Task - 1:

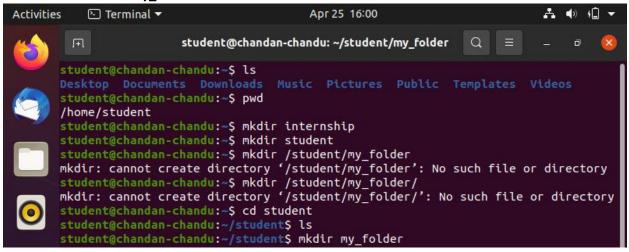
1. Create a new user "student" in linux.



2. Create a new folder 'internship' in the /home/student (student user home directory).



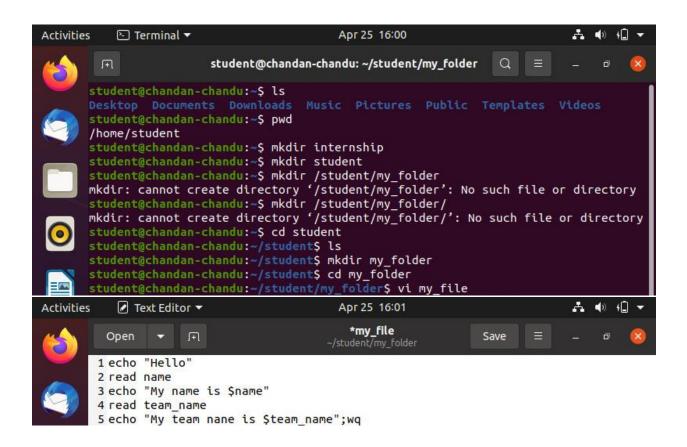
3. Create a new folder 'my_folder' inside the student folder



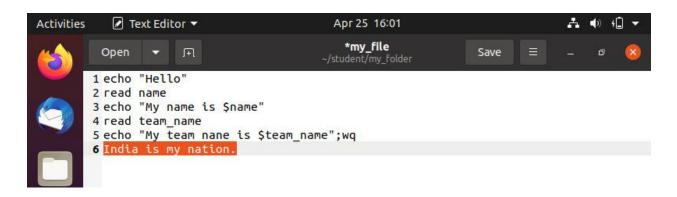
4. Create a new file 'my_file' inside the folder student with the following contents:

Hello
My name is [your name].

My team is [your_team_name].



5. Append the file my_file to add the following line at the end of the file: India is my nation.



6. Navigate to the student directory and create a new folder 'student'

```
Activities

    Terminal ▼

                                             Apr 25 16:06
                                                                     Q
                       student@chandan-chandu: ~/student/studentdir_2
       My name is chandan
       Charvik_world
My team nane is Charvik_world
       ./my_file: line 5: wq: command not found
       student@chandan-chandu:~/student/my_folder$ gedit my_file
       cd /
       ^Z
       [1]+ Stopped
                                       gedit my_file
       student@chandan-chandu:~/student/my_folder$ cd ...
       student@chandan-chandu:~/student$ pwd
       /home/student/student
       student@chandan-chandu:~/student$ mkdir studentdir 2
```

7. Create three files with some text in the student folder.



8. Delete any one file from the three created files.

```
student@chandan-chandu:~/student/studentdir_2$
student@chandan-chandu:~/student/studentdir_2$ rm myfile3.txt
student@chandan-chandu:~/student/studentdir_2$ ls
myfile1.txt myfile2.txt
student@chandan-chandu:~/student/studentdir_2$ [
```

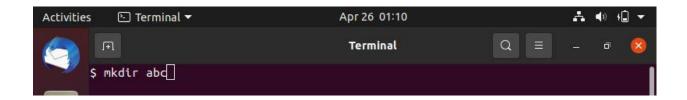
Task - 2:

1. Create two users 'student1' and 'student2'

```
root@chandan-chandu:/home# useradd -m student1
root@chandan-chandu:/home# passwd student1
New password:
Retype new password:
passwd: password updated successfully
root@chandan-chandu:/home# useradd -m student2
root@chandan-chandu:/home# passwd student2
New password:
Retype new password:
passwd: password updated successfully
root@chandan-chandu:/home# 

The student in the student
```

