

Complete lab 2 and lab 3

13. Create a folder called myteam in your home directory and change its permissions to read only for the owner.

```
mohamed@dell: ~  
mohamed@dell:~$ sudo mkdir -p $HOME/myteam  
mohamed@dell:~$ chmod u=r myteam  
chmod: changing permissions of 'myteam': Operation not permitted  
mohamed@dell:~$ sudo chmod u=r myteam  
mohamed@dell:~$ ls -ltr  
total 44  
drwxr-xr-x 2 mohamed mohamed 4096 Mar  9 22:09 Videos  
drwxr-xr-x 2 mohamed mohamed 4096 Mar  9 22:09 Templates  
drwxr-xr-x 2 mohamed mohamed 4096 Mar  9 22:09 Public  
drwxr-xr-x 2 mohamed mohamed 4096 Mar  9 22:09 Pictures  
drwxr-xr-x 2 mohamed mohamed 4096 Mar  9 22:09 Music  
drwxr-xr-x 2 mohamed mohamed 4096 Mar  9 22:09 Downloads  
drwxr-xr-x 2 mohamed mohamed 4096 Mar  9 22:09 Documents  
drwxr-xr-x 2 mohamed mohamed 4096 Mar  9 22:09 Desktop  
drwxrwxr-x 2 mohamed mohamed 4096 Mar  9 22:42 docs  
drwx----- 5 mohamed mohamed 4096 Mar 11 10:00 snap  
dr--r-xr-x 2 root    root    4096 Mar 11 12:37 myteam  
mohamed@dell:~$ |
```

14. Log out and log in by another user

```
mohamed@dell: ~  
mohamed@dell:~$ su - kamal  
Password:  
$ exit  
mohamed@dell:~$ |
```

15. Try to access (by cd command) the folder (myteam)

```
mohamed@dell: ~/myteam  
mohamed@dell:~$ ls  
Desktop  Documents  Music  Pictures  snap  Videos  
docs     Downloads  myteam  Public    Templates  
mohamed@dell:~$ cd myteam  
mohamed@dell:~/myteam$ |
```

16. Using the command Line

Change the permissions of oldpasswd file to give owner read and write permissions and for group write and execute and execute only for the others (using chmod in 2 different ways)

```
mohamed@dell:~$ chmod u=rw,g=rx,o=x oldpasswd
mohamed@dell:~$ ls -ltr
total 44
drwxr-xr-x 2 mohamed mohamed 4096 Mar  9 22:09 Videos
drwxr-xr-x 2 mohamed mohamed 4096 Mar  9 22:09 Templates
drwxr-xr-x 2 mohamed mohamed 4096 Mar  9 22:09 Public
drwxr-xr-x 2 mohamed mohamed 4096 Mar  9 22:09 Pictures
drwxr-xr-x 2 mohamed mohamed 4096 Mar  9 22:09 Music
drwxr-xr-x 2 mohamed mohamed 4096 Mar  9 22:09 Downloads
drwxr-xr-x 2 mohamed mohamed 4096 Mar  9 22:09 Documents
drwxr-xr-x 2 mohamed mohamed 4096 Mar  9 22:09 Desktop
drwxrwxr-x 2 mohamed mohamed 4096 Mar  9 22:42 docs
drwx----- 5 mohamed mohamed 4096 Mar 11 10:00 snap
dr--r-xr-x 2 root      root    4096 Mar 11 12:37 myteam
-rw-r-x--- 1 mohamed mohamed   0 Mar 11 13:12 oldpasswd
mohamed@dell:~$ chmod 651 oldpasswd
mohamed@dell:~$ ls -ltr
total 44
drwxr-xr-x 2 mohamed mohamed 4096 Mar  9 22:09 Videos
drwxr-xr-x 2 mohamed mohamed 4096 Mar  9 22:09 Templates
drwxr-xr-x 2 mohamed mohamed 4096 Mar  9 22:09 Public
drwxr-xr-x 2 mohamed mohamed 4096 Mar  9 22:09 Pictures
drwxr-xr-x 2 mohamed mohamed 4096 Mar  9 22:09 Music
drwxr-xr-x 2 mohamed mohamed 4096 Mar  9 22:09 Downloads
drwxr-xr-x 2 mohamed mohamed 4096 Mar  9 22:09 Documents
drwxr-xr-x 2 mohamed mohamed 4096 Mar  9 22:09 Desktop
drwxrwxr-x 2 mohamed mohamed 4096 Mar  9 22:42 docs
drwx----- 5 mohamed mohamed 4096 Mar 11 10:00 snap
dr--r-xr-x 2 root      root    4096 Mar 11 12:37 myteam
-rw-r-x--- 1 mohamed mohamed   0 Mar 11 13:12 oldpasswd
```

