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#### Lab Task 5

#### create a test file

```
(base) tazmeen@afroz:~$ cd Desktop/
(base) tazmeen@afroz:~/Desktop$ cd main
(base) tazmeen@afroz:~/Desktop/main$ ls
blankdir dirpointer file_soft.txt soft.txt
blankfile filepointer main.txt temp.txt
(base) tazmeen@afroz:~/Desktop/main$ touch test.txt
(base) tazmeen@afroz:~/Desktop/main$ vim test.txt
(base) tazmeen@afroz:~/Desktop/main$ cat test.txt
Tazmeen Afroz
(base) tazmeen@afroz:~/Desktop/main$
```

# ls -lh to view permissions

```
(base) tazmeen@afroz:~/Desktop/main$ ls -lh
total 36K
drwxrwxr-x 2 tazmeen tazmeen 4.0K Sep 13 09:43 blankdir
-rw-rw-r-- 2 tazmeen tazmeen 11 Sep 13 09:45 blankfile
lrwxrwxrwx 1 tazmeen tazmeen 8 Sep 13 09:44 dirpointer -> blankdir
-rw-rw-r-- 2 tazmeen tazmeen 11 Sep 13 09:45 filepointer
lrwxrwxrwx 1 tazmeen tazmeen 13 Sep 13 09:34 file_soft.txt -> file_link.txt
-rw-rw-r-- 1 tazmeen tazmeen 9 Sep 13 09:42 main.txt
lrwxrwxrwx 1 tazmeen tazmeen 8 Sep 13 09:42 soft.txt -> main.txt
-rw-rw-r-- 1 tazmeen tazmeen 13K Sep 13 10:05 temp.txt
-rw-rw-r-- 1 tazmeen tazmeen 14 Sep 20 08:16 test.txt
(base) tazmeen@afroz:~/Desktop/main$
```

### change permissions using chmod command

```
-rw-rw-r-- 1 tazmeen tazmeen 14 Sep 20 08:16 test.txt
(base) tazmeen@afroz:~/Desktop/main$ chmod 761 test.txt
(base) tazmeen@afroz:~/Desktop/main$ ls -lh
total 36K
drwxrwxr-x 2 tazmeen tazmeen 4.0K Sep 13 09:43 blankdir
-rw-rw-r-- 2 tazmeen tazmeen 11 Sep 13 09:45 blankfile
lrwxrwxrwx 1 tazmeen tazmeen 8 Sep 13 09:44 dirpointer -> blankdir
-rw-rw-r-- 2 tazmeen tazmeen 11 Sep 13 09:45 filepointer
lrwxrwxrwx 1 tazmeen tazmeen 13 Sep 13 09:34 file_soft.txt -> file_link.txt
-rw-rw-r-- 1 tazmeen tazmeen 9 Sep 13 09:42 main.txt
lrwxrwxrwx 1 tazmeen tazmeen 8 Sep 13 09:42 soft.txt -> main.txt
-rw-rw-r-- 1 tazmeen tazmeen 13K Sep 13 10:05 temp.txt
-rwxrw---- 1 tazmeen tazmeen 14 Sep 20 08:16 test.txt
(base) tazmeen@afroz:~/Desktop/main$
```

Absolute mode: Numeric mode

Question: -r-x-w-r--

#### 524 answer

	Read	Write	Execute
Owner	1	0	1
Group	0	1	0
Others	1	0	0

Owner = 5 Group = 2 Others = 4

```
(base) tazmeen@afroz:~/Desktop/main$ chmod 524 test.txt
(base) tazmeen@afroz:~/Desktop/main$ ls -lh
total 36K
drwxrwxr-x 2 tazmeen tazmeen 4.0K Sep 13 09:43 blankdir
-rw-rw-r-- 2 tazmeen tazmeen 11 Sep 13 09:45 blankfile
lrwxrwxrwx 1 tazmeen tazmeen 8 Sep 13 09:44 dirpointer -> blankdir
-rw-rw-r-- 2 tazmeen tazmeen 11 Sep 13 09:45 filepointer
lrwxrwxrwx 1 tazmeen tazmeen 13 Sep 13 09:34 file_soft.txt -> file_link.txt
-rw-rw-r-- 1 tazmeen tazmeen 9 Sep 13 09:42 main.txt
-r-x-w-r-- 1 tazmeen tazmeen 0 Sep 20 08:24 p.txt
lrwxrwxrwx 1 tazmeen tazmeen 8 Sep 13 09:42 soft.txt -> main.txt
-rw-rw-r-- 1 tazmeen tazmeen 13K Sep 13 10:05 temp.txt
-r-x-w-r-- 1 tazmeen tazmeen 14 Sep 20 08:16 test.txt
(base) tazmeen@afroz:~/Desktop/main$
```

```
(base) tazmeen@afroz:/home$ ls -lh
total 4.0K
drwxr-x--- 27 tazmeen tazmeen 4.0K Sep 20 08:16 tazmeen
(base) tazmeen@afroz:/home$
```