2. Create a folder "abc" in the student user home directory (/home/student)



3 directory (/home/student) 3. Create a folder "intern" inside the abc folder.

```
$ cd abc

$ pwd

/home/student1/abc

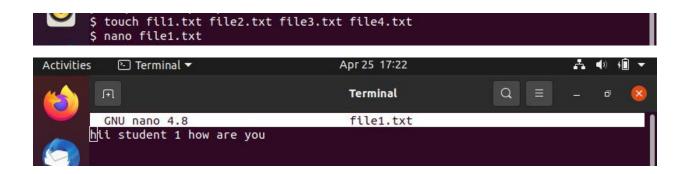
$ mkdir intern

$ cd intern

$ pwd

/home/student1/abc/intern
```

4.Create four files "file1", "file2", "file3" and "file4" with some random text inside the intern folder.



5. Create a hidden file "my_hidden_file" inside the intern folder

```
$ pwd
/home/student1/abc/intern
$ vi .my_hideen.txt
$ [
```

6. Create a new folder "test1" inside the abc folder.



7. Copy all the contents including the hidden file of the intern folder to the test1 folder

```
$ pwd
/home/student1/abc/intern
$ cp -r * /home/student1/abc
$ cp -r * /home/student1/abc/test1

$ cd test1
$ ls
fil1.txt file1.txt file2.txt file3.txt file4.txt test1
$ ls -a
. fil1.txt file2.txt file4.txt test1
... file1.txt file3.txt .my_hideen.txt
$ []
```

8. Create a new folder "test2" inside the abc folder.

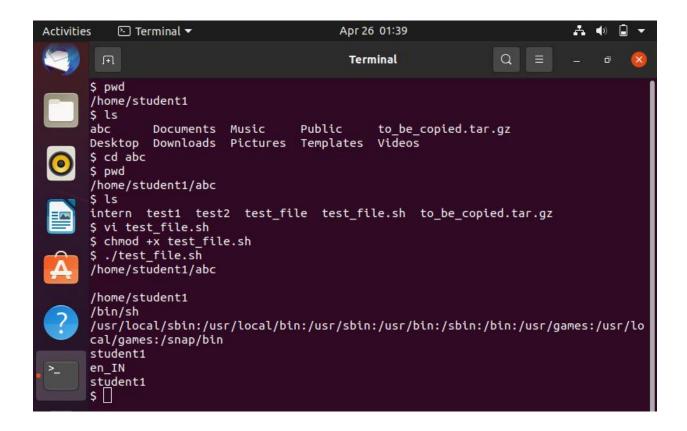
```
$ pwd
/home/student1/abc
$ mkdir test2
```

9. Copy all the contents excluding the hidden file of the intern folder to the test2 folder

```
$ cp * /home/student1/abc/test2
$ cd ..
$ ls
fil1.txt file1.txt file2.txt file3.txt file4.txt intern test1 test2
$ cd test2
$ ls
fil1.txt file1.txt file2.txt file3.txt file4.txt
$
```

10.Create a file "test_file" in the abc folder with the following contents:

echo \$PWD
echo \$HOSTNAME
echo \$HOME
echo \$SHELL
echo \$PATH
echo \$USER
echo \$LANG
echo \$LOGNAME