Change your default permissions to be as above

```
mohamed@dell:~$ umask
0002
mohamed@dell:~$ umask 126
mohamed@dell:~$ umask
0126
mohamed@dell:~$ |
```

What is the maximum permission a file can have, by default when it is just created? And what is that for directory.

maximum permission for a file is > 666

maximum permission for a directory is > 777

Change your default permissions to be no permission to everyone then create a directory and a file to verify

```
mohamed@dell:~$ umask 000
mohamed@dell:~$ umask
0000
mohamed@dell:~$ touch file2
mohamed@dell:~$ cp file2 /home
cp: cannot create regular file '/home/file2': Permission denied
mohamed@dell:~$ mkdir -p test
mohamed@dell:~$ cd test
```

17. What are the minimum permission needed for:

1. Copy a directory (permission for source directory and permissions for target parent directory)
2. Copy a file (permission for source file and permission for target parent directory)
3. Delete a file
4. Change to a directory
5. List a directory content (ls command)
6. View a file content (more/cat command)
7. Modify a file content

Actions	Source	Target / parent
Copy a directory	r, x	w, x
Copy a file	r, x	w, x
Delete a file	No permissions	w, x
Change to a directory	x	
List a directory content	r, x	
View a file content	r	x
Modify a file content	w	x

18. Create a file with permission 444. Try to edit in it and to remove it? Note what happened.

```
mohamed@dell:~$ chmod 444 file0
mohamed@dell:~$ ls -ltr
total 48
drwxr-xr-x 2 mohamed mohamed 4096 Mar  9 22:09 Videos
drwxr-xr-x 2 mohamed mohamed 4096 Mar  9 22:09 Templates
drwxr-xr-x 2 mohamed mohamed 4096 Mar  9 22:09 Public
drwxr-xr-x 2 mohamed mohamed 4096 Mar  9 22:09 Pictures
drwxr-xr-x 2 mohamed mohamed 4096 Mar  9 22:09 Music
drwxr-xr-x 2 mohamed mohamed 4096 Mar  9 22:09 Downloads
drwxr-xr-x 2 mohamed mohamed 4096 Mar  9 22:09 Documents
drwxr-xr-x 2 mohamed mohamed 4096 Mar  9 22:09 Desktop
drwxrwxr-x 2 mohamed mohamed 4096 Mar  9 22:42 docs
drwx----- 5 mohamed mohamed 4096 Mar 11 10:00 snap
dr--r-xr-x 2 root      root      4096 Mar 11 12:37 myteam
-rw-r-x--x 1 mohamed mohamed    0 Mar 11 13:12 oldpasswd
-rw-rw-rw- 1 mohamed mohamed    0 Mar 11 13:43 file2
drwxrwxrwx 3 mohamed mohamed 4096 Mar 11 13:51 test
-r--r--r-- 1 mohamed mohamed    0 Mar 11 14:19 file0
mohamed@dell:~$ more file0
mohamed@dell:~$ cat file0
mohamed@dell:~$ cp file0 file1
mohamed@dell:~$ rm file0
rm: remove write-protected regular empty file 'file0'?
mohamed@dell:~$ |
```

19. What is the difference between the “x” permission for a file and for a directory?

For a File : means it can be **executed it**

For a Directory: means you can **access it**

1. Using vi write your CV in the file mycv. Your CV should include your name, age, school, college, experience,...

```
mohamed@dell: ~  
Hello  
-----  
1- My name is Mohamed kamal  
2- I am 24 years old  
3- My school was Eltawfiq  
4- Graduated from faculty of computers and artificial intelligence  
5- I have more experience in manual testing and automation testing  
~  
~
```

2. Open mycv file using vi command then: Without using arrows state how to:

a. Move the cursor down one line at time > by using (**j**)

b. Move the cursor up one line at time. > by using (**k**)

c. Search for word age > by using (**/age**)

```
mohamed@dell: ~  
Hello  
-----  
1- My name is Mohamed kamal  
2- My age is 24 years old  
3- My school was Eltawfiq  
4- Graduated from faculty of computers and artificial intelligence  
5- I have more experience in manual testing and automation testing  
~  
~  
/age|
```

d. Step to line 5 (assuming that you are in line 1 and file is more than 5 lines) > by using (**:5**)

```
mohamed@dell: ~  
1-Hello  
2-----  
3- My name is Mohamed kamal  
4- My age is 24 years old  
5- My school was Eltawfiq  
6- Graduated from faculty of computers and artificial intelligence  
7- I have more experience in manual testing and automation testing  
~  
~  
:5 5,1 All
```

