(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.

```
yyu@yyu-virtual-machine:~/learning$ pwd
/home/yyu/learning
yyu@yyu-virtual-machine:~/learning$ cd ~
yyu@yyu-virtual-machine:~$ mkdir B22040514
yyu@yyu-virtual-machine:~$ cd B22040514/
yyu@yyu-virtual-machine:~/B22040514$ mkdir sts
yyu@yyu-virtual-machine:~/B22040514$ ls
sts
yyu@yyu-virtual-machine:~/B22040514$ rmdir sts
yyu@yyu-virtual-machine:~/B22040514$ ls
yyu@yyu-virtual-machine:~/B22040514$
```

(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.

```
yyu@yyu-virtual-machine:~$ cd ~
yyu@yyu-virtual-machine:~$ touch sts.txt
yyu@yyu-virtual-machine:~$ ls
公共的  视频  文档  音乐  B22040514    bomb233.tar      learning  linklab2.tar  sts.txt    target87.t
模板    图片  下载  桌面  bomb233      datalab-handout  linklab   snap          target87
yyu@yyu-virtual-machine:~$ echo "hello world" > sts.txt
yyu@yyu-virtual-machine:~$ cat sts.txt
hello world
yyu@yyu-virtual-machine:~$ cp sts.txt sts2.txt
yyu@yyu-virtual-machine:~$ mv sts.txt B22040514.txt
yyu@yyu-virtual-machine:~$ ls
公共的  视频  文档  音乐  B22040514        bomb233      datalab-handout  linklab       snap      tar
模板    图片  下载  桌面  B22040514.txt    bomb233.tar  learning         linklab2.tar  sts2.txt  tar
yyu@yyu-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.

```
yyu@yyu-virtual-machine:~$ whoami
yyu
yyu@yyu-virtual-machine:~$ sudo su root
[sudo] yyu 的密码：
root@yyu-virtual-machine:/home/yyu# groupadd student
root@yyu-virtual-machine:/home/yyu# whoami
root
```

```
root@yyu-virtual-machine:/home/yyu# adduser B22040514
adduser: 请输入匹配 NAME_REGEX[_SYSTEM] 配置选项配置的正则表达式的用户名。
使用 `--force-badname' 选项可以放松检查或者重新配置 NAME_REGEX。
```

