18 March The 2021

Commands :

```
assignment>>touch example.txt          -rw-r--rwx 1 amlp users 0 Mar 18 09:23 example.txt
assignment>>chmod  o+wx example.txt     assignment>>ls -l
assignment>>chmod g=rx example.txt      total 0
assignment>>chmod o+wx,u-x,g=rx example.txt  -rw-r-xrwx 1 amlp users 0 Mar 18 09:23 example.txt
assignment>>chmod 755 example.txt assignment>>chmod 74 assignment>>ls -l
3 example.txt assignment>>chown shaun example.txt  total 0
chown: changing ownership of 'example.txt': Operation  -rw-r-xrwx 1 amlp users 0 Mar 18 09:23 example.txt
not permitted                           assignment>>ls -l
assignment>>sudo chown shaun example.txt  total 0
[sudo] password for root:               -rwxr-xr-x 1 amlp users 0 Mar 18 09:34 example.txt
assignment>>chgrp editors example.txt   assignment>>ls -l
chgrp: changing group of 'example.txt': Operation not  total 0
permitted                               -rwxr---wx 1 amlp users 0 Mar 18 09:34 example.txt
assignment>>sudo chgrp editors example.txt  assignment>>ls -l
assignment>>mkdir  exampleDirectory      total 0
assignment>>chmod ug+s exampleDirectory/  -rwxr---wx 1 shaun users 0 Mar 18 09:34 example.txt
assignment>>clear                       assignment>>ls -l
                                         total 0
assignment>>_                           -rwxr---wx 1 shaun editors 0 Mar 18 09:34 example.txt
                                         assignment>>ls -l
                                         total 0
                                         drwxr-xr-x 1 amlp  users  0 Mar 18 09:39 exampleDirect
                                         ory
                                         -rwxr---wx 1 shaun editors 0 Mar 18 09:34 example.txt
                                         assignment>>ls -l
                                         total 0
                                         drwsr-sr-x 1 amlp  users  0 Mar 18 09:39 exampleDirect
                                         ory
```

1 : touch example.txt

Creating the file example.txt

2: chmod o+wx example.txt

Changing the mode of other users to write and execute
(no reading permissions i.e others cannot ls or cat into a
file or directory).

3 : chmod g=rx example.txt

Changing the mode of group to read and execute only (no writing i.e.
Group users can only read and execute and cannot make any changes into
 a file or make a directory).

4 :chmod o+wx,u-x,g=rx example.txt

Changing mode of others , users and group (users) to different modes .
This command shows that multiple modes can be done in one command
(no spaces between. (comma) it causes error .

5 : chmod 755 example.txt
This is numeric representation of the above commands to change
The mode of a file.
Here 7 (4 + 2 + 1 i.e read write execute permission to current user)
        5 (4 + 0+ 1 i.e only read and execute permission to group users)
        5 (4 + 0 + 1 i.e again read and execute permission to other users)

6 : sudo chown shaun example.txt

Changing the owner of file example.txt to shaun

Sudo permission is required from root users to change users .
(There should exist multiple users in order to change to other users)

7 : sudo chgrp editors example.txt

Changing the group of file example.txt to editors
(editors is a group which is already created   )

8 :   mkdir exampleDirectory
      chmod ug+s exampleDirectory/

Making a new directory exampleDirectory

Setting SUID and SGID for the directory

SUID is a special file permission for executable files which enables other users to run the file with effective permissions of the file owner. Instead of the normal x which represents execute permissions, you will see an s (to indicate SUID) special permission for the user.

SGID is a special file permission that also applies to executable files and enables other users to inherit the effective GID of file group owner. Likewise, rather than the usual x which represents execute permissions, you will see an s (to indicate SGID) special permission for group user.

Creating Users and Groups :

Create two users

useradd -m user1

useradd -m user2

sudo passwd user1
sudo passwd user2

addgroup group1

addgroup group2

sudo usermod -a -G group1 user1

sudo usermod -a -G group2 user2

Here you have two users. Two groups with one member each

Now you can perform all the groups and user related commands