11. Compress the abc folder as "to_be_copied.tar.gz".

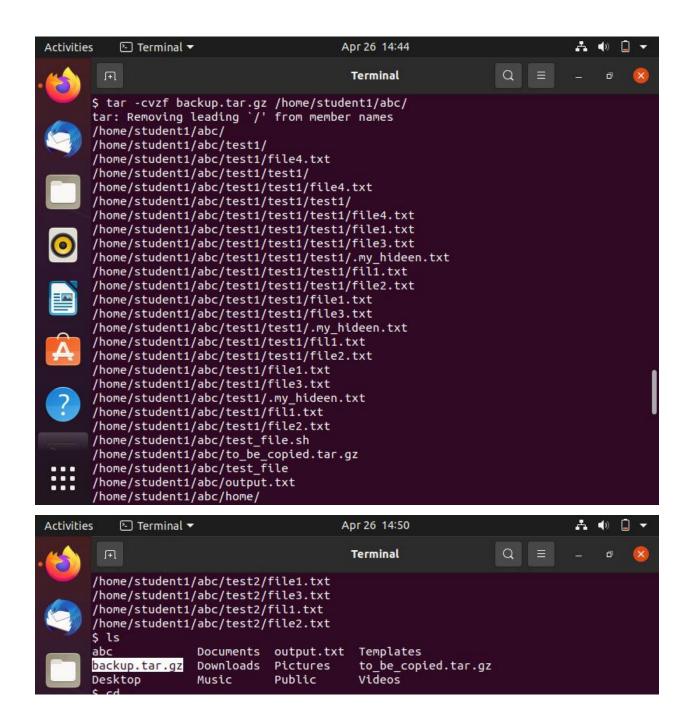
```
S ls
intern test1 test2 test_file test_file.sh
$ cd ..
Sls
abc Desktop Documents Downloads Music Pictures Public Templates Videos
$ tar -zcvf abc.tar.gz /home/student1/abc
tar: Removing leading '/' from member names
/home/student1/abc/
/home/student1/abc/test1/
/home/student1/abc/test1/file4.txt
/home/student1/abc/test1/test1/
/home/student1/abc/test1/test1/file4.txt
/home/student1/abc/test1/test1/test1/
/home/student1/abc/test1/test1/test1/file4.txt
/home/student1/abc/test1/test1/test1/file1.txt
/home/student1/abc/test1/test1/test1/file3.txt
/home/student1/abc/test1/test1/test1/.my_hideen.txt
/home/student1/abc/test1/test1/test1/fil1.txt
/home/student1/abc/test1/test1/test1/file2.txt
/home/student1/abc/test1/test1/file1.txt
/home/student1/abc/test1/test1/file3.txt
/home/student1/abc/test1/test1/.my_hideen.txt
/home/student1/abc/test1/test1/fil1.txt
/home/student1/abc/test1/test1/file2.txt
```

12. Now, Login as student1 and copy the zip file to the student1 user home directory and run the test_file and save the output as "output.txt" after extracting the zip file

```
$ ./test_file.sh > /home/student1/abc/output.txt
$ ls
home
       output.txt test2
                             test_file.sh
intern test1
                  test_file to_be_copied.tar.gz
$ cat output.txt
/home/student1/abc
/home/student1
/bin/sh
/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/sbin:/usr/games:/usr/lo
cal/games:/snap/bin
student1
en_IN
st<u>u</u>dent1
```

13.Again, login as student2 and copy the zip file to the student2 user home directory. Rename the zip file as "copy.tar.gz". Make a copy of it as "copied.gz" and run the test_file and save the output as "output.txt" after extracting the copied.tar.gz.

14. Backup and compress the abc folder present in the student user home directory as "backup.tar.gz".



Task - 3:

The dataset for this assignment can be accessed from the following link

Link -: https://drive.google.com/file/d/10A2EYklvry6NHLmRkQs-LMHch9dxZ6gs/view

Overview:

Twitter is making it possible for developers and researchers to study the public conversation around COVID-19 in real time. This dataset includes a CSV file which contains tweets extracted from the Twitter website in March 2020. The dataset is large and thus you are initially required to manipulate it using shell scripting.

Download the file covid-data.zip from the link provided above. Use the Unix shell to manipulate the file and answer the following questions.

Questions:

1. Decompress the file. How big is it?

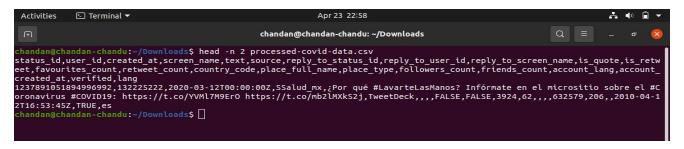


Here, in above picture I have created unzip_covid.sh script to unzip the given zip file.



Here in second snapshot there is 2.9 G is the size of the decompressed file.(peocessed-covid-data.csv)

2. What delimiter is used to separate the columns in the file? Write the code to show how many columns are there?



Here in the above picture "," delimiter is used to separate the column in the file.



Here in the above picture the command Is given to find the number of column according to given delimiter.

