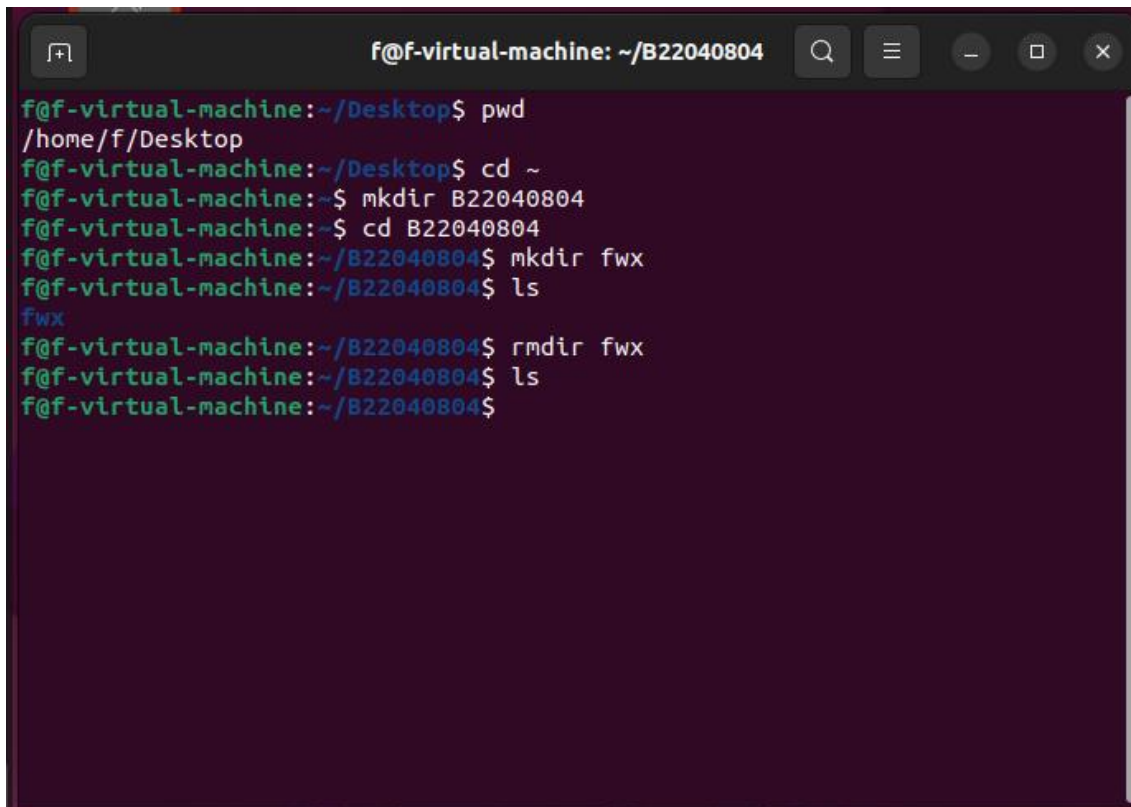#Experiment 1

1.Directory Operation

Enter the following commands in sequence:

```
$pwd
$cd ~

$mkdir your_studentID
$cd your_studentID

$mkdir your_name
$ls
$rmdir your_name
$ls
```

Save a screenshot of the above command along with the corresponding results, you must have your student number and name.

2. File operation

Enter the following commands in sequence:

```
$cd ~
$touch yourname.txt
$ls

$echo "hello world" > yourname.txt $cat yourname.txt
$cp yourname.txt yourname2.txt
$mv yourname.txt yourstudentid.txt
$ls
```

Save a screenshot of the above command along with the corresponding results, you must have your student number and name.

```
f@f-virtual-machine:~/B22040804$ cd ~
f@f-virtual-machine:~$ touch fwx.txt
f@f-virtual-machine:~$ ls
B22040804  Documents  fwx.txt  Pictures  snap       Videos
Desktop    Downloads  Music    Public    Templates
f@f-virtual-machine:~$ echo "hello world">fwx.txt
f@f-virtual-machine:~$ cat fwx.txt
hello world
f@f-virtual-machine:~$ cp fwx.txt fwx2.txt
f@f-virtual-machine:~$ mv fwx.txt B22040804.txt
f@f-virtual-machine:~$ ls
B22040804       Desktop    Downloads  Music     Public    Templates
B22040804.txt   Documents  fwx2.txt   Pictures  snap      Videos
f@f-virtual-machine:~$
```

3.User Management

Enter the following commands in sequence:

```
$whoami
$sudo su root
```

Enter the password of the current logged-in user, not the root password, and then enter:

```
#groupadd student
#whoami
#adduser yourstudentID
#usermod -g student yourstudentID
```

Follow the prompts to create the user and add the user to the student group.

