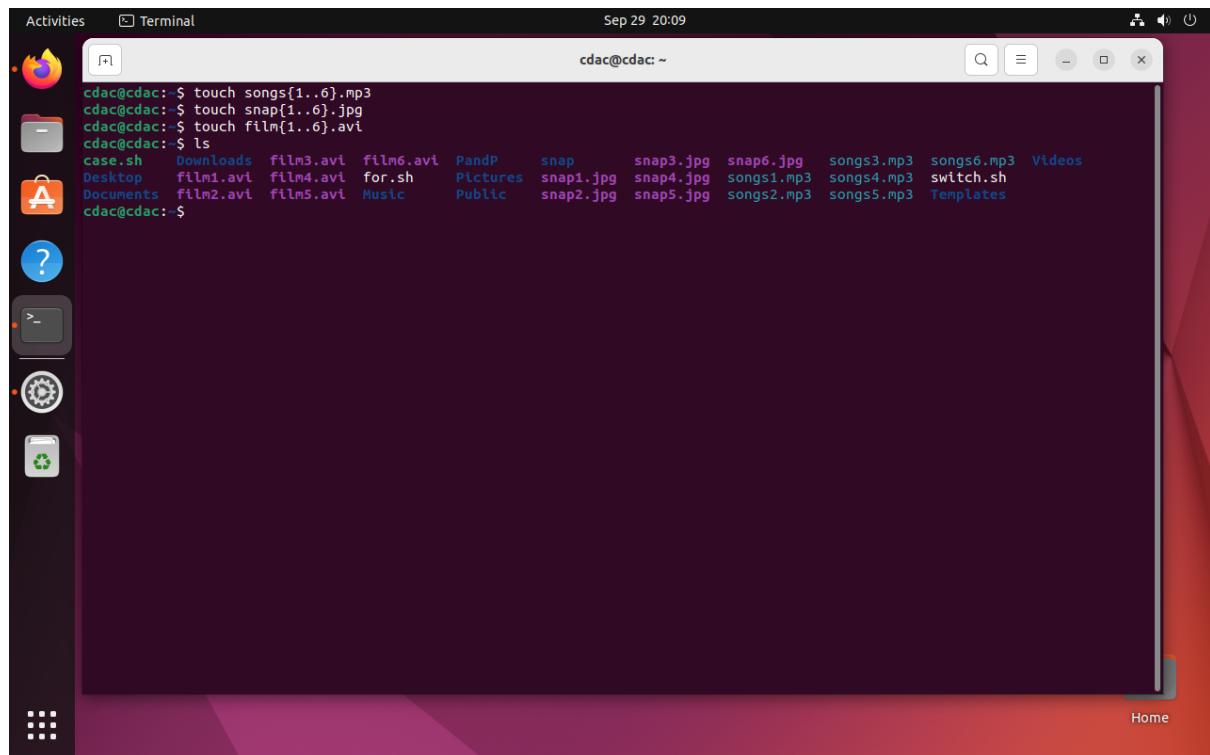


# ASSIGNMENT 1

1. In your home directory, create sets of empty practice files

- Create 6 files with names of the form songsX.mp3.
- Create 6 files with names of the form snapX.jpg.
- Create 6 files with names of the form filmX.avi.

In each set, replace X with the numbers 1 through 6.



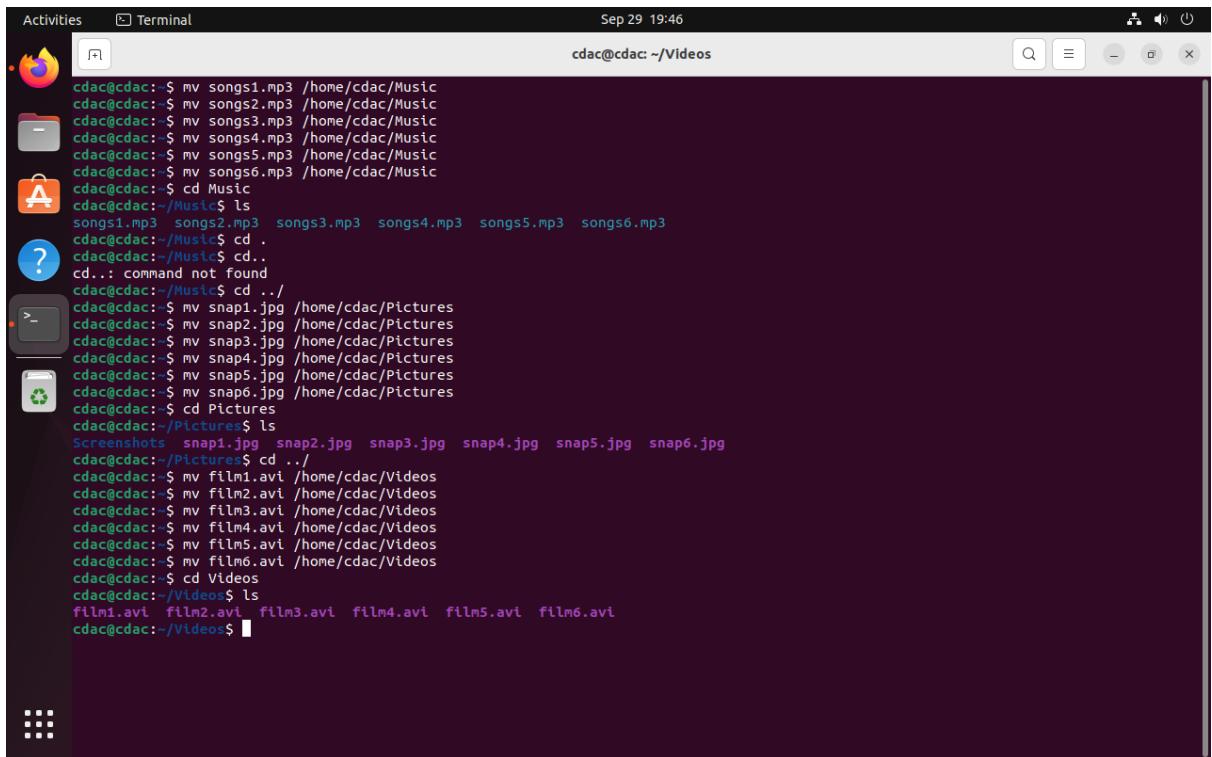
A screenshot of a Linux desktop environment. On the left is a vertical dock with icons for the Dash, Home, Activities, and other applications. The main area shows a terminal window titled "Terminal" with the command "cdac@cdac: ~". The terminal output shows the creation of files:

```
Sep 29 20:09
Activities Terminal Sep 29 20:09
cdac@cdac:~$ touch songs{1..6}.mp3
cdac@cdac:~$ touch snap{1..6}.jpg
cdac@cdac:~$ touch film{1..6}.avi
cdac@cdac:~$ ls
case.sh  Downloads  film3.avi  film6.avi  PandP    snap    snap3.jpg  snap6.jpg  songs3.mp3  songs6.mp3  Videos
Desktop   film1.avi  film4.avi  for.sh    Pictures  snap1.jpg  snap4.jpg  songs1.mp3  songs4.mp3  switch.sh
Documents  film2.avi  film5.avi  Music     Public    snap2.jpg  snap5.jpg  songs2.mp3  songs5.mp3  Templates
cdac@cdac:~$
```

The desktop has a dark theme with a red gradient background. The terminal window has a dark background with light-colored text.

## 2. From your home directory,

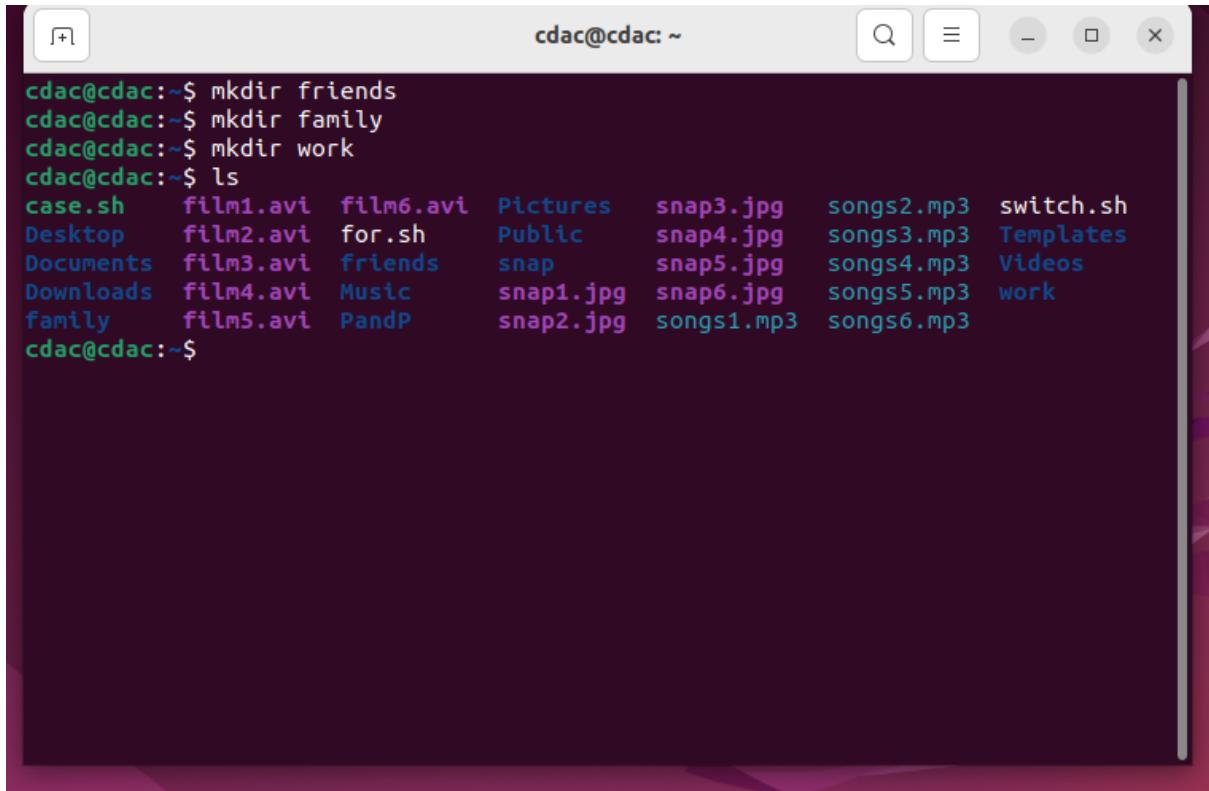
- Move songs file into your Music subdirectory.
- Move snap file into your Pictures subdirectory.
- Move your movie files into Videos subdirectory



A screenshot of a Linux desktop environment showing a terminal window. The terminal window is titled "Terminal" and has the command line "cdac@cdac: ~/Videos". The terminal shows a series of commands being run to move files from the current directory (~) to subdirectories "Music", "Pictures", and "Videos". The commands include "mv" for moving files and "cd" for changing directories. The terminal window is part of a desktop interface with icons for various applications like a file manager, terminal, and system settings.

```
Activities Terminal Sep 29 19:46
cdac@cdac: ~$ mv songs1.mp3 /home/cdac/Music
cdac@cdac: ~$ mv songs2.mp3 /home/cdac/Music
cdac@cdac: ~$ mv songs3.mp3 /home/cdac/Music
cdac@cdac: ~$ mv songs4.mp3 /home/cdac/Music
cdac@cdac: ~$ mv songs5.mp3 /home/cdac/Music
cdac@cdac: ~$ mv songs6.mp3 /home/cdac/Music
cdac@cdac: ~$ cd Music
cdac@cdac: ~/Music$ ls
songs1.mp3  songs2.mp3  songs3.mp3  songs4.mp3  songs5.mp3  songs6.mp3
cdac@cdac: ~/Music$ cd ..
cdac@cdac: ~$ cd..
cd..: command not found
cdac@cdac: ~$ cd ../
cdac@cdac: ~$ mv snap1.jpg /home/cdac/Pictures
cdac@cdac: ~$ mv snap2.jpg /home/cdac/Pictures
cdac@cdac: ~$ mv snap3.jpg /home/cdac/Pictures
cdac@cdac: ~$ mv snap4.jpg /home/cdac/Pictures
cdac@cdac: ~$ mv snap5.jpg /home/cdac/Pictures
cdac@cdac: ~$ mv snap6.jpg /home/cdac/Pictures
cdac@cdac: ~$ cd Pictures
cdac@cdac: ~/Pictures$ ls
Screenshots  snap1.jpg  snap2.jpg  snap3.jpg  snap4.jpg  snap5.jpg  snap6.jpg
cdac@cdac: ~/Pictures$ cd ../
cdac@cdac: ~$ mv film1.avi /home/cdac/Videos
cdac@cdac: ~$ mv film2.avi /home/cdac/Videos
cdac@cdac: ~$ mv film3.avi /home/cdac/Videos
cdac@cdac: ~$ mv film4.avi /home/cdac/Videos
cdac@cdac: ~$ mv film5.avi /home/cdac/Videos
cdac@cdac: ~$ mv film6.avi /home/cdac/Videos
cdac@cdac: ~$ cd Videos
cdac@cdac: ~/Videos$ ls
film1.avi  film2.avi  film3.avi  film4.avi  film5.avi  film6.avi
cdac@cdac: ~/Videos$
```

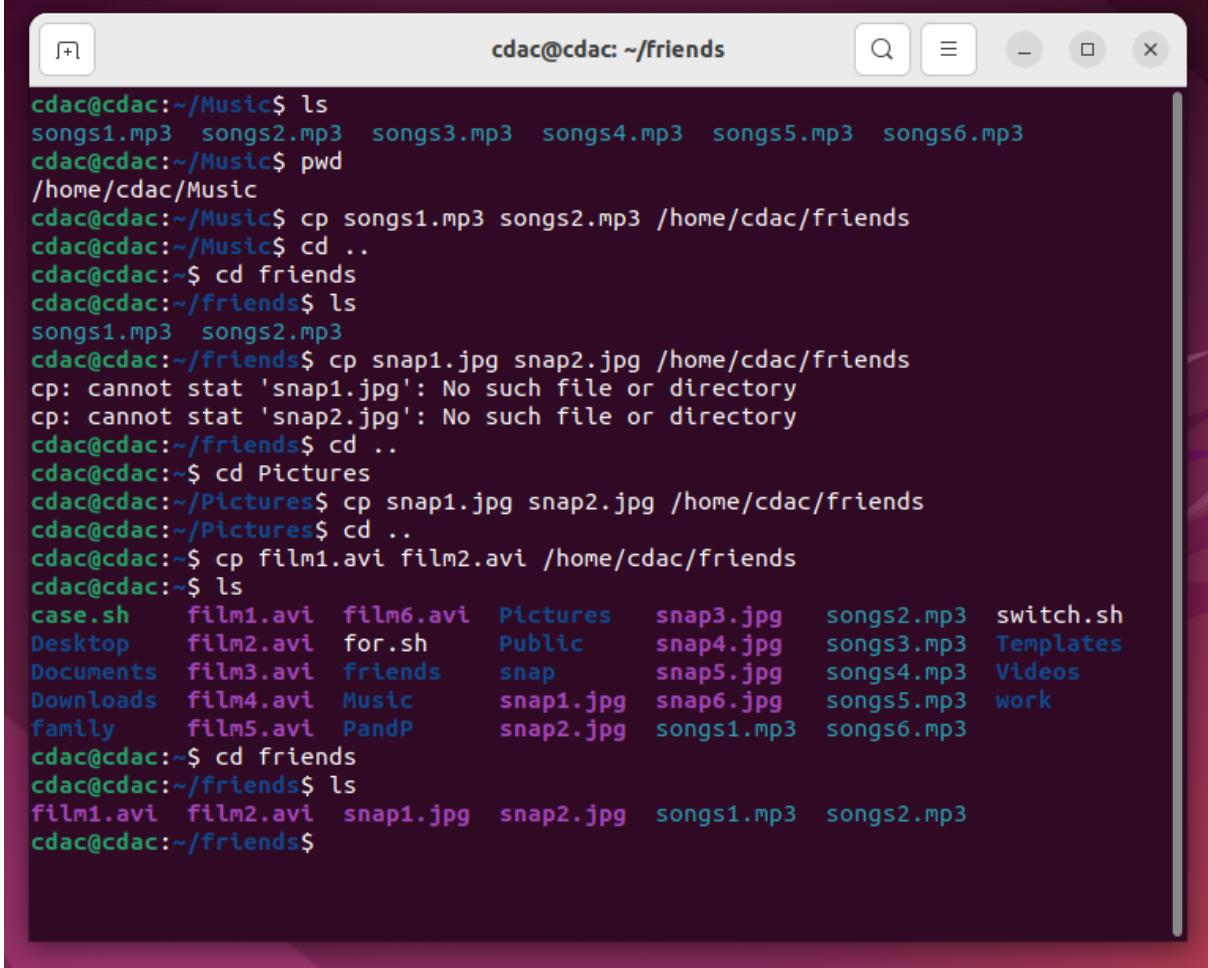
3. Create 3 subdirectories for organizing your files named friends,family,work



The screenshot shows a terminal window with a dark background and light-colored text. At the top, it says "cdac@cdac: ~". Below that, there is a command-line history and a list of files. The command history shows the creation of three directories: "mkdir friends", "mkdir family", and "mkdir work". The file list includes various files and folders such as "case.sh", "Desktop", "Documents", "Downloads", "friends", "family", "film1.avi", "film2.avi", "film3.avi", "film4.avi", "film5.avi", "for.sh", "Music", "PandP", "Pictures", "Public", "snap", "snap1.jpg", "snap2.jpg", "snap3.jpg", "snap4.jpg", "snap5.jpg", "snap6.jpg", "songs1.mp3", "songs2.mp3", "songs3.mp3", "songs4.mp3", "songs5.mp3", "songs6.mp3", "switch.sh", "Templates", "Videos", and "work".

```
cdac@cdac:~$ mkdir friends
cdac@cdac:~$ mkdir family
cdac@cdac:~$ mkdir work
cdac@cdac:~$ ls
case.sh    film1.avi  film6.avi  Pictures   snap3.jpg   songs2.mp3  switch.sh
Desktop   film2.avi  for.sh     Public     snap4.jpg   songs3.mp3  Templates
Documents  film3.avi  friends   snap       snap5.jpg   songs4.mp3  Videos
Downloads  film4.avi  Music     snap1.jpg  snap6.jpg   songs5.mp3  work
family     film5.avi  PandP    snap2.jpg  songs1.mp3  songs6.mp3
cdac@cdac:~$
```

4. Copy files (all types ) containing numbers 1 and 2 to the friends folder.
- Copy files (all types) containing numbers 3 and 4 to the family folder.
- Copy files (all types) containing numbers 5 and 6 to the work folder.



