

## LINUX: Exercises about files manipulation

### Part 1

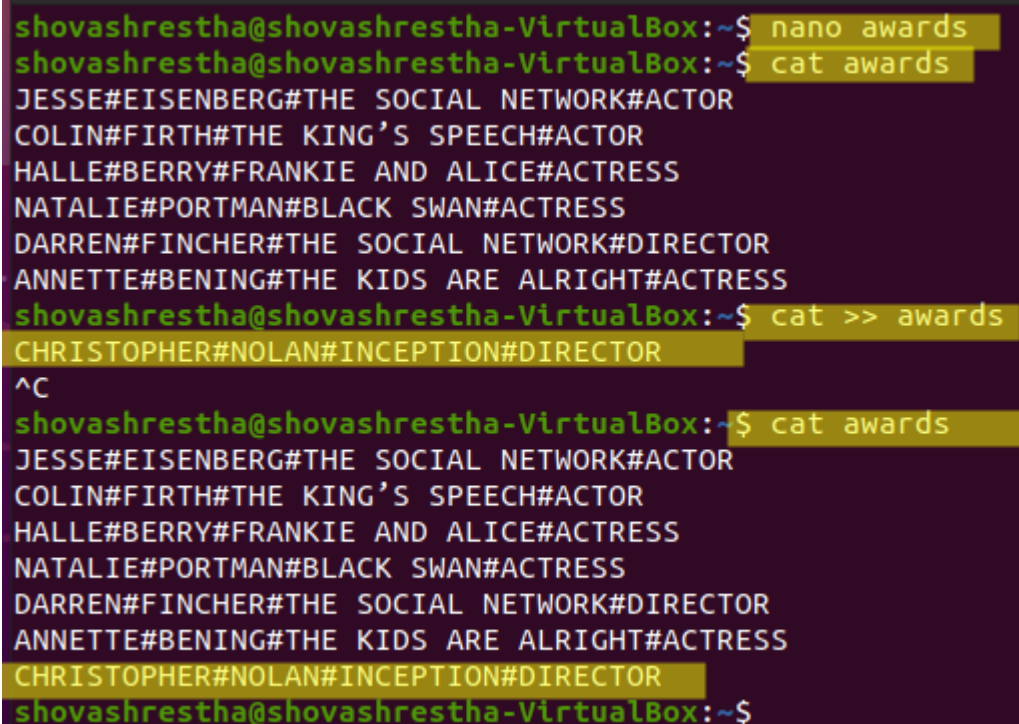
Create a file called “awards” in your home directory, containing

```
JESSE#EISENBERG#THE SOCIAL NETWORK#ACTOR  
COLIN#FIRTH#THE KING’S SPEECH#ACTOR  
HALLE#BERRY#FRANKIE AND ALICE#ACTRESS  
NATALIE#PORTMAN#BLACK SWAN#ACTRESS  
DARREN#FINCHER#THE SOCIAL NETWORK#DIRECTOR  
ANNETTE#BENING#THE KIDS ARE ALRIGHT#ACTRESS
```

1. Add a new line, containing CHRISTOPHER#NOLAN#INCEPTION#DIRECTOR, at the end of the file. You should complete this exercise using commands instead of file editors.

```
cat > awards
```

```
cat >> awards
```



```
shovashrestha@shovashrestha-VirtualBox:~$ nano awards  
shovashrestha@shovashrestha-VirtualBox:~$ cat awards  
JESSE#EISENBERG#THE SOCIAL NETWORK#ACTOR  
COLIN#FIRTH#THE KING’S SPEECH#ACTOR  
HALLE#BERRY#FRANKIE AND ALICE#ACTRESS  
NATALIE#PORTMAN#BLACK SWAN#ACTRESS  
DARREN#FINCHER#THE SOCIAL NETWORK#DIRECTOR  
ANNETTE#BENING#THE KIDS ARE ALRIGHT#ACTRESS  
shovashrestha@shovashrestha-VirtualBox:~$ cat >> awards  
CHRISTOPHER#NOLAN#INCEPTION#DIRECTOR  
^C  
shovashrestha@shovashrestha-VirtualBox:~$ cat awards  
JESSE#EISENBERG#THE SOCIAL NETWORK#ACTOR  
COLIN#FIRTH#THE KING’S SPEECH#ACTOR  
HALLE#BERRY#FRANKIE AND ALICE#ACTRESS  
NATALIE#PORTMAN#BLACK SWAN#ACTRESS  
DARREN#FINCHER#THE SOCIAL NETWORK#DIRECTOR  
ANNETTE#BENING#THE KIDS ARE ALRIGHT#ACTRESS  
CHRISTOPHER#NOLAN#INCEPTION#DIRECTOR  
shovashrestha@shovashrestha-VirtualBox:~$
```

