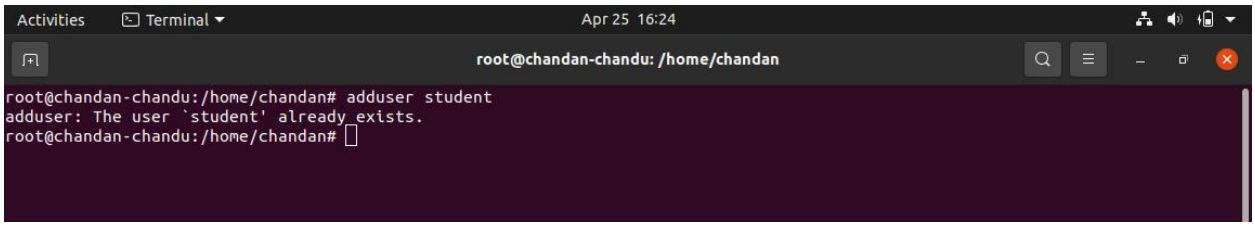
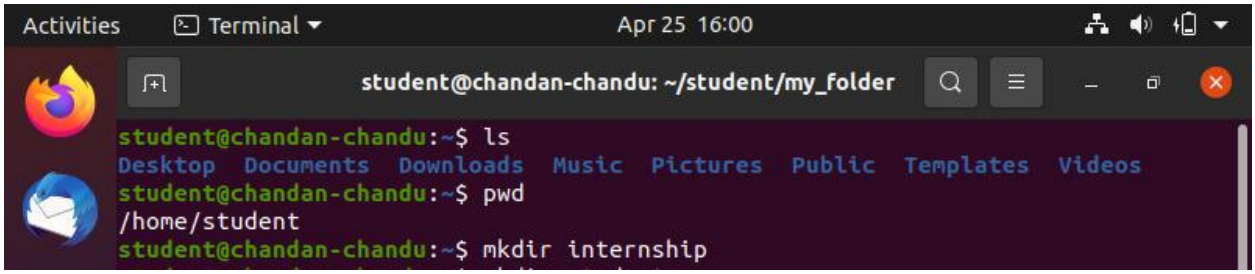
Chandan Kumar, Email- kumarchandan10942@gmail.com

Task - 1:

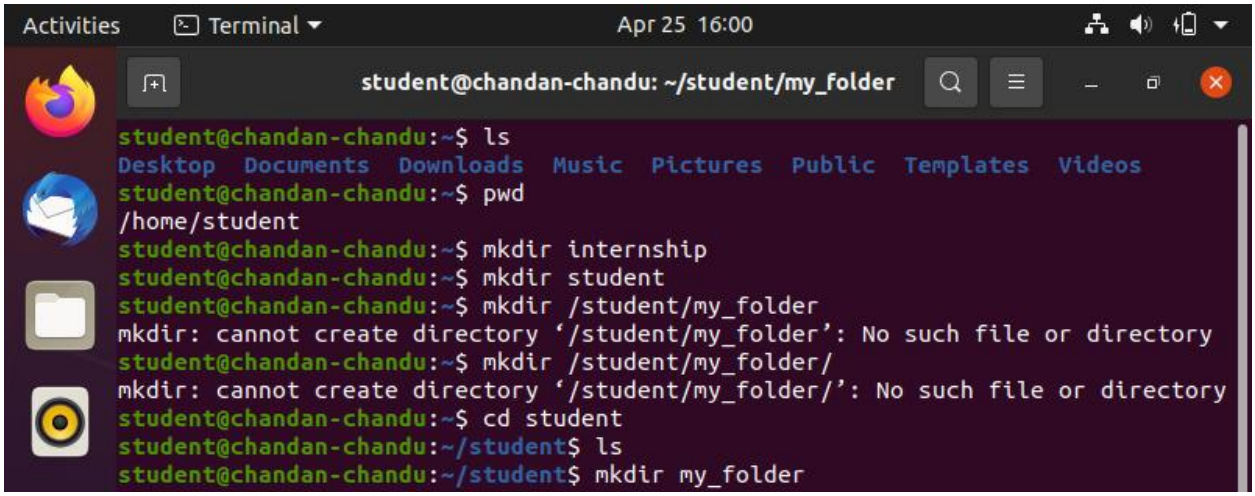
1. Create a new user “student” in linux.