Binary: 750

```
(base) tazmeen@afroz:~/Desktop/main$ ls -l test.txt
-r-x-w-r-- 1 tazmeen tazmeen 14 Sep 20 08:16 test.txt
(base) tazmeen@afroz:~/Desktop/main$ chmod 764 test.txt
(base) tazmeen@afroz:~/Desktop/main$ ls -l test.txt
-rwxrw-r-- 1 tazmeen tazmeen 14 Sep 20 08:16 test.txt
(base) tazmeen@afroz:~/Desktop/main$
```

## take all permissions

```
(base) tazmeen@afroz:~/Desktop/main$ chmod 540 test.txt
(base) tazmeen@afroz:~/Desktop/main$ ls -l
total 8
drwxrwxr-x 2 tazmeen tazmeen 4096 Sep 20 08:48 blankdir
-r-xr---- 1 tazmeen tazmeen 14 Sep 20 08:16 test.txt
(base) tazmeen@afroz:~/Desktop/main$
```

## Symbolic Mode

+ operator for adding permissions

```
(base) tazmeen@afroz:~/Desktop/main$ ls -l
total 8
drwxrwxr-x 2 tazmeen tazmeen 4096 Sep 20 08:48 blankdir
-r-xr---- 1 tazmeen tazmeen 14 Sep 20 08:16 test.txt
(base) tazmeen@afroz:~/Desktop/main$ chmod +x test.txt
(base) tazmeen@afroz:~/Desktop/main$ ls -l
total 8
drwxrwxr-x 2 tazmeen tazmeen 4096 Sep 20 08:48 blankdir
-r-xr-x--x 1 tazmeen tazmeen 14 Sep 20 08:16 test.txt
(base) tazmeen@afroz:~/Desktop/main$
```

# Permission to Others

### execute permission

## write permission

```
(base) tazmeen@afroz:~/Desktop/main$ chmod o+w test.txt
(base) tazmeen@afroz:~/Desktop/main$ ls -l
total 8
drwxrwxr-x 2 tazmeen tazmeen 4096 Sep 20 08:48 blankdir
-----wx 1 tazmeen tazmeen 14 Sep 20 08:16 test.txt
```

# execute & write permission

```
(base) tazmeen@afroz:~/Desktop/main$ chmod 000 test.txt
(base) tazmeen@afroz:~/Desktop/main$ chmod o+wx test.txt
(base) tazmeen@afroz:~/Desktop/main$ ls -l
total 8
drwxrwxr-x 2 tazmeen tazmeen 4096 Sep 20 08:48 blankdir
-----wx 1 tazmeen tazmeen 14 Sep 20 08:16 test.txt
```

#### read ,write & execute permission

```
(base) tazmeen@afroz:~/Desktop/main$ chmod 000 test.txt
(base) tazmeen@afroz:~/Desktop/main$ chmod o+rwx test.txt
(base) tazmeen@afroz:~/Desktop/main$ ls -l
total 8
drwxrwxr-x 2 tazmeen tazmeen 4096 Sep 20 08:48 blankdir
-----rwx 1 tazmeen tazmeen 14 Sep 20 08:16 test.txt
```

- operator : for taking permissions

## adding permission this -r-x-w-r--

```
(base) tazmeen@afroz:~/Desktop/main$ chmod u+rx test.txt && chmod g+w test.txt & chmod o+r test.txt
(base) tazmeen@afroz:~/Desktop/main$ ls -l
total 8
drwxrwxr-x 2 tazmeen tazmeen 4096 Sep 20 08:48 blankdir
-r-x-w-r-- 1 tazmeen tazmeen 14 Sep 20 08:16 test.txt
(base) tazmeen@afroz:~/Desktop/main$
```

