Ex1)

```
student@student-VirtualBox:~$ ls -l
total 32
drwxr-xr-x 2 student student 4096 déc.   9 16:25 Desktop
drwxr-xr-x 2 student student 4096 déc.   9 16:25 Documents
drwxr-xr-x 2 student student 4096 déc.   9 16:25 Downloads
-rw-r--r-- 1 root    root       0 déc.  16 17:16 exe1.txt
drwxr-xr-x 2 student student 4096 déc.   9 16:25 Music
drwxr-xr-x 2 student student 4096 déc.   9 16:25 Pictures
drwxr-xr-x 2 student student 4096 déc.   9 16:25 Public
drwxr-xr-x 2 student student 4096 déc.   9 16:25 Templates
drwxr-xr-x 2 student student 4096 déc.   9 16:25 Videos
student@student-VirtualBox:~$ $
```

Ex2)

```
student@student-VirtualBox:~$ cat >> perm1
;
student@student-VirtualBox:~$ ls -l;
total 36
drwxr-xr-x 2 student student 4096 déc.   9 16:25 Desktop
drwxr-xr-x 2 student student 4096 déc.   9 16:25 Documents
drwxr-xr-x 2 student student 4096 déc.   9 16:25 Downloads
-rw-r--r-- 1 root    root       0 déc.  16 17:16 exe1.txt
drwxr-xr-x 2 student student 4096 déc.   9 16:25 Music
-rw-rw-r-- 1 student student    2 janv. 13 16:06 perm1
drwxr-xr-x 2 student student 4096 déc.   9 16:25 Pictures
drwxr-xr-x 2 student student 4096 déc.   9 16:25 Public
drwxr-xr-x 2 student student 4096 déc.   9 16:25 Templates
drwxr-xr-x 2 student student 4096 déc.   9 16:25 Videos
```

Ex3)

```
student@student-VirtualBox:~$ chmod ugo=r,u=w perm1
student@student-VirtualBox:~$ ls -l
total 36
drwxr-xr-x 2 student student 4096 déc.   9 16:25 Desktop
drwxr-xr-x 2 student student 4096 déc.   9 16:25 Documents
drwxr-xr-x 2 student student 4096 déc.   9 16:25 Downloads
-rw-r--r-- 1 root    root       0 déc.  16 17:16 exe1.txt
drwxr-xr-x 2 student student 4096 déc.   9 16:25 Music
--w-r--r-- 1 student student    2 janv. 13 16:06 perm1
drwxr-xr-x 2 student student 4096 déc.   9 16:25 Pictures
drwxr-xr-x 2 student student 4096 déc.   9 16:25 Public
drwxr-xr-x 2 student student 4096 déc.   9 16:25 Templates
drwxr-xr-x 2 student student 4096 déc.   9 16:25 Videos
student@student-VirtualBox:~$
```

Ex4)

```
student@student-VirtualBox:~$ cat >>script1.sh
#!/bin/bash
clear
who
student@student-VirtualBox:~$ ls -l
total 40
drwxr-xr-x 2 student student 4096 déc.   9 16:25 Desktop
drwxr-xr-x 2 student student 4096 déc.   9 16:25 Documents
drwxr-xr-x 2 student student 4096 déc.   9 16:25 Downloads
-rw-r--r-- 1 root    root       0 déc.  16 17:16 exe1.txt
drwxr-xr-x 2 student student 4096 déc.   9 16:25 Music
--w-r--r-- 1 student student    2 janv. 13 16:06 perm1
drwxr-xr-x 2 student student 4096 déc.   9 16:25 Pictures
drwxr-xr-x 2 student student 4096 déc.   9 16:25 Public
-rw-rw-r-- 1 student student   23 janv. 13 16:19 script1.sh
drwxr-xr-x 2 student student 4096 déc.   9 16:25 Templates
drwxr-xr-x 2 student student 4096 déc.   9 16:25 Videos
```

Ex5)

```
student@student-VirtualBox:~$ chmod u-r  script1.sh
student@student-VirtualBox:~$ cat  script1.sh
cat: script1.sh: Permission denied
```

