Files Manipulation

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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

$ cat > awards.txt

The **cat** command can be used to display or concatenate one or more files, displaying the output all at once. Besides, you can use it to create files from keyboard input with **>** (output redirection operator) plus the name of the file.

After that you can write all the lines you want and when you finish writing, just type **[Ctrl+D]** or **[Ctrl+C]** and the lines written will be saved.

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.txt
   $ cat awards.txt

   With **>>** (output redirection operator) Appends the existing file, or creates something at the end to the file. Then you can check the file information on the command line.

2. Create a file called "actors" in which you only include ACTORS.
   $ grep "#ACTOR$" awards.txt > actors

   The **grep** command searches the given file for lines containing a match to the given strings or words. Then you can create the file with only ACTORS adding into double quotes from the beginning of the line (**#**) to the end (**$**) searching the word **ACTOR** through (**awards**) to the file you want to create (**actors**), using **>** output redirection operator.

3. Display the files which begin with a in your home directory.
   $ ls -d $HOME/a*

   The **ls** command is used to list down the files and sub-directories within your current directory. With the (**d**) option

4. Create a file called "directors" in which you only include DIRECTORS.
   $ grep "#DIRECTOR$" awards > directors

   The **grep** command searches the given file for lines containing a match to the given strings or words. Then you can create the file with only DIRECTORS adding into double quotes from the beginning of the line (**#**) to the end (**$**) searching the word **DIRECTOR** through (**awards**) to the file you want to create (**directors**), using **>** output redirection operator.

After that you can check the result with the cat command and the name of the file.

5. Display the lines of "awards" containing actresses. Show the line number.
   $ grep -n "#ACTRESS$" awards

   The **grep** command searches the given file for lines containing a match to the given strings or words. Then you can search into the file into double quotes from the beginning of the line (**#**) to the end (**$**) searching the word **ACTRESS** through (**awards**), and with the (**-n**) option which means that you can print lines with matching criteria and line numbers.

6. Display the lines in "awards" which are not directors. Show the line number.
   # grep -nv "#DIRECTOR$" awards


```
anacifu@anacifu-VirtualBox:~$ grep -nv "#DIRECTOR$" awards.txt
1:JESSE#EISENBERG#THE SOCIAL NETWORK#ACTOR
2:COLIN#FIRTH#THE KING'S SPEECH#ACTOR
3:HALLE#BERRY#FRANKIE AND ALICE#ACTRESS
4:NATALIE#PORTMAN#BLACK SWAN#ACTRESS
6:ANNETTE#BENING#THE KIDS ARE ALRIGHT#ACTRESS
anacifu@anacifu-VirtualBox:~$
```

The **grep** command searches the given file for lines containing a match to the given strings or words. Then you can search into the file into double quotes from the beginning of the line (**#**) to the end (**$**) searching all the words except (**DIRECTOR**) through (**awards**), and with the (**-n**) option which means that you can print lines with matching criteria and line numbers.

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

The **cat** command can be used to display or concatenate one or more files, displaying the output all at once. Besides, you can use it to create files from keyboard input with **>** (output redirection operator) plus the name of the file.

After that you can write all the lines you want and when you finish writing, just type **[Ctrl+D]** or **[Ctrl+C]** and the lines written will be saved.

7. Create a file called "people2.txt", containing those people whose name begins with J or S.
   $ grep "^[JS]" people.txt > people2.txt

8. Create a file called "people3.txt", containing those people whose names do not begin with S.
   $ grep -v "^S" people.txt > people3.txt