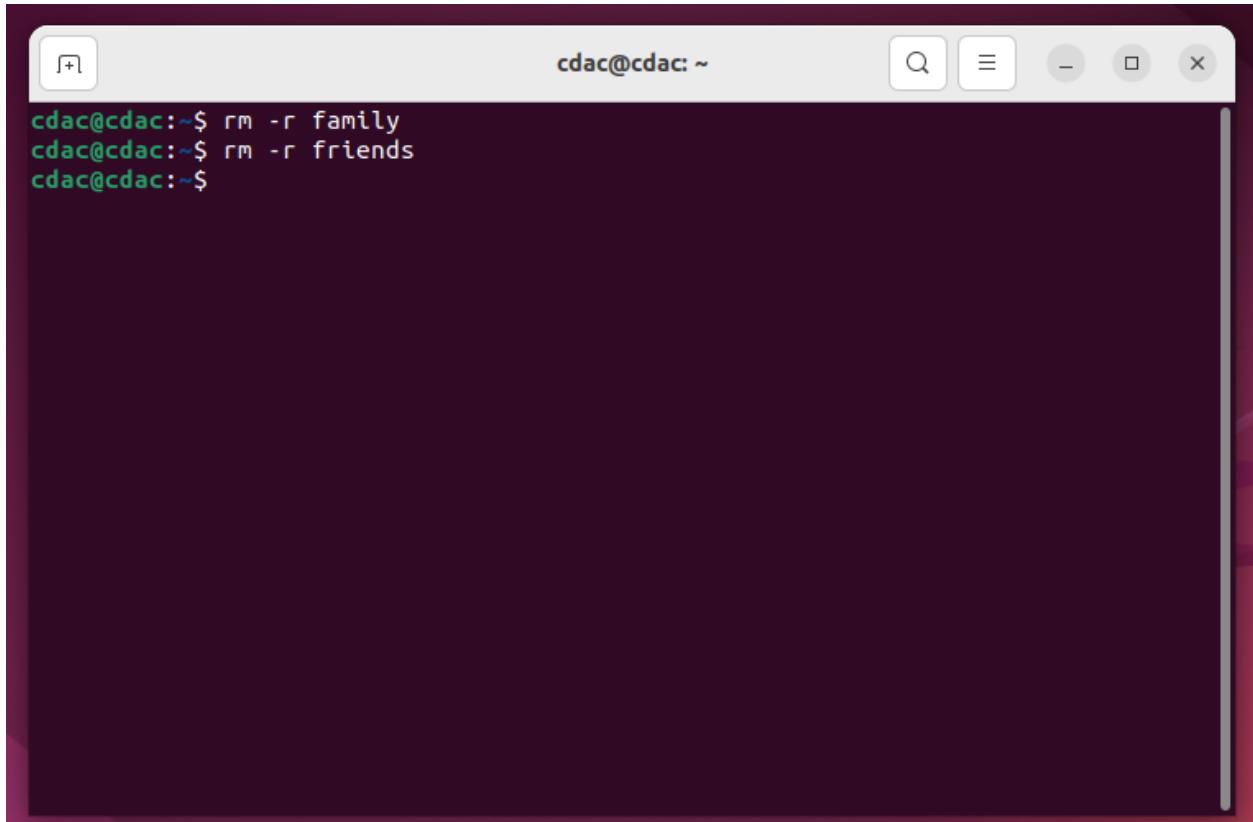
The screenshot shows a terminal window titled "cdac@cdac: ~/friends". The terminal displays the following command-line session:

```
cdac@cdac:~/Music$ ls
songs1.mp3 songs2.mp3 songs3.mp3 songs4.mp3 songs5.mp3 songs6.mp3
cdac@cdac:~/Music$ pwd
/home/cdac/Music
cdac@cdac:~/Music$ cp songs1.mp3 songs2.mp3 /home/cdac/friends
cdac@cdac:~/Music$ cd ..
cdac@cdac:~$ cd friends
cdac@cdac:~/friends$ ls
songs1.mp3 songs2.mp3
cdac@cdac:~/friends$ cp snap1.jpg snap2.jpg /home/cdac/friends
cp: cannot stat 'snap1.jpg': No such file or directory
cp: cannot stat 'snap2.jpg': No such file or directory
cdac@cdac:~/friends$ cd ..
cdac@cdac:~$ cd Pictures
cdac@cdac:~/Pictures$ cp snap1.jpg snap2.jpg /home/cdac/friends
cdac@cdac:~/Pictures$ cd ..
cdac@cdac:~$ cp film1.avi film2.avi /home/cdac/friends
cdac@cdac:~$ ls
case.sh    film1.avi  film6.avi  Pictures  snap3.jpg  songs2.mp3  switch.sh
Desktop    film2.avi  for.sh    Public    snap4.jpg  songs3.mp3  Templates
Documents  film3.avi  friends   snap     snap5.jpg  songs4.mp3  Videos
Downloads  film4.avi  Music    snap1.jpg snap6.jpg  songs5.mp3  work
family     film5.avi  PandP    snap2.jpg songs1.mp3 songs6.mp3
cdac@cdac:~$ cd friends
cdac@cdac:~/friends$ ls
film1.avi  film2.avi  snap1.jpg  snap2.jpg  songs1.mp3  songs2.mp3
cdac@cdac:~/friends$
```

```
cdac@cdac:~/friends$ cd ..
cdac@cdac:~$ cd Music
cdac@cdac:~/Music$ cp songs3.mp3 songs4.mp3 /home/cdac/family
cdac@cdac:~/Music$ cp snap3.jpg snap4.jpg /home/cdac/family
cp: cannot stat 'snap3.jpg': No such file or directory
cp: cannot stat 'snap4.jpg': No such file or directory
cdac@cdac:~/Music$ cd ..
cdac@cdac:~$ cd Pictures
cdac@cdac:~/Pictures$ cp snap3.jpg snap4.jpg /home/cdac/family
cdac@cdac:~/Pictures$ cd ..
cdac@cdac:~$ cd Videos
cdac@cdac:~/Videos$ cp film3.avi film4.avi /home/cdac/family
cdac@cdac:~/Videos$ ls
film1.avi film2.avi film3.avi film4.avi film5.avi film6.avi
cdac@cdac:~/Videos$ cd ..
cdac@cdac:~$ cd family
cdac@cdac:~/family$ ls
film3.avi film4.avi snap3.jpg snap4.jpg songs3.mp3 songs4.mp3
cdac@cdac:~/family$ cd ..
cdac@cdac:~$ cd friends
cdac@cdac:~/friends$ ls
film1.avi film2.avi snap1.jpg snap2.jpg songs1.mp3 songs2.mp3
cdac@cdac:~/friends$ cd ..
cdac@cdac:~$ cd Music
cdac@cdac:~/Music$ cp songs5.mp3 songs6.mp3 /home/cdac/work
cdac@cdac:~/Music$ cd ..
cdac@cdac:~$ cd Pictures
cdac@cdac:~/Pictures$ cp snap5.jpg snap6.jpg /home/cdac/work
cdac@cdac:~/Pictures$ cd ..
cdac@cdac:~$ cd Videos
cdac@cdac:~/Videos$ cp film5.avi film6.avi /home/cdac/work
cdac@cdac:~/Videos$ cd ..
cdac@cdac:~$ cd work
cdac@cdac:~/work$ ls
film5.avi film6.avi snap5.jpg snap6.jpg songs5.mp3 songs6.mp3
cdac@cdac:~/work$
```

## ASS-2

### 7. Delete all files in family subdirectory. Delete friends subdirectory



The screenshot shows a terminal window with a dark background. At the top, the title bar displays "cdac@cdac: ~". Below the title bar, there are several small icons: a search icon, a menu icon, a minimize button, a maximize button, and a close button. The main area of the terminal contains the following text:

```
cdac@cdac:~$ rm -r family
cdac@cdac:~$ rm -r friends
cdac@cdac:~$
```

## 8. Create user tom , bob , sam , prince

A screenshot of a terminal window titled "Activities Terminal". The terminal shows the following command sequence:

```
Full Name []: bobby
Room Number []:
Work Phone []:
Home Phone []:
Other []

Is the information correct? [Y/n] y
root@apeksha-VirtualBox:/home# adduser sam
Adding user `sam' ...
Adding new group `sam' (1007) ...
Adding new user `sam' (1003) with group `sam' ...
The home directory `/home/sam' already exists. Not copying from `/etc/skel'.
adduser: Warning: The home directory `/home/sam' does not belong to the user you are currently creating.
New password:
Retype new password:
passwd: password updated successfully
Changing the user information for sam
Enter the new value, or press ENTER for the default
      Full Name []: sammy
      Room Number []:
      Work Phone []:
      Home Phone []:
      Other []

Is the information correct? [Y/n] y
root@apeksha-VirtualBox:/home# adduser prince
Adding user `prince' ...
Adding new group `prince' (1008) ...
Adding new user `prince' (1004) with group `prince' ...
The home directory `/home/prince' already exists. Not copying from `/etc/skel'.
New password:
Retype new password:
passwd: password updated successfully
Changing the user information for prince
Enter the new value, or press ENTER for the default
      Full Name []: princeree
      Room Number []:
      Work Phone []:
      Home Phone []:
      Other []

Is the information correct? [Y/n] y
root@apeksha-VirtualBox:/home#
```

A tooltip box is visible at the top right of the terminal window, stating "Screenshot captured You can paste the image from the clipboard."

## 9. Create Group dac , dbda ,ditiss

A screenshot of a terminal window showing the creation of groups:

```
root@apeksha-VirtualBox:/home# addgroup dac
Adding group `dac' (GID 1010) ...
Done.
root@apeksha-VirtualBox:/home# addgroup dbda
Adding group `dbda' (GID 1011) ...
Done.
root@apeksha-VirtualBox:/home# addgroup ditiss
Adding group `ditiss' (GID 1012) ...
Done.
root@apeksha-VirtualBox:/home#
```

**11. login as prince and create iacsd directory in /tmp and create 4 files in iacsd with name project-1 project-2 upto 4**

---

```
root@apeksha-VirtualBox:/home# su prince
prince@apeksha-VirtualBox:/home$ whoami
prince
prince@apeksha-VirtualBox:/home$ cd /tmp
prince@apeksha-VirtualBox:/tmp$ cd iacsd
bash: cd: iacsd: No such file or directory
prince@apeksha-VirtualBox:/tmp$ mkdir iacsd
prince@apeksha-VirtualBox:/tmp$ cd iacsd
prince@apeksha-VirtualBox:/tmp/iacsd$ touch project{1..4}
prince@apeksha-VirtualBox:/tmp/iacsd$ ls
project1 project2 project3 project4
```

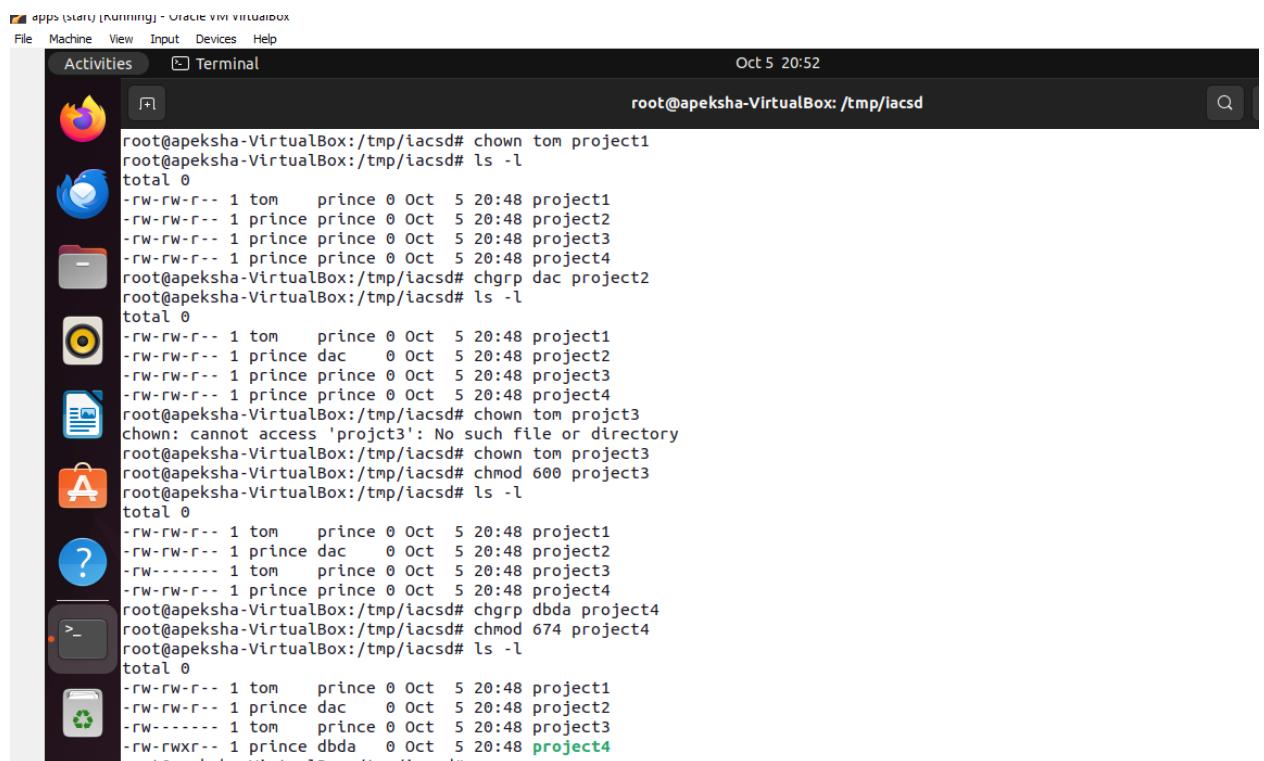
## 12. assign permissions to project files as below

Project-1 – tom should be owner of this

Project-2 – dac should be owner of this

Project-3 --- others should not have any permission but tom should have rw access