Ex6)

```
  GNU nano 4.8                          New Buffer
new line

   [ Error writing script1.sh: Permission denied ]
student@student-VirtualBox:~$ chmod u-w script1.sh
student@student-VirtualBox:~$ nano script1.sh
```

EX7)

```
student@student-VirtualBox:~$ chmod u+rwx,go-rwx script1.sh
student@student-VirtualBox:~$ ls -l
total 40
drwxr-xr-x 2 student student 4096 déc.   9 16:25 Desktop
drwxr-xr-x 2 student student 4096 déc.   9 16:25 Documents
drwxr-xr-x 2 student student 4096 déc.   9 16:25 Downloads
-rw-r--r-- 1 root    root       0 déc.  16 17:16 exe1.txt
drwxr-xr-x 2 student student 4096 déc.   9 16:25 Music
--w-r--r-- 1 student student    2 janv. 13 16:06 perm1
drwxr-xr-x 2 student student 4096 déc.   9 16:25 Pictures
drwxr-xr-x 2 student student 4096 déc.   9 16:25 Public
-rwx------ 1 student student   23 janv. 13 16:19 script1.sh
drwxr-xr-x 2 student student 4096 déc.   9 16:25 Templates
drwxr-xr-x 2 student student 4096 déc.   9 16:25 Videos
```

Ex8)

```
  GNU nano 4.8                        script1.sh                        Modified
#!/bin/bash
clear
who
new line█
```

Ex9)

```
student@student-VirtualBox:~$ chmod u-r script1.sh
student@student-VirtualBox:~$ bash script1.sh
bash: script1.sh: Permission denied
```

Ex10)

```
student@student-VirtualBox:~$ mkdir systems;
student@student-VirtualBox:~$ ls
Desktop      Downloads  Music  Pictures  script1.sh  Templates
Documents  exe1.txt    perm1  Public    systems      Videos
student@student-VirtualBox:~$ chmod u-w systems
student@student-VirtualBox:~$ cp ../script1.sh ../systems
cp: cannot stat '../script1.sh': No such file or directory
student@student-VirtualBox:~$ cp script1.sh ../systems
cp: cannot open 'script1.sh' for reading: Permission denied
student@student-VirtualBox:~$ █
```

ex11)

```
student@student-VirtualBox:~$ chmod u+w systems
student@student-VirtualBox:~$ chmod u+rwx script1.sh
student@student-VirtualBox:~$ cp script1.sh ../systems
cp: cannot create regular file '../systems': Permission denied
student@student-VirtualBox:~$ cp script1.sh systems
student@student-VirtualBox:~$ ls systems
script1.sh
student@student-VirtualBox:~$
```

ex12)

```
student@student-VirtualBox:~$ chmod u-r systems
student@student-VirtualBox:~$ ls systems
ls: cannot open directory 'systems': Permission denied
student@student-VirtualBox:~$
```

ex13)

```
student@student-VirtualBox:~$ chmod u=rwx,go-wx systems
student@student-VirtualBox:~$ ls -l
total 44
drwxr-xr-x 2 student student 4096 déc.    9 16:25 Desktop
drwxr-xr-x 2 student student 4096 déc.    9 16:25 Documents
drwxr-xr-x 2 student student 4096 déc.    9 16:25 Downloads
-rw-r--r-- 1 root    root       0 déc.   16 17:16 exe1.txt
drwxr-xr-x 2 student student 4096 déc.    9 16:25 Music
--w-r--r-- 1 student student    2 janv. 13 16:06 perm1
drwxr-xr-x 2 student student 4096 déc.    9 16:25 Pictures
drwxr-xr-x 2 student student 4096 déc.    9 16:25 Public
-rwx------ 1 student student   32 janv. 13 16:34 script1.sh
drwxr--r-- 2 student student 4096 janv. 13 16:44 systems
drwxr-xr-x 2 student student 4096 déc.    9 16:25 Templates
drwxr-xr-x 2 student student 4096 déc.    9 16:25 Videos
```

Ex14)

```
student   :0              2022-01-13 16:02 (:0)
script1.sh: line 4: new: command not found
student@student-VirtualBox:~$ S
```