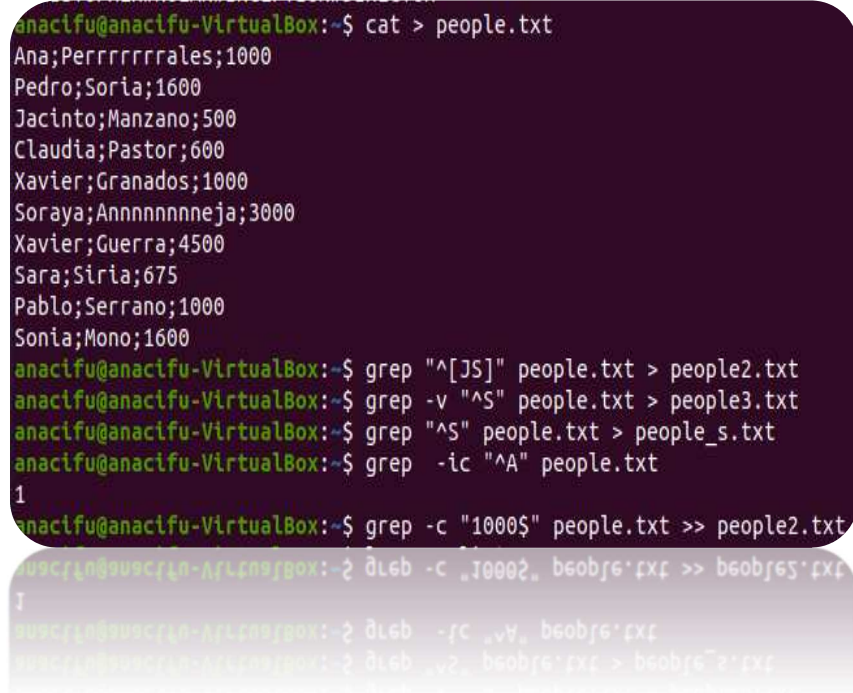9. Display people whose name begin with S and redirect to file to "people_s.txt"
   $ grep "^S" people.txt > people_s.txt

10. Display the number of people whose name begins with A (case insensitive).
    $ grep -ic "^A" people.txt

11. Display how many people earn 1000 and concatenate the result in people2.txt
    $ grep -c "1000$" people.txt >> people2.txt

```
anacifu@anacifu-VirtualBox:~$ cat > people.txt
Ana;Perrrrrrrales;1000
Pedro;Soria;1600
Jacinto;Manzano;500
Claudia;Pastor;600
Xavier;Granados;1000
Soraya;Annnnnnnnneja;3000
Xavier;Guerra;4500
Sara;Siria;675
Pablo;Serrano;1000
Sonia;Mono;1600
anacifu@anacifu-VirtualBox:~$ grep "^[JS]" people.txt > people2.txt
anacifu@anacifu-VirtualBox:~$ grep -v "^S" people.txt > people3.txt
anacifu@anacifu-VirtualBox:~$ grep "^S" people.txt > people_s.txt
anacifu@anacifu-VirtualBox:~$ grep  -ic "^A" people.txt
1
anacifu@anacifu-VirtualBox:~$ grep -c "1000$" people.txt >> people2.txt
```

Part 3

Create a file called list, including the contents <u>from the current directory</u>.

$ cat > list.txt

$ls -R > list

```
cifu@anacifu-VirtualBox:~$ cat > list.txt

actors        awards.txt  Desktop     Documents  exercises  list     Music       people3.txt  people.txt   Public     student2.txt  systems    Videos
actors.txt    config      directors   Downloads  last       luggage  people2.txt  people_s.txt  Pictures    student1.txt  student.txt  Templates

./config:
anacrontab

./Desktop:

./Documents:

./Downloads:

./exercises:
Afri  Asia  luggage  ONE  pro-c  student1.txt  student2.txt  student.txt  tv.doc

./exercises/Afri:
Egypt  Tunisia

./exercises/Afri/Egypt:
radio.txt

./exercises/Afri/Tunisia:
exam.wri  song.doc  student2.txt  student.txt  tuition.txt

./exercises/Asia:
Afri  Seul

./exercises/Asia/Afri:
Egypt  Tunisia

./exercises/Asia/Afri/Egypt:
radio.txt

./exercises/Asia/Afri/Tunisia:
exam.wri  song.doc  student2.txt  student.txt  tuition.txt

./exercises/Asia/Seul:
Seul2  tv.doc

./exercises/Asia/Seul/Seul2:
aa.doc  bb.doc  Others

./exercises/Asia/Seul/Seul2/Others:
```

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

```
anacifu@anacifu-VirtualBox:~$ cat list
.:
actors
actors.txt
awards.txt
config
Desktop
directors
Documents
Downloads
exercises
last
list
list.txt
luggage
Music
people2.txt
people3.txt
people_s.txt
people.txt
Pictures
Public
student1.txt
student2.txt
student.txt
systems
Templates
Videos

./config:
anacrontab

./Desktop:

./Documents:

./Downloads:
```

```
anacifu@anacifu-VirtualBox:~$ more list
.:
actors
actors.txt
awards.txt
config
Desktop
directors
Documents
Downloads
exercises
last
list
list.txt
luggage
Music
people2.txt
people3.txt
people_s.txt
people.txt
Pictures
Public
student1.txt
student2.txt
student.txt
systems
Templates
Videos

./config:
anacrontab

./Desktop:

./Documents:

./Downloads:

./exercises:
Afri
sia
```

