(1)Directory Operation
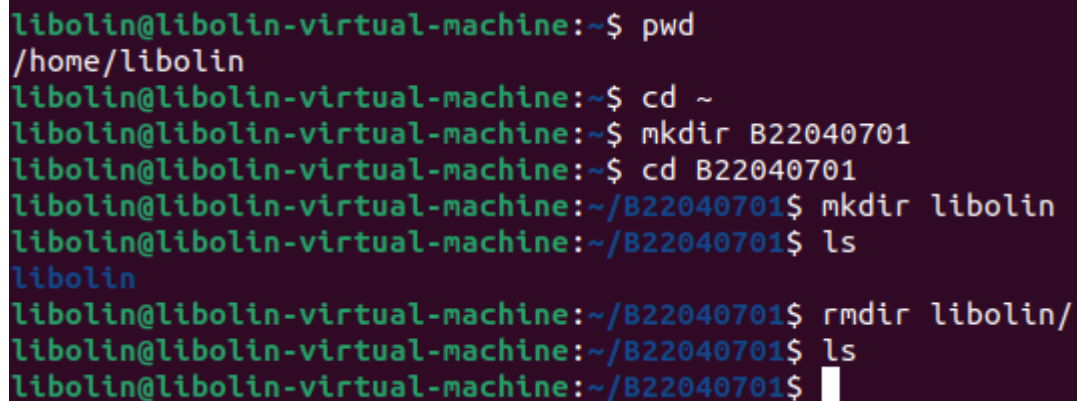
Enter the following commands in sequence:

```
$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.

Computational results

(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.

Computational results

(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.

Computational results

```
root@libolin-virtual-machine:/home# su B22040701
$ cd ~
$ touch libolin.txt
$ ls -l
total 0
-rw-r--r-- 1 B22040701 student 0 10月 14 10:30 libolin.txt
$
```

(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.

Computational results

```
libolin@libolin-virtual-machine:~$ sudo su root
root@libolin-virtual-machine:/home/libolin# su B22040701
$ cd ~
$ touch demo
$ chmod 777 demo
$ ls -l
total 0
-rwxrwxrwx 1 B22040701 student 0 10月 14 10:43 demo
-rw-r--r-- 1 B22040701 student 0 10月 14 10:30 libolin.txt
$ chmod a-x demo
$ ls -l
total 0
-rw-rw-rw- 1 B22040701 student 0 10月 14 10:43 demo
-rw-r--r-- 1 B22040701 student 0 10月 14 10:30 libolin.txt
$ chmod go-w demo
$ ls -l
total 0
-rw-r--r-- 1 B22040701 student 0 10月 14 10:43 demo
-rw-r--r-- 1 B22040701 student 0 10月 14 10:30 libolin.txt
$ chmod g+w demo
$ ls -l
total 0
-rw-rw-r-- 1 B22040701 student 0 10月 14 10:43 demo
-rw-r--r-- 1 B22040701 student 0 10月 14 10:30 libolin.txt
$ chmod a= demo
$ ls -l
total 0
---------- 1 B22040701 student 0 10月 14 10:43 demo
-rw-r--r-- 1 B22040701 student 0 10月 14 10:30 libolin.txt
$ chmod +t demo
$ ls -l
total 0
---------T 1 B22040701 student 0 10月 14 10:43 demo
-rw-r--r-- 1 B22040701 student 0 10月 14 10:30 libolin.txt
$ chmod u+s demo
$ ls -l
total 0
---S-----T 1 B22040701 student 0 10月 14 10:43 demo
-rw-r--r-- 1 B22040701 student 0 10月 14 10:30 libolin.txt
```

```
$ chmod u+rx demo
$ ls -l
total 0
-r-s-----T 1 B22040701 student 0 10月 14 10:43 demo
-rw-r--r-- 1 B22040701 student 0 10月 14 10:30 libolin.txt
$ chmod g+rws demo
$ ls -l
total 0
-r-srwS--T 1 B22040701 student 0 10月 14 10:43 demo
-rw-r--r-- 1 B22040701 student 0 10月 14 10:30 libolin.txt
```

(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 lines ending 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
```

Computational results

```
$ cd ~
$ tar -czvf backup.tar.gz others
others/
others/1
others/2
others/backup.tar.gz
$ ls -l
total 8
-rw-r--r-- 1 B22040701 student  252 10月 14 10:52 backup.tar.gz
-r-srwS--T 1 B22040701 student    0 10月 14 10:43 demo
-rw-r--r-- 1 B22040701 student    0 10月 14 10:30 libolin.txt
drwxr-xr-x 2 B22040701 student 4096 10月 14 10:50 others
$ tar -xzvf backup.tar.gz
others/
others/1
others/2
others/backup.tar.gz
$ ls -l
total 8
-rw-r--r-- 1 B22040701 student  252 10月 14 10:52 backup.tar.gz
-r-srwS--T 1 B22040701 student    0 10月 14 10:43 demo
-rw-r--r-- 1 B22040701 student    0 10月 14 10:30 libolin.txt
drwxr-xr-x 2 B22040701 student 4096 10月 14 10:50 others
```

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