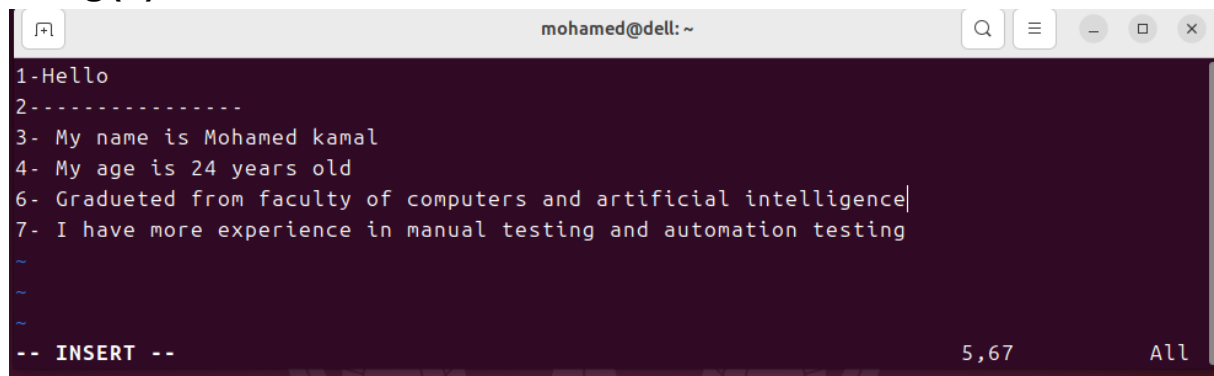
e. Delete the line you are on and line 5 > by using (**dd**) , my cursor in the beginning of line 5



```
mohamed@dell: ~  
1-Hello  
2-----  
3- My name is Mohamed kamal  
4- My age is 24 years old  
5-  
6- Graduated from faculty of computers and artificial intelligence  
7- I have more experience in manual testing and automation testing  
~
```

f. How to step to the end of line and change to writing mode in one-step.

By using (**A**) in command mode



```
mohamed@dell: ~  
1-Hello  
2-----  
3- My name is Mohamed kamal  
4- My age is 24 years old  
6- Graduated from faculty of computers and artificial intelligence|  
7- I have more experience in manual testing and automation testing  
~  
~  
~  
-- INSERT -- 5,67 All
```

3. List the available shells in your system.



```
mohamed@dell: ~  
mohamed@dell:~$ cat /etc/shells  
# /etc/shells: valid login shells  
/bin/sh  
/usr/bin/sh  
/bin/bash  
/usr/bin/bash  
/bin/rbash  
/usr/bin/rbash  
/usr/bin/dash  
mohamed@dell:~$ |
```

4. List the environment variables in your current shell

```
mohamed@dell:~$ env
SHELL=/bin/bash
SESSION_MANAGER=local/dell:@/tmp/.ICE-unix/2431,unix/dell:/tmp/.ICE-unix/2431
QT_ACCESSIBILITY=1
COLORTERM=truecolor
XDG_CONFIG_DIRS=/etc/xdg/xdg-ubuntu:/etc/xdg
XDG_MENU_PREFIX=gnome-
GNOME_DESKTOP_SESSION_ID=this-is-deprecated
GNOME_SHELL_SESSION_MODE=ubuntu
SSH_AUTH_SOCK=/run/user/1000/keyring/ssh
MEMORY_PRESSURE_WRITE=c29tZSAyMDAwMDAgMjAwMDAwMAA=
XMODIFIERS=@im=ibus
DESKTOP_SESSION=ubuntu
GTK_MODULES=gail:atk-bridge
PWD=/home/mohamed
```