2. Create a file called “actors” in which you only include ACTORS.

```
grep -i actor awards > actors
```

```
grep -i actor >> actors
```

```
grep “#ACTOR$” awards > actors
```

```
shovashrestha@shovashrestha-VirtualBox:~$ cat actors
JESSE#EISENBERG#THE SOCIAL NETWORK#ACTOR
COLIN#FIRTH#THE KING’S SPEECH#ACTOR
HALLE#BERRY#FRANKIE AND ALICE#ACTRESS
NATALIE#PORTMAN#BLACK SWAN#ACTRESS
ANNETTE#BENING#THE KIDS ARE ALRIGHT#ACTRESS
```

3. Display the files which begin with **a** in your home directory.

```
ls | grep ^a
```

```
shovashrestha@shovashrestha-VirtualBox:~$ ls | grep ^a
actors
awards
```

4. Create a file called “directors” in which you only include DIRECTORS

```
grep -i director > directors
```

```
shovashrestha@shovashrestha-VirtualBox:~$ cat > directors
DARREN#FINCHER#THE SOCIAL NETWORK#DIRECTOR
CHRISTOPHER#NOLAN#INCEPTION#DIRECTOR
^C
shovashrestha@shovashrestha-VirtualBox:~$ cat directors
DARREN#FINCHER#THE SOCIAL NETWORK#DIRECTOR
CHRISTOPHER#NOLAN#INCEPTION#DIRECTOR
```

5. Display the lines of “awards” containing actresses. Show the line number.

```
grep -i -n actress awards
```

```
shovashrestha@shovashrestha-VirtualBox:~$ grep -i -n actress awards
3:HALLE#BERRY#FRANKIE AND ALICE#ACTRESS
4:NATALIE#PORTMAN#BLACK SWAN#ACTRESS
6:ANNETTE#BENING#THE KIDS ARE ALRIGHT#ACTRESS
```

6. Display the lines in “awards” which are not directors. Show the line number.

```
grep -v -i -n director awards
```

```
shovashrestha@shovashrestha-VirtualBox:~$ grep -v -i -n director awards
1:JESSE#EISENBERG#THE SOCIAL NETWORK#ACTOR
2:COLIN#FIRTH#THE KING'S SPEECH#ACTOR
3:HALLE#BERRY#FRANKIE AND ALICE#ACTRESS
4:NATALIE#PORTMAN#BLACK SWAN#ACTRESS
6:ANNETTE#BENING#THE KIDS ARE ALRIGHT#ACTRESS
shovashrestha@shovashrestha-VirtualBox:~$
```

## Part 2

Create the file called “people.txt”