```
root@yyu-virtual-machine:/home/yyu# sudo adduser --force-badname B22040514
允许使用可疑的用户名。
正在添加用户"B22040514"...
正在添加新组"B22040514" (1002)...
正在添加新用户"B22040514" (1001) 到组"B22040514"...
创建主目录"/home/B22040514"...
正在从"/etc/skel"复制文件...
新的密码：
重新输入新的密码：
passwd：已成功更新密码
正在改变 B22040514 的用户信息
请输入新值，或直接敲回车键以使用默认值
        全名 []:
        房间号码 []:
        工作电话 []:
        家庭电话 []:
        其它 []:
这些信息是否正确？  [Y/n] y
root@yyu-virtual-machine:/home/yyu# usermod -g student B22040514
root@yyu-virtual-machine:/home/yyu#
```

(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
```

```
root@yyu-virtual-machine:/home/yyu# su B22040514
B22040514@yyu-virtual-machine:/home/yyu$ cd ~
B22040514@yyu-virtual-machine:~$ touch sts.txt
B22040514@yyu-virtual-machine:~$ ls -l
总计 0
-rw-r--r-- 1 B22040514 student 0 10月 14 10:17 sts.txt
```

```
B22040514@yyu-virtual-machine:~$ touch demo
B22040514@yyu-virtual-machine:~$ chmod 777 demo
B22040514@yyu-virtual-machine:~$ ls -l
总计 0
-rwxrwxrwx 1 B22040514 student 0 10月 14 10:19 demo
-rw-r--r-- 1 B22040514 student 0 10月 14 10:17 sts.txt
B22040514@yyu-virtual-machine:~$ chmod a-x demo
B22040514@yyu-virtual-machine:~$ ls -l
总计 0
-rw-rw-rw- 1 B22040514 student 0 10月 14 10:19 demo
-rw-r--r-- 1 B22040514 student 0 10月 14 10:17 sts.txt
B22040514@yyu-virtual-machine:~$ chmod go-w demo
B22040514@yyu-virtual-machine:~$ ls -l
总计 0
-rw-r--r-- 1 B22040514 student 0 10月 14 10:19 demo
-rw-r--r-- 1 B22040514 student 0 10月 14 10:17 sts.txt
B22040514@yyu-virtual-machine:~$ chmod g+w demo
B22040514@yyu-virtual-machine:~$ ls -l
总计 0
-rw-rw-r-- 1 B22040514 student 0 10月 14 10:19 demo
-rw-r--r-- 1 B22040514 student 0 10月 14 10:17 sts.txt
```

```
B22040514@yyu-virtual-machine:~$ chmod a= demo
B22040514@yyu-virtual-machine:~$ ls -l
总计 0
---------- 1 B22040514 student 0 10月 14 10:19 demo
-rw-r--r-- 1 B22040514 student 0 10月 14 10:17 sts.txt
B22040514@yyu-virtual-machine:~$ chmod +t demo
B22040514@yyu-virtual-machine:~$ ls -l
总计 0
---------T 1 B22040514 student 0 10月 14 10:19 demo
-rw-r--r-- 1 B22040514 student 0 10月 14 10:17 sts.txt
B22040514@yyu-virtual-machine:~$ chmod u+s demo
B22040514@yyu-virtual-machine:~$ ls -l
总计 0
---S-----T 1 B22040514 student 0 10月 14 10:19 demo
-rw-r--r-- 1 B22040514 student 0 10月 14 10:17 sts.txt
B22040514@yyu-virtual-machine:~$ chmod u+rx demo
B22040514@yyu-virtual-machine:~$ ls -l
总计 0
-r-s-----T 1 B22040514 student 0 10月 14 10:19 demo
-rw-r--r-- 1 B22040514 student 0 10月 14 10:17 sts.txt
B22040514@yyu-virtual-machine:~$ chmod g+rws demo
B22040514@yyu-virtual-machine:~$ ls -l
总计 0
-r-srwS--T 1 B22040514 student 0 10月 14 10:19 demo
-rw-r--r-- 1 B22040514 student 0 10月 14 10:17 sts.txt
```

```
B22040514@yyu-virtual-machine:~$ mkdir others
B22040514@yyu-virtual-machine:~$ cd others
B22040514@yyu-virtual-machine:~/others$ touch 1.txt
B22040514@yyu-virtual-machine:~/others$ touch 2.txt
B22040514@yyu-virtual-machine:~/others$ ls
1.txt  2.txt
```

```
B22040514@yyu-virtual-machine:~$ tar -czvf backup.tar.gz others
others/
others/1.txt
others/2.txt
B22040514@yyu-virtual-machine:~$ ls -l
总计 8
-rw-r--r-- 1 B22040514 student  165 10月 14 10:31 backup.tar.gz
-r-srwS--T 1 B22040514 student    0 10月 14 10:19 demo
drwxr-xr-x 2 B22040514 student 4096 10月 14 10:31 others
-rw-r--r-- 1 B22040514 student    0 10月 14 10:17 sts.txt
B22040514@yyu-virtual-machine:~$ tar -xzvf backup.tar.gz
others/
others/1.txt
others/2.txt
B22040514@yyu-virtual-machine:~$ ls -l
总计 8
-rw-r--r-- 1 B22040514 student  165 10月 14 10:31 backup.tar.gz
-r-srwS--T 1 B22040514 student    0 10月 14 10:19 demo
drwxr-xr-x 2 B22040514 student 4096 10月 14 10:31 others
-rw-r--r-- 1 B22040514 student    0 10月 14 10:17 sts.txt
B22040514@yyu-virtual-machine:~$ rm others -r
B22040514@yyu-virtual-machine:~$ tar -xzvf backup.tar.gz
others/
others/1.txt
others/2.txt
B22040514@yyu-virtual-machine:~$ ls
backup.tar.gz   demo   others   sts.txt
```

```
B22040514@yyu-virtual-machine:~$ ls
backup.tar.gz  demo  others  sts.txt
B22040514@yyu-virtual-machine:~$ vim test1.txt
B22040514@yyu-virtual-machine:~$ grep '^n' test1.txt
no, I study in njupt.
B22040514@yyu-virtual-machine:~$ grep '\.00$' test1.txt
this line ends with .00
He is 15. It is 16.00
B22040514@yyu-virtual-machine:~$ grep '5\..' test1.txt
He is 15. It is 16.00
B22040514@yyu-virtual-machine:~$ grep '^[wy]' test1.txt
wy is the short of my name.
```