Experiment 1

（1）Directory Operation


```
(base) cino@cino-virtual-machine:~$ pwd
/home/cino
(base) cino@cino-virtual-machine:~$ cd ~
(base) cino@cino-virtual-machine:~$ mkdir Q23010109
(base) cino@cino-virtual-machine:~$ cd Q23010109
(base) cino@cino-virtual-machine:~/Q23010109$ mkdir GuoJinling
(base) cino@cino-virtual-machine:~/Q23010109$ ls
GuoJinling
(base) cino@cino-virtual-machine:~/Q23010109$ rmdir GuoJinling
(base) cino@cino-virtual-machine:~/Q23010109$ ls
(base) cino@cino-virtual-machine:~/Q23010109$
```

（2）File operation


```
(base) cino@cino-virtual-machine:~/Q23010109$ cd ~
(base) cino@cino-virtual-machine:~$ touch GuoJinling.txt
(base) cino@cino-virtual-machine:~$ ls
公共的   视频  文档  音乐  anaconda3       Q23010109
模板     图片  下载  桌面  GuoJinling.txt  snap
(base) cino@cino-virtual-machine:~$ echo "hello world" > GuoJinling.txt
(base) cino@cino-virtual-machine:~$ cat GuoJinling.txt
hello world
(base) cino@cino-virtual-machine:~$ cp GuoJinling.txt GuoJinling2.txt
(base) cino@cino-virtual-machine:~$ mv GuoJinling.txt Q23010109.txt
(base) cino@cino-virtual-machine:~$ ls
公共的   视频  文档  音乐  anaconda3        Q23010109        snap
模板     图片  下载  桌面  GuoJinling2.txt  Q23010109.txt
(base) cino@cino-virtual-machine:~$
```

（3）User Management

```
(base) cino@cino-virtual-machine:~$ whoami
cino
(base) cino@cino-virtual-machine:~$ sudo su root
[sudo] cino 的密码：
root@cino-virtual-machine:/home/cino# groupadd student
root@cino-virtual-machine:/home/cino# whoami
root
root@cino-virtual-machine:/home/cino# adduser Q23010109
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@cino-virtual-machine:/home/cino# adduser q23010109
正在添加用户"q23010109"...
正在添加新组"q23010109" (1002)...
正在添加新用户"q23010109" (1001) 到组"q23010109"...
创建主目录"/home/q23010109"...
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 q23010109 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 []: q23010109
        房间号码 []: 01
        工作电话 []: 01
        家庭电话 []: 01
        其它 []:
这些信息是否正确？ [Y/n] y
root@cino-virtual-machine:/home/cino# usermod -g student q23010109
root@cino-virtual-machine:/home/cino# su q23010109
q23010109@cino-virtual-machine:/home/cino$ cd ~
q23010109@cino-virtual-machine:~$ touch GuoJinling.txt
q23010109@cino-virtual-machine:~$ ls -l
总计 0
-rw-r--r-- 1 q23010109 student 0 10月 31 11:19 GuoJinling.txt
q23010109@cino-virtual-machine:~$
```

（4）Permission management

```
(base) cino@cino-virtual-machine:~$ touch demo
(base) cino@cino-virtual-machine:~$ chmod 777 demo
(base) cino@cino-virtual-machine:~$ ls -l demo
-rwxrwxrwx 1 cino cino 0 11月  5 22:12 demo
(base) cino@cino-virtual-machine:~$ chmod a-x demo
(base) cino@cino-virtual-machine:~$ ls -l demo
-rw-rw-rw- 1 cino cino 0 11月  5 22:12 demo
(base) cino@cino-virtual-machine:~$ chmod go-w demo
(base) cino@cino-virtual-machine:~$ ls -l demo
-rw-r--r-- 1 cino cino 0 11月  5 22:12 demo
(base) cino@cino-virtual-machine:~$ chmod g+w demo
(base) cino@cino-virtual-machine:~$ ls -l demo
-rw-rw-r-- 1 cino cino 0 11月  5 22:12 demo
(base) cino@cino-virtual-machine:~$ chmod a= demo
(base) cino@cino-virtual-machine:~$ ls -l demo
---------- 1 cino cino 0 11月  5 22:12 demo
(base) cino@cino-virtual-machine:~$ chmod +t demo
(base) cino@cino-virtual-machine:~$ ls -l demo
---------T 1 cino cino 0 11月  5 22:12 demo
(base) cino@cino-virtual-machine:~$ chmod u+s demo
(base) cino@cino-virtual-machine:~$ ls -l demo
---S-----T 1 cino cino 0 11月  5 22:12 demo
(base) cino@cino-virtual-machine:~$ chmod u+rx demo
(base) cino@cino-virtual-machine:~$ ls -l demo
-r-S-----T 1 cino cino 0 11月  5 22:12 demo
(base) cino@cino-virtual-machine:~$ chmod g+rws demo
(base) cino@cino-virtual-machine:~$ ls -l demo
-r-srwS--T 1 cino cino 0 11月  5 22:12 demo
(base) cino@cino-virtual-machine:~$
```

