

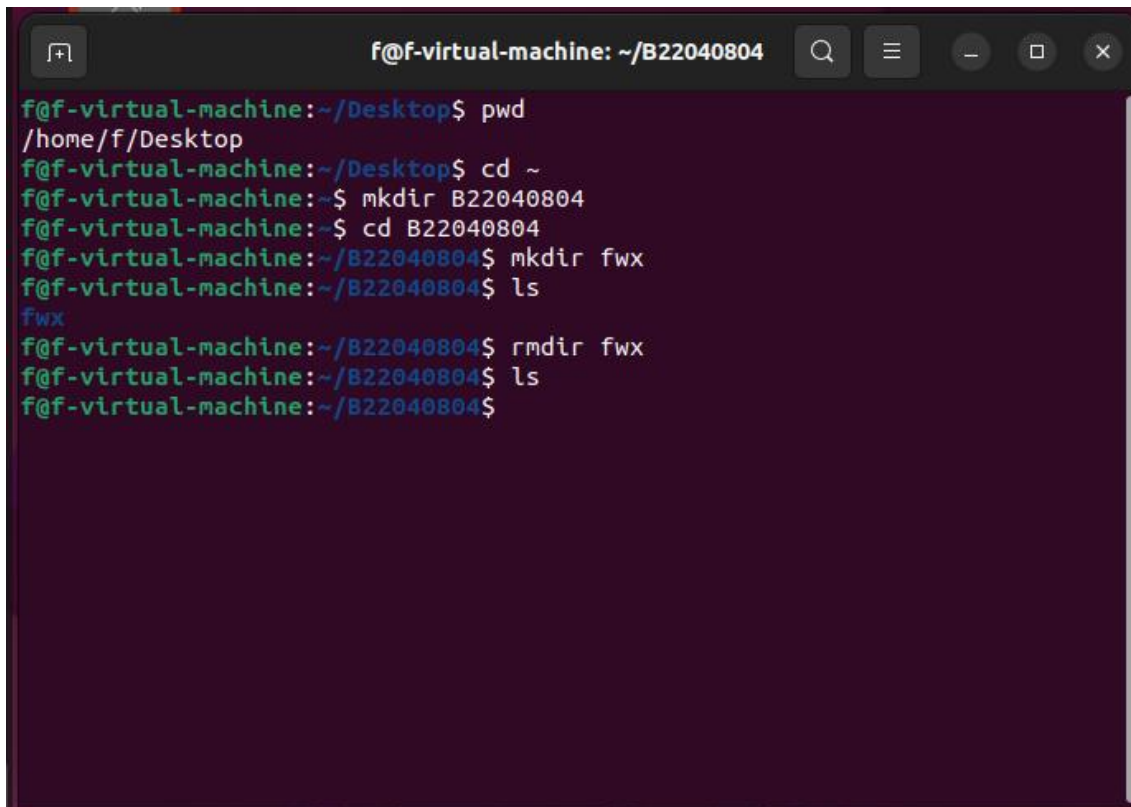
#Experiment 1

1.Directory Operation

Enter the following commands in sequence:

```
$pwd
$cd ~
$mkdir your_studentID
$cd your_studentID
$mkdir your_name
$ls
$rmkdir your_name
$ls
```

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

A screenshot of a terminal window titled 'f@f-virtual-machine: ~/B22040804'. The terminal shows a series of commands and their outputs: 'pwd' returns '/home/f/Desktop', 'cd ~' changes the directory to '~', 'mkdir B22040804' creates a new directory, 'cd B22040804' changes to that directory, 'mkdir fwx' creates a subdirectory, 'ls' lists the contents showing 'fwx', 'rmkdir fwx' removes the subdirectory, and a final 'ls' shows an empty directory.

```
f@f-virtual-machine: ~/B22040804
f@f-virtual-machine:~/Desktop$ pwd
/home/f/Desktop
f@f-virtual-machine:~/Desktop$ cd ~
f@f-virtual-machine:~$ mkdir B22040804
f@f-virtual-machine:~$ cd B22040804
f@f-virtual-machine:~/B22040804$ mkdir fwx
f@f-virtual-machine:~/B22040804$ ls
fwx
f@f-virtual-machine:~/B22040804$ rmdir fwx
f@f-virtual-machine:~/B22040804$ ls
f@f-virtual-machine:~/B22040804$
```