Project-4 – dbda group should have rwx permissions.



```
root@apeksha-VirtualBox:/tmp/iacs# chown tom project1
root@apeksha-VirtualBox:/tmp/iacs# ls -l
total 0
-rw-rw-r-- 1 tom    prince 0 Oct  5 20:48 project1
-rw-rw-r-- 1 prince prince 0 Oct  5 20:48 project2
-rw-rw-r-- 1 prince prince 0 Oct  5 20:48 project3
-rw-rw-r-- 1 prince prince 0 Oct  5 20:48 project4
root@apeksha-VirtualBox:/tmp/iacs# chgrp dac project2
root@apeksha-VirtualBox:/tmp/iacs# ls -l
total 0
-rw-rw-r-- 1 tom    prince 0 Oct  5 20:48 project1
-rw-rw-r-- 1 prince dac   0 Oct  5 20:48 project2
-rw-rw-r-- 1 prince prince 0 Oct  5 20:48 project3
-rw-rw-r-- 1 prince prince 0 Oct  5 20:48 project4
root@apeksha-VirtualBox:/tmp/iacs# chown tom project3
chown: cannot access 'project3': No such file or directory
root@apeksha-VirtualBox:/tmp/iacs# chmod 600 project3
root@apeksha-VirtualBox:/tmp/iacs# ls -l
total 0
-rw-rw-r-- 1 tom    prince 0 Oct  5 20:48 project1
-rw-rw-r-- 1 prince dac   0 Oct  5 20:48 project2
-rw-r----- 1 tom    prince 0 Oct  5 20:48 project3
-rw-rw-r-- 1 prince dbda  0 Oct  5 20:48 project4
root@apeksha-VirtualBox:/tmp/iacs# chgrp dbda project4
root@apeksha-VirtualBox:/tmp/iacs# chmod 674 project4
root@apeksha-VirtualBox:/tmp/iacs# ls -l
total 0
-rw-rw-r-- 1 tom    prince 0 Oct  5 20:48 project1
-rw-rw-r-- 1 prince dac   0 Oct  5 20:48 project2
-rw-r----- 1 tom    prince 0 Oct  5 20:48 project3
-rw-rw-r-- 1 prince dbda  0 Oct  5 20:48 project4
```

ASS-3

1) Write a shell script tp print

- you are logged in as which user
  - in which directory you are
  - and in which terminal you are working
  - total number of files and directories in current directory

The screenshot shows a Linux desktop environment with a dark theme. On the left is a vertical dock with icons for various applications: a flame icon (Activities), a terminal icon (Terminal), a file manager icon, a file icon, a target icon, a document icon, a letter icon, a bold A icon, a question mark icon, a terminal icon, a file icon with a minus sign, and a recycle bin icon. The main window is a terminal application titled "apeksha@apeksha-VirtualBox: ~/assignment" with a status bar indicating "Sep 29 21:15". The terminal window title is "assign4\_1". The terminal content shows a nano 6.2 session with the following script:

```
GNU nano 6.2
#!/bin/bash
whoami
pwd
echo $SHELL
ls | wc -l
ls -d |wc -l
```

The bottom of the screen shows a menu bar with keyboard shortcuts for various functions like Help, Write Out, Where Is, Cut, Paste, Execute, Justify, Location, Go To Line, Undo, Redo, Set Mark, and Copy.

2).Write a shell script to create a menu driven program for adding, deletion or finding a record in a database. Database should have the field like rollno, name, semester and marks of three subjects. Last option of the menu should be to exit the menu.

```
# Initialize an associative array to store records
declare -A database

# Menu loop
while true; do
    echo "Database Menu:"
    echo "1. Add Record"
    echo "2. Delete Record"
    echo "3. Find Record"
    echo "4. Exit"
    read choice

    case $choice in
        1)
            echo "Enter Roll No:"
            read rollno
            echo "Enter Name:"
            read name
            echo "Enter Semester:"
            read semester
            echo "Enter Marks for 3 Subjects (space-separated):"
            read -a marks

            # Store the record in the database
            database["$rollno"]="$name $semester ${marks[*]}"
            echo "Record added.";;
        2)
            echo "Enter Roll No to delete:"
            read rollno
            if [ -n "${database[$rollno]}" ]; then
                unset database[$rollno]
                echo "Record deleted."
            else
                echo "Record not found."
            fi;;
        3)
            echo "Enter Roll No to find:"
            read rollno
            if [ -n "${database[$rollno]}" ]; then
                echo "Record: ${database[$rollno]}"
            else
                echo "Record not found."
            fi;;
        4)
            echo "Exiting the menu."
            exit;;
        *)
            echo "Invalid option. Please choose 1, 2, 3, or 4.";;
    esac
done
```

```
2)
    echo "Enter Roll No to delete:"
    read rollno
    if [ -n "${database[$rollno]}" ]; then
        unset database[$rollno]
        echo "Record deleted."
    else
        echo "Record not found."
    fi;;
3)
    echo "Enter Roll No to find:"
    read rollno
    if [ -n "${database[$rollno]}" ]; then
        echo "Record: ${database[$rollno]}"
    else
        echo "Record not found."
    fi;;
4)
    echo "Exiting the menu."
    exit;;
*)
    echo "Invalid option. Please choose 1, 2, 3, or 4.";;
esac
```

```
^C
[dac@dac-VirtualBox:~$ nano que2.sh
[dac@dac-VirtualBox:~$ bash que2.sh
Database Menu:
1. Add Record
2. Delete Record
3. Find Record
4. Exit
1
>_
Enter Roll No:
1
Enter Name:
abc
Enter Semester:
2
Enter Marks for 3 Subjects (space-separated):
20 50 80
Record added.
Database Menu:
1. Add Record
2. Delete Record
3. Find Record
4. Exit
3
Enter Roll No to find:
1
Record: abc 2 20 50 80
Database Menu:
1. Add Record
2. Delete Record
3. Find Record
4. Exit
4
Exiting the menu.
[dac@dac-VirtualBox:~$
```

3) Write a Linux shell script to accept 10 number and tell how many are +tive, -tive and zero.



A screenshot of a Linux desktop environment showing a terminal window. The terminal window title is "apeksha@apeksha-VirtualBox: ~/assignment" and the date and time are "Oct 5 20:22". The terminal content shows a bash script named "assign4\_3" being run. The script initializes variables pos=0, neg=0, and zero=0. It then loops through 10 numbers, reading each from standard input. If the number is greater than 0, it increments the pos variable. If the number is less than 0, it increments the neg variable. Otherwise, it increments the zero variable. Finally, it prints the counts for positive, negative, and zero numbers. The terminal window has a dark theme and includes a dock with various icons on the left.

```
GNU nano 6.2
#!/bin/bash
pos=0
neg=0
zero=0

for i in {1..10}
do
    read -p "enter no:" val
    if [ $val -gt 0 ]
    then
        ((pos++))
    elif [ $val -lt 0 ]
    then
        ((neg++))
    else
        ((zero++))
    fi
done
echo "positive no: " $pos
echo "negative no: " $neg
echo "zero no: " $zero
```

```
apeksha@apeksha-VirtualBox:~/assignment$ nano assign4_3
apeksha@apeksha-VirtualBox:~/assignment$ bash assign4_3
enter no:6
enter no:-1
enter no:0
enter no:1
enter no:2
enter no:-4
enter no:-4
enter no:0
enter no:0
enter no:0
positive no: 3
negative no: 3
zero no: 4
apeksha@apeksha-VirtualBox:~/assignment$
```

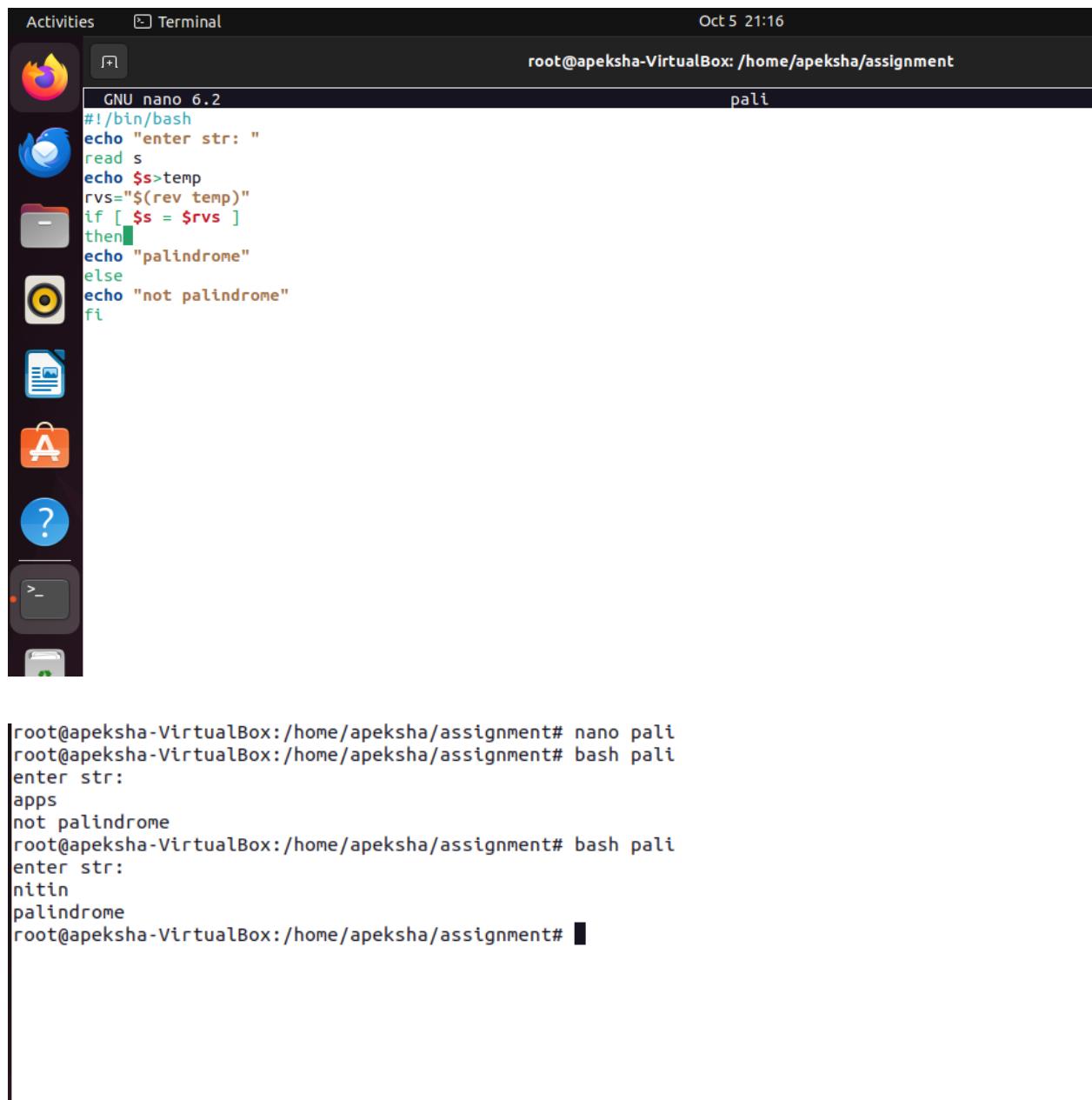
4) Write a shell script to accept five number and display max and min value.

The screenshot shows a Linux desktop environment with a dark theme. A terminal window titled "GNU nano 6.2" is open, displaying a shell script named "assign4\_4". The script reads five numbers from the user, initializes variables for minimum and maximum values, and then iterates through the input to update these values. Finally, it outputs the maximum and minimum values. Below the terminal, a terminal window shows the execution of the script, entering values 3, 6, 1, 2, and 7, and then displaying the output "max: 7" and "min: 1".

```
GNU nano 6.2
#!/bin/bash
read -p "enter no: " val
min=$val
max=$val
for i in {1..4}
do
    read -p "enter no:" val
    if [ $val -gt $max ]
    then
        max=$val
    elif [ $val -lt $min ]
    then
        min=$val
    fi
done
echo "max: " $max
echo "min: " $min
```

```
apeksha@apeksha-VirtualBox:~/assignment$ nano assign4_4
apeksha@apeksha-VirtualBox:~/assignment$ bash assign4_4
enter no: 3
enter no:6
enter no:1
enter no:2
enter no:7
max: 7
min: 1
apeksha@apeksha-VirtualBox:~/assignment$
```

5) Write a script to find out String is palindrome or not.



The image shows a screenshot of an Ubuntu desktop environment. On the left, there's a vertical dock with icons for various applications: a browser, a file manager, a terminal, a text editor, a file manager, a system settings icon, and a help icon. The main area is a terminal window titled "Terminal". The terminal shows the command "root@apeksha-VirtualBox: /home/apeksha/assignment" and the date "Oct 5 21:16". The user has run the command "nano pali" to edit a file named "pali". The content of the file is a Bash script:

```
GNU nano 6.2
#!/bin/bash
echo "enter str: "
read s
echo $s>temp
rvs=$(rev temp)
if [ $s = $rvs ]
then
echo "palindrome"
else
echo "not palindrome"
fi
```

After saving the file, the user runs "bash pali". The terminal shows the output:

```
root@apeksha-VirtualBox:/home/apeksha/assignment# nano pali
root@apeksha-VirtualBox:/home/apeksha/assignment# bash pali
enter str:
apps
not palindrome
root@apeksha-VirtualBox:/home/apeksha/assignment# bash pali
enter str:
nitin
palindrome
root@apeksha-VirtualBox:/home/apeksha/assignment#
```

- 6) Write a shell script to print given number's sum of all digits (eg. If number is 123, then it's sum of all digits will be  $1+2+3=6$ )

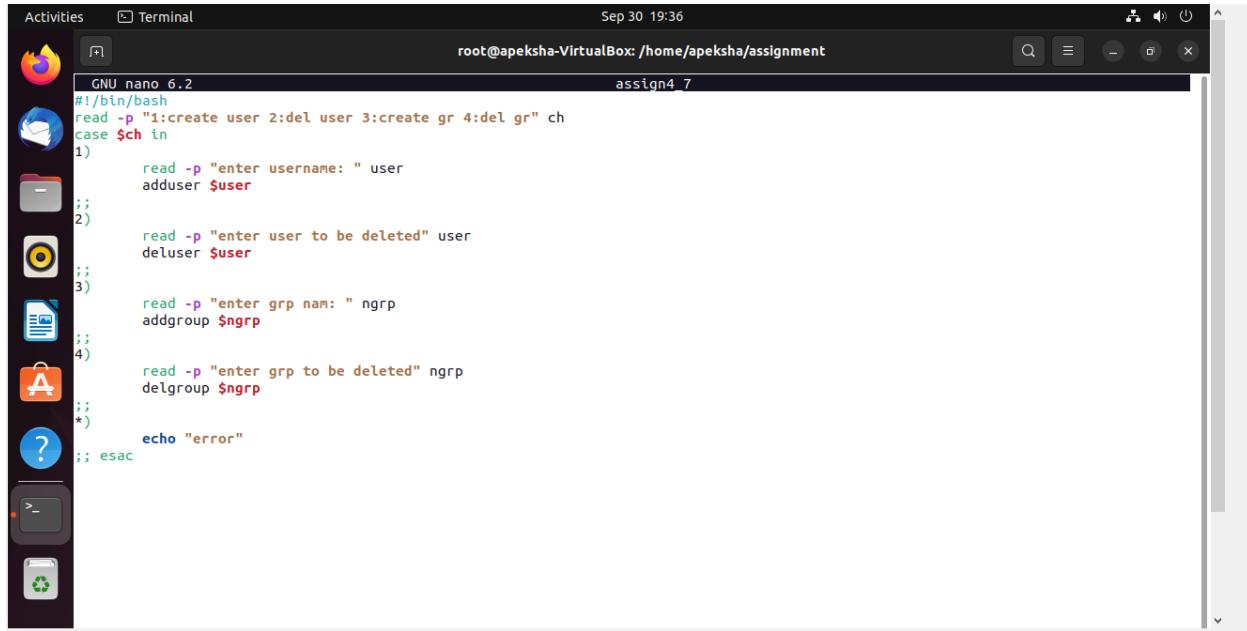
The screenshot shows a desktop environment with a terminal window open. The terminal window title is "Terminal" and the command line shows "apeksha@apeksha-VirtualBox: ~/assignment". The terminal content is a shell script named "assign4\_6" written in GNU nano 6.2. The script reads a number from the user, initializes a sum to 0, and then enters a loop where it repeatedly takes the remainder of the number divided by 10 (using %), adds it to the sum, and then divides the number by 10 (using /). This process continues until the number is 0. Finally, it prints the sum.

```
GNU nano 6.2
#!/bin/bash
sum=0
read -p "enter no: " val
while [ $val -gt 0 ]
do
    r=$(( $val % 10 ))
    sum=$(( $sum + $r ))
    val=$(( $val / 10 ))
done
echo "$sum"
```