5. List all of the environment variables for the bash shell.

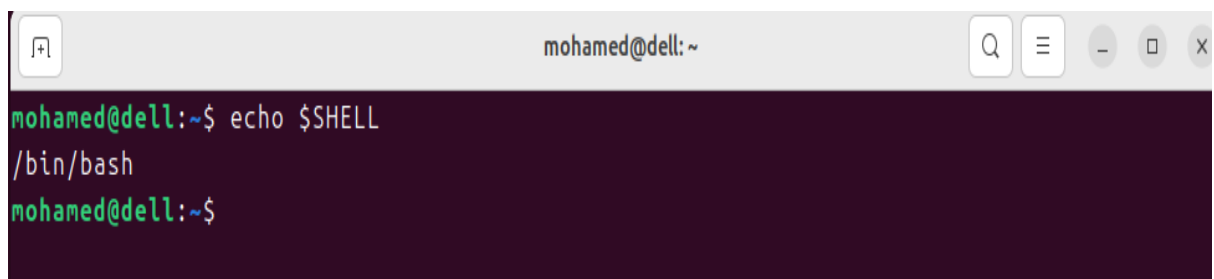
A terminal window titled 'mohamed@dell: ~' with standard window controls. The user enters 'echo \$0' and 'export', followed by a series of 'declare -x' commands listing various environment variables like COLORTERM, DBUS_SESSION_BUS_ADDRESS, DEBUGINFOD_URLS, DESKTOP_SESSION, DISPLAY, GDMSESSION, GNOME_DESKTOP_SESSION_ID, GNOME_SETUP_DISPLAY, GNOME_SHELL_SESSION_MODE, and GNOME_TERMINAL_SCREEN.

```
mohamed@dell:~$ echo $0
bash
mohamed@dell:~$ export
declare -x COLORTERM="truecolor"
declare -x DBUS_SESSION_BUS_ADDRESS="unix:path=/run/user/1000/bus"
declare -x DEBUGINFOD_URLS="https://debuginfod.ubuntu.com "
declare -x DESKTOP_SESSION="ubuntu"
declare -x DISPLAY=":0"
declare -x GDMSESSION="ubuntu"
declare -x GNOME_DESKTOP_SESSION_ID="this-is-deprecated"
declare -x GNOME_SETUP_DISPLAY=":1"
declare -x GNOME_SHELL_SESSION_MODE="ubuntu"
declare -x GNOME_TERMINAL_SCREEN="/org/gnome/Terminal/screen/0340b89b_8785_4b29_b90c_c58e82e42cbb"
```

6. What are the commands that list the value of a specific variable?

By using this command> **echo \$VARIABLE_NAME**

7. Display your current shell name.

A terminal window titled 'mohamed@dell: ~' with standard window controls. The user enters 'echo \$SHELL', and the output is '/bin/bash'.

```
mohamed@dell:~$ echo $SHELL
/bin/bash
mohamed@dell:~$
```

10. Execute the following command :

echo \ then press enter

```
mohamed@dell:~$ echo \  
> mohamed kamal fathi  
mohamed kamal fathi  
mohamed@dell:~$ |
```

What is the purpose of \ ?

to escape the ? character, making it literal instead of special.

Notice the prompt ">" what is that? and how can you change it from ">" to ".".

The (>) represented by the environment variable PS2. It appears when the shell expects additional input to complete a command
And

By default, PS2 is set to > (a greater-than sign followed by a space). You can customize it to : (or anything else) by modifying PS2.

11. Create a Bash shell alias named ls for the "ls -l" command

```
mohamed@dell: ~  
mohamed@dell:~$ alias test='ls -l'  
mohamed@dell:~$ test  
total 56  
drwxr-xr-x 2 mohamed mohamed 4096 Mar  9 22:09 Desktop  
drwxrwxr-x 2 mohamed mohamed 4096 Mar  9 22:42 docs  
drwxr-xr-x 2 mohamed mohamed 4096 Mar  9 22:09 Documents  
drwxr-xr-x 2 mohamed mohamed 4096 Mar  9 22:09 Downloads  
-r--r--r-- 1 mohamed mohamed    0 Mar 11 14:19 file0  
-r--r--r-- 1 mohamed mohamed    0 Mar 11 14:24 file1  
-rw-rw-rw- 1 mohamed mohamed    0 Mar 11 13:43 file2  
drwxr-xr-x 2 mohamed mohamed 4096 Mar  9 22:09 Music  
-rw-rw-r-- 1 mohamed mohamed  217 Mar 11 22:30 mycv  
drwxrwxrwx 2 mohamed mohamed 4096 Mar 11 14:33 myfolder  
dr--r-xr-x 2 root     root     4096 Mar 11 12:37 myteam  
-rw-r-x--x 1 mohamed mohamed    0 Mar 11 13:12 oldpasswd  
drwxr-xr-x 2 mohamed mohamed 4096 Mar  9 22:09 Pictures  
drwxr-xr-x 2 mohamed mohamed 4096 Mar  9 22:09 Public  
drwx----- 5 mohamed mohamed 4096 Mar 11 10:00 snap  
drwxr-xr-x 2 mohamed mohamed 4096 Mar  9 22:09 Templates  
drwxrwxrwx 3 mohamed mohamed 4096 Mar 11 13:51 test
```