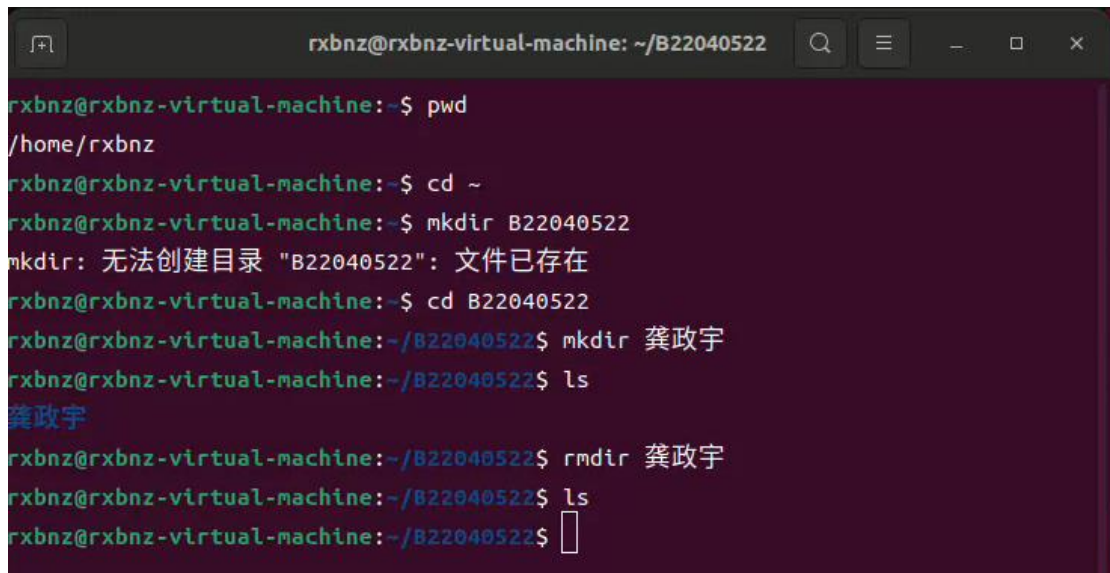


(1) Directory Operation

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.

A screenshot of a terminal window titled 'rxbnz@rxbnz-virtual-machine: ~/B22040522'. The terminal shows the following commands and their outputs: 'pwd' returns '/home/rxbnz'; 'cd ~' changes the directory to the home directory; 'mkdir B22040522' fails with the message 'mkdir: 无法创建目录 "B22040522": 文件已存在' (mkdir: cannot create directory 'B22040522': file already exists); 'cd B22040522' changes the directory to '/B22040522'; 'mkdir 龚政宇' successfully creates a directory named 'Gong Zhengyu'; 'ls' lists the directory contents, showing '龚政宇'; 'rmdir 龚政宇' successfully removes the directory; and a final 'ls' command shows an empty directory.

```
rxbnz@rxbnz-virtual-machine:~$ pwd
/home/rxbnz
rxbnz@rxbnz-virtual-machine:~$ cd ~
rxbnz@rxbnz-virtual-machine:~$ mkdir B22040522
mkdir: 无法创建目录 "B22040522": 文件已存在
rxbnz@rxbnz-virtual-machine:~$ cd B22040522
rxbnz@rxbnz-virtual-machine:~/B22040522$ mkdir 龚政宇
rxbnz@rxbnz-virtual-machine:~/B22040522$ ls
龚政宇
rxbnz@rxbnz-virtual-machine:~/B22040522$ rmdir 龚政宇
rxbnz@rxbnz-virtual-machine:~/B22040522$ ls
rxbnz@rxbnz-virtual-machine:~/B22040522$
```

(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.

```
rxbnz@rxbnz-virtual-machine: ~  
rxbnz@rxbnz-virtual-machine:~$ cd ~  
rxbnz@rxbnz-virtual-machine:~$ touch 龚政宇.txt  
rxbnz@rxbnz-virtual-machine:~$ ls  
公共的      模板 图片 下载 桌面      GNUstep  your_studentID  
龚政宇.txt  视频 文档 音乐 B22040522 snap  
rxbnz@rxbnz-virtual-machine:~$ echo "hello world" > 龚政宇.txt  
rxbnz@rxbnz-virtual-machine:~$ cat 龚政宇.txt  
hello world  
rxbnz@rxbnz-virtual-machine:~$ cp 龚政宇.txt 龚政宇2.txt  
rxbnz@rxbnz-virtual-machine:~$ mv 龚政宇.txt B22040522.txt  
rxbnz@rxbnz-virtual-machine:~$ ls  
公共的      模板 图片 下载 桌面      B22040522.txt  snap  
龚政宇2.txt  视频 文档 音乐 B22040522  GNUstep      your_studentID  
rxbnz@rxbnz-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.