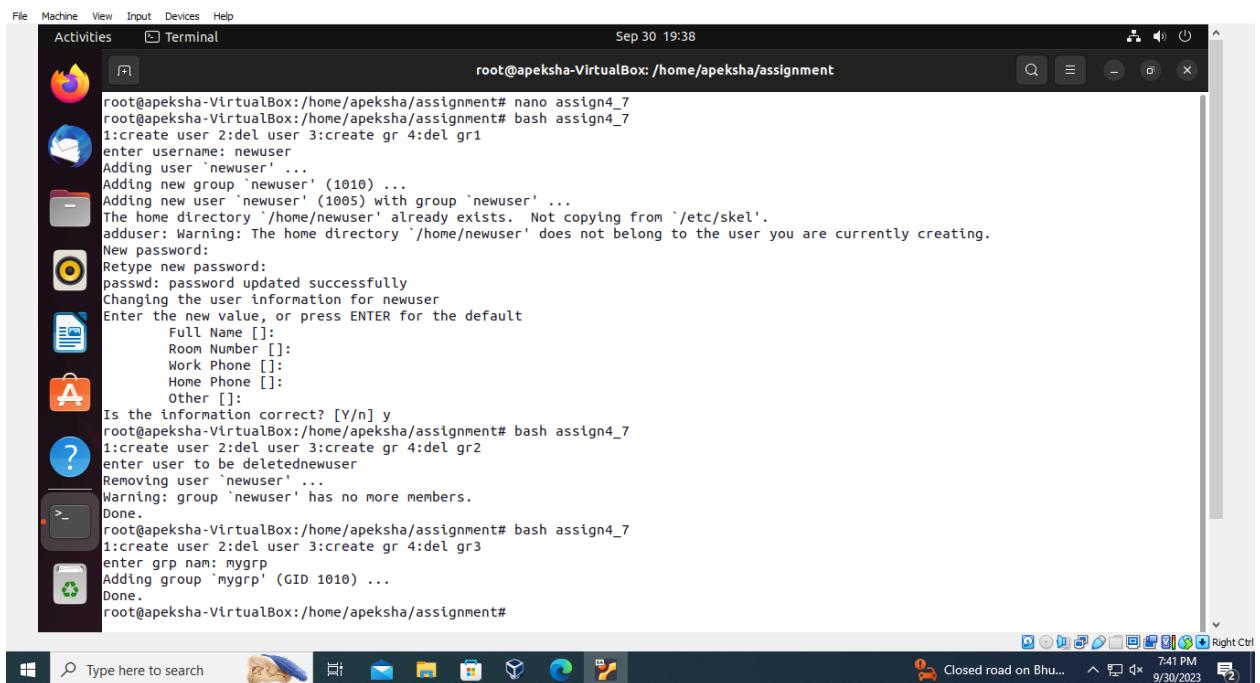
```
apeksha@apeksha-VirtualBox:~/assignment$ bash assign4_6
enter no: 123
6
apeksha@apeksha-VirtualBox:~/assignment$
```

## 7) Create a script to

Create user , Delete user , Create group , delete Group using case



```
GNU nano 6.2
#!/bin/bash
read -p "1:create user 2:del user 3:create gr 4:del gr" ch
case $ch in
1)
    read -p "enter username: " user
    adduser $user
;;
2)
    read -p "enter user to be deleted" user
    deluser $user
;;
3)
    read -p "enter grp nam: " ngrp
    addgroup $ngrp
;;
4)
    read -p "enter grp to be deleted" ngrp
    delgroup $ngrp
;;
*)
    echo "error"
;;
esac
```

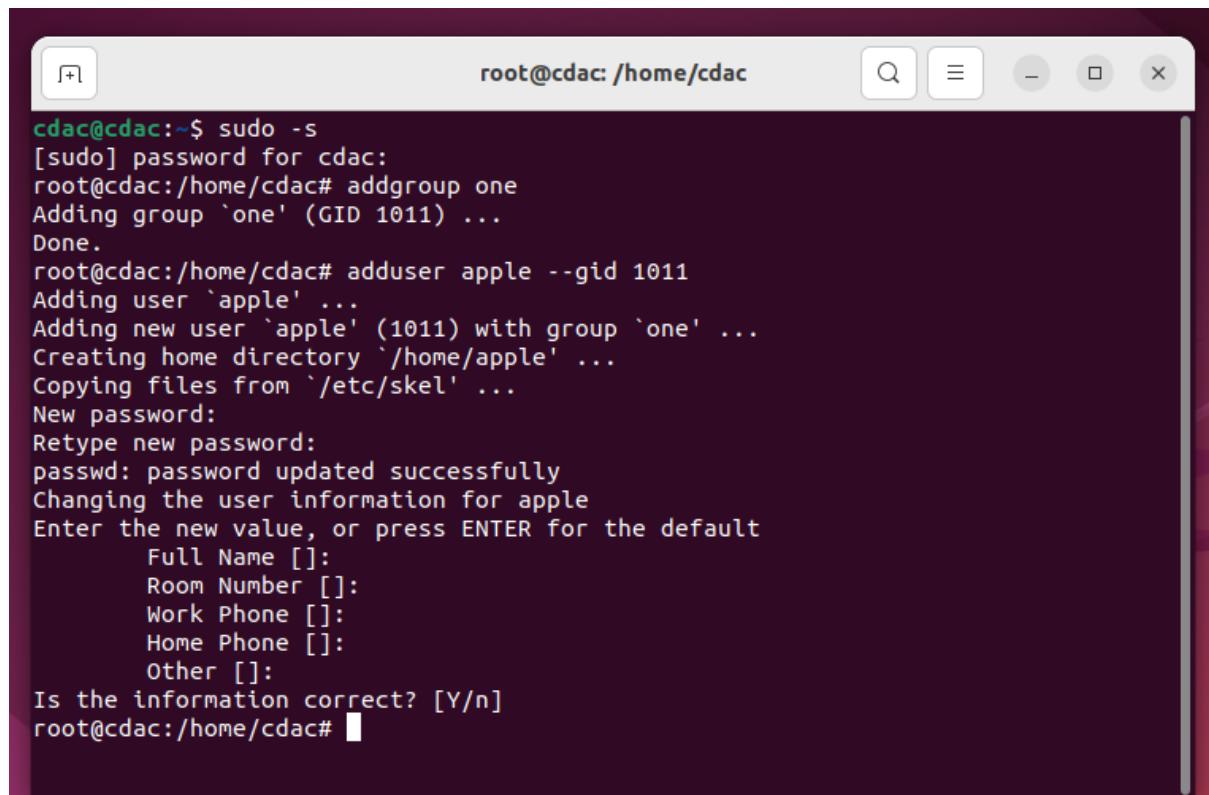


```
File Machine View Input Devices Help
Activities Terminal Sep 30 19:38
root@apeksha-VirtualBox:/home/apeksha/assignment# nano assign4_7
root@apeksha-VirtualBox:/home/apeksha/assignment# bash assign4_7
1:create user 2:del user 3:create gr 4:del gr1
enter username: newuser
Adding user `newuser' ...
Adding new group `newuser' (1010) ...
Adding new user `newuser' (1005) with group `newuser' ...
The home directory `/home/newuser' already exists. Not copying from `/etc/skel'.
adduser: Warning: The home directory `/home/newuser' does not belong to the user you are currently creating.
New password:
Retype new password:
passwd: password updated successfully
Changing the user information for newuser
Enter the new value, or press ENTER for the default
    Full Name []:
    Room Number []:
    Work Phone []:
    Home Phone []:
    Other []:
Is the information correct? [Y/n] y
root@apeksha-VirtualBox:/home/apeksha/assignment# bash assign4_7
1:create user 2:del user 3:create gr 4:del gr2
enter user to be deletednewuser
Removing user `newuser' ...
Warning: group `newuser' has no more members.
Done.
root@apeksha-VirtualBox:/home/apeksha/assignment# bash assign4_7
1:create user 2:del user 3:create gr 4:del gr3
enter grp nam: mygrp
Adding group `mygrp' (GID 1010) ...
Done.
root@apeksha-VirtualBox:/home/apeksha/assignment#
```

## ASSGN 4

one

```
apple
banana
cat
dog
elephant
```



The screenshot shows a terminal window with the following session:

```
cdac@cdac:~$ sudo -s
[sudo] password for cdac:
root@cdac:/home/cdac# addgroup one
Adding group 'one' (GID 1011) ...
Done.
root@cdac:/home/cdac# adduser apple --gid 1011
Adding user 'apple' ...
Adding new user 'apple' (1011) with group 'one' ...
Creating home directory '/home/apple' ...
Copying files from '/etc/skel' ...
New password:
Retype new password:
passwd: password updated successfully
Changing the user information for apple
Enter the new value, or press ENTER for the default
  Full Name []:
  Room Number []:
  Work Phone []:
  Home Phone []:
  Other []
Is the information correct? [Y/n]
root@cdac:/home/cdac#
```

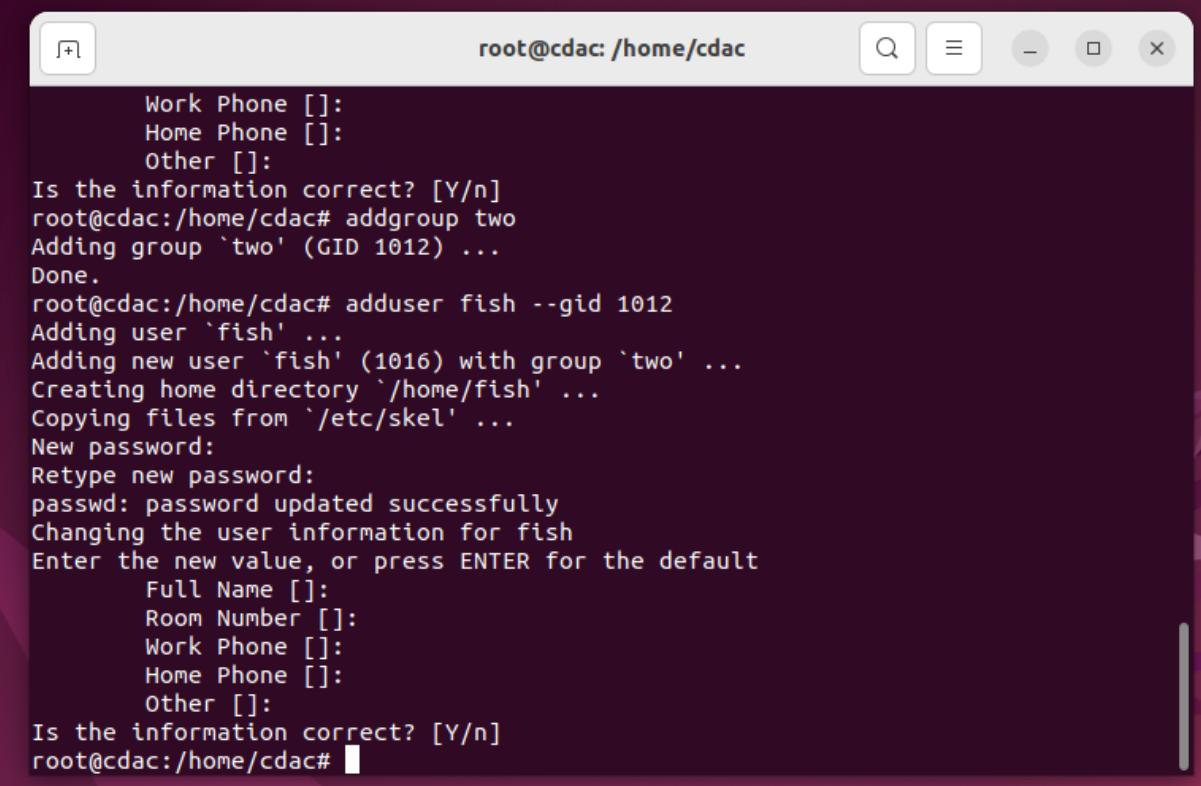
```
root@cdac: /home/cdac
Enter the new value, or press ENTER for the default
Full Name []:
Room Number []:
Work Phone []:
Home Phone []:
Other []:
Is the information correct? [Y/n]
root@cdac:/home/cdac# adduser banana --gid 1011
Adding user `banana' ...
Adding new user `banana' (1012) with group `one' ...
Creating home directory `/home/banana' ...
Copying files from `/etc/skel' ...
New password:
Retype new password:
passwd: password updated successfully
Changing the user information for banana
Enter the new value, or press ENTER for the default
Full Name []:
Room Number []:
Work Phone []:
Home Phone []:
Other []:
Is the information correct? [Y/n]
root@cdac:/home/cdac#
```

```
root@cdac: /home/cdac
Enter the new value, or press ENTER for the default
Full Name []:
Room Number []:
Work Phone []:
Home Phone []:
Other []:
Is the information correct? [Y/n]
root@cdac:/home/cdac# adduser cat --gid 1011
Adding user `cat' ...
Adding new user `cat' (1013) with group `one' ...
Creating home directory `/home/cat' ...
Copying files from `/etc/skel' ...
New password:
Retype new password:
passwd: password updated successfully
Changing the user information for cat
Enter the new value, or press ENTER for the default
Full Name []:
Room Number []:
Work Phone []:
Home Phone []:
Other []:
Is the information correct? [Y/n]
root@cdac:/home/cdac#
```

```
root@cdac: /home/cdac
Enter the new value, or press ENTER for the default
Full Name []:
Room Number []:
Work Phone []:
Home Phone []:
Other []:
Is the information correct? [Y/n]
root@cdac:/home/cdac# adduser dog --gid 1011
Adding user `dog' ...
Adding new user `dog' (1014) with group `one' ...
Creating home directory `/home/dog' ...
Copying files from `/etc/skel' ...
New password:
Retype new password:
passwd: password updated successfully
Changing the user information for dog
Enter the new value, or press ENTER for the default
Full Name []:
Room Number []:
Work Phone []:
Home Phone []:
Other []:
Is the information correct? [Y/n]
root@cdac:/home/cdac#
```

```
root@cdac: /home/cdac
Enter the new value, or press ENTER for the default
Full Name []:
Room Number []:
Work Phone []:
Home Phone []:
Other []:
Is the information correct? [Y/n]
root@cdac:/home/cdac# adduser elephant --gid 1011
Adding user `elephant' ...
Adding new user `elephant' (1015) with group `one' ...
Creating home directory `/home/elephant' ...
Copying files from `/etc/skel' ...
New password:
Retype new password:
passwd: password updated successfully
Changing the user information for elephant
Enter the new value, or press ENTER for the default
Full Name []:
Room Number []:
Work Phone []:
Home Phone []:
Other []:
Is the information correct? [Y/n]
root@cdac:/home/cdac#
```

```
two
fish
gun
horse
icecream
```



