

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

```
abdelrahman-abdelhady@abdelrahman-abdelhady-HP-Laptop-15-da2xxx:~/Desktop$ vi cv
```

```
-----
Name:Abdelrahman Ahmed Abdelhady
Age:23
School:Gamal Abdelnaser
college:Faculty of computer and artificial intelligence
Experience:i have no experience
```

```

"cv" [New File] 6 lines, 292 bytes written

```

2-Open mycv file using vi command.

```
abdelrahman-abdelhady@abdelrahman-abdelhady-HP-Laptop-15-da2xxx:~/Desktop$ vi cv
```

### 3-Move the cursor down one line at time.

Using j

4. Move the cursor up one line at time.

Using  $k$

5. Search for word age.

Last line mode → esc :/Age

6. Step to line 5 (assuming that you are in line 1 and file is more than 5 lines).

Last line mode → esc :/5

7. Delete the line you are on and line 5.

the line I on  $\rightarrow$  dd

the line 5  $\rightarrow$  esc : /5 dd

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

A esc i

22. Launch nautilus.

nautilus .

23. Create a folder called myteam

```
mkdir myteam
```

24. Change its permissions to read only for the owner.

```

abdelrahman-abdelhady@abdelrahman-abdelhady-HP-Laptop-15-da2xxx:~/Desktop$ chmod u=r myteam
abdelrahman-abdelhady@abdelrahman-abdelhady-HP-Laptop-15-da2xxx:~/Desktop$ ls -l
total 76
-rw-rw-r-- 1 abdelrahman-abdelhady abdelrahman-abdelhady 292 Jun 25 12:44 cv
dr--rwxr-- 2 abdelrahman-abdelhady abdelrahman-abdelhady 4096 Jun 25 14:09 myteam
-rw-rw-r-- 1 abdelrahman-abdelhady abdelrahman-abdelhady 67921 Jun 25 14:02 Task3.odt

```

25. Log out and log in by another user.

```

abdelrahman-abdelhady@abdelrahman-abdelhady-HP-Laptop-15-da2xxx:~/Desktop$ sudo su - islam
[sudo] password for abdelrahman-abdelhady:
Sorry, try again.
[sudo] password for abdelrahman-abdelhady:
Sorry, try again.
[sudo] password for abdelrahman-abdelhady:
su: warning: cannot change directory to /home/islam: No such file or directory
$

```

26. Try to access the folder

27. Using the command Line

```
abdelrahman-abdelhady@abdelrahman-abdelhady-HP-Laptop-15-da2xxx:~/Desktop$ sudo su - islam
su: warning: cannot change directory to /home/islam: No such file or directory
$ cat /etc/shadow
cat: /etc/shadow: Permission denied
$
```

28. Change the permissions of mycv 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)

```
abdelrahman-abdelhady@abdelrahman-abdelhady-HP-Laptop-15-da2xxx:~/Desktop$ chmod u=rw,g=wx,o=x cv
abdelrahman-abdelhady@abdelrahman-abdelhady-HP-Laptop-15-da2xxx:~/Desktop$ ls -l
total 124
-rw--wx--x 1 abdelrahman-abdelhady abdelrahman-abdelhady 292 Jun 25 12:44 cv
dr--rwxr-- 2 abdelrahman-abdelhady abdelrahman-abdelhady 4096 Jun 25 14:09 myteam
-rw-rw-r-- 1 abdelrahman-abdelhady abdelrahman-abdelhady 115927 Jun 25 14:22 Task3.odt
abdelrahman-abdelhady@abdelrahman-abdelhady-HP-Laptop-15-da2xxx:~/Desktop$ chmod 631 cv
abdelrahman-abdelhady@abdelrahman-abdelhady-HP-Laptop-15-da2xxx:~/Desktop$ chmod 631 cv
abdelrahman-abdelhady@abdelrahman-abdelhady-HP-Laptop-15-da2xxx:~/Desktop$ ls -l
total 124
-rw--wx--x 1 abdelrahman-abdelhady abdelrahman-abdelhady 292 Jun 25 12:44 cv
dr--rwxr-- 2 abdelrahman-abdelhady abdelrahman-abdelhady 4096 Jun 25 14:09 myteam
-rw-rw-r-- 1 abdelrahman-abdelhady abdelrahman-abdelhady 115927 Jun 25 14:22 Task3.odt
abdelrahman-abdelhady@abdelrahman-abdelhady-HP-Laptop-15-da2xxx:~/Desktop$
```