3. How many tweets are there in total in the file?



4. Assuming that the data is sorted, what is the date range of the tweets? (date of first and last tweet)



Here two things comes out:

First tweet: 12-03-2020

Last tweet: 24-03-2020

5. When was the first mention of the term "COVID-19" in your dataset (notice that we look for COVID-19 with capital letters here)? What is the user_id, text and post date of this tweet?



In above picture we find here two things:

1st User Id:- 2513348742

2nd Post Date:- 12-03-2020

6. How many times did the hashtag #coronavirus or #COVID-19 appears in the file in the given form?(If any of these words appear more than once in a line, you need to count all its ocinternrences to answer this question properly)



In the above picture #COVID-19 appears 17342 times



In the above picture #coronavirus appears 3594028 times

Task - 4

A company has set up a new site and transfer staff and visitor accounts to the new site.

Your task is to write a Bash script to create user accounts for all staff and visitors. The supplied user file Usernames.txt is a text file containing a username and its type delimited by comma per line. There are two types of users: staff and visitors.

Example or usernames.txt

john,staff

alice, visitor

jonathan, visitor

bob, visitor

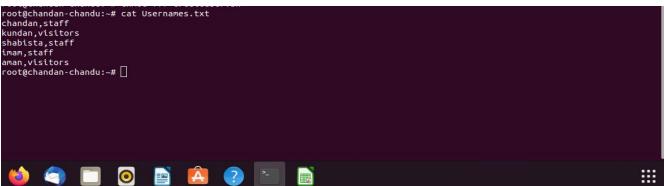
joe,staff

Staff users are added to the staff group and visitor users to the visitors group.

- 1. Write a Bash script, called createUsers.sh, to do the followings.
- a) Create a group called visitors;
- b) Create an account for each user and add the user to its group in one command. All user accounts are created with an initial password the same as their username; a home directory with the same name as their username in the /home directory; all accounts use Bash shell program.
- c) Write messages to syslog for all of the above events (new group, new user creation).

```
root@chandan-chandu:~# vi createuser.sh
root@chandan-chandu:~# vi createuser.sh
root@chandan-chandu:~# chmod 777 createuser.sh
root@chandan-chandu:~# []
```





```
Activities Terminal Toot@chandan-chandu:~

root@chandan-chandu:~# ./createuser.sh
New group 'visitors' created.
useradd: user 'chandan' already exists
New user 'chandan' created and added to 'staff' group.
useradd: user 'kundan' already exists
New user 'kundan' created and added to 'visitors' group.
useradd: user 'shabista' already exists
New user 'shabista' already exists
New user 'shabista' already exists
New user 'imam' already exists
New user 'imam' created and added to 'staff' group.
useradd: user 'aman' already exists
New user 'aman' already exists
New user 'aman' created and added to 'visitors' group.
root@chandan-chandu:~#
```

2. Write a Bash script, called reportVisitors.sh,to report the members of visitors group to the file /tmp/visitors.txt

```
Activities Terminal Terminal Apr 24 16:51

root@chandan-chandu: ~

Q = - 0 &

1 #!/bin/bash
2

3 # Report members of visitors group to /tmp/visitors.txt
4 members=$(getent group visitors | awk -F: '{print $1}')
5 echo "$members" > /tmp/visitors.txt
6 echo "Report generated at $(date)" >> /tmp/visitors.txt
```

3. Create a crontab entry to call the reportVisitors.sh script at 8:00AM and 9:00PM on every weekday

```
root@chandan-chandu:~# vi reportVisitors.sh
root@chandan-chandu:~# crontab -e
no crontab for root - using an empty one
Select an editor. To change later, run 'select-editor'.
1. /bin/nano <---- easiest
 1. /bin/nano
  2. /usr/bin/vim.basic
3. /usr/bin/vim.tiny
  4. /usr/bin/emacs
  5. /bin/ed
Choose 1-5 [1]: 1
crontab: installing new crontab
root@chandan-chandu:~# crontab -e
No modification made
root@chandan-chandu:~# ls
cpumem cpumem.sh createuser.sh dir internsctl reportVisitors.sh root snap Usernames.txt
root@chandan-chandu:~# crontab -e
crontab: installing new crontab
root@chandan-chandu:~# ./reportVisitors.sh
root@chandan-chandu:~# crontab -e
No modification made
```