A screenshot of a terminal window titled "root@cdac: /home/cdac". The window contains the following text:

```
Work Phone []:
Home Phone []:
Other []:
Is the information correct? [Y/n]
root@cdac:/home/cdac# addgroup two
Adding group `two' (GID 1012) ...
Done.
root@cdac:/home/cdac# adduser fish --gid 1012
Adding user `fish' ...
Adding new user `fish' (1016) with group `two' ...
Creating home directory `/home/fish' ...
Copying files from `/etc/skel' ...
New password:
Retype new password:
passwd: password updated successfully
Changing the user information for fish
Enter the new value, or press ENTER for the default
    Full Name []:
    Room Number []:
    Work Phone []:
    Home Phone []:
    Other []
Is the information correct? [Y/n]
root@cdac:/home/cdac# █
```

```
root@cdac: /home/cdac
Enter the new value, or press ENTER for the default
Full Name []:
Room Number []:
Work Phone []:
Home Phone []:
Other []:
Is the information correct? [Y/n]
root@cdac:/home/cdac# adduser gun --gid 1012
Adding user `gun' ...
Adding new user `gun' (1017) with group `two' ...
Creating home directory `/home/gun' ...
Copying files from `/etc/skel' ...
New password:
Retype new password:
passwd: password updated successfully
Changing the user information for gun
Enter the new value, or press ENTER for the default
Full Name []:
Room Number []:
Work Phone []:
Home Phone []:
Other []:
Is the information correct? [Y/n]
root@cdac:/home/cdac#
```

```
root@cdac: /home/cdac
Enter the new value, or press ENTER for the default
Full Name []:
Room Number []:
Work Phone []:
Home Phone []:
Other []:
Is the information correct? [Y/n]
root@cdac:/home/cdac# adduser horse --gid 1012
Adding user `horse' ...
Adding new user `horse' (1018) with group `two' ...
Creating home directory `/home/horse' ...
Copying files from `/etc/skel' ...
New password:
Retype new password:
passwd: password updated successfully
Changing the user information for horse
Enter the new value, or press ENTER for the default
Full Name []:
Room Number []:
Work Phone []:
Home Phone []:
Other []:
Is the information correct? [Y/n]
root@cdac:/home/cdac#
```

```
root@cdac: /home/cdac
Enter the new value, or press ENTER for the default
Full Name []:
Room Number []:
Work Phone []:
Home Phone []:
Other []:
Is the information correct? [Y/n]
root@cdac:/home/cdac# adduser icecream --gid 1012
Adding user `icecream' ...
Adding new user `icecream' (1019) with group `two' ...
Creating home directory `/home/icecream' ...
Copying files from `/etc/skel' ...
New password:
Retype new password:
passwd: password updated successfully
Changing the user information for icecream
Enter the new value, or press ENTER for the default
Full Name []:
Room Number []:
Work Phone []:
Home Phone []:
Other []:
Is the information correct? [Y/n]
root@cdac:/home/cdac#
```

three

jelly  
kitkat  
lolipop  
marshmallow

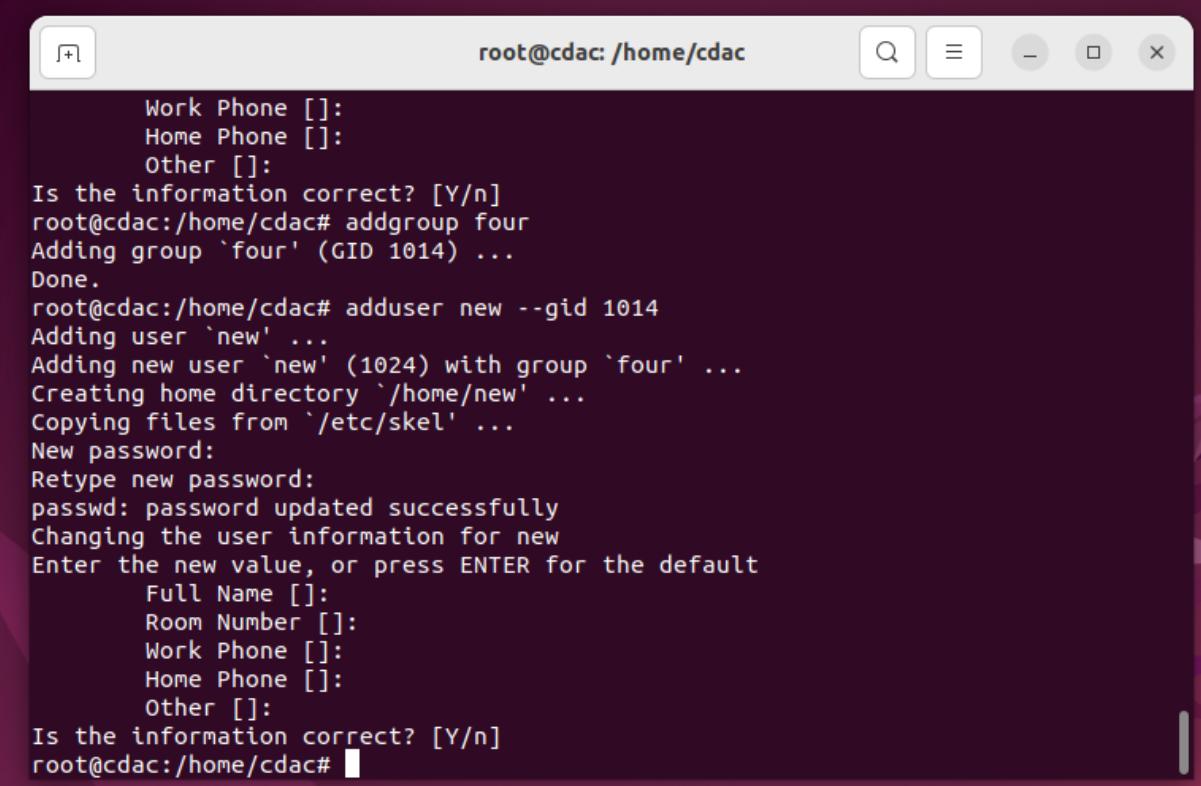
```
root@cdac: /home/cdac
Work Phone []:
Home Phone []:
Other []:
Is the information correct? [Y/n]
root@cdac:/home/cdac# addgroup three
Adding group 'three' (GID 1013) ...
Done.
root@cdac:/home/cdac# adduser jelly --gid 1013
Adding user 'jelly' ...
Adding new user 'jelly' (1020) with group 'three' ...
Creating home directory '/home/jelly' ...
Copying files from '/etc/skel' ...
New password:
Retype new password:
passwd: password updated successfully
Changing the user information for jelly
Enter the new value, or press ENTER for the default
Full Name []:
Room Number []:
Work Phone []:
Home Phone []:
Other []:
Is the information correct? [Y/n]
root@cdac:/home/cdac#
```

```
root@cdac: /home/cdac
Enter the new value, or press ENTER for the default
Full Name []:
Room Number []:
Work Phone []:
Home Phone []:
Other []:
Is the information correct? [Y/n]
root@cdac:/home/cdac# adduser kitkat --gid 1013
Adding user 'kitkat' ...
Adding new user 'kitkat' (1021) with group 'three' ...
Creating home directory '/home/kitkat' ...
Copying files from '/etc/skel' ...
New password:
Retype new password:
passwd: password updated successfully
Changing the user information for kitkat
Enter the new value, or press ENTER for the default
Full Name []:
Room Number []:
Work Phone []:
Home Phone []:
Other []:
Is the information correct? [Y/n]
root@cdac:/home/cdac#
```

```
root@cdac: /home/cdac
Enter the new value, or press ENTER for the default
Full Name []:
Room Number []:
Work Phone []:
Home Phone []:
Other []
Is the information correct? [Y/n]
root@cdac:/home/cdac# adduser lolipop --gid 1013
Adding user `lolipop' ...
Adding new user `lolipop' (1022) with group `three' ...
Creating home directory `/home/lollipop' ...
Copying files from `/etc/skel' ...
New password:
Retype new password:
passwd: password updated successfully
Changing the user information for lolipop
Enter the new value, or press ENTER for the default
Full Name []:
Room Number []:
Work Phone []:
Home Phone []:
Other []
Is the information correct? [Y/n]
root@cdac:/home/cdac#
```

```
root@cdac: /home/cdac
Enter the new value, or press ENTER for the default
Full Name []:
Room Number []:
Work Phone []:
Home Phone []:
Other []
Is the information correct? [Y/n]
root@cdac:/home/cdac# adduser marshmallow --gid 1013
Adding user `marshmallow' ...
Adding new user `marshmallow' (1023) with group `three' ...
Creating home directory `/home/marshmallow' ...
Copying files from `/etc/skel' ...
New password:
Retype new password:
passwd: password updated successfully
Changing the user information for marshmallow
Enter the new value, or press ENTER for the default
Full Name []:
Room Number []:
Work Phone []:
Home Phone []:
Other []
Is the information correct? [Y/n]
root@cdac:/home/cdac#
```

```
four
new
oppo
vivo
china
```



The screenshot shows a terminal window with the following session:

```
root@cdac: /home/cdac
Work Phone []:
Home Phone []:
Other []:
Is the information correct? [Y/n]
root@cdac:/home/cdac# addgroup four
Adding group `four' (GID 1014) ...
Done.
root@cdac:/home/cdac# adduser new --gid 1014
Adding user `new' ...
Adding new user `new' (1024) with group `four' ...
Creating home directory `/home/new' ...
Copying files from `/etc/skel' ...
New password:
Retype new password:
passwd: password updated successfully
Changing the user information for new
Enter the new value, or press ENTER for the default
    Full Name []:
    Room Number []:
    Work Phone []:
    Home Phone []:
    Other []:
Is the information correct? [Y/n]
root@cdac:/home/cdac#
```

```
root@cdac: /home/cdac
Is the information correct? [Y/n]
root@cdac:/home/cdac# adduser oppo --gid 1014
Adding user `oppo' ...
Adding new user `oppo' (1025) with group `four' ...
Creating home directory `/home/oppo' ...
Copying files from `/etc/skel' ...
New password:
Retype new password:
passwd: password updated successfully
Changing the user information for oppo
Enter the new value, or press ENTER for the default
    Full Name []:
    Room Number []:
    Work Phone []:
    Home Phone []:
    Other []
Is the information correct? [Y/n]
root@cdac:/home/cdac# adduser vivo --gid 1014
Adding user `vivo' ...
Adding new user `vivo' (1026) with group `four' ...
Creating home directory `/home/vivo' ...
Copying files from `/etc/skel' ...
New password:
Retype new password:
passwd: password updated successfully
Changing the user information for vivo
Enter the new value, or press ENTER for the default
    Full Name []:
    Room Number []:
    Work Phone []:
    Home Phone []:
    Other []
Is the information correct? [Y/n]
root@cdac:/home/cdac#
```

```
root@cdac: /home/cdac
Room Number []:
Work Phone []:
Home Phone []:
Other []
Is the information correct? [Y/n]
root@cdac:/home/cdac# adduser china --gid 1014
Adding user `china' ...
Adding new user `china' (1027) with group `four' ...
Creating home directory `/home/china' ...
Copying files from `/etc/skel' ...
New password:
Retype new password:
passwd: password updated successfully
Changing the user information for china
Enter the new value, or press ENTER for the default
    Full Name []:
    Room Number []:
    Work Phone []:
    Home Phone []:
    Other []
Is the information correct? [Y/n]
root@cdac:/home/cdac#
```

```
/home -> mkdir EVERYONE  
chmod 777 EVERYONE  
Create a file with every user (whoami >> username.txt)
```

```
cat dog gun kittkat oppo sam virus  
root@cdac:/home# chmod 777  
chmod: missing operand after '777'  
Try 'chmod --help' for more information.  
root@cdac:/home# chmod 777 EVERYONE  
root@cdac:/home# ls -l  
total 116  
drwxr-x--- 2 apple one 4096 Oct 1 19:48 apple  
drwxr-x--- 2 banana one 4096 Oct 1 19:50 banana  
drwxr-x--- 2 bob dbda 4096 Sep 26 20:35 bob  
drwxr-x--- 2 cat one 4096 Oct 1 19:51 cat  
drwxr-x--- 18 cdac cdac 4096 Oct 1 19:45 cdac  
drwxr-x--- 2 chatur threeidiots 4096 Sep 26 19:13 chatur  
drwxr-x--- 2 china four 4096 Oct 1 20:03 china  
drwxr-x--- 2 dog one 4096 Oct 1 19:51 dog  
drwxr-x--- 2 elephant one 4096 Oct 1 19:52 elephant  
drwxrwxrwx 2 root root 4096 Oct 1 20:05 EVERYONE  
drwxr-x--- 2 fish two 4096 Oct 1 19:53 fish  
drwxr-x--- 2 gun two 4096 Oct 1 19:54 gun  
drwxr-x--- 2 horse two 4096 Oct 1 19:54 horse  
drwxr-x--- 2 icecream two 4096 Oct 1 19:55 icecream  
drwxr-x--- 2 jelly three 4096 Oct 1 19:56 jelly  
drwxr-x--- 2 kitkat three 4096 Oct 1 19:57 kitkat  
drwxr-x--- 2 lolipop three 4096 Oct 1 19:58 lolipop  
drwxr-x--- 2 marshmallow three 4096 Oct 1 19:58 marshmallow  
drwxr-x--- 2 new four 4096 Oct 1 19:59 new  
drwxr-x--- 2 oppo four 4096 Oct 1 20:01 oppo  
drwxr-x--- 2 prince prince 4096 Sep 26 20:59 prince  
drwxr-x--- 3 ram ramayan 4096 Sep 26 19:25 ram  
drwxr-x--- 2 rancho threeidiots 4096 Sep 26 19:13 rancho  
drwxr-x--- 2 sam ditiss 4096 Sep 26 21:16 sam  
drwxr-x--- 2 sholay sholay 4096 Sep 20 16:23 sholay
```

```
root@cdac:/home# whoami  
root  
root@cdac:/home# whoami >> apple.txt  
root@cdac:/home# whoami >> banana.txt  
root@cdac:/home# whoami >> cat.txt  
root@cdac:/home# whoami >> dog.txt  
root@cdac:/home# whoami >> elephant.txt  
root@cdac:/home# whoami >> fish.txt  
root@cdac:/home# whoami >> gun.txt  
root@cdac:/home# whoami >> horse.txt  
root@cdac:/home# whoami >> icecream.txt  
root@cdac:/home# whoami >> jelly.txt  
root@cdac:/home# whoami >> kitkat.txt  
root@cdac:/home# whoami >> lolipop.txt  
root@cdac:/home# whoami >> marshmallow.txt  
root@cdac:/home# whoami >> new.txt  
root@cdac:/home# whoami >> vivo.txt  
root@cdac:/home# whoami >> oppo.txt  
root@cdac:/home# whoami >> china.txt  
root@cdac:/home# ls  
apple cat china.txt  EVERYONE horse jelly.txt marshmallow oppo.txt sholay vivo  
apple.txt cat.txt dog fish horse.txt kitkat marshmallow.txt prince sita vivo.txt  
banana cdac dog.txt fish.txt icecream kitkat.txt new ram tom  
banana.txt chatur elephant gun icecream.txt lolipop new.txt rancho username.txt  
bob china elephant.txt gun.txt jelly lolipop.txt oppo sam virus  
root@cdac:/home#
```

oppo -> primary group change -> one

```
root@cdac:/home# chgrp one oppo
root@cdac:/home# ls -l
total 120
drwxr-x--- 2 apple      one        4096 Oct  1 19:48 apple
drwxr-x--- 2 banana     one        4096 Oct  1 19:50 banana
drwxr-x--- 2 bob         dbda       4096 Sep 26 20:35 bob
drwxr-x--- 2 cat         one        4096 Oct  1 19:51 cat
drwxr-x--- 18 cdac      cdac       4096 Oct  1 19:45 cdac
drwxr-x--- 2 chatur     threeidiots 4096 Sep 26 19:13 chatur
drwxr-x--- 2 china      four       4096 Oct  1 20:03 china
drwxr-x--- 2 dog         one        4096 Oct  1 19:51 dog
drwxr-x--- 2 elephant    one        4096 Oct  1 19:52 elephant
drwxrwxrwx 2 root       root       4096 Oct  1 20:05 EVERYONE
drwxr-x--- 2 fish        two       4096 Oct  1 19:53 fish
drwxr-x--- 2 gun         two       4096 Oct  1 19:54 gun
drwxr-x--- 2 horse       two       4096 Oct  1 19:54 horse
drwxr-x--- 2 icecream   two       4096 Oct  1 19:55 icecream
drwxr-x--- 2 jelly       three     4096 Oct  1 19:56 jelly
drwxr-x--- 2 kitkat     three     4096 Oct  1 19:57 kitkat
drwxr-x--- 2 lolipop    three     4096 Oct  1 19:58 lolipop
drwxr-x--- 2 marshmallow three    4096 Oct  1 19:58 marshmallow
drwxr-x--- 2 new         four     4096 Oct  1 19:59 new
drwxr-x--- 2 oppo        one      4096 Oct  1 20:01 oppo
drwxr-x--- 2 prince     prince    4096 Sep 26 20:59 prince
drwxr-x--- 3 ram         ramayan  4096 Sep 26 19:25 ram
drwxr-x--- 2 rancho     threeidiots 4096 Sep 26 19:13 rancho
drwxr-x--- 2 sam         ditiss   4096 Sep 26 21:16 sam
drwxr-x--- 2 sholay     sholay   4096 Sep 20 16:23 sholay
drwxr-x--- 2 sita        threeidiots 4096 Sep 26 19:24 sita
drwxr-x--- 2 tom         dac      4096 Sep 29 18:52 tom
-rw-r--r-- 1 root        root     5 Oct  1 20:09 username.txt
drwxr-x--- 2 virus      threeidiots 4096 Sep 26 19:22 virus
drwxr-x--- 2 vivo        four     4096 Oct  1 20:01 vivo
root@cdac:/home#
```