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

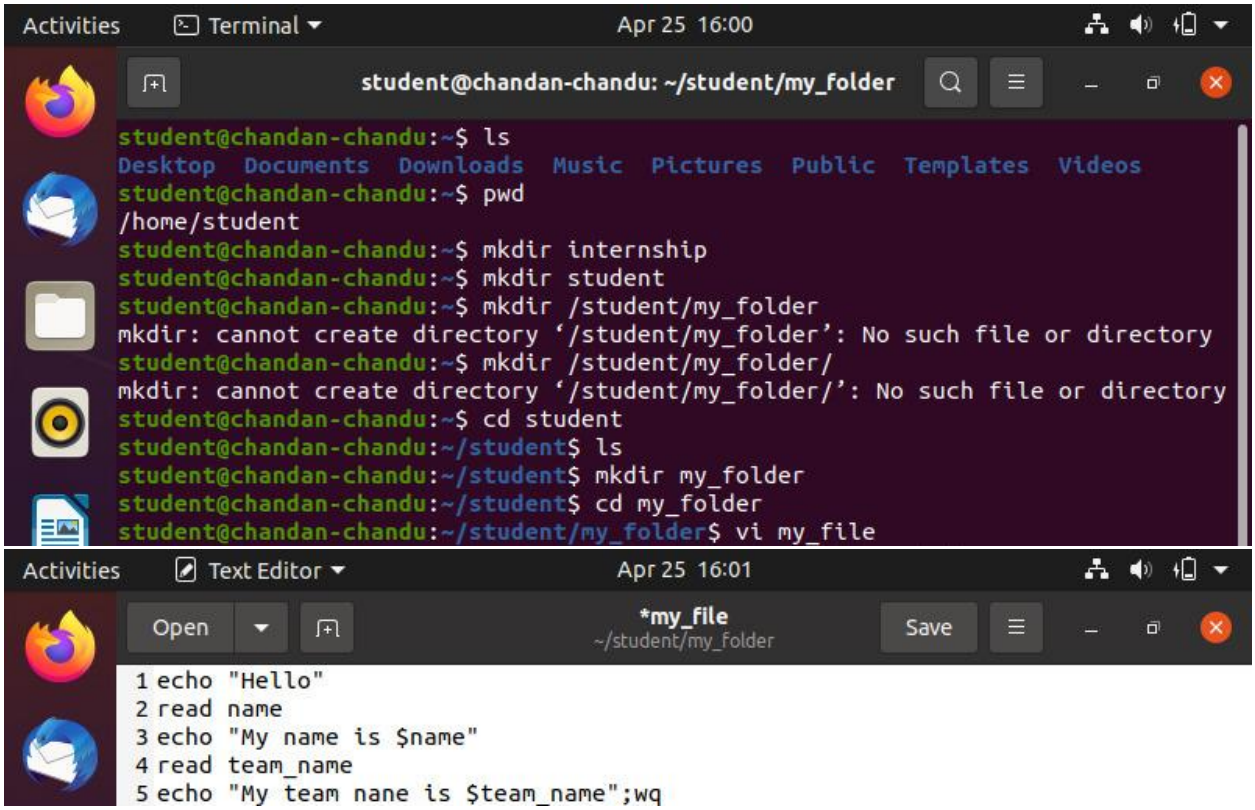


4. Create a new file ‘my_file’ inside the folder student with the following contents:

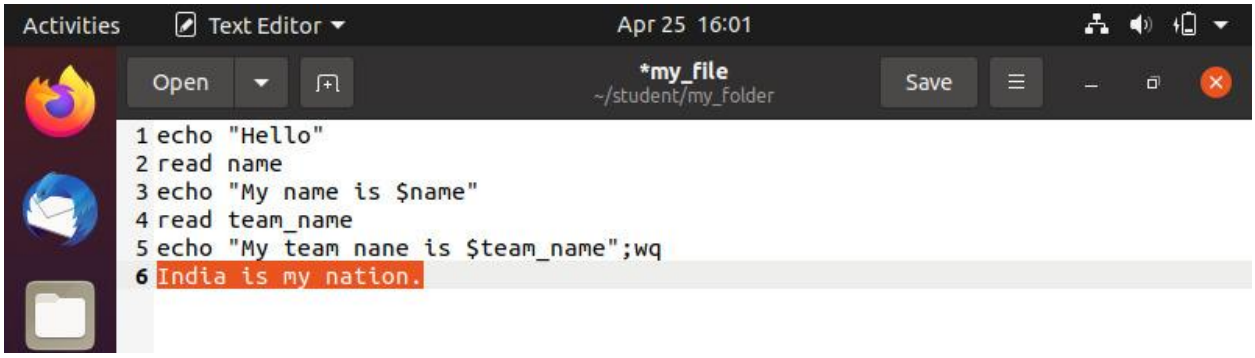
Hello

My name is [your name].

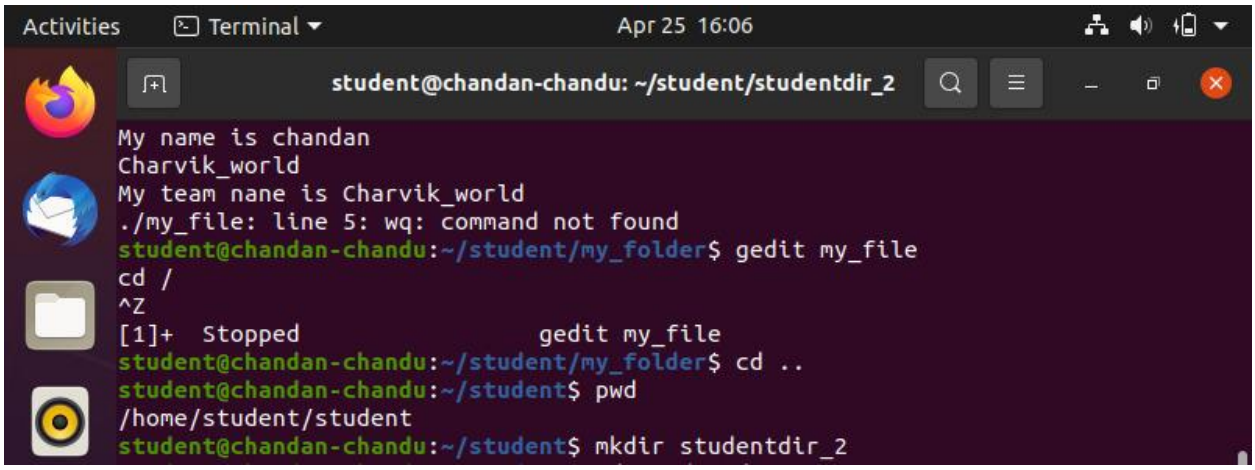
My team is [your_team_name].