（5）Other management

```
(base) cino@cino-virtual-machine:~$ cd ~
(base) cino@cino-virtual-machine:~$ mkdir others
(base) cino@cino-virtual-machine:~$ cd others
(base) cino@cino-virtual-machine:~/others$ touch file1.txt file2.txt
(base) cino@cino-virtual-machine:~/others$ cd ~
(base) cino@cino-virtual-machine:~$ tar -czvf backup.tar.gz others
others/
others/file2.txt
others/file1.txt
(base) cino@cino-virtual-machine:~$ ls -l
总计 60
drwxr-xr-x  2 cino cino 4096 12月 13  2024 公共的
drwxr-xr-x  2 cino cino 4096 12月 13  2024 模板
drwxr-xr-x  2 cino cino 4096 12月 13  2024 视频
drwxr-xr-x  2 cino cino 4096 12月 13  2024 图片
drwxr-xr-x  2 cino cino 4096 12月 13  2024 文档
drwxr-xr-x  4 cino cino 4096 12月 20  2024 下载
drwxr-xr-x  2 cino cino 4096 12月 13  2024 音乐
drwxr-xr-x  2 cino cino 4096 12月 13  2024 桌面
drwxrwxr-x 32 cino cino 4096 12月 19  2024 anaconda3
-rw-rw-r--  1 cino cino  154 11月  5 22:25 backup.tar.gz
-r-srwS--T  1 cino cino    0 11月  5 22:12 demo
-rw-rw-r--  1 cino cino   12 10月 31 11:06 GuoJinling2.txt
drwxrwxr-x  2 cino cino 4096 11月  5 22:24 others
drwxrwxr-x  2 cino cino 4096 10月 31 11:02 Q23010109
-rw-rw-r--  1 cino cino   12 10月 31 11:06 Q23010109.txt
drwx------  5 cino cino 4096 12月 19  2024 snap
```

```
(base) cino@cino-virtual-machine:~$ tar -xzvf backup.tar.gz
others/
others/file2.txt
others/file1.txt
(base) cino@cino-virtual-machine:~$ ls -l
总计 60
drwxr-xr-x  2 cino cino 4096 12月 13  2024 公共的
drwxr-xr-x  2 cino cino 4096 12月 13  2024 模板
drwxr-xr-x  2 cino cino 4096 12月 13  2024 视频
drwxr-xr-x  2 cino cino 4096 12月 13  2024 图片
drwxr-xr-x  2 cino cino 4096 12月 13  2024 文档
drwxr-xr-x  4 cino cino 4096 12月 20  2024 下载
drwxr-xr-x  2 cino cino 4096 12月 13  2024 音乐
drwxr-xr-x  2 cino cino 4096 12月 13  2024 桌面
drwxrwxr-x 32 cino cino 4096 12月 19  2024 anaconda3
-rw-rw-r--  1 cino cino  154 11月  5 22:25 backup.tar.gz
-r-srwS--T  1 cino cino    0 11月  5 22:12 demo
-rw-rw-r--  1 cino cino   12 10月 31 11:06 GuoJinling2.txt
drwxrwxr-x  2 cino cino 4096 11月  5 22:24 others
drwxrwxr-x  2 cino cino 4096 10月 31 11:02 Q23010109
-rw-rw-r--  1 cino cino   12 10月 31 11:06 Q23010109.txt
drwx------  5 cino cino 4096 12月 19  2024 snap
(base) cino@cino-virtual-machine:~$
```

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