vivo -> primary group change -> two

```
root@cdac:/home# chgrp two vivo
root@cdac:/home# ls -l
total 120
drwxr-x--- 2 apple      one        4096 Oct  1 19:48 apple
drwxr-x--- 2 banana     one        4096 Oct  1 19:50 banana
drwxr-x--- 2 bob         dbda       4096 Sep 26 20:35 bob
drwxr-x--- 2 cat         one        4096 Oct  1 19:51 cat
drwxr-x--- 18 cdac      cdac       4096 Oct  1 19:45 cdac
drwxr-x--- 2 chatur     threeidiots 4096 Sep 26 19:13 chatur
drwxr-x--- 2 china      four       4096 Oct  1 20:03 china
drwxr-x--- 2 dog         one        4096 Oct  1 19:51 dog
drwxr-x--- 2 elephant    one        4096 Oct  1 19:52 elephant
drwxrwxrwx 2 root       root       4096 Oct  1 20:05 EVERYONE
drwxr-x--- 2 fish        two       4096 Oct  1 19:53 fish
drwxr-x--- 2 gun         two       4096 Oct  1 19:54 gun
drwxr-x--- 2 horse       two       4096 Oct  1 19:54 horse
drwxr-x--- 2 icecream   two       4096 Oct  1 19:55 icecream
drwxr-x--- 2 jelly       three     4096 Oct  1 19:56 jelly
drwxr-x--- 2 kitkat     three     4096 Oct  1 19:57 kitkat
drwxr-x--- 2 lolipop    three     4096 Oct  1 19:58 lolipop
drwxr-x--- 2 marshmallow three    4096 Oct  1 19:58 marshmallow
drwxr-x--- 2 new         four     4096 Oct  1 19:59 new
drwxr-x--- 2 oppo        one      4096 Oct  1 20:01 oppo
drwxr-x--- 2 prince     prince    4096 Sep 26 20:59 prince
drwxr-x--- 3 ram         ramayan  4096 Sep 26 19:25 ram
drwxr-x--- 2 rancho     threeidiots 4096 Sep 26 19:13 rancho
drwxr-x--- 2 sam         ditiss   4096 Sep 26 21:16 sam
drwxr-x--- 2 sholay     sholay   4096 Sep 20 16:23 sholay
drwxr-x--- 2 sita        threeidiots 4096 Sep 26 19:24 sita
drwxr-x--- 2 tom         dac      4096 Sep 29 18:52 tom
-rw-r--r-- 1 root        root     5 Oct  1 20:09 username.txt
drwxr-x--- 2 virus      threeidiots 4096 Sep 26 19:22 virus
drwxr-x--- 2 vivo        two     4096 Oct  1 20:01 vivo
root@cdac:/home#
```

jelly, kitkat, lolipop, marshmallow -> add these users to sudo group

```
root@cdac:/home# chgrp root jelly
root@cdac:/home# chgrp root kitkat
root@cdac:/home# chgrp root lolipop
root@cdac:/home# chgrp root marshmallow
root@cdac:/home# ls -l
total 120
drwxr-x--- 2 apple      one        4096 Oct  1 19:48 apple
drwxr-x--- 2 banana     one        4096 Oct  1 19:50 banana
drwxr-x--- 2 bob         dbda       4096 Sep 26 20:35 bob
drwxr-x--- 2 cat         one        4096 Oct  1 19:51 cat
drwxr-x--- 18 cdac      cdac       4096 Oct  1 19:45 cdac
drwxr-x--- 2 chatur     threeidiots 4096 Sep 26 19:13 chatur
drwxr-x--- 2 china      four       4096 Oct  1 20:03 china
drwxr-x--- 2 dog         one        4096 Oct  1 19:51 dog
drwxr-x--- 2 elephant    one        4096 Oct  1 19:52 elephant
drwxrwxrwx 2 root       root       4096 Oct  1 20:05 EVERYONE
drwxr-x--- 2 fish        two        4096 Oct  1 19:53 fish
drwxr-x--- 2 gun         two        4096 Oct  1 19:54 gun
drwxr-x--- 2 horse       two        4096 Oct  1 19:54 horse
drwxr-x--- 2 icecream   two        4096 Oct  1 19:55 icecream
drwxr-x--- 2 jelly       root       4096 Oct  1 19:56 jelly
drwxr-x--- 2 kitkat      root       4096 Oct  1 19:57 kitkat
drwxr-x--- 2 lolipop    root       4096 Oct  1 19:58 lolipop
drwxr-x--- 2 marshmallow root      4096 Oct  1 19:58 marshmallow
drwxr-x--- 2 new         four       4096 Oct  1 19:59 new
drwxr-x--- 2 oppo        one        4096 Oct  1 20:01 oppo
drwxr-x--- 2 prince     prince     4096 Sep 26 20:59 prince
drwxr-x--- 3 ram         ramayan   4096 Sep 26 19:25 ram
drwxr-x--- 2 rancho     threeidiots 4096 Sep 26 19:13 rancho
drwxr-x--- 2 sam         ditiss     4096 Sep 26 21:16 sam
drwxr-x--- 2 sholay     sholay     4096 Sep 26 16:23 sholay
drwxr-x--- 2 sita        threeidiots 4096 Sep 26 19:24 sita
drwxr-x--- 2 tom         dac        4096 Sep 29 18:52 tom
-rw-r--r-- 1 root        root      5 Oct  1 20:09 username.txt
drwxr-x--- 2 virus       threeidiots 4096 Sep 26 19:22 virus
drwxr-x--- 2 vivo        two       1096 Oct  1 20:01 vivo
```

fish, gun -> add these users to one group as well  
(secondary group)

```
root@cdac:/home# chgrp one fish
root@cdac:/home# chgrp one gun
root@cdac:/home# ls -l
total 188
drwxr-x--- 2 apple      one        4096 Oct  1 19:48 apple
-rw-r--r--  1 root       root       5 Oct   1 20:20 apple.txt
drwxr-x--- 2 banana     one        4096 Oct  1 19:50 banana
-rw-r--r--  1 root       root       5 Oct   1 20:20 banana.txt
drwxr-x--- 2 bob        dbda      4096 Sep 26 20:35 bob
drwxr-x--- 2 cat        one        4096 Oct  1 19:51 cat
-rw-r--r--  1 root       root       5 Oct   1 20:20 cat.txt
drwxr-x--- 18 cdac     cdac      4096 Oct  1 19:45 cdac
drwxr-x--- 2 chatur    threeidiots 4096 Sep 26 19:13 chatur
drwxr-x--- 2 china     four      4096 Oct  1 20:03 china
-rw-r--r--  1 root       root       5 Oct   1 20:22 china.txt
drwxr-x--- 2 dog        one        4096 Oct  1 19:51 dog
-rw-r--r--  1 root       root       5 Oct   1 20:20 dog.txt
drwxr-x--- 2 elephant   one        4096 Oct  1 19:52 elephant
-rw-r--r--  1 root       root       5 Oct   1 20:20 elephant.txt
drwxrwxrwx  2 root       root      4096 Oct  1 20:05 EVERYONE
drwxr-x--- 2 fish       one        4096 Oct  1 19:53 fish
-rw-r--r--  1 root       root       5 Oct   1 20:20 fish.txt
drwxr-x--- 2 gun        one        4096 Oct  1 19:54 gun
-rw-r--r--  1 root       root       5 Oct   1 20:20 gun.txt
drwxr-x--- 2 horse      two       4096 Oct  1 19:54 horse
-rw-r--r--  1 root       root       5 Oct   1 20:20 horse.txt
drwxr-x--- 2 icecream   two       4096 Oct  1 19:55 icecream
-rw-r--r--  1 root       root       5 Oct   1 20:21 icecream.txt
drwxr-x--- 2 jelly      root      4096 Oct  1 19:56 jelly
-rw-r--r--  1 root       root       5 Oct   1 20:21 jelly.txt
drwxr-x--- 2 kitkat     root      4096 Oct  1 19:57 kitkat
-rw-r--r--  1 root       root       5 Oct   1 20:21 kitkat.txt
drwxr-x--- 2 lollipop   root      4096 Oct  1 19:58 lollipop
-rw-r--r--  1 root       root       5 Oct   1 20:21 lollipop.txt
drwxr-x--- 2 marshmallow root     4096 Oct  1 19:58 marshmallow
-rw-r--r--  1 root       root       5 Oct   1 20:21 marshmallow.txt
```

## ASSIGN 5

Kindly write any 10 programs.

1. Write a Shell Script to find maximum between two numbers.

The screenshot shows a Linux desktop environment with a terminal window open. The terminal window title is "apeksha@apeksha-VirtualBox: ~/assignment" and the file name is "max.txt". The script content is:

```
GNU nano 6.2
#!/bin/bash
read -p "enter first value" val1
read -p "enter second value" val2
if [ $val1 -gt $val2 ]
then
    echo "$val1 is greater"
else
    echo "$val2 is greater"
fi
```

The terminal history shows the execution of the script:

```
apeksha@apeksha-VirtualBox:~/assignment$ nano max.txt
apeksha@apeksha-VirtualBox:~/assignment$ bash max.txt
enter first value45
enter second value69
69 is greater
apeksha@apeksha-VirtualBox:~/assignment$
```

2. Write a Shell Script to find maximum between three numbers.



```
GNU nano 6.2
#!/bin/bash
read -p " enter3 numbers" val1 val2 val3
if [ $val1 -gt $val2 ]
then
    if [ $val1 -gt $val3 ]
    then
        echo "$val1 is greater"
    else
        echo "$val3 is greater"
    fi
elif [ $val2 -gt $val1 ]
then
    if [ $val2 -gt $val3 ]
    then
        echo "$val2 is greater"
    else
        echo "$val3 is greater"
    fi
else
    echo "$val3 is greater"
fi
```

```
apeksha@apeksha-VirtualBox:~/assignment$ bash max3.txt
enter3 numbers34 98 34
98 is greater
apeksha@apeksha-VirtualBox:~/assignment$
```

3. Write a Shell Script to check whether a number is negative, positive or zero.

The screenshot shows a Linux desktop environment. In the foreground, a terminal window titled "apeksha@apeksha-VirtualBox: ~/assignment" is open, displaying a shell script named "pn\_no.txt". The script reads a number from the user and prints whether it is positive, negative, or zero. The terminal window has a dark theme with white text. In the background, a file manager window titled "Activities" is visible, showing various icons for applications like a browser, file manager, and terminal.

```
GNU nano 6.2
#!/bin/bash
read -p "enter number" val
if [ $val -gt 0 ]
then
    echo "$val is positive"
elif [ $val -lt 0 ]
then
    echo "$val is negative"
else
    echo "$val is zero"
fi
```

File menu icons: Help, Exit, Write Out, Read File, Where Is, Replace, Cut, Paste, Execute, Justify, Location, Go To Line, Undo, Redo, Set Mark, Copy.

```
root@apeksha-VirtualBox:/home/apeksha/assignment# nano pn_no.txt
root@apeksha-VirtualBox:/home/apeksha/assignment# bash pn_no.txt
enter number0
0 is zero
root@apeksha-VirtualBox:/home/apeksha/assignment# bash pn_no.txt
enter number2
2 is positive
root@apeksha-VirtualBox:/home/apeksha/assignment# bash pn_no.txt
enter number-1
-1 is negative
root@apeksha-VirtualBox:/home/apeksha/assignment#
```

4. Write a Shell Script to check whether a number is divisible by 5 and 11 or not.

```
GNU nano 6.2                                            divisible.txt
#!/bin/bash
read -p "enter number: " val
if [ $(( $val % 5)) -eq 0 ] && [ $(( $val % 11)) -eq 0 ]
then
    echo "divisible by 5 and 11"
else
    echo "not divisible"
fi

root@apeksha-VirtualBox:/home/apeksha/assignment# nano divisible.txt
root@apeksha-VirtualBox:/home/apeksha/assignment# bash divisible.txt
enter number: 55
divisible by 5 and 11
root@apeksha-VirtualBox:/home/apeksha/assignment# bash divisible.txt
enter number: 78
not divisible
root@apeksha-VirtualBox:/home/apeksha/assignment#
```

5. Write a Shell Script to check whether a number is even or odd.

The screenshot shows a terminal window titled "Terminal" with the command "apeksha@apeksha-VirtualBox: ~/assignment" and the file name "even\_odd.txt". The window displays the following code:

```
GNU nano 6.2
#!/bin/bash
read -p "enter number: " val
if [ $((val % 2)) -eq 0 ]
then
    echo "even num"
else
    echo "odd num"
fi
```

The terminal window has a dark theme with icons on the left. At the bottom, there are various keyboard shortcuts for nano editor commands like Help, Exit, Write Out, Read File, Where Is, Replace, Cut, Paste, Read 8 lines, Execute, Justify, Location, Go To Line, Undo, Redo, Set Mark, and Copy.

```
apeksha@apeksha-VirtualBox:~/assignment$ nano even_odd
apeksha@apeksha-VirtualBox:~/assignment$ bash even_odd
enter number: 5
odd num
apeksha@apeksha-VirtualBox:~/assignment$ bash even_odd
enter number: 4
even num
apeksha@apeksha-VirtualBox:~/assignment$
```

6. Write a Shell Script to check whether a year is leap year or not.

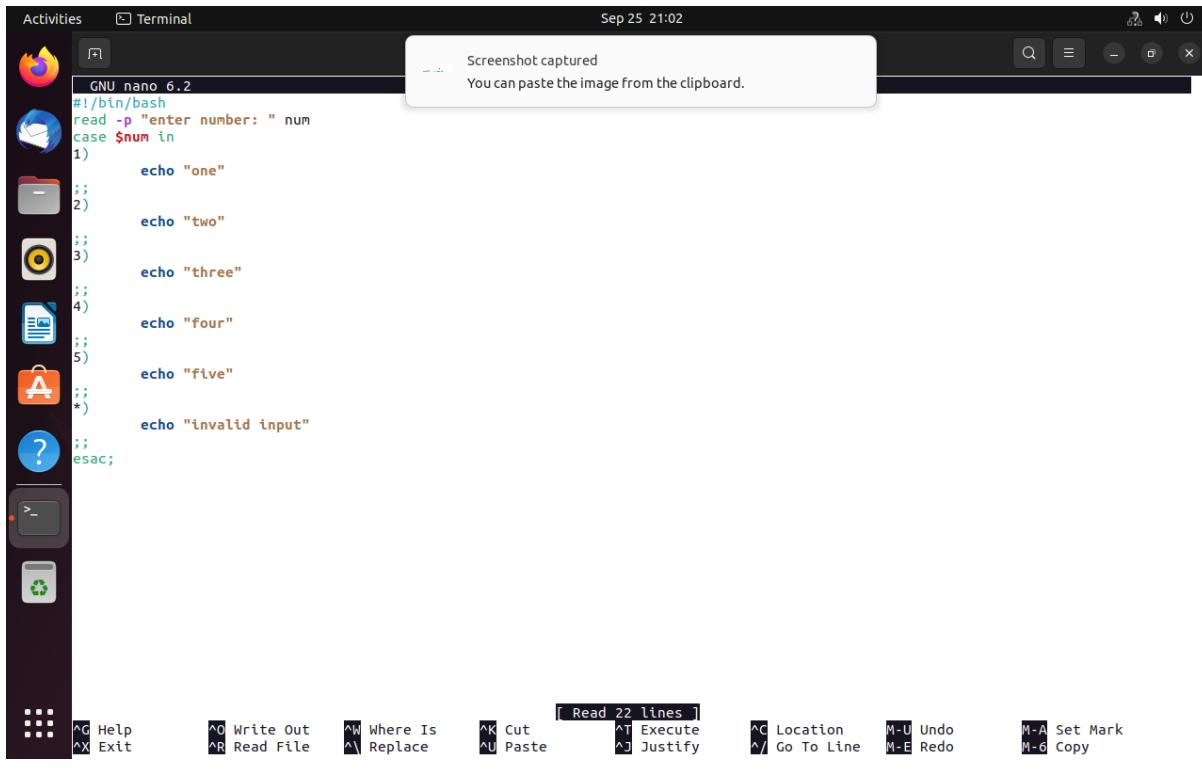
The screenshot shows a macOS desktop environment. A terminal window is open in the foreground, titled "GNU nano 6.2". The script content is:

```
#!/bin/bash
read -p "enter year" year
if [ $(($year % 4)) -eq 0 ]
then
    echo "leap year"
else
    echo "not leap year"
fi
```