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

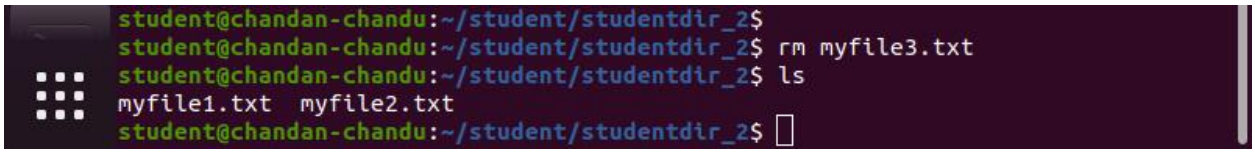


6. Navigate to the student directory and create a new folder 'student'



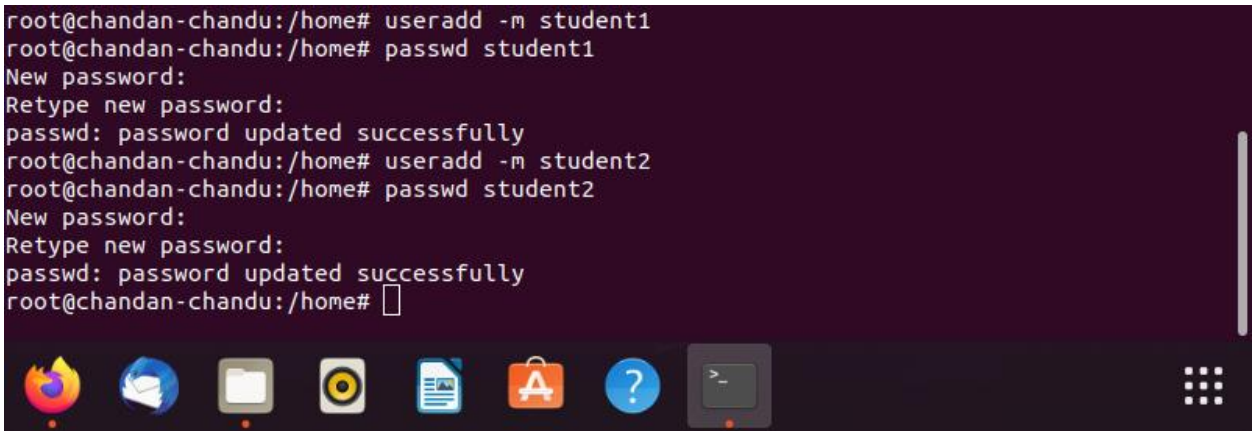
7. Create three files with some text in the student folder.

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

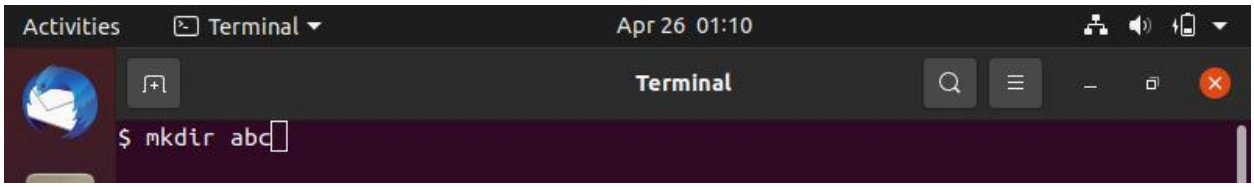


Task - 2:

1. Create two users ‘student1’ and ‘student2’

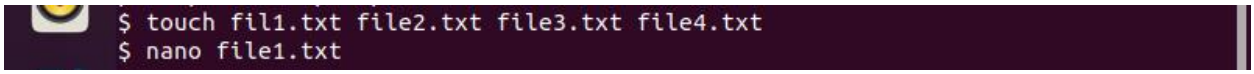


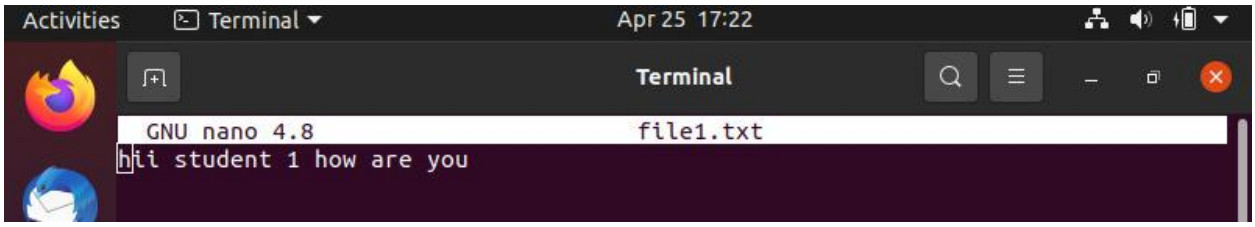
2. Create a folder “abc” in the student user home directory (/home/student)



