

## 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#ACTO
HALLE#BERRY#FRANKIE AND ALICE#ACTRESS
NATALIE#PORTMAN#BLACK SWAN#ACTRESS
DARREN#FINCHER#THE SOCIAL NETWORK#DIRECTOR
ANNETTE#BENING#THE KIDS ARE ALRIGHT#ACTRESS
```

Also using `cat > awards`

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.

```
zeus@zeus-VirtualBox:~/exercises/filemanipulation$ nano awards
zeus@zeus-VirtualBox:~/exercises/filemanipulation$ cat awards
JESSE#EISENBERG#THE SOCIAL NETWORK#ACTOR
COLIN#FIRTH#THE KING'S SPEECH#ACTO
HALLE#BERRY#FRANKIE AND ALICE#ACTRESS
NATALIE#PORTMAN#BLACK SWAN#ACTRESS
DARREN#FINCHER#THE SOCIAL NETWORK#DIRECTOR
ANNETTE#BENING#THE KIDS ARE ALRIGHT#ACTRESS
zeus@zeus-VirtualBox:~/exercises/filemanipulation$ echo "CHRISTOPHER#NOLAN#INCEP
TION#DIRECTOR" >> awards
zeus@zeus-VirtualBox:~/exercises/filemanipulation$ 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
zeus@zeus-VirtualBox:~/exercises/filemanipulation$
```

(also `cat >> awards` and add the new content, watch out `\n`)

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

```
grep -i "actor" awards > actors
cat actors
JESSE#EISENBERG#THE SOCIAL NETWORK#ACTOR
COLIN#FIRTH#THE KING'S SPEECH#ACTOR
```

```
zeus@zeus-VirtualBox:~/exercises/filemanipulation$ grep -i "actor" awards > actors
zeus@zeus-VirtualBox:~/exercises/filemanipulation$ cat actors
JESSE#EISENBERG#THE SOCIAL NETWORK#ACTOR
COLIN#FIRTH#THE KING'S SPEECH#ACTOR
zeus@zeus-VirtualBox:~/exercises/filemanipulation$
```

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

```
ls $HOME | grep ^a
```

```
zeus@zeus-VirtualBox:~/Documents$ ls $HOME | grep ^a
apt_2.0.4_amd64.deb
zeus@zeus-VirtualBox:~/Documents$
```

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

```
grep -i "director" exercises/filemanipulation/awards > exercises/filemanipulation/directors
cat exercises/filemanipulation/directors
DARREN#FINCHER#THE SOCIAL NETWORK#DIRECTOR
CHRISTOPHER#NOLAN#INCEPTION#DIRECTOR
```

```
zeus@zeus-VirtualBox:~$ grep -i "director" exercises/filemanipulation/awards > e
xercises/filemanipulation/directors
zeus@zeus-VirtualBox:~$ grep -i "director" exercises/filemanipulation/directors
DARREN#FINCHER#THE SOCIAL NETWORK#DIRECTOR
CHRISTOPHER#NOLAN#INCEPTION#DIRECTOR
```

```
(grep -i "#director" exercises/filemanipulation/awards > exercises/filemanipulation/directors)
```

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

```
grep -in "actress" awards
```

```
zeus@zeus-VirtualBox:~/exercises/filemanipulation$ grep -in "actress" awards
3:HALLE#BERRY#FRANKIE AND ALICE#ACTRESS
4:NATALIE#PORTMAN#BLACK SWAN#ACTRESS
5:ANNETTE#BENING#THE KIDS ARE ALRIGHT#ACTRESS
zeus@zeus-VirtualBox:~/exercises/filemanipulation$
```

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