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

```
.:
actors
actors.txt
awards.txt
config
Desktop
directors
Documents
Downloads
exercises
last
list
list.txt
luggage
Music
people2.txt
people3.txt
people_s.txt
people.txt
Pictures
Public
student1.txt
student2.txt
student.txt
systems
Templates
Videos

./config:
anacrontab

./Desktop:

./Documents:

./Downloads:

./exercises:
Afri
Asia
luggage
ONE
pro-c
student1.txt
student2.txt
list
```

13. Print the contents of the current directory in reverse alphabetical order.
    $ ls -r


```
anacifu@anacifu-VirtualBox:~$ sudo ls -r
[sudo] password for anacifu:
Videos      systems     student2.txt  Public    people.txt   people3.txt  Music    list.txt  last       Downloads  directors  config      actors.txt
Templates  student.txt  student1.txt  Pictures  people_s.txt  people2.txt  luggage  list      exercises  Documents  Desktop    awards.txt  actors
anacifu@anacifu-VirtualBox:~$
```

14. Create a file called inform, containing the long format list of the files and directories in your home directory.
    $ (ls -l $HOME) > inform

```
anacifu@anacifu-VirtualBox:~$ (ls  -l $HOME) > inform
anacifu@anacifu-VirtualBox:~$ cat inform
total 80
-rw-rw-r-- 1 anacifu anacifu   79 dic  8 18:55 actors
-rw-rw-r-- 1 anacifu anacifu    0 dic  8 14:41 actors.txt
-rw-rw-r-- 1 anacifu anacifu  276 dic  8 18:54 awards.txt
drwxrwxr-x 2 anacifu anacifu 4096 nov 18 13:39 config
drwxr-xr-x 2 anacifu anacifu 4096 nov  1 15:03 Desktop
-rw-rw-r-- 1 anacifu anacifu   80 dic  8 18:56 directors
drwxr-xr-x 2 anacifu anacifu 4096 nov  1 15:03 Documents
drwxr-xr-x 2 anacifu anacifu 4096 nov  1 15:03 Downloads
drwxrwxr-x 6 anacifu anacifu 4096 nov 25 22:45 exercises
-rw-rw-r-- 1 anacifu anacifu    0 dic  9 07:34 inform
-rw-rw-r-- 1 anacifu anacifu    0 nov 18 12:15 last
-rw-rw-r-- 1 anacifu anacifu 1118 dic  8 19:35 list
-rw-rw-r-- 1 anacifu anacifu 1118 dic  8 19:36 list.txt
-rw-rw-r-- 1 anacifu anacifu    0 nov 18 12:15 luggage
drwxr-xr-x 2 anacifu anacifu 4096 nov  1 15:03 Music
-rw-rw-r-- 1 anacifu anacifu   78 dic  8 19:12 people2.txt
-rw-rw-r-- 1 anacifu anacifu  138 dic  8 19:11 people3.txt
-rw-rw-r-- 1 anacifu anacifu   56 dic  8 19:12 people_s.txt
-rw-rw-r-- 1 anacifu anacifu  194 dic  8 19:06 people.txt
drwxr-xr-x 2 anacifu anacifu 4096 nov  1 15:03 Pictures
drwxr-xr-x 2 anacifu anacifu 4096 nov  1 15:03 Public
-rw-rw-r-- 1 anacifu anacifu    0 nov 18 12:15 student1.txt
-rw-rw-r-- 1 anacifu anacifu    0 nov 18 12:15 student2.txt
-rw-rw-r-- 1 anacifu anacifu    0 nov 18 12:15 student.txt
drwxrwxr-x 3 anacifu anacifu 4096 nov 25 21:49 systems
drwxr-xr-x 2 anacifu anacifu 4096 nov  1 15:03 Templates
drwxr-xr-x 2 anacifu anacifu 4096 nov  1 15:03 Videos
anacifu@anacifu-VirtualBox:~$
```

15. 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).