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

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

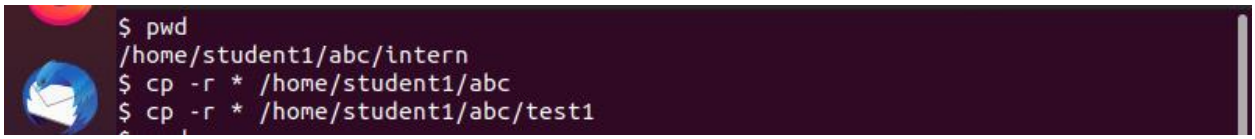


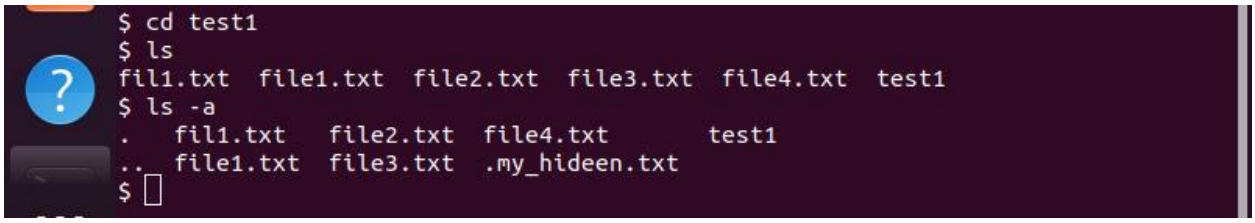


5. Create a hidden file “my_hidden_file” inside the intern folder

6. Create a new folder “test1” inside the abc folder.

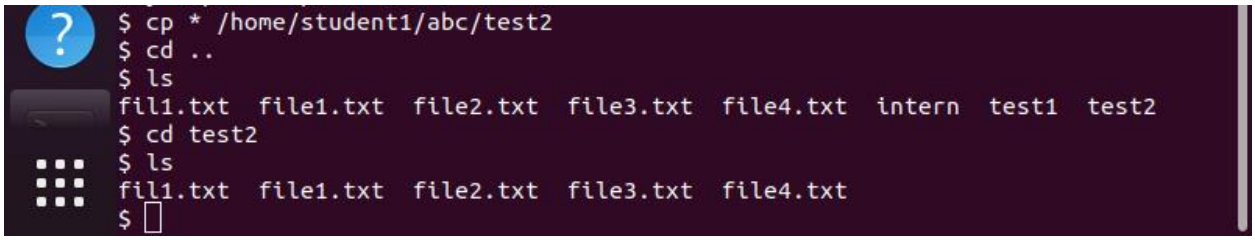
7. Copy all the contents including the hidden file of the intern folder to the test1 folder





