Assignment 7

GUID Use Case

GUID is nothing but the **special permission** given to **a group** which is used to inherit the changed group to all the newly created sub directories / inclusive files within the parent directory. GUID stands for set group ID.

We can **apply** GUID by using 2 methods :

1) Symbolic Method → chmod g+s <file or Dir>
2) Numeric Method → chmod 2744 <file or Dir>

We can **remove** GUID by using 2 methods :

1) Symbolic Method → chmod g-s <file or Dir>
2) Numeric Method → chmod 2744 <file or Dir>

Point 1: Consider , if we create a directory inside the directory and create 2 files. Check the user owner and group owner of the directory as well as files. All the directories and files having root as the user owner and group owner.

```
root@ubuntu:/# mkdir demo course
root@ubuntu:/# ls
bin    course  etc   lib32   lost+found  opt   run   srv       tmp
boot   demo    home  lib64   media       proc  sbin  swapfile  usr
cdrom  dev     lib   libx32  mnt         root  snap  sys       var
root@ubuntu:/# cd course/
root@ubuntu:/course# mkdir bca bsc
```

```
root@ubuntu:/course# ls -la
total 16
drwxr-xr-x  4 root root 4096 Feb  9 10:44 .
drwxr-xr-x 22 root root 4096 Feb  9 10:43 ..
drwxr-xr-x  2 root root 4096 Feb  9 10:44 bca
drwxr-xr-x  2 root root 4096 Feb  9 10:44 bsc
root@ubuntu:/course# cd bca/
root@ubuntu:/course/bca# touch bca_file{1..2}
root@ubuntu:/course/bca# ls -la
total 8
drwxr-xr-x 2 root root 4096 Feb  9 10:46 .
drwxr-xr-x 4 root root 4096 Feb  9 10:44 ..
-rw-r--r-- 1 root root    0 Feb  9 10:46 bca_file1
-rw-r--r-- 1 root root    0 Feb  9 10:46 bca_file2
root@ubuntu:/course/bca#
```

Point 2: Now, if we change the group owner of the main directory i.e course then check whether all the directories inside it and files have the same reflection or not. But observations say that only the main directory i.e course shows the changed group not inside files or directories.

```
root@ubuntu:/# ls
bin    course  etc   lib32   lost+found  opt   run   srv       tmp
boot   demo    home  lib64   media       proc  sbin  swapfile  usr
cdrom  dev     lib   libx32  mnt         root  snap  sys       var
root@ubuntu:/# chgrp devops course
root@ubuntu:/# ls -la | grep course
drwxr-xr-x   4 root devops      4096 Feb  9 10:44 course
root@ubuntu:/# ls -la | grep /course
root@ubuntu:/# cd course/
root@ubuntu:/course# ls -la | grep bca
drwxr-xr-x  2 root root   4096 Feb  9 10:46 bca
root@ubuntu:/course# cd bca
root@ubuntu:/course/bca# ls -la
total 8
drwxr-xr-x 2 root root   4096 Feb  9 10:46 .
drwxr-xr-x 4 root devops 4096 Feb  9 10:44 ..
-rw-r--r-- 1 root root      0 Feb  9 10:46 bca_file1
-rw-r--r-- 1 root root      0 Feb  9 10:46 bca_file2
root@ubuntu:/course/bca#
```

Point 3: Now, we provide special permission to the group i.e GUID with numeric command. So after giving the GUID then if we change the group owner this time there will be reflection in all files and directories showing the changed owner.

```
root@ubuntu:/# ls -la | grep course
d--x--x--x   4 root devops      4096 Feb  9 10:44 course
root@ubuntu:/# chmod 2755 course
root@ubuntu:/# ls -la | grep course
drwxr-sr-x   4 root devops      4096 Feb  9 10:44 course
root@ubuntu:/# cd course
root@ubuntu:/course# mkdir faculty
root@ubuntu:/course# ls -la | grep faculty
drwxr-sr-x  2 root devops 4096 Feb  9 11:08 faculty
root@ubuntu:/course# cd faculty
root@ubuntu:/course/faculty# touch file1
root@ubuntu:/course/faculty# ls -la | grep file1
-rw-r--r-- 1 root devops    0 Feb  9 11:08 file1
root@ubuntu:/course/faculty#
```

Point 4: If we want to revoke the permission of the guid, we use a numeric method to revoke it.

```
root@ubuntu:/# ls -la | grep course
drwxr-sr-x   3 root root      4096 Feb  9 11:25 course
root@ubuntu:/# chmod 755 course
root@ubuntu:/# ls -la | grep course
drwxr-sr-x   3 root root      4096 Feb  9 11:25 course
root@ubuntu:/# chmod g-s course
root@ubuntu:/# ls -la | grep course
drwxr-xr-x   3 root root      4096 Feb  9 11:25 course
root@ubuntu:/#
```

After revoking permission , if we create directories or files then we are unable to inherit the group ownership of the directory.

Note:-When it's set on directories, all new files in the directory inherit the group ownership of the directory.