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.

```
f@f-virtual-machine:~/Desktop$ touch demo
f@f-virtual-machine:~/Desktop$ chmod 777 demo
f@f-virtual-machine:~/Desktop$ chmod a-x demo
f@f-virtual-machine:~/Desktop$ ls -l demo
-rw-rw-rw- 1 f f 0 10月 14 10:37 demo
f@f-virtual-machine:~/Desktop$ chmod go-w demo
f@f-virtual-machine:~/Desktop$ ls -l demo
-rw-r--r-- 1 f f 0 10月 14 10:37 demo
f@f-virtual-machine:~/Desktop$ chmod g+w demo
f@f-virtual-machine:~/Desktop$ ls -l demo
-rw-rw-r-- 1 f f 0 10月 14 10:37 demo
f@f-virtual-machine:~/Desktop$ chmod a= demo
f@f-virtual-machine:~/Desktop$ ls -l demo
----- 1 f f 0 10月 14 10:37 demo
f@f-virtual-machine:~/Desktop$ chmod +t demo
f@f-virtual-machine:~/Desktop$ ls -l demo
-----T 1 f f 0 10月 14 10:37 demo
f@f-virtual-machine:~/Desktop$ chmod u+s demo
f@f-virtual-machine:~/Desktop$ ls -l demo
---S-----T 1 f f 0 10月 14 10:37 demo
f@f-virtual-machine:~/Desktop$ chmod u+rx demo
f@f-virtual-machine:~/Desktop$ ls -l demo
-r-s-----T 1 f f 0 10月 14 10:37 demo
f@f-virtual-machine:~/Desktop$ chmod g+rws demo
f@f-virtual-machine:~/Desktop$ ls -l demo
-r-srws--T 1 f f 0 10月 14 10:37 demo
f@f-virtual-machine:~/Desktop$
```

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
```

Create a textfile file and make it as follows:

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

Search the textfile for all linesending in ".00"

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

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

```
Activities Terminal

f@f-virtual-machine:~$ tar -czvf backup.tar.gz others
others/
others/backup.tar.gz
others/f2/
others/f1/
f@f-virtual-machine:~$
f@f-virtual-machine:~$ ls -l
total 56
drwxrwxr-x 2 f f 4096 10月 14 10:04 B22040804
-rw-rw-r-- 1 f f 12 10月 14 10:07 B22040804.txt
-rw-rw-r-- 1 f f 239 10月 14 10:48 backup.tar.gz
drwxr-xr-x 2 f f 4096 10月 14 10:37 Desktop
drwxr-xr-x 2 f f 4096 4月 2 2024 Documents
drwxr-xr-x 7 f f 4096 6月 29 23:47 Downloads
-rw-rw-r-- 1 f f 12 10月 14 10:07 fwx2.txt
drwxr-xr-x 2 f f 4096 4月 2 2024 Music
drwxrwxr-x 4 f f 4096 10月 14 10:48 others
drwxr-xr-x 2 f f 4096 4月 2 2024 Pictures
drwxr-xr-x 2 f f 4096 4月 2 2024 Public
drwx----- 4 f f 4096 4月 3 2024 snap
drwxr-xr-x 2 f f 4096 4月 2 2024 Templates
drwxr-xr-x 2 f f 4096 4月 2 2024 Videos
f@f-virtual-machine:~$ tar -xzf backup.tar.gz
others/
others/backup.tar.gz
others/f2/
others/f1/
f@f-virtual-machine:~$ ls -l
total 56
drwxrwxr-x 2 f f 4096 10月 14 10:04 B22040804
-rw-rw-r-- 1 f f 12 10月 14 10:07 B22040804.txt
-rw-rw-r-- 1 f f 239 10月 14 10:48 backup.tar.gz
drwxr-xr-x 2 f f 4096 10月 14 10:37 Desktop
drwxr-xr-x 2 f f 4096 4月 2 2024 Documents
drwxr-xr-x 7 f f 4096 6月 29 23:47 Downloads
-rw-rw-r-- 1 f f 12 10月 14 10:07 fwx2.txt
drwxr-xr-x 2 f f 4096 4月 2 2024 Music
drwxrwxr-x 4 f f 4096 10月 14 10:48 others
drwxr-xr-x 2 f f 4096 4月 2 2024 Pictures
drwxr-xr-x 2 f f 4096 4月 2 2024 Public
drwx----- 4 f f 4096 4月 3 2024 snap
drwxr-xr-x 2 f f 4096 4月 2 2024 Templates
drwxr-xr-x 2 f f 4096 4月 2 2024 Videos
```


Activities

Terminal



```
f@f-virtual-machine:~$ grep '^n' lbc sy1.txt
no, I study in njupt.
f@f-virtual-machine:~$ grep '\.00' lbc sy1.txt
this line ends with .00
He is 15. It is 16.00
f@f-virtual-machine:~$ grep '5\..' lbc sy1.txt
He is 15. It is 16.00
f@f-virtual-machine:~$ grep '^[wy]' lbc sy1.txt
wy is the short of my name.
f@f-virtual-machine:~$
```