```
grep -ivn "director" awards
```

```
zeus@zeus-VirtualBox:~/exercises/filemanipulation$ grep -ivn "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
5:ANNETTE#BENING#THE KIDS ARE ALRIGHT#ACTRESS
zeus@zeus-VirtualBox:~/exercises/filemanipulation$
```

## Part 2

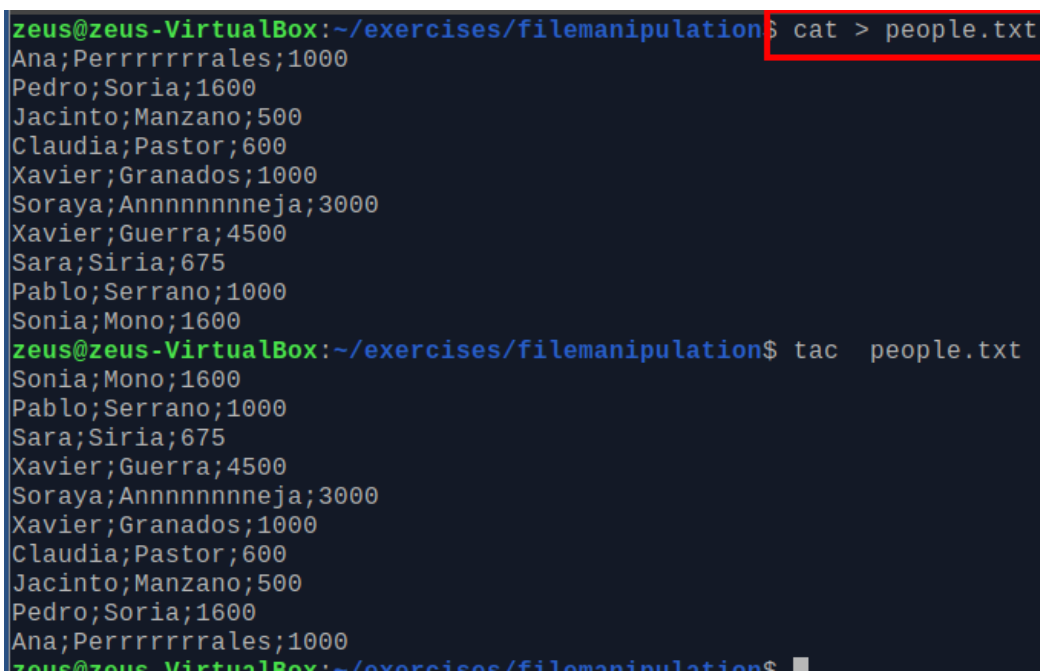
Create the file called “people.txt”

```
Ana;Perrrrrrrales;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
```

```
cat > people.txt
```

On the keyboard press ctrl+d

```
cat > people.txt
```

A terminal window screenshot from a Zeus VirtualBox. The prompt is 'zeus@zeus-VirtualBox:~/exercises/filemanipulation\$'. The command 'cat > people.txt' is entered and highlighted with a red box. The output shows the contents of 'people.txt' as listed in the previous block. Then, the command 'tac people.txt' is entered, and the output shows the file's contents reversed line-by-line, starting with 'Sonia;Mono;1600' at the top and ending with 'Ana;Perrrrrrrales;1000' at the bottom.

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

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

```
grep -i “^[J,S]” people.txt > people2.txt
```

```

zeus@zeus-VirtualBox:~/exercises/filemanipulation$ grep -i "[j,s]" people.txt
Jacinto;Manzano;500
Soraya;Annnnnnnneja;3000
Sara;Siria;675
Sonia;Mono;1600
zeus@zeus-VirtualBox:~/exercises/filemanipulation$ grep -i "[j,s]" people.txt >
people2.txt
zeus@zeus-VirtualBox:~/exercises/filemanipulation$ cat people2.txt
Jacinto;Manzano;500
Soraya;Annnnnnnneja;3000
Sara;Siria;675
Sonia;Mono;1600
zeus@zeus-VirtualBox:~/exercises/filemanipulation$

```

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

```
grep -iv "^S" people.txt > people3.txt
```

```

zeus@zeus-VirtualBox:~/exercises/filemanipulation$ grep -i "^S" people.txt
Soraya;Annnnnnnneja;3000
Sara;Siria;675
Sonia;Mono;1600
zeus@zeus-VirtualBox:~/exercises/filemanipulation$ grep -iv "^S" people.txt
Ana;Perrrrrrrales;1000
Pedro;Soria;1600
Jacinto;Manzano;500
Claudia;Pastor;600
Xavier;Granados;1000
Xavier;Guerra;4500
Pablo;Serrano;1000
zeus@zeus-VirtualBox:~/exercises/filemanipulation$ grep -iv "^S" people.txt > pe
ople3.txt
zeus@zeus-VirtualBox:~/exercises/filemanipulation$ 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"

```

grep ^S people.txt
grep ^S people.txt > people_s.txt

```

```

zeus@zeus-VirtualBox:~/exercises/filemanipulation$ grep ^S people.txt
Soraya;Annnnnnnneja;3000
Sara;Siria;675
Sonia;Mono;1600
zeus@zeus-VirtualBox:~/exercises/filemanipulation$ grep ^S people.txt > people_
s.txt
zeus@zeus-VirtualBox:~/exercises/filemanipulation$ 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).

