shindu
user@user-HP-Pavilion-Laptop-14-bk0xx:~$ chmod ug+x shindu
user@user-HP-Pavilion-Laptop-14-bk0xx:~$ ls -l shindu
-rwxr-x--- 1 user user 0 ජූනි   7 09:39 shindu
user@user-HP-Pavilion-Laptop-14-bk0xx:~$
```

Absolute mode

chmod 750 shindu.txt **or** chmod +110 shindu.txt

```
user@user-HP-Pavilion-Laptop-14-bk0xx:~$ ls -l shindu
-rw-r----- 1 user user 0 ජූනි   7 09:51 shindu
user@user-HP-Pavilion-Laptop-14-bk0xx:~$ chmod 750 shindu
user@user-HP-Pavilion-Laptop-14-bk0xx:~$ ls -l shindu
-rwxr-x--- 1 user user 0 ජූනි   7 09:51 shindu
user@user-HP-Pavilion-Laptop-14-bk0xx:~$
```

or

```
user@user-HP-Pavilion-Laptop-14-bk0xx:~$ ls -l shindu
-rw-r----- 1 user user 0 ජූනි   7 10:00 shindu
user@user-HP-Pavilion-Laptop-14-bk0xx:~$ chmod +110 shindu
user@user-HP-Pavilion-Laptop-14-bk0xx:~$ ls -l shindu
-rwxr-x--- 1 user user 0 ජූනි   7 10:00 shindu
user@user-HP-Pavilion-Laptop-14-bk0xx:~$
```

d. remove readability, writability, executability for group and other

Symbolic mode

chmod go-rwx shindu.txt

```
user@user-HP-Pavilion-Laptop-14-bk0xx:~$ ls -l shindu
-rwxr-x--- 1 user user 0 ජූනි   7 09:39 shindu
user@user-HP-Pavilion-Laptop-14-bk0xx:~$ chmod go-rwx shindu
user@user-HP-Pavilion-Laptop-14-bk0xx:~$ ls -l shindu
-rwx------ 1 user user 0 ජූනි   7 09:39 shindu
user@user-HP-Pavilion-Laptop-14-bk0xx:~$
```

Absolute mode

chmod 700 shindu.txt or chmod -077 shindu.txt

```
user@user-HP-Pavilion-Laptop-14-bk0xx:~$ ls -l shindu
-rwxr-x--- 1 user user 0 ජූනි   7 09:51 shindu
user@user-HP-Pavilion-Laptop-14-bk0xx:~$ chmod 700 shindu
user@user-HP-Pavilion-Laptop-14-bk0xx:~$ ls -l shindu
-rwx------ 1 user user 0 ජූනි   7 09:51 shindu
user@user-HP-Pavilion-Laptop-14-bk0xx:~$
```

or

```
user@user-HP-Pavilion-Laptop-14-bk0xx:~$ ls -l shindu
-rwxr-x--- 1 user user 0 ජූනි   7 10:00 shindu
user@user-HP-Pavilion-Laptop-14-bk0xx:~$ chmod -077 shindu
user@user-HP-Pavilion-Laptop-14-bk0xx:~$ ls -l shindu
-rwx------ 1 user user 0 ජූනි   7 10:00 shindu
user@user-HP-Pavilion-Laptop-14-bk0xx:~$
```

e. set readability and executability but no rw-r-xr-x writability for group and other

Symbolic mode
chmod go=rx shindu.txt

```
user@user-HP-Pavilion-Laptop-14-bk0xx:~$ ls -l shindu
-rwx------ 1 user user 0 ජූනි   7 09:39 shindu
user@user-HP-Pavilion-Laptop-14-bk0xx:~$ chmod go=rx shindu
user@user-HP-Pavilion-Laptop-14-bk0xx:~$ ls -l shindu
-rwxr-xr-x 1 user user 0 ජූනි   7 09:39 shindu
user@user-HP-Pavilion-Laptop-14-bk0xx:~$
```

Absolute mode
chmod 755 shindu.txt **or** chmod +055 shindu.txt