# ug=wx give write and execute permission to ug

```
(base) tazmeen@afroz:~/Desktop/main$ chmod ug=rwx test.txt
(base) tazmeen@afroz:~/Desktop/main$ ls -l
total 8
drwxrwxr-x 2 tazmeen tazmeen 4096 Sep 20 08:48 blankdir
-rwxrwxr-- 1 tazmeen tazmeen 14 Sep 20 08:16 test.txt
(base) tazmeen@afroz:~/Desktop/main$
```

### give all permissions to all

```
(base) tazmeen@afroz:~/Desktop/main$ chmod ugo+rwx test.txt
(base) tazmeen@afroz:~/Desktop/main$ ls -l
total 8
drwxrwxr-x 2 tazmeen tazmeen 4096 Sep 20 08:48 blankdir
-rwxrwxrwx 1 tazmeen tazmeen 14 Sep 20 08:16 test.txt
```

# take all permissions from all

## give all permissions to all

```
(base) tazmeen@afroz:~/Desktop/main$ chmod a+rwx test.txt
(base) tazmeen@afroz:~/Desktop/main$ ls -l
total 8
drwxrwxr-x 2 tazmeen tazmeen 4096 Sep 20 08:48 blankdir
-rwxrwxrwx 1 tazmeen tazmeen 14 Sep 20 08:16 test.txt
```

## take all permissions from all

# directory permissions

take all permissions from abc directory

### user write permission to abc dir

all user permissions to abc dir

```
(base) tazmeen@afroz:~/Desktop/main$ chmod u+rwx abc
(base) tazmeen@afroz:~/Desktop/main$ ls -lh
total 12K
drwx----- 2 tazmeen tazmeen 4.0K Sep 20 09:28 abc
drwxrwxr-x 2 tazmeen tazmeen 4.0K Sep 20 08:48 blankdir
------ 1 tazmeen tazmeen 14 Sep 20 08:16 test.txt
(base) tazmeen@afroz:~/Desktop/main$
```

all permission from abc directory

```
(base) tazmeen@afroz:~/Desktop/main$ chmod u-rwx abc
(base) tazmeen@afroz:~/Desktop/main$ ls -lh
total 12K
d------ 2 tazmeen tazmeen 4.0K Sep 20 09:28 abc
drwxrwxr-x 2 tazmeen tazmeen 4.0K Sep 20 08:48 blankdir
------ 1 tazmeen tazmeen 14 Sep 20 08:16 test.txt
(base) tazmeen@afroz:~/Desktop/main$
```

move to abc directory through root

```
-bash: cd: /home/Desktop/main/abc: No such file or directory root@afroz:~# /home/tazmeen/Desktop/main -bash: /home/tazmeen/Desktop/main: Is a directory root@afroz:~# /home/tazmeen/Desktop/main/abc -bash: /home/tazmeen/Desktop/main/abc: Is a directory root@afroz:~# cd /home/tazmeen/Desktop/main/abc root@afroz:/home/tazmeen/Desktop/main/abc
```

execute permission to go in the abc directory

```
(base) tazmeen@afroz:~/Desktop/main$ chmod u+x abc
(base) tazmeen@afroz:~/Desktop/main$ cd abc
(base) tazmeen@afroz:~/Desktop/main/abc$
```

```
(base) tazmeen@afroz:~/Desktop/main$ ls -lh
total 12K
d--x---- 3 tazmeen tazmeen 4.0K Sep 20 09:48 abc
drwxrwxr-x 2 tazmeen tazmeen 4.0K Sep 20 08:48 blankdir
------ 1 tazmeen tazmeen 14 Sep 20 08:16 test.txt
(base) tazmeen@afroz:~/Desktop/main$
```

write permission not given

```
(base) tazmeen@afroz:~/Desktop/main$ chmod u+x abc
(base) tazmeen@afroz:~/Desktop/main$ cd abc
(base) tazmeen@afroz:~/Desktop/main/abc$ mkdir abc1
mkdir: cannot create directory 'abc1': Permission denied
(base) tazmeen@afroz:~/Desktop/main/abc$
```