8. Create a new folder “test2” inside the abc folder.

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



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

echo $PWD

echo $HOSTNAME

echo $HOME

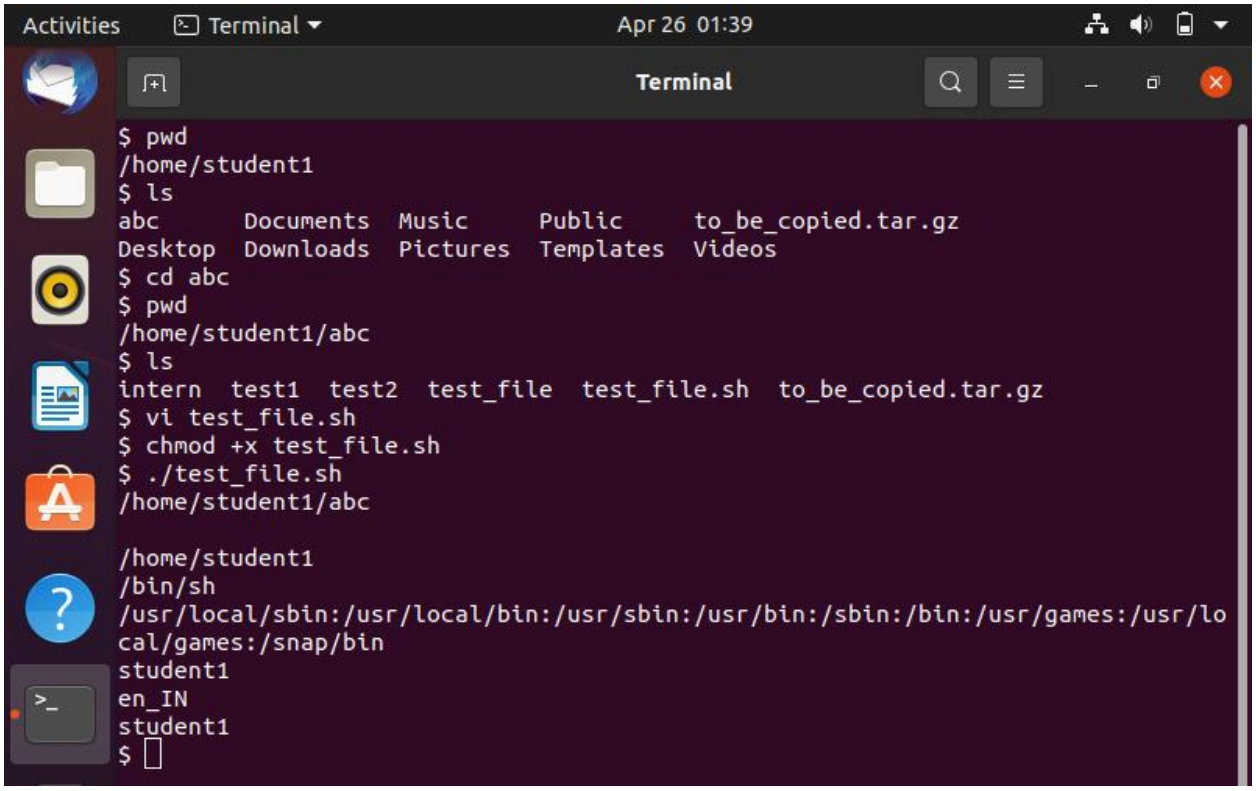
echo $SHELL

echo $PATH

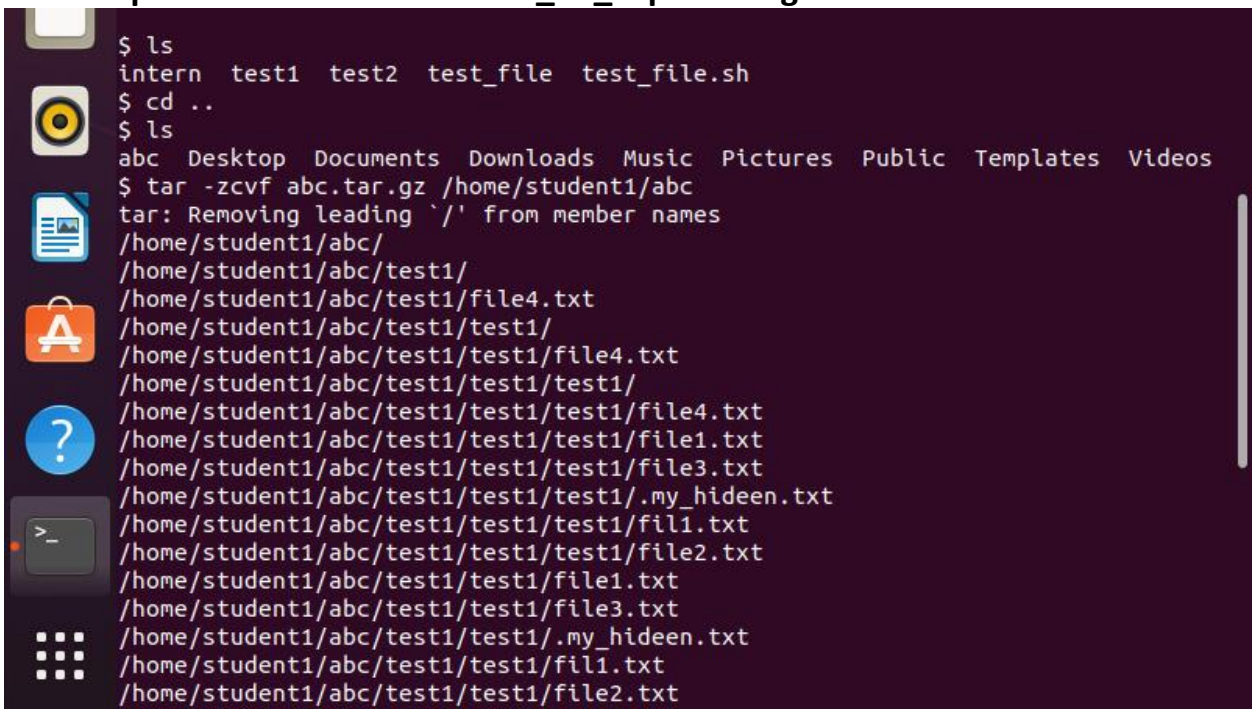
echo $USER

echo $LANG