A tooltip message "Screenshot captured You can paste the image from the clipboard." is visible above the terminal window. The terminal window has a dark theme. The bottom of the window displays various keyboard shortcuts for nano editor commands like Help, Write Out, Read File, Cut, Paste, Execute, Justify, Location, Go To Line, Undo, Redo, Set Mark, and Copy.

```
apeksha@apeksha-VirtualBox:~/assignment$ nano a4_6
apeksha@apeksha-VirtualBox:~/assignment$ bash a4_6
enter year2020
leap year
apeksha@apeksha-VirtualBox:~/assignment$ bash a4_6
enter year2021
not leap year
apeksha@apeksha-VirtualBox:~/assignment$
```

7. Shell Script to print number between 1 to 10 in character format using switch-case.



The screenshot shows a Linux desktop environment. In the foreground, a terminal window titled "GNU nano 6.2" is open, displaying a shell script named "switch.txt". The script uses a switch-case statement to print numbers from 1 to 5. A tooltip in the top right corner says "Screenshot captured You can paste the image from the clipboard." In the background, a file manager window titled "Activities" is visible, showing various icons for files and applications.

```
GNU nano 6.2
#!/bin/bash
read -p "enter number: " num
case $num in
1)
    echo "one"
;;
2)
    echo "two"
;;
3)
    echo "three"
;;
4)
    echo "four"
;;
5)
    echo "five"
*)
    echo "invalid input"
;;
esac;
```

[ Read 22 lines ]

^G Help ^O Write Out ^W Where Is ^K Cut ^T Execute ^C Location M-U Undo  
^X Exit ^R Read File ^A Replace ^U Paste ^J Justify ^L Go To Line M-E Redo  
M-A Set Mark M-6 Copy

```
apeksha@apeksha-VirtualBox:~/assignment$ nano switch.txt
apeksha@apeksha-VirtualBox:~/assignment$ bash switch.txt
enter number: 5
five
apeksha@apeksha-VirtualBox:~/assignment$ bash switch.txt
enter number: 1
one
```

## 8. Shell Script to accept id from user to confirm department using switch-case.

The screenshot shows a macOS desktop environment. A terminal window titled "GNU nano 6.2" is open, displaying a shell script. The script reads an ID from the user and uses a switch-case statement to echo the corresponding department. A clipboard notification is visible at the top, stating "Screenshot captured" and "You can paste the image from the clipboard".

```
GNU nano 6.2
#!/bin/bash
read -p "enter id: " id
case $id in
1)
    echo "a department"
;;
2)
    echo "b department"
;;
*)
    echo "invalid"
;;
esac
```

At the bottom of the terminal window, there are keyboard shortcuts for various functions:

- ^G Help
- ^X Exit
- ^O Write Out
- ^R Read File
- ^W Where Is
- ^A Replace
- ^K Cut
- ^U Paste
- ^T Execute
- ^J Justify
- [ Read 13 lines ]
- ^C Location
- ^L Go To Line
- M-U Undo
- M-E Redo
- M-A Set Mark
- M-C Copy

The terminal history shows the execution of the script:

```
apeksha@apeksha-VirtualBox:~/assignment$ nano depart.txt
apeksha@apeksha-VirtualBox:~/assignment$ bash depart.txt
enter id: 1
a department
apeksha@apeksha-VirtualBox:~/assignment$ bash depart.txt
enter id: 2
b department
apeksha@apeksha-VirtualBox:~/assignment$
```

9. Shell Script to check password is correct or incorrect using switch-case.

The screenshot shows a terminal window with a black background and white text. At the top, it says "apeksha@apeksha-VirtualBox:~/assignment\$". Below that, the file path "palindrome" is shown. The terminal contains the following code:

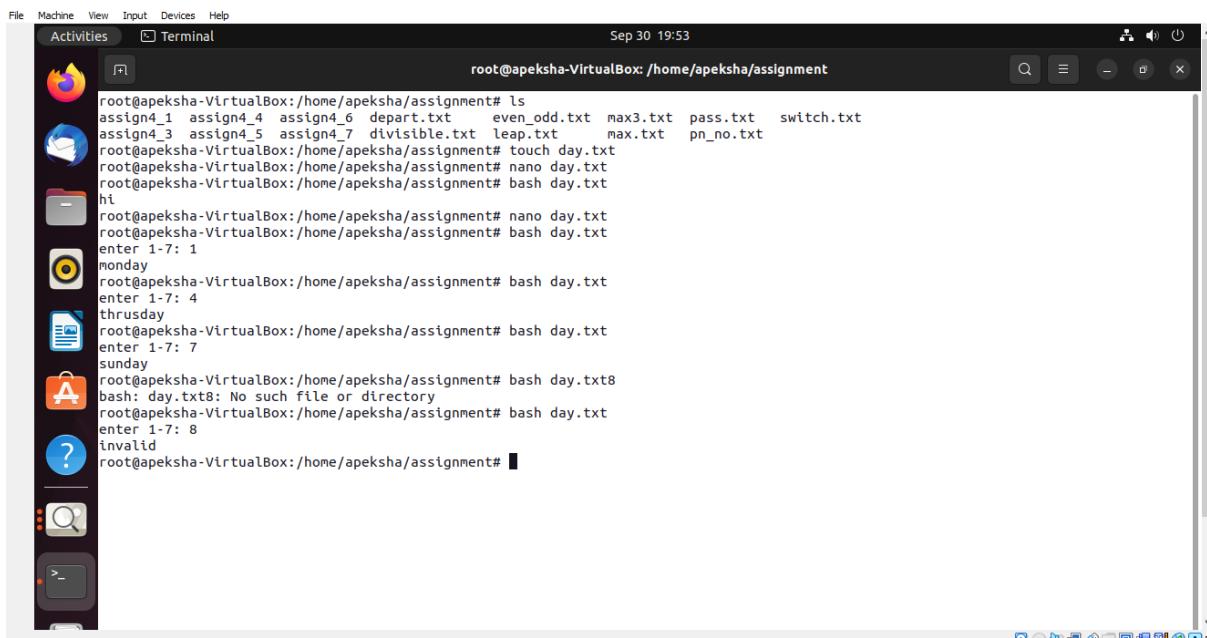
```
GNU nano 6.2
#!/bin/bash
pass="apps123"
read -p "enter pass: " val
if [[ "$pass" == "$val" ]]
then
    echo "correct"
else
    echo "not correct"
fi
```

```
apeksha@apeksha-VirtualBox:~/assignment$ nano palindrome
apeksha@apeksha-VirtualBox:~/assignment$ bash palindrome
enter pass: apps123
correct
apeksha@apeksha-VirtualBox:~/assignment$ bash palindrome
enter pass: apps@12
not correct
apeksha@apeksha-VirtualBox:~/assignment$
```

## 10. Shell Script to print day of week using switch-case.



```
GNU nano 6.2
#!/bin/bash
read -p "enter 1-7: " ch
case $ch in
1)
    echo "monday"
;;
2)
    echo "tuesday"
;;
3)
    echo "wednesday"
;;
4)
    echo "thrusday"
;;
5)
    echo "friday"
;;
6)
    echo "saturday"
;;
7)
    echo "sunday"
*)
    echo "invalid"
;;
esac
```



```
File Machine View Input Devices Help
Activities Terminal Sep 30 19:53
root@apeksha-VirtualBox:/home/apeksha/assignment# ls
assign4_1 assign4_4 assign4_6 depart.txt even_odd.txt max3.txt pass.txt pass.txt switch.txt
assign4_3 assign4_5 assign4_7 divisible.txt leap.txt max.txt pn_no.txt
root@apeksha-VirtualBox:/home/apeksha/assignment# touch day.txt
root@apeksha-VirtualBox:/home/apeksha/assignment# nano day.txt
root@apeksha-VirtualBox:/home/apeksha/assignment# bash day.txt
hi
root@apeksha-VirtualBox:/home/apeksha/assignment# nano day.txt
root@apeksha-VirtualBox:/home/apeksha/assignment# bash day.txt
enter 1-7: 1
monday
root@apeksha-VirtualBox:/home/apeksha/assignment# bash day.txt
enter 1-7: 4
thrusday
root@apeksha-VirtualBox:/home/apeksha/assignment# bash day.txt
enter 1-7: 7
sunday
root@apeksha-VirtualBox:/home/apeksha/assignment# bash day.txt
bash: day.txt: No such file or directory
root@apeksha-VirtualBox:/home/apeksha/assignment# bash day.txt
enter 1-7: 8
invalid
root@apeksha-VirtualBox:/home/apeksha/assignment#
```

## 11. Shell Script to create calculator using switch-case.



```
apeksha@apeksha-VirtualBox: ~/assignment
```

```
GNU nano 6.2
#!/bin/bash
read -p "enter a: " a
read -p "enter b: " b
ans=0
read -p "enter operation : " ch
case $ch in
'+')
    ans=$(( $a + $b ))
    ;;
'-')
    ans=$(( $a - $b ))
    ;;
'*')
    ans=$(( $a * $b ))
    ;;
'/')
    ans=$(( $a / $b ))
    ;;
*)
    echo "invalid"
    ;;
esac
echo $ans
```

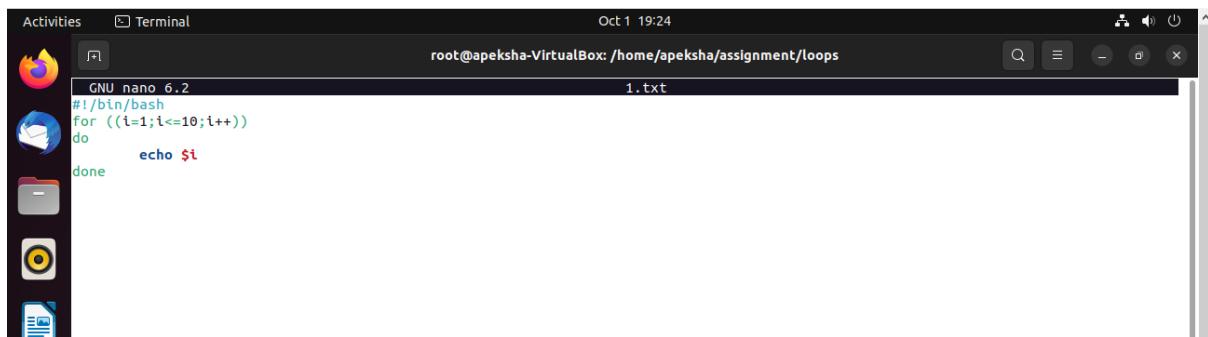
```
root@apeksha-VirtualBox:/home/apeksha/assignment# nano cal.txt
root@apeksha-VirtualBox:/home/apeksha/assignment# bash cal.txt
enter a: 5
enter b: 6
enter operation : *
30
root@apeksha-VirtualBox:/home/apeksha/assignment# bash cal.txt
enter a: 1
enter b: 2
enter operation : +
3
root@apeksha-VirtualBox:/home/apeksha/assignment# bash cal.txt
enter a: 4
enter b: 5
enter operation : -
-1
root@apeksha-VirtualBox:/home/apeksha/assignment# bash cal.txt
enter a: 6
enter b: 7
enter operation : /
0
```

## ASSIGN 6

1. Shell Script to display the first 10 natural numbers.

Expected Output :

1 2 3 4 5 6 7 8 9 10



A screenshot of a terminal window titled "root@apeksha-VirtualBox: /home/apeksha/assignment/loops". The window shows the command "GNU nano 6.2" followed by a shell script content:

```
#!/bin/bash
for ((i=1;i<=10;i++))
do
    echo $i
done
```



A screenshot of a terminal window titled "root@apeksha-VirtualBox: /home/apeksha/assignment/loops". The window shows the command "root@apeksha-VirtualBox:/home/apeksha/assignment/loops# bash 1.txt" followed by the output of the script:

```
1
2
3
4
5
6
7
8
9
10
```

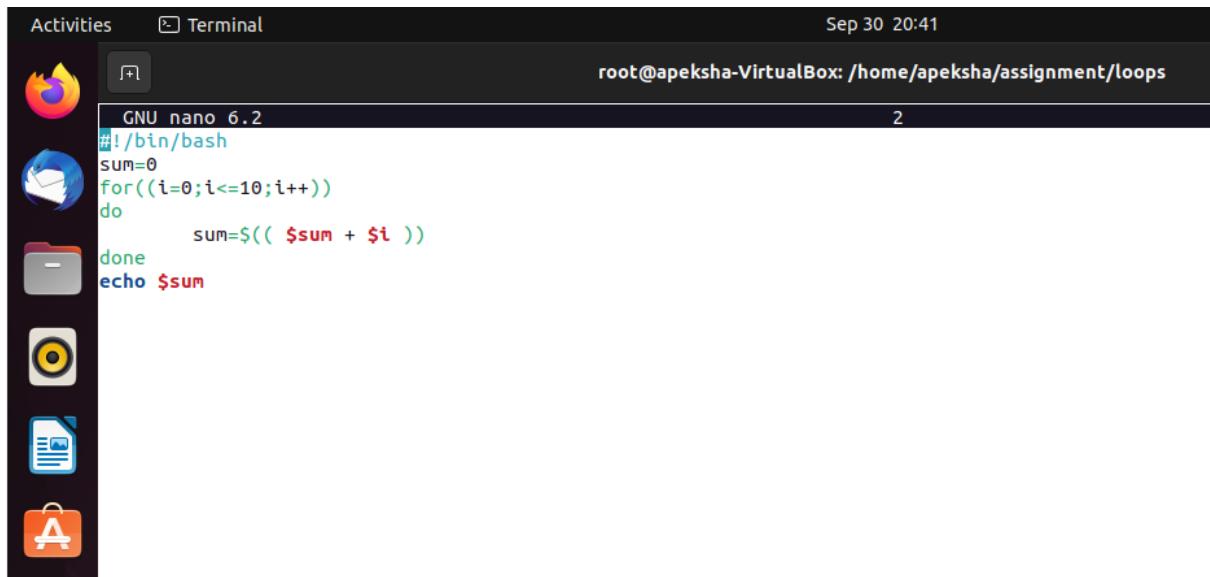
2. Shell Script to compute the sum of the first 10 natural numbers.

Expected Output :

The first 10 natural number is :

1 2 3 4 5 6 7 8 9 10

The Sum is : 55



A screenshot of a Linux desktop environment showing a terminal window. The terminal window has a dark theme and displays the following text:

```
Activities Terminal Sep 30 20:41
root@apeksha-VirtualBox: /home/apeksha/assignment/loops
GNU nano 6.2
#!/bin/bash
sum=0
for((i=0;i<=10;i++))
do
    sum=$(( $sum + $i ))
done
echo $sum
```

The terminal window is titled "Terminal" and shows the command "root@apeksha-VirtualBox: /home/apeksha/assignment/loops". The status bar indicates the date and time as "Sep 30 20:41". The file "1.txt" was created in the current directory using "nano".

```
root@apeksha-VirtualBox:/home/apeksha/assignment/loops# nano 1.txt
root@apeksha-VirtualBox:/home/apeksha/assignment/loops# bash 2
55
root@apeksha-VirtualBox:/home/apeksha/assignment/loops#
```

3. Shell Script to display n terms of natural numbers and their sum.

Test Data : 7

Expected Output :

The first 7 natural number is :

1 2 3 4 5 6 7

The Sum of Natural Number upto 7 terms : 28

The screenshot shows a terminal window with the following content:

```
GNU nano 6.2
#!/bin/bash
read -p "enter n: " n
sum=0
for((i=1;i<=n;i++))
do
    sum=$(( $sum + $i ))
done
echo $sum
```

At the bottom of the terminal, the command `bash 3` is run, followed by the input `enter n: 5`, and the output `15`.

4. Shell Script to read 10 numbers from the keyboard and find their sum and average.

Test Data :

Input the 10 numbers :

Number-1 :2

...