```
rxbnz@rxbnz-virtual-machine:~$ whoami
rxbnz
rxbnz@rxbnz-virtual-machine:~$ sudo su root
[sudo] rxbnz 的密码:
root@rxbnz-virtual-machine:/home/rxbnz# groupadd student
root@rxbnz-virtual-machine:/home/rxbnz# whoami
root
root@rxbnz-virtual-machine:/home/rxbnz# adduser B22040522
adduser: Please enter a username matching the regular expression configured
via the NAME_REGEX[_SYSTEM] configuration variable. Use the '--force-ba
option to relax this check or reconfigure NAME_REGEX.
root@rxbnz-virtual-machine:/home/rxbnz# adduser b22040522
Adding user `b22040522' ...
Adding new group `b22040522' (1002) ...
Adding new user `b22040522' (1001) with group `b22040522' ...
Creating home directory `/home/b22040522' ...
Copying files from `/etc/skel' ...
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
Sorry, passwords do not match.
New password:
Retype new password:
passwd: password updated successfully
Changing the user information for b22040522
Enter the new value, or press ENTER for the default
    Full Name []:
    Room Number []:
    Work Phone []:
    Home Phone []:
    Other []:
Is the information correct? [Y/n] Y
root@rxbnz-virtual-machine:/home/rxbnz# usermod -g student b22040522
root@rxbnz-virtual-machine:/home/rxbnz# su b22040522
```

```
b22040522@rxbnz-virtual-machine:/home/rxbnz$ cd ~
b22040522@rxbnz-virtual-machine:~$ touch 龚政宇.txt
b22040522@rxbnz-virtual-machine:~$ ls -l
total 0
-rw-r--r-- 1 b22040522 student 0 10月 14 10:40 龚政宇.txt
b22040522@rxbnz-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 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
```


J+l

```
rxbnz@rxbnz-virtual-machine:~$ cd ~
rxbnz@rxbnz-virtual-machine:~$ mkdir others
rxbnz@rxbnz-virtual-machine:~$ tar -czvf backup.tar.gz others
others/
rxbnz@rxbnz-virtual-machine:~$ ls -l
总计 64
drwxr-xr-x 2 rxbnz rxbnz 4096  4月  6  2024 公共的
-rw-rw-r-- 1 rxbnz rxbnz  12 10月 14 10:25 龚政宇2.txt
drwxr-xr-x 2 rxbnz rxbnz 4096  4月  6  2024 模板
drwxr-xr-x 2 rxbnz rxbnz 4096  4月  6  2024 视频
drwxr-xr-x 2 rxbnz rxbnz 4096  4月  6  2024 图片
drwxr-xr-x 2 rxbnz rxbnz 4096  4月  6  2024 文档
drwxr-xr-x 3 rxbnz rxbnz 4096 10月 14 10:09 下载
drwxr-xr-x 2 rxbnz rxbnz 4096  4月  6  2024 音乐
drwxr-xr-x 4 rxbnz rxbnz 4096 10月 14 10:19 桌面
drwxrwxr-x 2 rxbnz rxbnz 4096 10月 14 10:20 B22040522
-rw-rw-r-- 1 rxbnz rxbnz  12 10月 14 10:25 B22040522.txt
-rw-rw-r-- 1 rxbnz rxbnz 116 10月 14 10:52 backup.tar.gz
-r--srws--T 1 rxbnz rxbnz   0 10月 14 10:45 demo
drwxrwxr-x 4 rxbnz rxbnz 4096  4月  8  2024 GNUstep
drwxrwxr-x 2 rxbnz rxbnz 4096 10月 14 10:51 others
drwx----- 6 rxbnz rxbnz 4096  4月  8  2024 snap
drwxrwxr-x 2 rxbnz rxbnz 4096 10月 14 10:13 your_studentID
rxbnz@rxbnz-virtual-machine:~$ tar -xzvf backup.tar.gz
tar (child): backup.tar.gz: 无法 open: 没有那个文件或目录
tar (child): Error is not recoverable: exiting now
tar: Child returned status 2
tar: Error is not recoverable: exiting now
rxbnz@rxbnz-virtual-machine:~$ tar -xzvf backup.tar.gz
others/
rxbnz@rxbnz-virtual-machine:~$ ls -l
总计 64
drwxr-xr-x 2 rxbnz rxbnz 4096  4月  6  2024 公共的
-rw-rw-r-- 1 rxbnz rxbnz  12 10月 14 10:25 龚政宇2.txt
drwxr-xr-x 2 rxbnz rxbnz 4096  4月  6  2024 模板
drwxr-xr-x 2 rxbnz rxbnz 4096  4月  6  2024 视频
drwxr-xr-x 2 rxbnz rxbnz 4096  4月  6  2024 图片
drwxr-xr-x 2 rxbnz rxbnz 4096  4月  6  2024 文档
drwxr-xr-x 3 rxbnz rxbnz 4096 10月 14 10:09 下载
drwxr-xr-x 2 rxbnz rxbnz 4096  4月  6  2024 音乐
drwxr-xr-x 4 rxbnz rxbnz 4096 10月 14 10:19 桌面
drwxrwxr-x 2 rxbnz rxbnz 4096 10月 14 10:20 B22040522
-rw-rw-r-- 1 rxbnz rxbnz  12 10月 14 10:25 B22040522.txt
```