write permission to create abc1 folder inside

```
(base) tazmeen@afroz:~/Desktop/main/abc$ cd ..
(base) tazmeen@afroz:~/Desktop/main$ chmod u+w abc
(base) tazmeen@afroz:~/Desktop/main$ cd abc
(base) tazmeen@afroz:~/Desktop/main/abc$ mkdir ab1
(base) tazmeen@afroz:~/Desktop/main/abc$
```

```
(base) tazmeen@afroz:~/Desktop/main/abc$ mkdir ab1
(base) tazmeen@afroz:~/Desktop/main/abc$ touch abc.txt
(base) tazmeen@afroz:~/Desktop/main/abc$ cd ab1
(base) tazmeen@afroz:~/Desktop/main/abc/ab1$ mkdir abc.txt
(base) tazmeen@afroz:~/Desktop/main/abc/ab1$ ls
abc.txt
(base) tazmeen@afroz:~/Desktop/main/abc/ab1$
```

```
give the read permissions to abc folder for ls
```

```
(base) tazmeen@afroz:~/Desktop/main/abc$ cd ..
(base) tazmeen@afroz:~/Desktop/main$ chmod u+r abc
(base) tazmeen@afroz:~/Desktop/main$ cd abc
(base) tazmeen@afroz:~/Desktop/main/abc$ ls
ab1 abc.txt
(base) tazmeen@afroz:~/Desktop/main/abc$
```

```
(base) tazmeen@afroz:~/Desktop/main$ ls -lh
total 12K
drwx----- 3 tazmeen tazmeen 4.0K Sep 20 09:48 abc
drwxrwxr-x 2 tazmeen tazmeen 4.0K Sep 20 08:48 blankdir
------ 1 tazmeen tazmeen 14 Sep 20 08:16 test.txt
(base) tazmeen@afroz:~/Desktop/main$
```

```
(base) tazmeen@afroz:~/Desktop/main/abc$ chmod g+rwx ab1
(base) tazmeen@afroz:~/Desktop/main/abc$ ls -lh
total 4.0K
d---rwx--- 3 tazmeen tazmeen 4.0K Sep 20 09:52 ab1
-rw-rw-r-- 1 tazmeen tazmeen 0 Sep 20 09:48 abc.txt
(base) tazmeen@afroz:~/Desktop/main/abc$ chmod o+rwx ab1
(base) tazmeen@afroz:~/Desktop/main/abc$ ls -lh
total 4.0K
d---rwxrwx 3 tazmeen tazmeen 4.0K Sep 20 09:52 ab1
-rw-rw-r-- 1 tazmeen tazmeen 0 Sep 20 09:48 abc.txt
(base) tazmeen@afroz:~/Desktop/main/abc$
```

give user permission to ab1 give other permission to ab1 take user permssion from ab1

```
(base) tazmeen@afroz:~/Desktop/main/abc$ chmod u+rwx ab1
(base) tazmeen@afroz:~/Desktop/main/abc$ ls -lh
total 4.0K
drwx----- 3 tazmeen tazmeen 4.0K Sep 20 09:52 ab1
-rw-rw-r-- 1 tazmeen tazmeen
                              0 Sep 20 09:48 abc.txt
(base) tazmeen@afroz:~/Desktop/main/abc$ chmod o+rwx ab1
(base) tazmeen@afroz:~/Desktop/main/abc$ ls -lh
total 4.0K
drwx---rwx 3 tazmeen tazmeen 4.0K Sep 20 09:52 📷
                               0 Sep 20 09:48 abc.txt
-rw-rw-r-- 1 tazmeen tazmeen
(base) tazmeen@afroz:~/Desktop/main/abc$ chmod u-rwx ab1
(base) tazmeen@afroz:~/Desktop/main/abc$ ls -lh
total 4.0K
d-----rwx 3 tazmeen tazmeen 4.0K Sep 20 09:52 ab
-rw-rw-r-- 1 tazmeen tazmeen
                               0 Sep 20 09:48 abc.txt
(base) tazmeen@afroz:~/Desktop/main/abc$
```