```
user@user-HP-Pavilion-Laptop-14-bk0xx:~$ ls -l shindu
-rwx------ 1 user user 0 ජූනි   7 09:51 shindu
user@user-HP-Pavilion-Laptop-14-bk0xx:~$ chmod 755 shindu
user@user-HP-Pavilion-Laptop-14-bk0xx:~$ ls -l shindu
-rwxr-xr-x 1 user user 0 ජූනි   7 09:51 shindu
user@user-HP-Pavilion-Laptop-14-bk0xx:~$
```

or

```
user@user-HP-Pavilion-Laptop-14-bk0xx:~$ ls -l shindu
-rwx------ 1 user user 0 ජූනි   7 10:00 shindu
user@user-HP-Pavilion-Laptop-14-bk0xx:~$ chmod +055 shindu
user@user-HP-Pavilion-Laptop-14-bk0xx:~$ ls -l shindu
-rwxr-xr-x 1 user user 0 ජූනි   7 10:00 shindu
user@user-HP-Pavilion-Laptop-14-bk0xx:~$
```

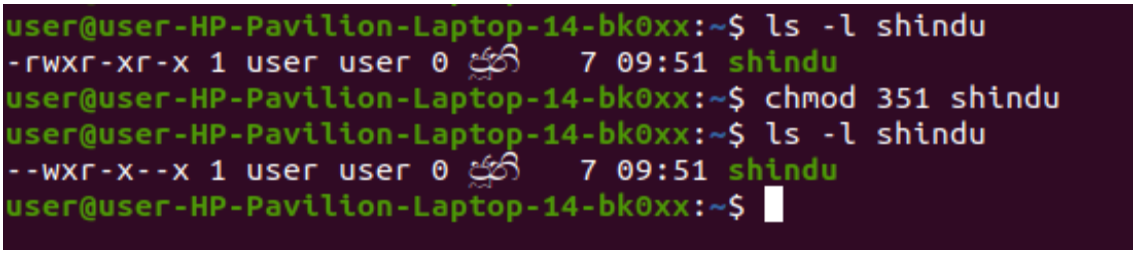
f. remove readability for user and other

Symbolic mode
chmod uo-r shindu.txt

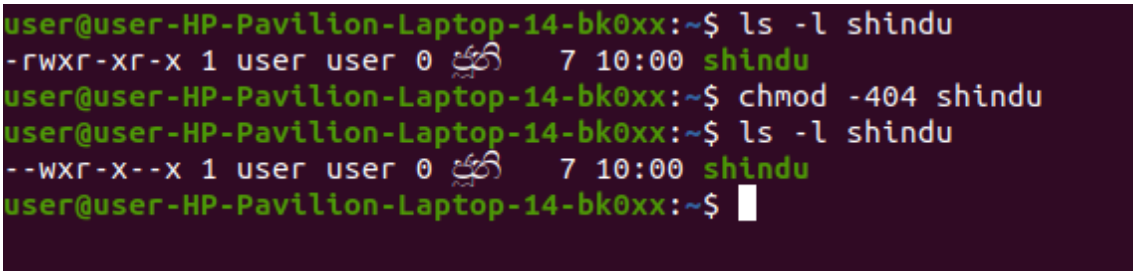
```
user@user-HP-Pavilion-Laptop-14-bk0xx:~$ ls -l shindu
-rwxr-xr-x 1 user user 0 ජූනි   7 09:39 shindu
user@user-HP-Pavilion-Laptop-14-bk0xx:~$ chmod uo-r shindu
user@user-HP-Pavilion-Laptop-14-bk0xx:~$ ls -l shindu
--wxr-x--x 1 user user 0 ජූනි   7 09:39 shindu
user@user-HP-Pavilion-Laptop-14-bk0xx:~$
```

Absolute mode

chmod 351 shindu.txt or chmod -404 shindu



or



3. Assume that you have created a new file called studentlist.txt. Now, you need to set the permission of your group members to read and modify the file, but others only can read it. What steps you need to follow?

Step 01- First we should type '**ls –l'** command in a terminal.It gives a "long listing" of the files in our directory. In addition to the file name, the long listing shows protection information, file owner, number of characters in file, and the date and time of the last change to the file.

Step 02 –Then we want to select a directory where we create a new file using **'cd diectory'** command.

Step 03- Create a new file called studentlist.txt using **'cat>studentlist'** command

Step 04-Set the permission of group members to read and modify the file, but others only can read it using symbolicmode – **'chmod g=rw,o=r studentlist.txt'**

Or

Using numericmode – '**chmod 664 studentlist'**

