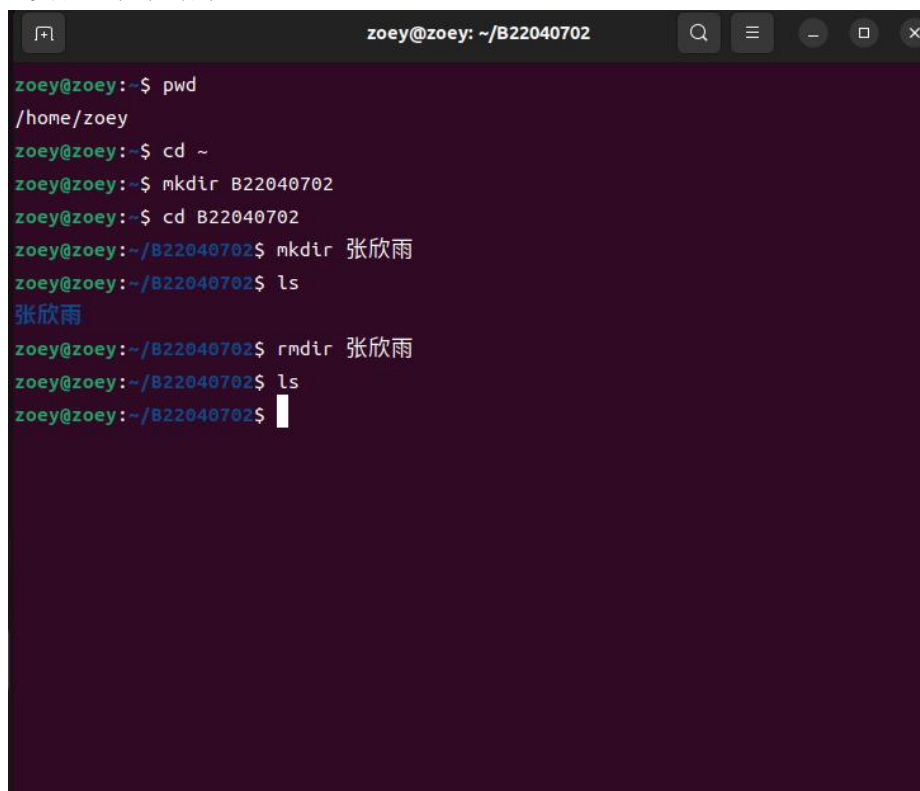# Linux 实验 1

（1）Directory Operation

a.题目要求：

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.

b.实验过程和结果：

（2）File Operation

a. 题目要求

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.

b. 实验过程和结果

（3）User Management

a. 题目要求

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.

b. 实验过程和结果

```
zoey@zoey:~$ whoami
zoey
zoey@zoey:~$ sudo su root
[sudo] zoey 的密码：
root@zoey:/home/zoey# groupadd student
root@zoey:/home/zoey# whoami
root
root@zoey:/home/zoey# adduser b22040702
正在添加用户"b22040702"...
正在添加新组"b22040702" (1002)...
正在添加新用户"b22040702" (1001) 到组"b22040702"...
创建主目录"/home/b22040702"...
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 b22040702 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 []: zhangxinyu
        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@zoey:/home/zoey# su b22040702
b22040702@zoey:/home/zoey$ cd ~
b22040702@zoey:~$ touch 张欣雨.txt
b22040702@zoey:~$ ls -l
总计 0
-rw-rw-r-- 1 b22040702 b22040702 0 10月 14 10:25 张欣雨.txt
b22040702@zoey:~$
```

（4）Permission management

a.题目要求

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.

b.实验过程和结果

```
b22040702@zoey:~$ touch demo
b22040702@zoey:~$ ls -l demo
-rw-rw-r-- 1 b22040702 b22040702 0 10月 14 10:28 demo
b22040702@zoey:~$ chmod 777 demo
b22040702@zoey:~$ ls -l demo
-rwxrwxrwx 1 b22040702 b22040702 0 10月 14 10:28 demo
b22040702@zoey:~$ chmod a-x demo
b22040702@zoey:~$ ls -l demo
-rw-rw-rw- 1 b22040702 b22040702 0 10月 14 10:28 demo
b22040702@zoey:~$ chmod go-w demo
b22040702@zoey:~$ ls -l demo
-rw-r--r-- 1 b22040702 b22040702 0 10月 14 10:28 demo
b22040702@zoey:~$ chmod g+w demo
b22040702@zoey:~$ ls -l demo
-rw-rw-r-- 1 b22040702 b22040702 0 10月 14 10:28 demo
b22040702@zoey:~$ chmod a= demo
b22040702@zoey:~$ ls -l demo
--------- 1 b22040702 b22040702 0 10月 14 10:28 demo
b22040702@zoey:~$ chmod +t demo
b22040702@zoey:~$ ls -l demo
---------T 1 b22040702 b22040702 0 10月 14 10:28 demo
b22040702@zoey:~$ chmod u+s demo
b22040702@zoey:~$ ls -l demo
---S-----T 1 b22040702 b22040702 0 10月 14 10:28 demo
b22040702@zoey:~$ chmod u+rx demo
b22040702@zoey:~$ ls -l demo
-r-s-----T 1 b22040702 b22040702 0 10月 14 10:28 demo
b22040702@zoey:~$ chmod g+rws demo
b22040702@zoey:~$ ls -l demo
-r-srwS--T 1 b22040702 b22040702 0 10月 14 10:28 demo
b22040702@zoey:~$
```

a.题目要求

（5）Other management

a. 题目要求

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
```

b. 实验过程和结果

```
b22040702@zoey:~$ cd ~
b22040702@zoey:~$ mkdir others
b22040702@zoey:~$ cd others
b22040702@zoey:~/others$ touch file1.txt file2.txt
b22040702@zoey:~/others$ cd ~
b22040702@zoey:~$ tar -czvf backup.tar.gz others
others/
others/file1.txt
others/file2.txt
b22040702@zoey:~$ ls -l
总计 8
-rw-rw-r-- 1 b22040702 b22040702    0 10月 14 10:25 张欣雨.txt
-rw-rw-r-- 1 b22040702 b22040702  159 10月 14 10:44 backup.tar.gz
-r-srwS--T 1 b22040702 b22040702    0 10月 14 10:28 demo
drwxrwxr-x 2 b22040702 b22040702 4096 10月 14 10:44 others
b22040702@zoey:~$ tar -xzvf backup.tar.gz
others/
others/file1.txt
others/file2.txt
b22040702@zoey:~$ ls -l
总计 8
-rw-rw-r-- 1 b22040702 b22040702    0 10月 14 10:25 张欣雨.txt
-rw-rw-r-- 1 b22040702 b22040702  159 10月 14 10:44 backup.tar.gz
-r-srwS--T 1 b22040702 b22040702    0 10月 14 10:28 demo
drwxrwxr-x 2 b22040702 b22040702 4096 10月 14 10:44 others
```

```
b22040702@zoey:~$ echo -e "no, I study in njupt.\nthis line ends with 00\nthis line ends with .00\nI am 25 yea
rs old.\nHe is 15. It is 16.00\nwy is the short of my name." > textfile.txt
b22040702@zoey:~$ grep '^n' textfile.txt
no, I study in njupt.
b22040702@zoey:~$ grep '\.00$' textfile.txt
this line ends with .00
He is 15. It is 16.00
b22040702@zoey:~$ grep '5\..' textfile.txt
He is 15. It is 16.00
b22040702@zoey:~$ grep '^[wy]' textfile.txt
wy is the short of my name.
b22040702@zoey:~$
```