Ana;Perrrrrrrrales;1000

Pedro;Soria;1600

Jacinto;Manzano;500

Claudia;Pastor;600

Xavier;Granados;1000

Soraya;Annnnnnnneja;3000

Xavier;Guerra;4500

Sara;Siria;675

Pablo;Serrano;1000

Sonia;Mono;1600

7. Create a file called “people2.txt”, containing those people whose name begins with J or S.

```
grep ^J people.txt > people2.txt
```

```
grep ^J people.txt >> people2.txt
```

```
grep “^[JS]” people.txt > people2.txt
```

```
shovashrestha@shovashrestha-VirtualBox:~$ cat > people.txt
Ana;Perrrrrrrrales;1000
Pedro;Soria;1600
Jacinto;Manzano;500
Claudia;Pastor;600
Xavier;Granados;1000
Soraya;Annnnnnnneja;3000
Xavier;Guerra;4500
Sara;Siria;675
Pablo;Serrano;1000
Sonia;Mono;1600
```

```
shovashrestha@shovashrestha-VirtualBox:~$ grep ^S people.txt > people2.txt
shovashrestha@shovashrestha-VirtualBox:~$ cat people2.txt
Soraya;Annnnnnnneja;3000
Sara;Siria;675
Sonia;Mono;1600
shovashrestha@shovashrestha-VirtualBox:~$ grep ^J people.txt >> people2.txt
shovashrestha@shovashrestha-VirtualBox:~$ cat people2.txt
Soraya;Annnnnnnneja;3000
Sara;Siria;675
Sonia;Mono;1600
Jacinto;Manzano;500
```

8. Create a file called “people3.txt”, containing those people whose names do not begin with S

```
shovashrestha@shovashrestha-VirtualBox:~$ grep -v ^S people.txt > people3.txt
shovashrestha@shovashrestha-VirtualBox:~$ cat people3.txt
Ana;Perrrrrrrales;1000
Pedro;Soria;1600
Jacinto;Manzano;500
Claudia;Pastor;600
Xavier;Granados;1000
Xavier;Guerra;4500
Pablo;Serrano;1000
```

9. Display people whose name begin with S and redirect to file to “people\_s.txt”

```
shovashrestha@shovashrestha-VirtualBox:~$ grep ^S people.txt > people_s.txt | cat people_s.txt
Soraya;Annnnnnnneja;3000
Sara;Siria;675
Sonia;Mono;1600
```

10. Display the number of people whose name begins with A (case insensitive).

replace with C `grep -ic ^a people.txt`

```
shovashrestha@shovashrestha-VirtualBox:~$ grep -in ^a people.txt | cut -d ";" -f3
1000
```

11. Display how many people earn 1000 and concatenate the result in people2.txt

LETER -C

```
shovashrestha@shovashrestha-VirtualBox:~$ grep 1000 people.txt >> people2.txt
shovashrestha@shovashrestha-VirtualBox:~$ cat people2.txt
Soraya;Annnnnnnneja;3000
Sara;Siria;675
Sonia;Mono;1600
Jacinto;Manzano;500
Ana;Perrrrrrrales;1000
Xavier;Granados;1000
Pablo;Serrano;1000
```

**Part 3**

12. Create a file called list, including the contents from the current directory

```
shovashrestha@shovashrestha-VirtualBox:~$ ls > list
shovashrestha@shovashrestha-VirtualBox:~$ cat list
actors
awards
Desktop
directors
Documents
Downloads
exercises
IdeaProjects
list
Music
people2.txt
people3.txt
people_s.txt
people.txt
Pictures
Public
snap
systems
Templates
Videos
shovashrestha@shovashrestha-VirtualBox:~$
```