```
user@user-HP-Pavilion-Laptop-14-bk0xx:~$ ls -l
total 56
drwxr-xr-x 6 user user 4096 ජූනි   7 10:50 Desktop
drwxr-xr-x 2 user user 4096 ජූනි   6 15:14 dir1
drwxr-xr-x 2 user user 4096 අප්‍රි  13 16:04 Documents
drwxr-xr-x 2 user user 4096 ජූනි   5 21:24 Downloads
-rw-r--r-- 1 user user   28 මැයි  17 10:34 file1
drwxr-xr-x 2 user user 4096 අප්‍රි  13 16:04 Music
drwxrwxrwx 2 user user 4096 ජූනි   7 11:20 oldDir
-rw-r--r-- 1 user user    0 අප්‍රි  23 20:24 pdf
drwxr-xr-x 2 user user 4096 අප්‍රි  13 16:04 Pictures
drwxr-xr-x 2 user user 4096 අප්‍රි  13 16:04 Public
--wxr-x--x 1 user user    0 ජූනි   7 10:00 shindu
----rw-r-- 1 user user    0 ජූනි   6 20:43 studentlist
drwxr-xr-x 2 root user 4096 අප්‍රි  13 16:04 Templates
-rwxr-x-wx 1 user user    0 අප්‍රි  23 20:24 tes
-rw-r--r-- 1 user user   11 අප්‍රි  23 19:25 test
-rwxr-xrw- 1 user user    7 අප්‍රි  23 19:25 test1
-rwxrwxrwx 1 user user    7 ජූනි   6 15:08 test2
drwxr-xr-x 2 user user 4096 අප්‍රි  23 10:25 Videos
user@user-HP-Pavilion-Laptop-14-bk0xx:~$ cd dir1
user@user-HP-Pavilion-Laptop-14-bk0xx:~/dir1$ cat>studentlist
user@user-HP-Pavilion-Laptop-14-bk0xx:~/dir1$ ls
studentlist
user@user-HP-Pavilion-Laptop-14-bk0xx:~/dir1$ ls -l
total 0
-rw-r--r-- 1 user user 0 ජූනි   7 11:24 studentlist
user@user-HP-Pavilion-Laptop-14-bk0xx:~/dir1$ chmod g=rw,o=r studentlist
user@user-HP-Pavilion-Laptop-14-bk0xx:~/dir1$ ls-l
ls-l: command not found
user@user-HP-Pavilion-Laptop-14-bk0xx:~/dir1$ ls -l
total 0
-rw-rw-r-- 1 user user 0 ජූනි   7 11:24 studentlist
user@user-HP-Pavilion-Laptop-14-bk0xx:~/dir1$
```

```
user@user-HP-Pavilion-Laptop-14-bk0xx:~/dir1$ ls -l
total 0
-rw-r--r-- 1 user user 0 ජූනි   7 11:24 studentlist
user@user-HP-Pavilion-Laptop-14-bk0xx:~/dir1$ chmod 664  studentlist
user@user-HP-Pavilion-Laptop-14-bk0xx:~/dir1$ ls -l
total 0
-rw-rw-r-- 1 user user 0 ජූනි   7 11:24 studentlist
```