```
rxbnz@rxbnz-virtual-machine: ~  
rxbnz@rxbnz-virtual-machine:~$ touch demo  
rxbnz@rxbnz-virtual-machine:~$ chmod 777 demo  
rxbnz@rxbnz-virtual-machine:~$ chmod a-x demo  
rxbnz@rxbnz-virtual-machine:~$ ls -l demo  
-rw-rw-rw- 1 rxbnz rxbnz 0 10月 14 10:45 demo  
rxbnz@rxbnz-virtual-machine:~$ chmod go-w demo  
rxbnz@rxbnz-virtual-machine:~$ ls -l demo  
-rw-r--r-- 1 rxbnz rxbnz 0 10月 14 10:45 demo  
rxbnz@rxbnz-virtual-machine:~$ chmod g+w demo  
rxbnz@rxbnz-virtual-machine:~$ ls -l demo  
-rw-rw-r-- 1 rxbnz rxbnz 0 10月 14 10:45 demo  
rxbnz@rxbnz-virtual-machine:~$ chmod a= demo  
rxbnz@rxbnz-virtual-machine:~$ ls -l demo  
----- 1 rxbnz rxbnz 0 10月 14 10:45 demo  
rxbnz@rxbnz-virtual-machine:~$ chmod +t demo  
rxbnz@rxbnz-virtual-machine:~$ ls -l demo  
-----T 1 rxbnz rxbnz 0 10月 14 10:45 demo  
rxbnz@rxbnz-virtual-machine:~$ chmod u+s demo  
rxbnz@rxbnz-virtual-machine:~$ ls -l demo  
---S-----T 1 rxbnz rxbnz 0 10月 14 10:45 demo  
rxbnz@rxbnz-virtual-machine:~$ chmod u+rx demo  
rxbnz@rxbnz-virtual-machine:~$ ls -l demo  
-r-s-----T 1 rxbnz rxbnz 0 10月 14 10:45 demo  
rxbnz@rxbnz-virtual-machine:~$ chmod g+rws demo  
rxbnz@rxbnz-virtual-machine:~$ ls -l demo  
-r-srwS--T 1 rxbnz rxbnz 0 10月 14 10:45 demo  
rxbnz@rxbnz-virtual-machine:~$
```

```
-rw-rw-r-- 1 rxbnz rxbnz 12 10月 14 10:25 B22040522.txt
-rw-rw-r-- 1 rxbnz rxbnz 116 10月 14 10:52 backup.tar.gz
-r-srwS--T 1 rxbnz rxbnz 0 10月 14 10:45 demo
drwxrwxr-x 4 rxbnz rxbnz 4096 4月 8 2024 GNUstep
drwxrwxr-x 2 rxbnz rxbnz 4096 10月 14 10:51 others
drwx----- 6 rxbnz rxbnz 4096 4月 8 2024 snap
drwxrwxr-x 2 rxbnz rxbnz 4096 10月 14 10:13 your_studentID
rxbnz@rxbnz-virtual-machine:~$ touch 111.txt
rxbnz@rxbnz-virtual-machine:~$ grep '^n' textfile
grep: textfile: 没有那个文件或目录
rxbnz@rxbnz-virtual-machine:~$ grep '^n' 111.txt
no, I study in njupt.
rxbnz@rxbnz-virtual-machine:~$ grep '\.00$' 111.txt
this line ends with .00
He is 15. It is 16.00
rxbnz@rxbnz-virtual-machine:~$ grep '5\.. ' 111.txt
He is 15. It is 16.00
rxbnz@rxbnz-virtual-machine:~$ grep '^[wy]' 111.txt
wy is the short of my name.
rxbnz@rxbnz-virtual-machine:~$
```