13. Open the file to check if the content is right using cat, more and less and observe the differences

WITH MORE I CAN SEE THE LINES ONE BY ONE

```
shovashrestha@shovashrestha-VirtualBox:~$ more list
total 152
drwxr-xr-x 23 shovashrestha shovashrestha 4096 dic  2 16:41 .
drwxr-xr-x  7 root          root          4096 nov 17 18:50 ..
-rw-rw-r--  1 shovashrestha shovashrestha  196 dic  1 18:49 actors
drwxrwxr-x  2 shovashrestha shovashrestha 4096 nov 17 16:20 .android
-rw-rw-r--  1 shovashrestha shovashrestha  276 dic  1 18:47 awards
-rw-----  1 shovashrestha shovashrestha 2954 dic  1 19:21 .bash hist
```

```

drwxrwxr-x 4 shovashrestha shovashrestha 4096 nov 17 16:19 .java
drwxrwxr-x 3 shovashrestha shovashrestha 4096 nov 17 20:45 .jdk
-rw-rw-r-- 1 shovashrestha shovashrestha 0 dic 2 16:48 list
drwx----- 3 shovashrestha shovashrestha 4096 oct 29 16:09 .local
drwx----- 5 shovashrestha shovashrestha 4096 nov 17 16:11 .mozilla
drwxr-xr-x 2 shovashrestha shovashrestha 4096 oct 29 16:09 Music
-rw-rw-r-- 1 shovashrestha shovashrestha 153 dic 2 16:39 people2.txt
-rw-rw-r-- 1 shovashrestha shovashrestha 155 dic 2 16:24 people3.txt
-rw-rw-r-- 1 shovashrestha shovashrestha 62 dic 2 16:30 people_s.txt
-rw-rw-r-- 1 shovashrestha shovashrestha 217 dic 2 16:15 people.txt
drwxr-xr-x 2 shovashrestha shovashrestha 4096 oct 29 16:09 Pictures
-rw-r--r-- 1 shovashrestha shovashrestha 807 oct 29 15:59 .profile
drwxr-xr-x 2 shovashrestha shovashrestha 4096 oct 29 16:09 Public
drwx----- 4 shovashrestha shovashrestha 4096 nov 17 16:18 snap
drwx----- 2 shovashrestha shovashrestha 4096 oct 29 18:19 .ssh
-rw-r--r-- 1 shovashrestha shovashrestha 0 oct 29 18:20 .sudo_as_admin_successful
drwxr-xr-x 2 root root 4096 nov 18 20:39 systems
--More-- (82%)

```

WITH LESS I CAN SEE THE FOLDER INFORMATION, GO BACK AND UNDER THE LONG FOLDER

```
shovashrestha@shovashrestha-VirtualBox:~$ less list
```

```
[3]+ Stopped less list
```

```
shovashrestha@shovashrestha-VirtualBox:~$
```

```

Thunderbird Mail shovashrestha shovashrestha 196 dic 1 18:49 actors
d shovashrestha shovashrestha 4096 nov 17 16:20 .android
-rw-rw-r-- 1 shovashrestha shovashrestha 276 dic 1 18:47 awards
-rw----- 1 shovashrestha shovashrestha 2954 dic 1 19:21 .bash_history
-rw-r--r-- 1 shovashrestha shovashrestha 220 oct 29 15:59 .bash_logout
-rw-r--r-- 1 shovashrestha shovashrestha 3771 oct 29 15:59 .bashrc
drwx----- 15 shovashrestha shovashrestha 4096 nov 17 20:51 .cache
drwx----- 12 shovashrestha shovashrestha 4096 nov 17 16:18 .config
drwxr-xr-x 2 shovashrestha shovashrestha 4096 oct 29 16:09 Desktop
-rw-rw-r-- 1 shovashrestha shovashrestha 82 dic 1 18:55 directors
drwxr-xr-x 2 shovashrestha shovashrestha 4096 oct 29 16:09 Documents
drwxr-xr-x 2 shovashrestha shovashrestha 4096 oct 29 16:09 Downloads
drwxr-xr-x 6 root root 4096 nov 18 20:42 exercises
drwx----- 3 shovashrestha shovashrestha 4096 dic 1 19:26 .gnupg
drwxrwxr-x 5 shovashrestha shovashrestha 4096 nov 17 20:50 IdeaProjects
drwxrwxr-x 4 shovashrestha shovashrestha 4096 nov 17 16:19 .java
drwxrwxr-x 3 shovashrestha shovashrestha 4096 nov 17 20:45 .jdk
-rw-rw-r-- 1 shovashrestha shovashrestha 0 dic 2 16:48 list
drwx----- 3 shovashrestha shovashrestha 4096 oct 29 16:09 .local
drwx----- 5 shovashrestha shovashrestha 4096 nov 17 16:11 .mozilla
drwxr-xr-x 2 shovashrestha shovashrestha 4096 oct 29 16:09 Music
-rw-rw-r-- 1 shovashrestha shovashrestha 153 dic 2 16:39 people2.txt
-rw-rw-r-- 1 shovashrestha shovashrestha 155 dic 2 16:24 people3.txt
-rw-rw-r-- 1 shovashrestha shovashrestha 62 dic 2 16:30 people_s.txt
-rw-rw-r-- 1 shovashrestha shovashrestha 217 dic 2 16:15 people.txt
drwxr-xr-x 2 shovashrestha shovashrestha 4096 oct 29 16:09 Pictures
-rw-r--r-- 1 shovashrestha shovashrestha 807 oct 29 15:59 .profile
drwxr-xr-x 2 shovashrestha shovashrestha 4096 oct 29 16:09 Public
drwx----- 4 shovashrestha shovashrestha 4096 nov 17 16:18 snap
drwx----- 2 shovashrestha shovashrestha 4096 oct 29 18:19 .ssh
-rw-r--r-- 1 shovashrestha shovashrestha 0 oct 29 18:20 .sudo_as_admin_successful
:

