

1. Creation of several files and directories using touch and mkdir:

```
ILoveLinux@ubuntu-utm:~$ cd Desktop
ILoveLinux@ubuntu-utm:~/Desktop$ mkdir activity
ILoveLinux@ubuntu-utm:~/Desktop$ cd activity
ILoveLinux@ubuntu-utm:~/Desktop/activity$ touch file1.txt
ILoveLinux@ubuntu-utm:~/Desktop/activity$ touch file2.txt
ILoveLinux@ubuntu-utm:~/Desktop/activity$ touch file3.txt
ILoveLinux@ubuntu-utm:~/Desktop/activity$ touch testdir
ILoveLinux@ubuntu-utm:~/Desktop/activity$ cd testdir
bash: cd: testdir: Not a directory
ILoveLinux@ubuntu-utm:~/Desktop/activity$ mkdir testdir
mkdir: cannot create directory 'testdir': File exists
ILoveLinux@ubuntu-utm:~/Desktop/activity$ rm testdir
ILoveLinux@ubuntu-utm:~/Desktop/activity$ mkdir testdir
ILoveLinux@ubuntu-utm:~/Desktop/activity$ cd testdir
ILoveLinux@ubuntu-utm:~/Desktop/activity/testdir$ touch file4.txt
ILoveLinux@ubuntu-utm:~/Desktop/activity/testdir$ cd ..
ILoveLinux@ubuntu-utm:~/Desktop/activity$ ls
file1.txt  file2.txt  file3.txt  testdir
ILoveLinux@ubuntu-utm:~/Desktop/activity$
```

2. My umask number:

```
ILoveLinux@ubuntu-utm:~/Desktop/activity$ umask
0002
ILoveLinux@ubuntu-utm:~/Desktop/activity$
```

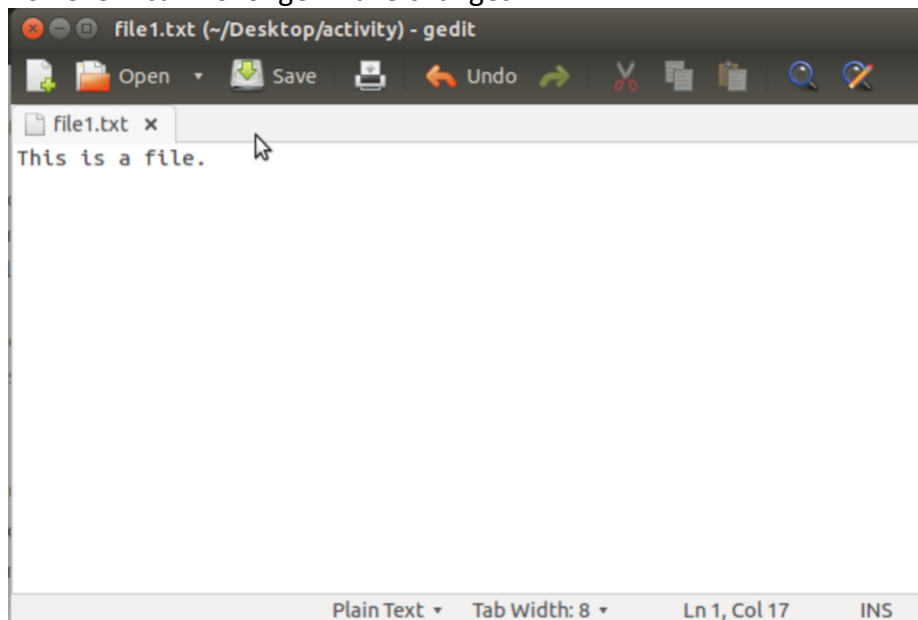
3. Changing my umask number:

```
ILoveLinux@ubuntu-utm:~/Desktop/activity$ umask 005
ILoveLinux@ubuntu-utm:~/Desktop/activity$ umask
0005
ILoveLinux@ubuntu-utm:~/Desktop/activity$
```

4. Showing current file permissions in mnemonic form:

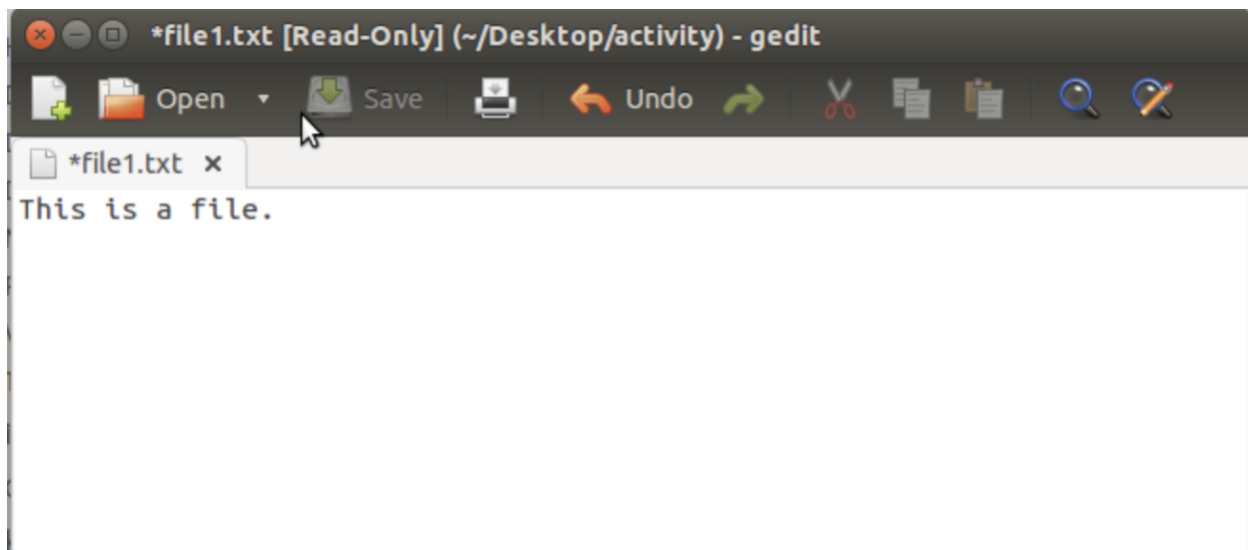
```
ILoveLinux@ubuntu-utm:~/Desktop/activity$ ls -l
total 4
-rw-rw-r-- 1 ILoveLinux ILoveLinux 0 Oct 13 05:37 file1.txt
-rw-rw-r-- 1 ILoveLinux ILoveLinux 0 Oct 13 05:37 file2.txt
-rw-rw-r-- 1 ILoveLinux ILoveLinux 0 Oct 13 05:37 file3.txt
drwxrwxr-x 2 ILoveLinux ILoveLinux 4096 Oct 13 05:38 testdir
ILoveLinux@ubuntu-utm:~/Desktop/activity$
```

