Exercises about file and directory permission

1. List the permissions in your current directory, including hidden files.
   In this case we have to use ls -l -a

```
student@student-VirtualBox:~/systems$ ls -la
total 20
```

2. Create a file called perm1. Now, check the default permissions and user and group ownership.

```
drwxrwxr-x 2 student student     4096 ene 13 16:00  per1
```
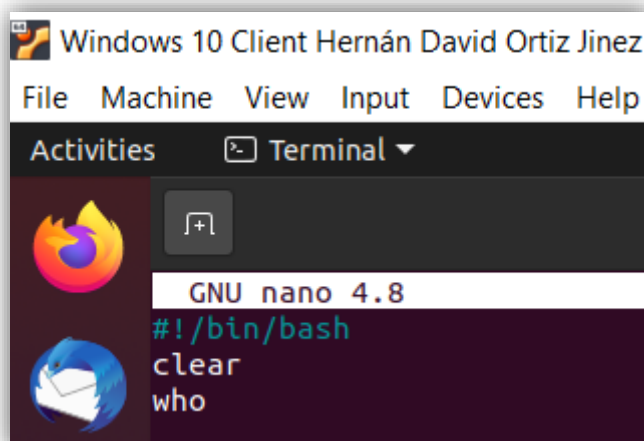
3. Change permissions of perm1 so that everyone can read and only the owner user can write. Specify the command in all possible ways.

```
student@student-VirtualBox:~$ chmod 644 per1
```

```
drw-r--r-- 2 student student     4096 ene 13 16:00  per1
```

4. Create a file called script1.sh, including the content below. List the default permissions.

```
student@student-VirtualBox:~$ nano script1.sh
```

Windows 10 Client Hernán David Ortiz Jinez

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```
GNU nano 4.8
#!/bin/bash
clear
who
```

```
-rw-rw-r-- 1 student student     22 ene 13 16:20  script1.sh
```

5. Remove the read permission from the owner and try to open the file.

```
student@student-VirtualBox:~$ chmod u-r script1.sh
student@student-VirtualBox:~$ nano script1.sh
```

```
              [ Error reading script1.sh: Permission denied ]
tify         ^C Cur Pos        M-U Undo          M-A Mark Text    M-] To B
```

6. Remove the write permission from the owner on the file script.sh. Add the line below. Is it possible? Why?

```
student@student-VirtualBox:~$ chmod u-w script1.sh
```

```
----rw-r-- 1 student student      22 ene 13 16:20  script1.sh
```
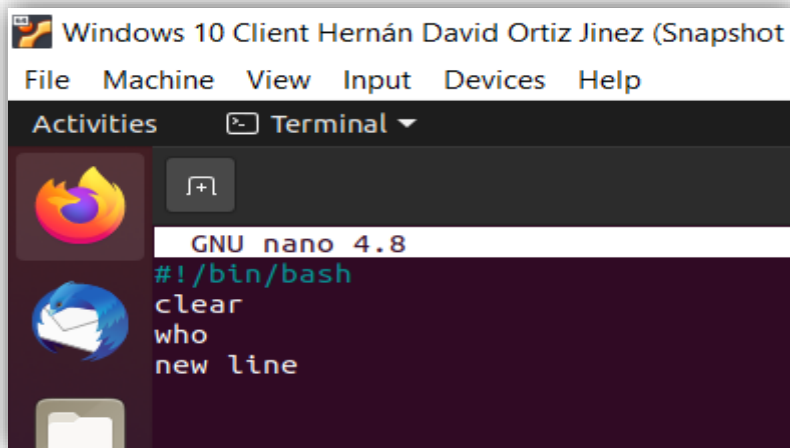
It is not possible to write because we remove the write permission for that.

7. Change the permissions on the file script1.sh so that the owner can read, write and execute, but you deny all the permissions from the group and others.
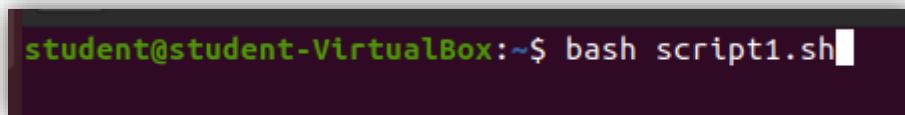
```
student@student-VirtualBox:~$ chmod 700 script1.sh
student@student-VirtualBox:~$
```