```
grep -ic ^a people.txt
```

```
zeus@zeus-VirtualBox:~/exercises/filemanipulation$ grep -ic ^a people.txt
1
zeus@zeus-VirtualBox:~/exercises/filemanipulation$
```

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

```
grep -ic 1000 people.txt
```

```
zeus@zeus-VirtualBox:~/exercises/filemanipulation$ grep -ic 1000 people.txt
3
zeus@zeus-VirtualBox:~/exercises/filemanipulation$
```

```
grep -n "1000" people.txt >> people2.txt
```

```
zeus@zeus-VirtualBox:~/exercises/filemanipulation$ cat people2.txt
Jacinto;Manzano;500
Soraya;Annnnnnnneja;3000
Sara;Siria;675
Sonia;Mono;1600
1:Ana;Perrrrrrrales;1000
5:Xavier;Granados;1000
9:Pablo;Serrano;1000
```

### Part 3

12. Create a file called list, including the contents from the current directory
13. Open the file to check if the content is right using cat, more and less and observe the differences

```
ls -l > filterexercises/list
cat filterexercises/list
```

```
zeus@zeus-VirtualBox:~$ ls -l
total 2168
-rw-rw-r-- 1 zeus zeus 1289200 ene 14 15:48 apt_2.0.4_amd64.deb
drwxrwxr-x 2 zeus zeus 4096 ene 14 18:11 config
drwxr-xr-x 2 zeus zeus 4096 ene 16 11:28 Desktop
drwxr-xr-x 12 zeus zeus 4096 ene 13 22:17 Documents
drwxr-xr-x 3 zeus zeus 4096 dic 18 08:04 Downloads
drwxrwxr-x 2 zeus zeus 4096 dic 15 19:48 drivers
drwxr-xr-x 3 zeus zeus 4096 ago 21 17:13 eclipse
drwxr-xr-x 19 zeus zeus 4096 ene 22 15:24 eclipse-workspace
drwxrwxr-x 7 zeus zeus 4096 ene 21 20:04 exercises
drwxrwxr-x 2 zeus zeus 4096 ene 22 18:11 filterexercises
drwxrwxr-x 3 zeus zeus 4096 ene 22 15:32 git
-rw-rw-r-- 1 zeus zeus 833812 abr 10 2020 libapt-pkg6.0_2.0.2_amd64.deb
-rw-rw-r-- 1 zeus zeus 0 ene 21 18:17 lsP.txt
drwxr-xr-x 2 zeus zeus 4096 dic 16 21:27 Music
drwxrwxr-x 6 zeus zeus 4096 nov 24 16:33 NetBeansProjects
-rw-r--r-- 1 root root 72 oct 25 17:58 packagecloud-shiftky-desktop.list_b
ackUp
-rw-r--r-- 1 root root 72 oct 25 17:58 packagecloud-shiftky-desktop.list.s
ave
drwxrwxr-x 2 zeus zeus 4096 nov 2 23:47 personal
drwxr-xr-x 2 zeus zeus 4096 dic 16 21:27 Pictures
drwxrwxr-x 7 zeus zeus 4096 nov 19 21:45 pruebasProgramacion
drwxrwxr-x 8 zeus zeus 4096 may 1 2020 pseint
drwxr-xr-x 2 zeus zeus 4096 dic 16 21:27 Public
-rw-rw-r-- 1 zeus zeus 342 nov 24 17:51 Puntos.dat
drwxr-xr-x 5 zeus zeus 4096 oct 25 18:10 snap
drwxr-xr-x 2 zeus zeus 4096 dic 18 08:02 Templates
drwxr-xr-x 2 zeus zeus 4096 dic 16 21:27 Videos
zeus@zeus-VirtualBox:~$ ls -l > filterexercises/list
zeus@zeus-VirtualBox:~$ cat filterexercises/list
total 2168
-rw-rw-r-- 1 zeus zeus 1289200 ene 14 15:48 apt_2.0.4_amd64.deb
drwxrwxr-x 2 zeus zeus 4096 ene 14 18:11 config
drwxr-xr-x 2 zeus zeus 4096 ene 16 11:28 Desktop
drwxr-xr-x 12 zeus zeus 4096 ene 13 22:17 Documents
drwxr-xr-x 3 zeus zeus 4096 dic 18 08:04 Downloads
drwxrwxr-x 2 zeus zeus 4096 dic 15 19:48 drivers
drwxr-xr-x 3 zeus zeus 4096 ago 21 17:13 eclipse
drwxr-xr-x 19 zeus zeus 4096 ene 22 15:24 eclipse-workspace
drwxrwxr-x 7 zeus zeus 4096 ene 21 20:04 exercises
drwxrwxr-x 2 zeus zeus 4096 ene 22 18:11 filterexercises
drwxrwxr-x 3 zeus zeus 4096 ene 22 15:32 git
-rw-rw-r-- 1 zeus zeus 833812 abr 10 2020 libapt-pkg6.0_2.0.2_amd64.deb
-rw-rw-r-- 1 zeus zeus 0 ene 21 18:17 lsP.txt
```

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

`ls -l -r`