29. Change your default permissions to be as above.

```
abdelrahman-abdelhady@abdelrahman-abdelhady-HP-Laptop-15-da2xxx:~/Desktop$ umask 146
abdelrahman-abdelhady@abdelrahman-abdelhady-HP-Laptop-15-da2xxx:~/Desktop$
```

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

-rw-rw-rw- file

drwxrwxrwx dir

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

```
abdelrahman-abdelhady@abdelrahman-abdelhady-HP-Laptop-15-da2xxx:~/Desktop$ umask 777
abdelrahman-abdelhady@abdelrahman-abdelhady-HP-Laptop-15-da2xxx:~/Desktop$ touch tst
abdelrahman-abdelhady@abdelrahman-abdelhady-HP-Laptop-15-da2xxx:~/Desktop$ mkdir tst
mkdir: cannot create directory 'tst': File exists
abdelrahman-abdelhady@abdelrahman-abdelhady-HP-Laptop-15-da2xxx:~/Desktop$ mkdir test
abdelrahman-abdelhady@abdelrahman-abdelhady-HP-Laptop-15-da2xxx:~/Desktop$ ls -l
total 128
-rw--wx--x 1 abdelrahman-abdelhady abdelrahman-abdelhady 292 Jun 25 12:44 cv
dr--rwxr-- 2 abdelrahman-abdelhady abdelrahman-abdelhady 4096 Jun 25 14:09 myteam
-rw-rw-r-- 1 abdelrahman-abdelhady abdelrahman-abdelhady 115927 Jun 25 14:22 Task3.odt
d----- 2 abdelrahman-abdelhady abdelrahman-abdelhady 4096 Jun 25 15:30 test
----- 1 abdelrahman-abdelhady abdelrahman-abdelhady 0 Jun 25 15:30 tst
abdelrahman-abdelhady@abdelrahman-abdelhady-HP-Laptop-15-da2xxx:~/Desktop$
```

32. Copy a file from another user to your home directory. Note the permissions allowed to you before and after. Specify why?

```
abdelrahman-abdelhady@abdelrahman-abdelhady-HP-Laptop-15-da2xxx:~/Desktop/last$ sudo su - islam
su: warning: cannot change directory to /home/islam: No such file or directory
$ cp /home/abdelrahman-abdelhady/last/qqq /home/islam/qqq
cp: cannot stat '/home/abdelrahman-abdelhady/last/qqq': Permission denied
$ unmask 000
-sh: 2: unmask: not found
$ unmask 000
$ ap /home/abdelrahman-abdelhady-last/qqq /home/islam/qqq
-sh: 4: ap: not found
$ cp /home/abdelrahman-abdelhady-last/qqq /home/islam/qqq
cp: cannot stat '/home/abdelrahman-abdelhady-last/qqq': No such file or directory
$ cp /home/abdelrahman-abdelhady/last/qqq /home/islam/qqq
cp: cannot stat '/home/abdelrahman-abdelhady/last/qqq': Permission denied
$
```

33. What are the minimum permissions needed for :
34. Copy a directory (source and target) → source : execute , target: execute and write.
35. Copy a file (source and target) → source : read , target: do not need any permission
36. Delete a file → write and execute
37. Change to a directory → execute
38. List a directory content → execute
39. View a file content → read
40. Modify a file content → write (we can modify without read)
41. Create a file with permission 444. Try to edit in it and to remove it? Note what happened. (notice write protection in Linux)

```

abdelrahman-abdelhady@abdelrahman-abdelhady-HP-Laptop-15-da2xxx:~/Desktop$ touch tst2
abdelrahman-abdelhady@abdelrahman-abdelhady-HP-Laptop-15-da2xxx:~/Desktop$ chmod 444 tst2
abdelrahman-abdelhady@abdelrahman-abdelhady-HP-Laptop-15-da2xxx:~/Desktop$ ls -l
total 128
-rw-rwxr-x 1 abdelrahman-abdelhady abdelrahman-abdelhady 292 Jun 25 12:44 cv
dr--rwxr-- 2 abdelrahman-abdelhady abdelrahman-abdelhady 4096 Jun 25 14:09 myteam
-rw-rw-r-- 1 abdelrahman-abdelhady abdelrahman-abdelhady 115927 Jun 25 14:22 Task3.odt
d----- 2 abdelrahman-abdelhady abdelrahman-abdelhady 4096 Jun 25 15:30 test
-rwxrwxrwx 1 abdelrahman-abdelhady abdelrahman-abdelhady 0 Jun 25 15:30 tst
-r--r--r-- 1 abdelrahman-abdelhady abdelrahman-abdelhady 0 Jun 25 16:18 tst2
abdelrahman-abdelhady@abdelrahman-abdelhady-HP-Laptop-15-da2xxx:~/Desktop$ rm tst2
rm: remove write-protected regular empty file 'tst2'? no