### changing ownership

```
(base) tazmeen@afroz:~/Desktop/main$ ls -lh
total 4.0K
drwxrwxr-x 2 tazmeen tazmeen 4.0K Sep 20 10:04 abc
-rw-rw-r-- 1 tazmeen tazmeen 0 Sep 20 10:04 file.txt
(base) tazmeen@afroz:~/Desktop/main$ chown test abc
chown: invalid user: 'test'
(base) tazmeen@afroz:~/Desktop/main$ chown root file.txt
chown: changing ownership of 'file.txt': Operation not permitted
(base) tazmeen@afroz:~/Desktop/main$ sudo chown root abc
(base) tazmeen@afroz:~/Desktop/main$ ls -lh
total 4.0K
drwxrwxr-x 2 root
                   tazmeen 4.0K Sep 20 10:04 abc
                               0 Sep 20 10:04 file.txt
-rw-rw-r-- 1 tazmeen tazmeen
(base) tazmeen@afroz:~/Desktop/main$
```

```
(base) tazmeen@afroz:~/Desktop/main$ sudo chown root file.txt
(base) tazmeen@afroz:~/Desktop/main$ ls -lh
total 4.0K
drwxrwxr-x 2 root tazmeen 4.0K Sep 20 10:04 abc
-rw-rw-r-- 1 root tazmeen 0 Sep 20 10:04 file.txt
(base) tazmeen@afroz:~/Desktop/main$
```

change group users

```
(base) tazmeen@afroz:~/Desktop/main$ sudo chown root:root file.txt
(base) tazmeen@afroz:~/Desktop/main$ ls -lh
total 4.0K
drwxrwxr-x 2 root tazmeen 4.0K Sep 20 10:04 abc
-rw-rw-r-- 1 root root 0 Sep 20 10:04 file.txt
(base) tazmeen@afroz:~/Desktop/main$
```

```
total 4.0K

drwxrwxr-x 2 root tazmeen 4.0K Sep 20 10:04 abc

-rw-rw-r-- 1 root root 0 Sep 20 10:04 file.txt

(base) tazmeen@afroz:~/Desktop/main$ cat > file.txt

bash: file.txt: Permission denied

(base) tazmeen@afroz:~/Desktop/main$
```

Write a C program code in vim editor

compile the file through gcc

-o for making it executable

```
(base) tazmeen@afroz:~/Desktop/main$ vim first.c
(base) tazmeen@afroz:~/Desktop/main$ cat first.c
#include <stdio.h>
int main(){
        printf("Hello world");
        return 0;
}
(base) tazmeen@afroz:~/Desktop/main$ gcc first.c
(base) tazmeen@afroz:~/Desktop/main$ ./a.out
Hello world(base) tazmeen@afroz:~/Desktop/main$ gcc first.c -o first
(base) tazmeen@afroz:~/Desktop/main$ ./first
Hello world(base) tazmeen@afroz:~/Desktop/main$
```

#### write the code

```
(base) tazmeen@afroz:~/Desktop/main$ gedit first.c
^C
(base) tazmeen@afroz:~/Desktop/main$ cat first.c
#include <stdio.h>
#include <stdlib.h>
#include <cstdlib.h>

int main(){
    printf("\nThis is C Programming in Ubuntu\n\n");
    printf("\nHere in this program we will run linux commands\n\n");
    system("ls -l");
    return 0;
}
(base) tazmeen@afroz:~/Desktop/main$
```

```
(base) tazmeen@afroz:~/Desktop/main$ gcc first.c -o first
(base) tazmeen@afroz:~/Desktop/main$ ./first
This is C Programming in Ubuntu
Here in this program we will run linux commands
total 80
drwxrwxr-x 2 root tazmeen 4096 Sep 20 10:04 abc
-rwxrwxr-x 1 tazmeen tazmeen 15960 Sep 20 10:23 a.out
-rw-rw-r-- 1 root root
                                0 Sep 20 10:04 file.txt
-rwxrwxr-x 1 tazmeen tazmeen 16000 Sep 20 10:34 first
-rw-rw-r-- 1 tazmeen tazmeen 213 Sep 20 10:34 first.c
-rwxrwxr-x 1 tazmeen tazmeen 15960 Sep 20 10:17 test
-rw-rw-r-- 1 tazmeen tazmeen 66 Sep 20 10:17 test.c
-rwxrwxr-x 1 tazmeen tazmeen 15960 Sep 20 10:17 test.o
-rw-rw-r-- 1 tazmeen tazmeen
                              12 Sep 20 10:16 test.txt
(base) tazmeen@afroz:~/Desktop/main$
```