```
zeus@zeus-VirtualBox:~$ ls -l -r
total 2168
drwxr-xr-x  2 zeus zeus    4096 dic 16 21:27 Videos
drwxr-xr-x  2 zeus zeus    4096 dic 18 08:02 Templates
drwxr-xr-x  5 zeus zeus    4096 oct 25 18:10 snap
-rw-rw-r--  1 zeus zeus    342 nov 24 17:51 Puntos.dat
drwxr-xr-x  2 zeus zeus    4096 dic 16 21:27 Public
drwxrwxr-x  8 zeus zeus    4096 may  1 2020 pseint
drwxrwxr-x  7 zeus zeus    4096 nov 19 21:45 pruebasProgramacion
drwxr-xr-x  2 zeus zeus    4096 dic 16 21:27 Pictures
drwxrwxr-x  2 zeus zeus    4096 nov  2 23:47 personal
-rw-r--r--  1 root root     72 oct 25 17:58 packagecloud-shiftky-desktop.list.s
ave
-rw-r--r--  1 root root     72 oct 25 17:58 packagecloud-shiftky-desktop.list_b
ackUp
drwxrwxr-x  6 zeus zeus    4096 nov 24 16:33 NetBeansProjects
drwxr-xr-x  2 zeus zeus    4096 dic 16 21:27 Music
-rw-rw-r--  1 zeus zeus      0 ene 21 18:17 lsP.txt
-rw-rw-r--  1 zeus zeus 833812 abr 10 2020 libapt-pkg6.0_2.0.2_amd64.deb
drwxrwxr-x  3 zeus zeus    4096 ene 22 15:32 git
drwxrwxr-x  2 zeus zeus    4096 ene 22 18:11 filterexercises
drwxrwxr-x  7 zeus zeus    4096 ene 21 20:04 exercises
drwxr-xr-x 19 zeus zeus    4096 ene 22 15:24 eclipse-workspace
drwxr-xr-x  3 zeus zeus    4096 ago 21 17:13 eclipse
drwxrwxr-x  2 zeus zeus    4096 dic 15 19:48 drivers
drwxr-xr-x  3 zeus zeus    4096 dic 18 08:04 Downloads
drwxr-xr-x 12 zeus zeus    4096 ene 13 22:17 Documents
drwxr-xr-x  2 zeus zeus    4096 ene 16 11:28 Desktop
drwxrwxr-x  2 zeus zeus    4096 ene 14 18:11 config
-rw-rw-r--  1 zeus zeus 1289200 ene 14 15:48 apt_2.0.4_amd64.deb
zeus@zeus-VirtualBox:~$
```

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

```
zeus@zeus-VirtualBox:~/Documents$ ls -l > inform
zeus@zeus-VirtualBox:~/Documents$ cat inform
total 364
drwxrwxr-x  4 zeus zeus    4096 ene  2 18:32 BBDD
drwxrwxr-x  4 zeus zeus    4096 ene 18 17:59 English
drwxrwxr-x  5 zeus zeus    4096 ene 17 16:51 entornos
drwxrwxr-x  3 zeus zeus    4096 ene 13 22:17 exercises
drwxrwxr-x  6 zeus zeus    4096 dic 23 12:37 GitHub
-rw-rw-r--  1 zeus zeus      0 ene 22 19:05 inform
drwxrwxr-x  2 zeus zeus    4096 nov  2 21:09 LM
-rw-rw-r--  1 zeus zeus 329942 nov  6 15:46 PRG-Resumen Unidad 2.pdf
drwxrwxr-x  5 zeus zeus    4096 ene 17 17:00 programacion
drwxrwxr-x  6 zeus zeus    4096 dic 16 23:56 ProgramacionDaw
drwxrwxr-x  6 zeus zeus    4096 dic 18 08:52 SI
drwxrwxr-x  3 zeus zeus    4096 ene 18 16:13 systems
zeus@zeus-VirtualBox:~/Documents$
```

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 -si "file" *
```

-s, --no-messages

Suppress error messages about nonexistent or unreadable files.

-I, --ignore-case

```
zeus@zeus-VirtualBox:~$ grep -nsi "file" *
file1.txt:1:file
file.txt:2:FILE file one
zeus@zeus-VirtualBox:~$
```