```

```

abdelrahman-abdelhady@abdelrahman-abdelhady-HP-Laptop-15-da2xxx:~/Desktop$ cat tst2.txt
cat: tst2.txt: Permission denied
abdelrahman-abdelhady@abdelrahman-abdelhady-HP-Laptop-15-da2xxx:~/Desktop$

```

42. What is the difference between the “x” permission for a file and for a directory.  
File :Execute permission on files means the right to execute them, if they are programs.  
Files that are not programs should not be given the execute permission.  
Directory :Execute permission allows you to enter the directory and access any of its files.

43. Copy the rm program to your home directory, naming it myrm, grant set-uid permission, what happens if one of the users starts your ~username/myrm to edit one of your own files?

```

abdelrahman-abdelhady@abdelrahman-abdelhady-HP-Laptop-15-da2xxx:~/Desktop/last$ cp /bin/rm ~/myrm
abdelrahman-abdelhady@abdelrahman-abdelhady-HP-Laptop-15-da2xxx:~/Desktop/last$ chmod u+s ~/myrm
abdelrahman-abdelhady@abdelrahman-abdelhady-HP-Laptop-15-da2xxx:~/Desktop/last$ ls -l ~/myrm
-rwsr-xr-x 1 abdelrahman-abdelhady abdelrahman-abdelhady 59912 Jun 25 18:10 /home/abdelrahman-abdelhady/myrm
abdelrahman-abdelhady@abdelrahman-abdelhady-HP-Laptop-15-da2xxx:~/Desktop/last$ ~islam/myrm
bash: /home/islam/myrm: No such file or directory
abdelrahman-abdelhady@abdelrahman-abdelhady-HP-Laptop-15-da2xxx:~/Desktop/last$ cat ~islam/myrm
cat: /home/islam/myrm: No such file or directory

```

44. What is the difference between the set-uid and set-gid?  
setuid: a bit that makes an executable run with the privileges of the owner of the file  
setgid: a bit that makes an executable run with the privileges of the group of the file

45. Create a directory with sticky-bit and write permissions on, grant all the users to access the directory, will any user be able to create and delete files from the directory?

```

abdelrahman-abdelhady@abdelrahman-abdelhady-HP-Laptop-15-da2xxx:~/Desktop$ mkdir ss
abdelrahman-abdelhady@abdelrahman-abdelhady-HP-Laptop-15-da2xxx:~/Desktop$ chmod o+wx ss
abdelrahman-abdelhady@abdelrahman-abdelhady-HP-Laptop-15-da2xxx:~/Desktop$

```

Yes any one can create , each one can delete the file its own

46. Create a directory with set-gid permission, what do you notice when you create a new file or a directory?

```
abdelrahman-abdelhady@abdelrahman-abdelhady-HP-Laptop-15-da2xxx:~/Desktop$ mkdir last
abdelrahman-abdelhady@abdelrahman-abdelhady-HP-Laptop-15-da2xxx:~/Desktop$ chmod g+s last
```

```
abdelrahman-abdelhady@abdelrahman-abdelhady-HP-Laptop-15-da2xxx:~/Desktop$ ls -l last
total 0
-rw-rw-rw- 1 abdelrahman-abdelhady abdelrahman-abdelhady 0 Jun 25 17:37 qq
abdelrahman-abdelhady@abdelrahman-abdelhady-HP-Laptop-15-da2xxx:~/Desktop$ cd last
abdelrahman-abdelhady@abdelrahman-abdelhady-HP-Laptop-15-da2xxx:~/Desktop/last$ ls -l qq
-rw-rw-rw- 1 abdelrahman-abdelhady abdelrahman-abdelhady 0 Jun 25 17:37 qq
abdelrahman-abdelhady@abdelrahman-abdelhady-HP-Laptop-15-da2xxx:~/Desktop/last$
```

I notice that the file in the dir take the same id .