5. I can currently open and edit file1.txt. After changing permissions, I can still read the file, however I can no longer make changes.



```
ILoveLinux@ubuntu-utm:~/Desktop/activity$ chmod u-w file1.txt
ILoveLinux@ubuntu-utm:~/Desktop/activity$ ls -l file1.txt
-r--rw-r-- 1 ILoveLinux ILoveLinux 17 Oct 13 05:44 file1.txt
ILoveLinux@ubuntu-utm:~/Desktop/activity$
```

We can now see in gedit that the file is now read only.



6. Using octal form to remove all permissions for file1.txt:

```
ILoveLinux@ubuntu-utm:~/Desktop/activity$ ls -l file1.txt
-r--rw-r-- 1 ILoveLinux ILoveLinux 17 Oct 13 05:44 file1.txt
ILoveLinux@ubuntu-utm:~/Desktop/activity$ chmod 000 file1.txt
ILoveLinux@ubuntu-utm:~/Desktop/activity$ ls -l file1.txt
----- 1 ILoveLinux ILoveLinux 17 Oct 13 05:44 file1.txt
ILoveLinux@ubuntu-utm:~/Desktop/activity$
```

7. Giving the execution permission to the owner for file2.txt

```
ILoveLinux@ubuntu-utm:~/Desktop/activity$ chmod u=rwx file2.txt
ILoveLinux@ubuntu-utm:~/Desktop/activity$ ls -l file2.txt
-rwxrw-r-- 1 ILoveLinux ILoveLinux 0 Oct 13 05:37 file2.txt
ILoveLinux@ubuntu-utm:~/Desktop/activity$
```

- Changing umask and observing difference in permissions between original and old:

```
ILoveLinux@ubuntu-utm:~/Desktop/activity$ umask
0002
ILoveLinux@ubuntu-utm:~/Desktop/activity$ mkdir origUmaskdir
ILoveLinux@ubuntu-utm:~/Desktop/activity$ touch origUmask.txt
ILoveLinux@ubuntu-utm:~/Desktop/activity$ umask 333
ILoveLinux@ubuntu-utm:~/Desktop/activity$ mkdir newUmaskdir
ILoveLinux@ubuntu-utm:~/Desktop/activity$ touch newUmask.txt
ILoveLinux@ubuntu-utm:~/Desktop/activity$ ls -l
total 16
--wx-wx-wx 1 ILoveLinux ILoveLinux 17 Oct 13 05:44 file1.txt
-rw-rw-r-- 1 ILoveLinux ILoveLinux 0 Oct 13 05:37 file1.txt~
-rwxrw-r-- 1 ILoveLinux ILoveLinux 0 Oct 13 05:37 file2.txt
-rw-rw-r-- 1 ILoveLinux ILoveLinux 0 Oct 13 05:37 file3.txt
dr--r--r-- 2 ILoveLinux ILoveLinux 4096 Oct 13 05:59 newUmaskdir
-r--r--r-- 1 ILoveLinux ILoveLinux 0 Oct 13 05:59 newUmask.txt
drwxrwxr-x 2 ILoveLinux ILoveLinux 4096 Oct 13 05:58 origUmaskdir
-rw-rw-r-- 1 ILoveLinux ILoveLinux 0 Oct 13 05:59 origUmask.txt
drwxrwxr-x 2 ILoveLinux ILoveLinux 4096 Oct 13 05:38 testdir
ILoveLinux@ubuntu-utm:~/Desktop/activity$
```

- Before changing the umask, the original directory (origUmaskdir) has read, write and execute permissions. After changing the umask to 333, the new directory made (newUmaskdir) had only read permissions. Likewise the file made with the original umask (origUmask.txt) had rw permissions while the new file (newUmask.txt) only had read permissions.
- Will changing umask on the command line be permanent, or will it go back after reboot?
 - The umask goes back to its original value once the user logs out or reboots. However, a permanent change can be made by changing the configuration files like the /etc/bashrc file.
- The file /etc/profile contains the default system wide umask value. For an individual, the umask value is stored in .bashrc.