

Following is the documentation of the first part of the second question of the assignment

First I created a lot of users and added them to financial groups etc

Below is a screenshot of:

```
chaitanya@chaitanya-VirtualBox:~$ groups aakarsh
aakarsh : aakarsh accounting
chaitanya@chaitanya-VirtualBox:~$ groups abhay
abhay : abhay
chaitanya@chaitanya-VirtualBox:~$ groups raghav
raghav : raghav accounting
```

Then i gave the rw access to accounting group:

```
chaitanya@chaitanya-VirtualBox:/home$ sudo setfacl -R -m group:accounting:rw financial_data/
chaitanya@chaitanya-VirtualBox:/home$
```

After this i gave read access to all the other groups:

```
chaitanya@chaitanya-VirtualBox:/home$ sudo setfacl -R -m o:r financial_data/
chaitanya@chaitanya-VirtualBox:/home$
```

Now to ensure that any new directories sub files are made get default access to these:

- a. Demonstrating restricted access for a test user outside the 'accounting' group

```
chaitanya@chaitanya-VirtualBox:/home/financial_data$ groups test
test : test
chaitanya@chaitanya-VirtualBox:/home/financial_data$ cd ../../
chaitanya@chaitanya-VirtualBox:/$ sudo su test
$ ls
bin    cdrom  etc    lib    lib64  lost+found  mnt  proc  run  snap  sys  usr
boot  dev    home  lib32  libx32  media      opt  root  sbin  srv   tmp  var
$ cd home
$ cd financial_data
$ ls
acl_test_2.txt  acl_test.txt  here  text.txt
$ mkdir testing
mkdir: cannot create directory 'testing': Permission denied
$ ls
acl_test_2.txt  acl_test.txt  here  text.txt
$ cat acl_test_2.txt
test acl
$
```

- b. Demonstrating read/write access for a user within the 'accounting' group (2 marks).

```
chaitanya@chaitanya-VirtualBox:/$ groups aakarsh
aakarsh : aakarsh accounting
chaitanya@chaitanya-VirtualBox:/$ sudo su aakarsh
$ ls
bin    cdrom  etc    lib    lib64  lost+found  mnt  proc  run  snap  sys  usr
boot  dev    home  lib32  libx32  media      opt  root  sbin  srv   tmp  var
$ cd home/financial_data
$ ls
acl_test_2.txt  acl_test.txt  here  text.txt
$ mkdir testing
$ ls
acl_test_2.txt  acl_test.txt  here  testing  text.txt
$ cat acl_test.txt
test acl
$ echo "camera here" > somewhere.txt
$ ls
acl_test_2.txt  acl_test.txt  here  somewhere.txt  testing  text.txt
$
```

c. Demonstrating the automatic inheritance of ACL settings for new files and directories (3 marks).

```
chaitanya@chaitanya-VirtualBox:/home/financial_data$ sudo su aakarsh
$ cd home
sh: 1: cd: can't cd to home
$ ls
acl_test_2.txt  acl_test.txt  here  somewhere.txt  testing  text.txt
$ mkdir sub_directory
$ cd sub_directory
$ ls
$ echo "this is a new file that I have created and we will see whether other users in the group can see this or not" > new_file.txt
$ ls
new_file.txt
$ cd ..
$ cd ..
$ ls
aakarsh  abhay  chaitanya  financial_data  raghav
$ cd financial_data
$ ls
acl_test_2.txt  here  sub_directory  text.txt
acl_test.txt   somewhere.txt  testing
$ S
```

This is the new file and sub directory that I have created now I will go to other users and check permission status

```
chaitanya@chaitanya-VirtualBox:/home/financial_data$ sudo su aakarsh
$ ls
acl_test_2.txt  acl_test.txt  akarsh  here  ragh  somewhere.txt  sub_directory  testing  text.txt
$ mkdir folder
$ ls
acl_test_2.txt  acl_test.txt  akarsh  folder  here  ragh  somewhere.txt  sub_directory  testing  text.txt
$
chaitanya@chaitanya-VirtualBox:/home/financial_data$ sudo su raghav
$ ls
acl_test_2.txt  acl_test.txt  akarsh  folder  here  ragh  somewhere.txt  sub_directory  testing  text.txt
$ cd folder
$ ls
$ echo "Here I am writing in a file which is created by someone else in the accounting group" > someone_else.txt
$ ls
someone_else.txt
$
chaitanya@chaitanya-VirtualBox:/home/financial_data$ sudo su abhay
```

3. Granting Temporary Write Access (5 marks):

- Documenting the steps to grant temporary write access to a specific subdirectory within 'financial_data' for a user from a new group with clear documentation and relevant commands, including screenshots

```
chaitanya@chaitanya-VirtualBox:/home$ sudo setfacl -m g:temp_group:rwx financial_data/sub_directory/
chaitanya@chaitanya-VirtualBox:/home$ su tempuser
Password:
$ cd financial_data
$ cd sub_directory
$ ls
new_file.txt
$ echo "test part3 of question 2" > part3.txt
$ cat part3.txt
test part3 of question 2
$ ls
new_file.txt  part3.txt
$
chaitanya@chaitanya-VirtualBox:/home$ groups tempuser
tempuser : tempuser temp_group
chaitanya@chaitanya-VirtualBox:/home$ SS
```

Read and write access was given to this tempuser from the temp_group and now it would be revoked

```
chaitanya@chaitanya-VirtualBox:/home$ sudo setfacl -x g:temp_group financial_data/sub_directory/
chaitanya@chaitanya-VirtualBox:/home$ su temp_user
su: user temp_user does not exist or the user entry does not contain all the required fields
chaitanya@chaitanya-VirtualBox:/home$ su tempuser
Password:
$ cd financial_data
$ ls
acl_test_2.txt  acl_test.txt  akarsh  folder  here  ragh  somewhere.txt  specific_dir  sub_directory  testing  text.txt
$ cd sub_directory
sh: 3: cd: can't cd to sub_directory
$
chaitanya@chaitanya-VirtualBox:/home$
```