Switch to the user.

```
#su yourstudentID
$cd ~
$touch yourname.txt
$ls -l
```

View the properties of the file, including the owner user and the group to which the owner user belongs.

```
f@f-virtual-machine:~/Desktop$ whoami
f
f@f-virtual-machine:~/Desktop$ sudo su root
[sudo] password for f:
root@f-virtual-machine:/home/f/Desktop# groupadd student
groupadd: group 'student' already exists
root@f-virtual-machine:/home/f/Desktop# whoami
root
root@f-virtual-machine:/home/f/Desktop# adduser b22040804
Adding user `b22040804' ...
Adding new group `b22040804' (1003) ...
Adding new user `b22040804' (1002) with group `b22040804' ...
Creating home directory `/home/b22040804' ...
Copying files from `/etc/skel' ...
New password:
Retype new password:
passwd: password updated successfully
Changing the user information for b22040804
Enter the new value, or press ENTER for the default
        Full Name []: fwx
        Room Number []: no
        Work Phone []: 18305198565
        Home Phone []: no
        Other []: no
Is the information correct? [Y/n] y
root@f-virtual-machine:/home/f/Desktop# usermod -g student b22040804
root@f-virtual-machine:/home/f/Desktop# su b22040804
b22040804@f-virtual-machine:/home/f/Desktop$ cd ~
b22040804@f-virtual-machine:~$ touch fwx.txt
b22040804@f-virtual-machine:~$ ls -l
total 0
-rw-r--r-- 1 b22040804 student 0 10月 14 11:18 fwx.txt
b22040804@f-virtual-machine:~$
```

4. Permission management

Enter the following commands in sequence:

```
$ touch demo
$ chmod 777 demo
$ chmod  a-x demo          # result is rw-rw-rw-
$ chmod  go-w demo         # result is rw-r--r--
$ chmod  g+w demo          # result is rw-rw-r--
$ chmod  a=  demo          # result is ---------
$ chmod  +t demo           # result is --------T
$ chmod  u+s demo          # result is --S-----T
$ chmod  u+rx demo         # result is r-s-----T
$ chmod  g+rws demo        # result is r-srwS--T
```

After entering each line, run ls -l demo to view the result.

5.Other management

Create folder "others" in the main directory of the user, go to the folder, and create two files with the name of any file. Then run the following commands in sequence.

```
$tar -czvf backup.tar.gz others
$ls -l
$tar  -xzvf  backup.tar.gz
$ls -l
```

Observe changes in the process.

Create a textfile file and make it as follows:

```
no, I study in njupt.
this line ends with 00
this line ends with  .00
I am 25 years old.

He is 15. It is 16.00
wy is the short of my name.
```

Search for all lines beginning with the character "n" in the file textfile

```
$ grep  '^n'  textfile
```

Search the textfile for all linesending in ".00"

```
$ grep  '\.00$'  textfile
```

Search for all lines in the textfile that contain the number 5, followed by the character ".", followed by any character

```
$ grep  '5\..'  textfile
```

Search for all lines starting with the characters "w" and "y" in the file textfile

```
$ grep  '^[wy]'textfile
```

```
f@f-virtual-machine:~$ grep '^n' lbcsy1.txt
no, I study in njupt.
f@f-virtual-machine:~$ grep '\.00' lbcsy1.txt
this line ends with .00
He is 15. It is 16.00
f@f-virtual-machine:~$ grep '5\..' lbcsy1.txt
He is 15. It is 16.00
f@f-virtual-machine:~$ grep '^[wy]' lbcsy1.txt
wy is the short of my name.
f@f-virtual-machine:~$
```