echo $LOGNAME



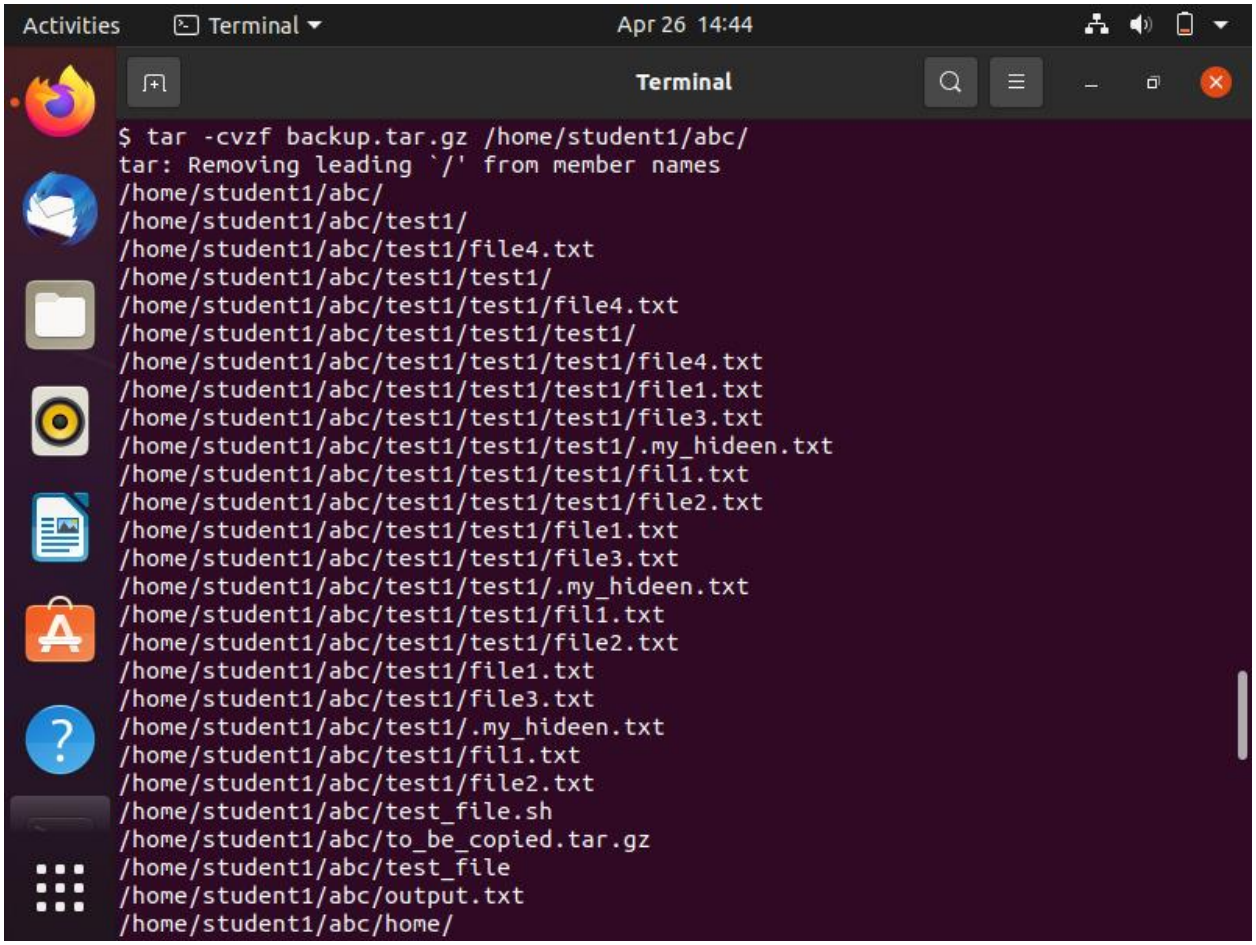
11. Compress the abc folder as “to_be_copied.tar.gz”.

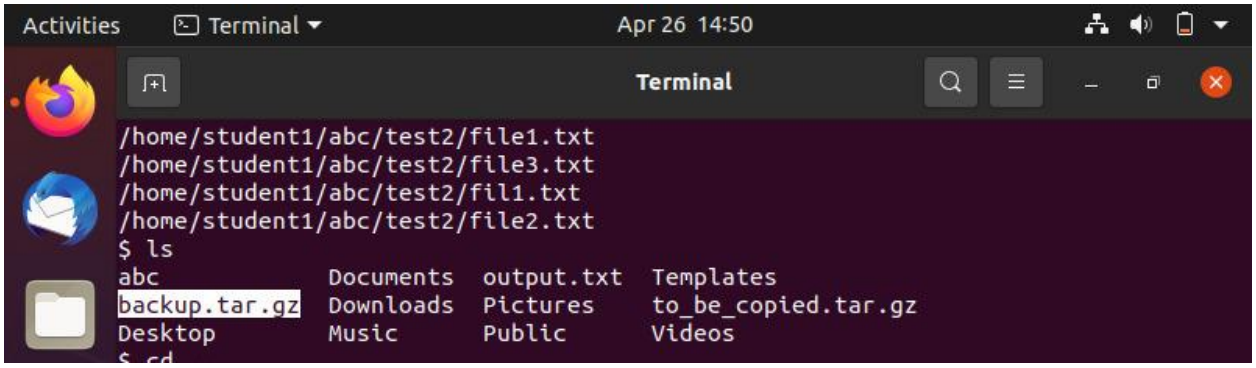


12. Now, Login as student1 and copy the zip file to the student1 user home directory and run the test_file and save the output as “output.txt” after extracting the zip file