Ex15)

```
student@student-VirtualBox:~$ chmod u+x systems
student@student-VirtualBox:~$ ls -l
total 44
drwxr-xr-x 2 student student 4096 déc.    9 16:25 Desktop
drwxr-xr-x 2 student student 4096 déc.    9 16:25 Documents
drwxr-xr-x 2 student student 4096 déc.    9 16:25 Downloads
-rw-r--r-- 1 root    root       0 déc.   16 17:16 exe1.txt
drwxr-xr-x 2 student student 4096 déc.    9 16:25 Music
As_6.1.30 r-- 1 student student    2 janv. 13 16:06 perm1
drwxr-xr-x 2 student student 4096 déc.    9 16:25 Pictures
drwxr-xr-x 2 student student 4096 déc.    9 16:25 Public
-rwx------ 1 student student   32 janv. 13 16:34 script1.sh
drwxr--r-- 2 student student 4096 janv. 13 16:44 systems
drwxr-xr-x 2 student student 4096 déc.    9 16:25 Templates
drwxr-xr-x 2 student student 4096 déc.    9 16:25 Videos
```

Ex16)

```
student@student-VirtualBox:~/systems$ cat >> lucy ; cat >> charles;


student@student-VirtualBox:~/systems$ chmod o=wx charles
student@student-VirtualBox:~/systems$ ls
charles  lucy  script1.sh
student@student-VirtualBox:~/systems$ ls -l
total 8
-rw-rw--wx 1 student student  4 janv. 13 17:11 charles
-rw-rw-r-- 1 student student  0 janv. 13 17:11 lucy
-rwx------ 1 student student 32 janv. 13 16:44 script1.sh
```

Ex17)

```
student@student-VirtualBox:~/systems$ chmod a=w,g+r,u=rx lucy
student@student-VirtualBox:~/systems$ ls -l
total 8
-rw-rw--wx 1 student student  4 janv. 13 17:11 charles
-r-xrw--w- 1 student student  0 janv. 13 17:11 lucy
-rwx------ 1 student student 32 janv. 13 16:44 script1.sh
```

Ex18)

```
student@student-VirtualBox:~$ sudo su
[sudo] password for student:
root@student-VirtualBox:/home/student# chown root charles
root@student-VirtualBox:/home/student# exit
student@student-VirtualBox:~$ chmod 777 charles
chmod: changing permissions of 'charles': Operation not permitted
```

Ex19)

```
student@student-VirtualBox:~$ sudo chmod 777 charles
student@student-VirtualBox:~$ ls -l
total 48
-rwxrwxrwx 1 root     student     0 ene 26 21:30 charles
```

ex20)

```
student@student-VirtualBox:~$ chmod 060 lucy
student@student-VirtualBox:~$ cat lucy
cat: lucy: Permission denied
```

ex21)

sudo groupadd newgroup
sudo chown root:newgroup lucy

```
student@student-VirtualBox:~$ ls -l lucy
----rw---- 1 root newgroup 0 ene 26 21:30 lucy
```

ex22)

```
student@student-VirtualBox:~$ sudo usermod -a -G newgroup student
student@student-VirtualBox:~$ cat lucy
cat: lucy: Permission denied
```

it's not possible because you are still being another owner, now you can read and write but not open the file.

ex23)

```
student@student-VirtualBox:~$ sudo chmod a+r lucy
student@student-VirtualBox:~$ ls -l lucy
-r--rw-r-- 1 root newgroup 0 ene 26 21:30 lucy
```

ex24)

```
student@student-VirtualBox:~$ chmod -R u=rwx,go=r systems
student@student-VirtualBox:~$ ls -l systems
total 4
-rwxr--r-- 1 student student 621 ene 26 20:53 Units3-4_Santiago_PadillaBriceño.sh
```

ex25)

```
student@student-VirtualBox:~$ sudo chgrp -R root systems
student@student-VirtualBox:~$ ls -l systems
total 4
-rwxr--r-- 1 student root 621 ene 26 20:53 Units3-4_Santiago_PadillaBriceño.sh
```