```



14. Print the contents of the current directory in reverse alphabetical order.

ls -r

```
shovashrestha@shovashrestha-VirtualBox:~$ sort -r people.txt
Xavier;Guerra;4500
Xavier;Granados;1000
Soraya;Annnnnnnneja;3000
Sonia;Mono;1600
Sara;Siria;675
Pedro;Soria;1600
Pablo;Serrano;1000
Jacinto;Manzano;500
Claudia;Pastor;600
Ana;Perrrrrrrrales;1000
```

15. Create a file called inform, containing the long format list of the files and directories in your home directory

(ls -l \$HOME) > inform

```
shovashrestha@shovashrestha-VirtualBox:~$ ls -l > inform
shovashrestha@shovashrestha-VirtualBox:~$ ls inform
inform
shovashrestha@shovashrestha-VirtualBox:~$ cat inform
total 80
-rw-rw-r-- 1 shovashrestha shovashrestha 196 dic  1 18:49 actors
-rw-rw-r-- 1 shovashrestha shovashrestha 276 dic  1 18:47 awards
drwxr-xr-x 2 shovashrestha shovashrestha 4096 oct 29 16:09 Desktop
-rw-rw-r-- 1 shovashrestha shovashrestha  82 dic  1 18:55 directors
drwxr-xr-x 2 shovashrestha shovashrestha 4096 oct 29 16:09 Documents
drwxr-xr-x 2 shovashrestha shovashrestha 4096 oct 29 16:09 Downloads
drwxr-xr-x 6 root          root          4096 nov 18 20:42 exercises
drwxrwxr-x 5 shovashrestha shovashrestha 4096 nov 17 20:50 IdeaProjects
-rw-rw-r-- 1 shovashrestha shovashrestha   0 dic  2 17:27 inform
-rw-rw-r-- 1 shovashrestha shovashrestha 2841 dic  2 16:48 list
drwxr-xr-x 2 shovashrestha shovashrestha 4096 oct 29 16:09 Music
-rw-rw-r-- 1 shovashrestha shovashrestha 153 dic  2 16:39 people2.txt
-rw-rw-r-- 1 shovashrestha shovashrestha 155 dic  2 16:24 people3.txt
-rw-rw-r-- 1 shovashrestha shovashrestha  62 dic  2 16:30 people_s.txt
-rw-rw-r-- 1 shovashrestha shovashrestha 217 dic  2 16:15 people.txt
drwxr-xr-x 2 shovashrestha shovashrestha 4096 oct 29 16:09 Pictures
drwxr-xr-x 2 shovashrestha shovashrestha 4096 oct 29 16:09 Public
drwx----- 4 shovashrestha shovashrestha 4096 nov 17 16:18 snap
drwxr-xr-x 2 root          root          4096 nov 18 20:39 systems
drwxr-xr-x 2 shovashrestha shovashrestha 4096 oct 29 16:09 Templates
drwxr-xr-x 2 shovashrestha shovashrestha 4096 oct 29 16:09 Videos
```

16. Find the word FILE in each file of your home directory, ignoring case and showing the line number (create files containing this word if you want any match).

grep -iwn "file" \$HOME/\* 2> errors

```
shovashrestha@shovashrestha-VirtualBox:~$ grep -n file $HOME/* 2> /dev/null
/home/shovashrestha/list:30:-rw-r--r--  1 shovashrestha shovashrestha  807 oct 2
9 15:59 .profile
```