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/1OA2EYkIvry6NHLmRkQs-LMHch9dxZ6gs/view

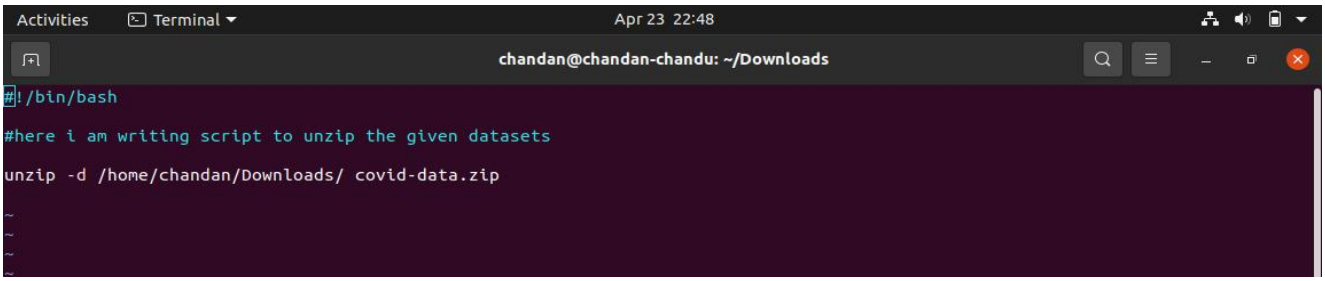
Overview:

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.

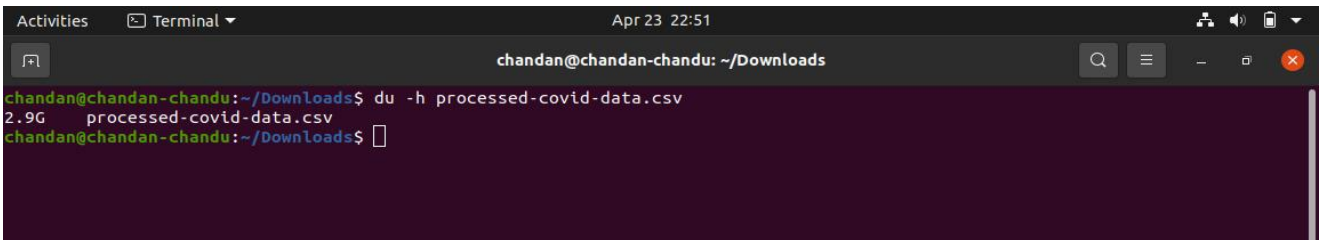
Download the file covid-data.zip from the link provided above. Use the Unix shell to manipulate the file and answer the following questions.

Questions:

1. Decompress the file. How big is it?

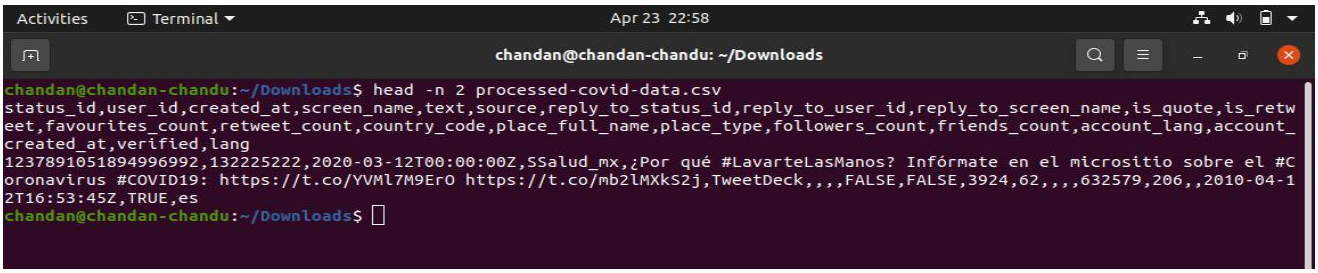


Here, in above picture I have created unzip_covid.sh script to unzip the given zip file.



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

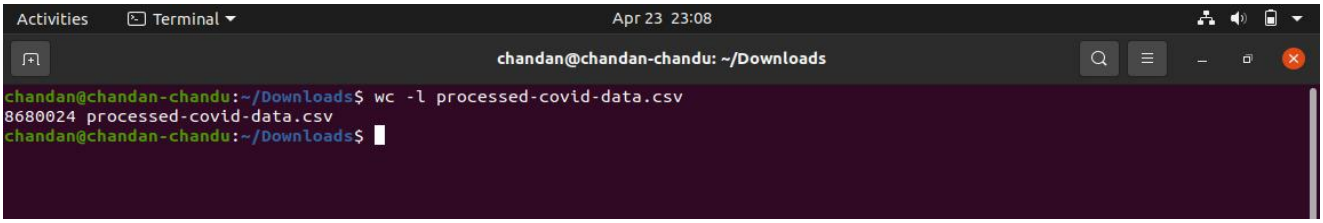
2. What delimiter is used to separate the columns in the file? Write the code to show how many columns are there?