```
-rwx------ 1 student student      22 ene 13 16:20  script1.sh
```
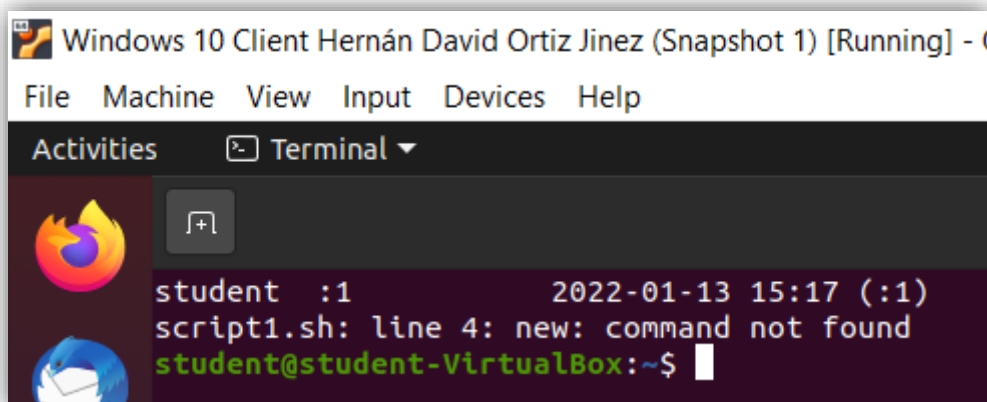
8. Add the line indicated in exercise 6, in case it was not possible. Try to run the file like a command.

9. Remove the read permission from the owner on the file script1.sh. Try to run the file. Is it possible?

10. Create a directory called "systems". Remove the write permission from it and try to copy script1.sh inside.

```
student@student-VirtualBox:~$ mkdir systems
```

```
student@student-VirtualBox:~$ chmod u-w systems
student@student-VirtualBox:~$ cp script1.sh systems
cp: cannot open 'script1.sh' for reading: Permission denied
student@student-VirtualBox:~$
```

11. If you were not able to copy the file, add the write permission again and copy the file inside.

```
student@student-VirtualBox:~$ chmod u+w systems
student@student-VirtualBox:~$ cp script1.sh systems
cp: cannot open 'script1.sh' for reading: Permission denied
student@student-VirtualBox:~$ chmod u=rwx script1.sh
student@student-VirtualBox:~$ cp script1.sh systems
student@student-VirtualBox:~$
```

12. Remove the read permission from the user on the directory "systems" and try to list its contents.

```
student@student-VirtualBox:~$ chmod u-r systems
student@student-VirtualBox:~$
```

```
student@student-VirtualBox:~/systems$ ls
ls: cannot open directory '.': Permission denied
student@student-VirtualBox:~/systems$
```

13. Change the permissions from "sytems" so that the owner can read, write and execute, but the group and others can only read.

```
student@student-VirtualBox:~$ chmod 744 systems
student@student-VirtualBox:~$
```

14. Remove the execute permission from "systems". Can you execute systems/script1.sh? Is it possible to acces the directory to execute the file?

It is not possible to execute the file.

```
student@student-VirtualBox:~$ bash systems/script1.sh
bash: systems/script1.sh: Permission denied
student@student-VirtualBox:~$
```

15. Assign the execute permission to the directory again.

```
student@student-VirtualBox:~$ chmod u+x systems
student@student-VirtualBox:~$
```

16. Create two files called "lucy" and "charles" into "systems". Change permissions of "charles", so that others can write and execute.

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

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

```
student@student-VirtualBox:~/systems$ chmod o=wx charles
student@student-VirtualBox:~/systems$
```

17. Change permissions of "lucy" so that the owner can read and execute, the group can read and write and others can only write. Specify the command in all possible ways.

```
student@student-VirtualBox:~/systems$ chmod 521 luci
student@student-VirtualBox:~/systems$
```