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?



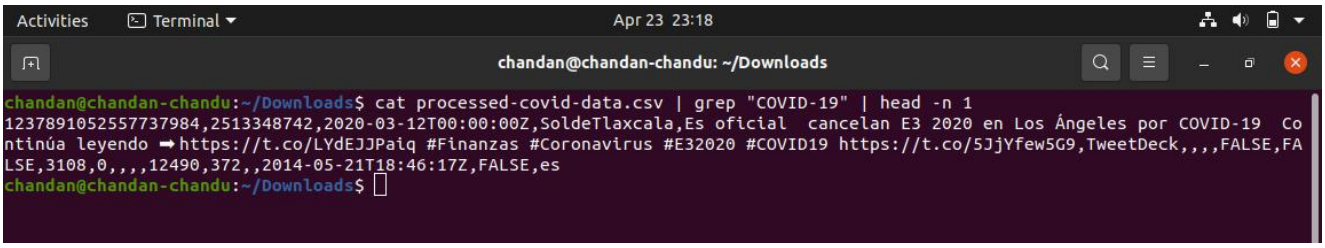
4. Assuming that the data is sorted, what is the date range of the tweets? (date of first and last tweet)

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?



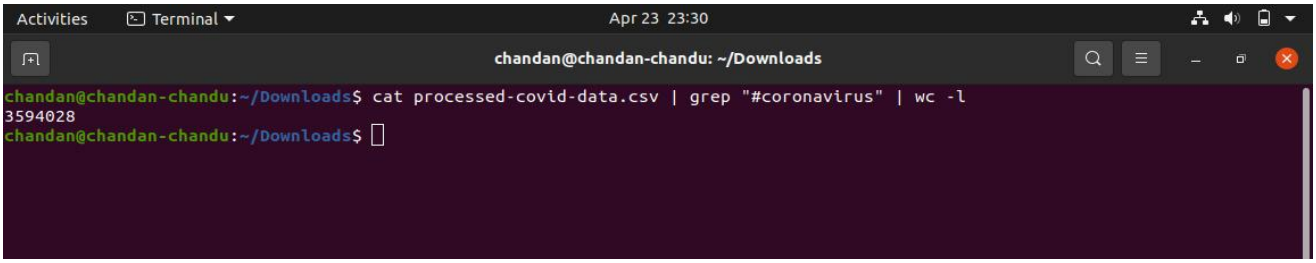
In above picture we find here two things:

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 ocinternrrences 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:~#
```

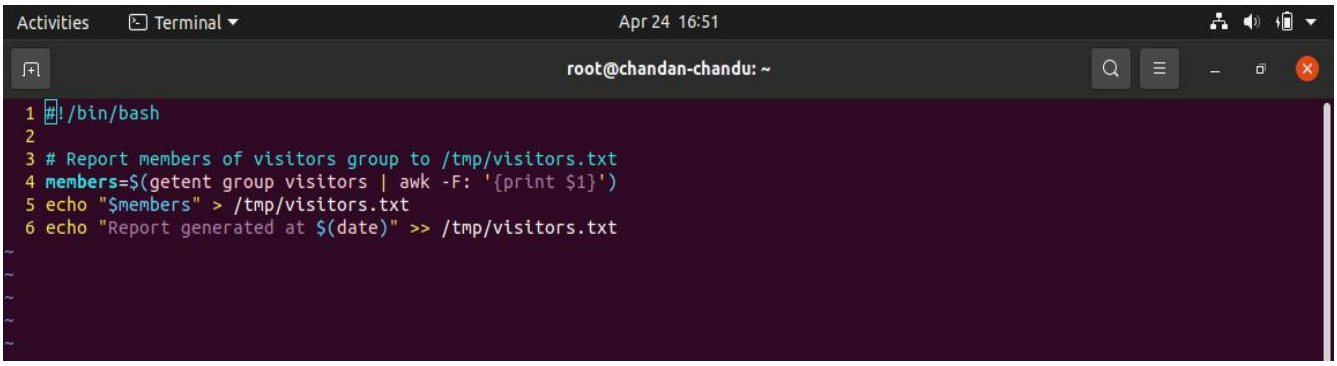
Activities Terminal Apr 25 14:47

root@chandan-chandu: ~

```
1
2 #!/bin/bash
3
4 # Create visitors group
5 sudo groupadd visitors
6 echo "New group 'visitors' created." | sudo tee -a /var/log/syslog
7
8 # Read usernames and types from Usernames.txt
9 while IFS=, read -r username usertype; do
10   # Create user account and add to appropriate group
11   sudo useradd -m -p "$username" -s /bin/bash "$username"
12   sudo usermod -a -G "$usertype" "$username"
13   echo "New user '$username' created and added to '$usertype' group." | sudo tee -a /var/log/syslog
14 done < Usernames.txt
~
~
~
```

```
root@chandan-chandu:~# cat Usernames.txt
chandan,staff
kundan,visitors
shabista,staff
imam,staff
aman,visitors
root@chandan-chandu:~#
```

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