Number-10 :2

Expected Output :

The sum of 10 no is : 55

The Average is : 5.500000

```
GNU nano 6.2                                         4
#!/bin/bash
sum=0
for((i=1;i<=10;i++))
do
    read -p "enter num$i: " val
    sum=$(( $sum + $val ))
done
avg=$(( $sum / 10 ))
echo "sum is $sum"
echo "avg is $avg"
```

```
root@apeksha-VirtualBox:/home/apeksha/assignment/loops# bash 4
enter num1: 2
enter num2: 3
enter num3: 4
enter num4: 7
enter num5: 5
enter num6: 9
enter num7: 1
enter num8: 4
enter num9: 7
enter num10: 2
sum is 44
avg is 4
root@apeksha-VirtualBox:/home/apeksha/assignment/loops# █
```

## 5. Shell Script to display the cube of the number up to an integer.

Test Data :

Input number of terms : 5

Expected Output :

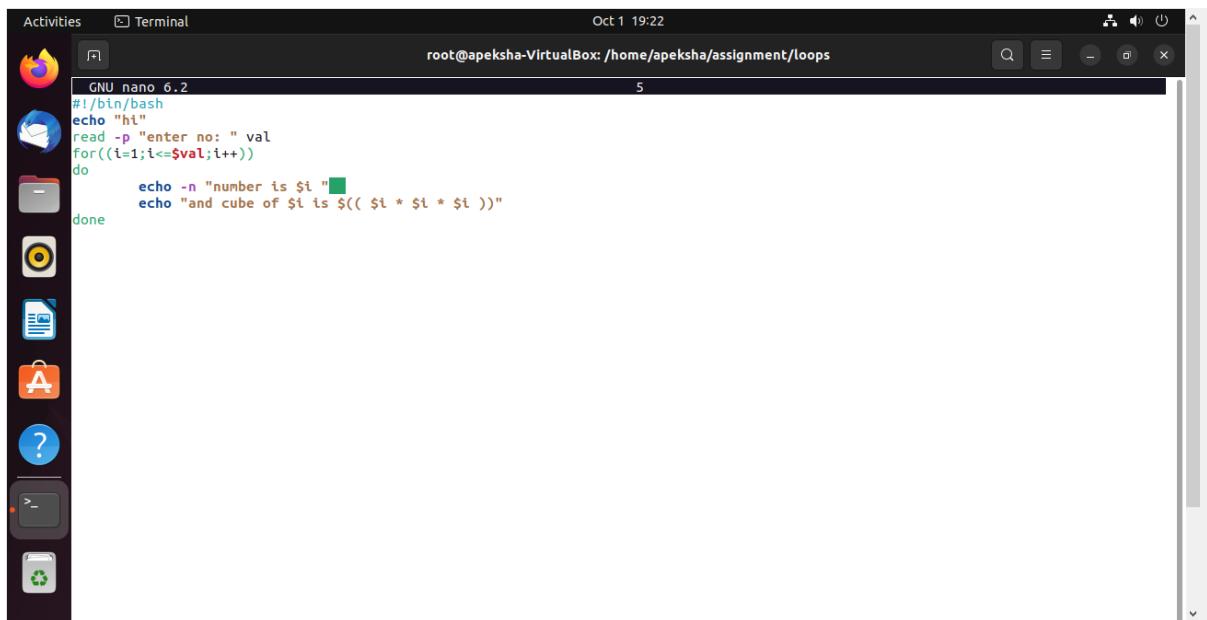
Number is : 1 and cube of the 1 is :1

Number is : 2 and cube of the 2 is :8

Number is : 3 and cube of the 3 is :27

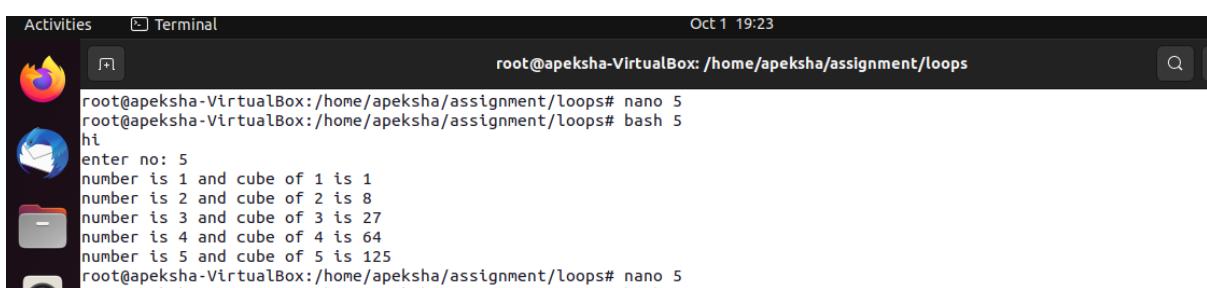
Number is : 4 and cube of the 4 is :64

Number is : 5 and cube of the 5 is :125



A screenshot of an Ubuntu desktop environment. On the left is a vertical dock with icons for Dash, Home, Applications, Files, Terminal, Dash Help, and a Dash search bar. A terminal window titled "root@apeksha-VirtualBox: /home/apeksha/assignment/loops" is open, showing the following code:

```
GNU nano 6.2
#!/bin/bash
echo "hi"
read -p "enter no: " val
for((i=1;i<=$val;i++))
do
    echo -n "number is $i "
    echo "and cube of $i is $(( $i * $i * $i ))"
done
```



A screenshot of an Ubuntu desktop environment. The terminal window shows the execution of the script:

```
root@apeksha-VirtualBox: /home/apeksha/assignment/loops# nano 5
root@apeksha-VirtualBox: /home/apeksha/assignment/loops# bash 5
hi
enter no: 5
number is 1 and cube of 1 is 1
number is 2 and cube of 2 is 8
number is 3 and cube of 3 is 27
number is 4 and cube of 4 is 64
number is 5 and cube of 5 is 125
root@apeksha-VirtualBox: /home/apeksha/assignment/loops# nano 5
```

6. Shell Script to display the multiplication table for a given integer.

Test Data :

Input the number (Table to be calculated) : 15

Expected Output :

15 X 1 = 15

...

...

15 X 10 = 150



A screenshot of a Linux desktop environment, likely Ubuntu, showing a terminal window and a file manager window.

The terminal window (root shell) displays the following code:

```
GNU nano 6.2
#!/bin/bash
read -p "entero: " val
for((i=1;i<=10;i++))
do
    ans=$(( $val * $i ))
    echo "$val x $i = $ans"
done
```

---

```
root@apeksha-VirtualBox:/home/apeksha/assignment/loops# bash 6
entero: 5
5 x 1 = 5
5 x 2 = 10
5 x 3 = 15
5 x 4 = 20
5 x 5 = 25
5 x 6 = 30
5 x 7 = 35
5 x 8 = 40
5 x 9 = 45
5 x 10 = 50
root@apeksha-VirtualBox:/home/apeksha/assignment/loops#
```

7. Shell Script to display the multiplier table vertically from 1 to n.

Test Data : Input upto the table number starting from 1 : 8

Expected Output : Multiplication table from 1 to 8

$1 \times 1 = 1, 2 \times 1 = 2, 3 \times 1 = 3, 4 \times 1 = 4, 5 \times 1 = 5, 6 \times 1 = 6, 7 \times 1 = 7, 8 \times 1 = 8 \dots$

$1 \times 10 = 10, 2 \times 10 = 20, 3 \times 10 = 30, 4 \times 10 = 40, 5 \times 10 = 50, 6 \times 10 = 60, 7 \times 10 = 70, 8 \times 10 = 80$

```
GNU nano 6.2                                         6
#!/bin/bash
read -p "entero: " val
for((i=1;i<=$val;i++))
do
    for((j=1;j<=10;j++))
    do
        ans=$(( $i * $j ))
        echo "$i x $j = $ans"
    done
done
```

---

```
root@apeksha-VirtualBox:/home/apeksha/assignment/loops# nano 6
root@apeksha-VirtualBox:/home/apeksha/assignment/loops# bash 6
enterno: 5
1 x 1 = 1
1 x 2 = 2
1 x 3 = 3
1 x 4 = 4
1 x 5 = 5
1 x 6 = 6
1 x 7 = 7
1 x 8 = 8
1 x 9 = 9
1 x 10 = 10
2 x 1 = 2
2 x 2 = 4
2 x 3 = 6
2 x 4 = 8
2 x 5 = 10
2 x 6 = 12
2 x 7 = 14
2 x 8 = 16
2 x 9 = 18
2 x 10 = 20
3 x 1 = 3
3 x 2 = 6
3 x 3 = 9
3 x 4 = 12
3 x 5 = 15
3 x 6 = 18
3 x 7 = 21
3 x 8 = 24
3 x 9 = 27
3 x 10 = 30
```

---

8. Shell Script to display the n terms of odd natural numbers and their sum.

Test Data

Input number of terms : 10

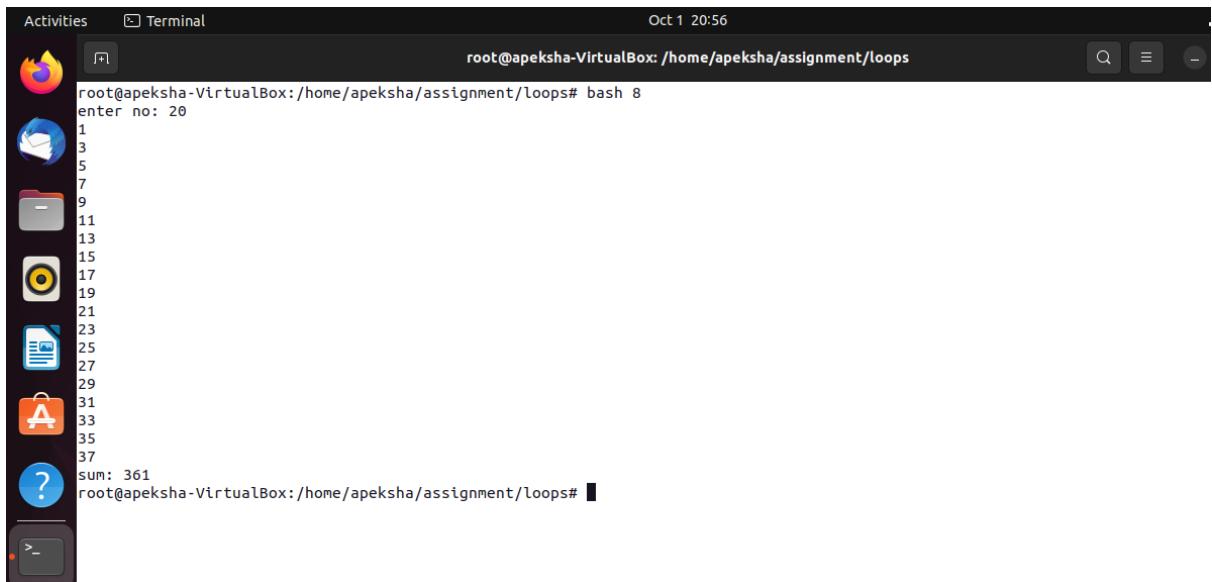
Expected Output :

The odd numbers are :1 3 5 7 9 11 13 15 17 19

The Sum of odd Natural Number upto 10 terms : 100

```
GNU nano 6.2
#!/bin/bash
read -p "enter no: " val
n=1
sum=0
i=1
while [ $i -lt $val ]
do
    echo $n
    sum=$(( $sum + $n ))
    n=$(( $n + 2 ))
    (( i++ ))
done
echo "sum: $sum"
```

8



The screenshot shows a Linux desktop environment with a terminal window open. The terminal window title is "Terminal" and the command line shows the user is at the root prompt on a VirtualBox machine. The user has run a script named "8" which prompts for a number and then prints a sequence of odd numbers from 1 to 20, followed by the sum of these numbers (361).

```
Activities Terminal Oct 1 20:56
root@apeksha-VirtualBox:/home/apeksha/assignment/loops# bash 8
enter no: 20
1
3
5
7
9
11
13
15
17
19
21
23
25
27
29
31
33
35
37
sum: 361
root@apeksha-VirtualBox:/home/apeksha/assignment/loops#
```

9. Shell Script to display a pattern like a right angle triangle using an asterisk.

The pattern like :

```
*
```

```
**
```

```
***
```

```
****
```

The image shows a Linux desktop environment with a dark theme. On the left is a vertical dock containing icons for various applications: a browser, file manager, terminal, terminal, file manager, terminal, terminal, and help.

**Top Terminal Window:**

- Activity bar: Activities, Terminal
- Time: Oct 1 21:04
- Title: root@apeksha-VirtualBox: /home/apeksha/assignment/loops
- Content:

```
GNU nano 6.2
#!/bin/bash
for((i=0;i<5;i++))
do
    for((j=0;j<i;j++))
    do
        echo -n "*"
    done
    echo ""
done
```

**Bottom Terminal Window:**

- Activity bar: Activities, Terminal
- Time: Oct 1 21:03
- Title: root@apeksha-VirtualBox: /home/apeksha/assignment/loops
- Content:

```
root@apeksha-VirtualBox:/home/apeksha/assignment/loops# bash 9
*
**
***
****
root@apeksha-VirtualBox:/home/apeksha/assignment/loops#
```

10. Shell Script to display a pattern like a right angle triangle with a number.

The pattern like :

1

12

123

1234

```
GNU nano 6.2
#!/bin/bash
for((i=1;i<=5;i++))
do
    for((j=1;j<i;j++))
    do
        echo -n "$j"
    done
    echo ""
done
```

9

```
root@apeksha-VirtualBox:/home/apeksha/assignment/loops# nano 9
root@apeksha-VirtualBox:/home/apeksha/assignment/loops# bash 9
1
12
123
1234
```

11. Shell Script to make such a pattern like a right angle triangle with a number which will repeat a number in a row.

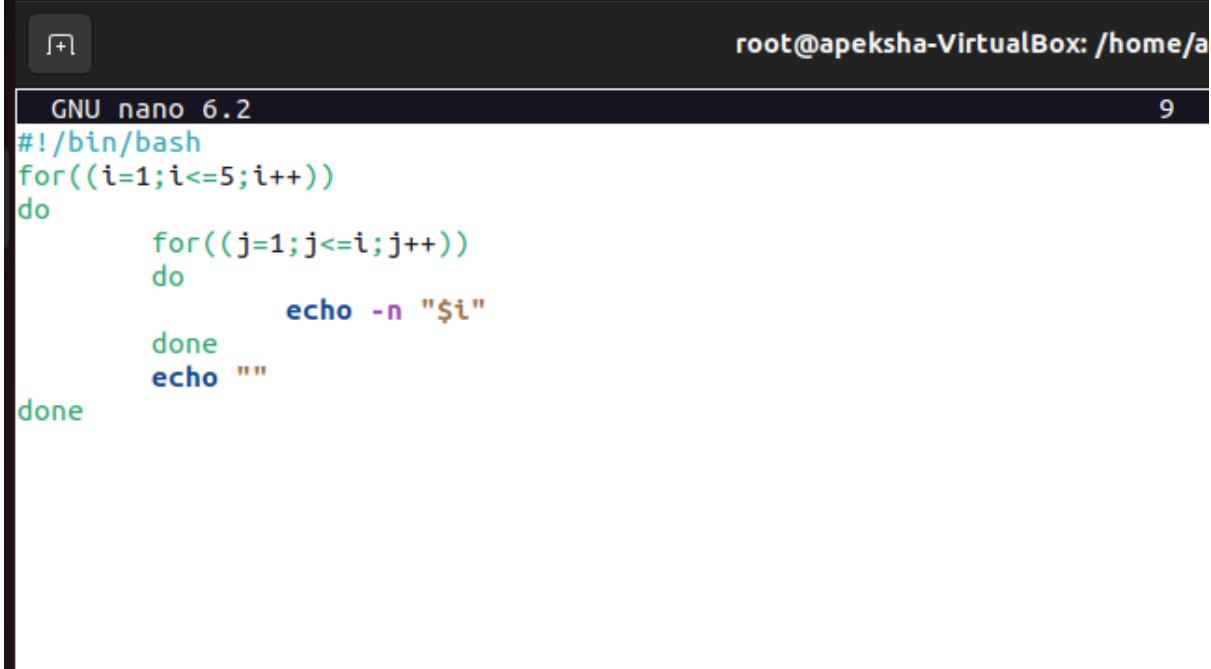
The pattern like :

1

22

333

4444



```
GNU nano 6.2
#!/bin/bash
for((i=1;i<=5;i++))
do
    for((j=1;j<=i;j++))
    do
        echo -n "$i"
    done
    echo ""
done
```

```
root@apeksha-VirtualBox:/home/apeksha/assignment/loops# nano 9
root@apeksha-VirtualBox:/home/apeksha/assignment/loops# bash 9
1
22
333
4444
55555
root@apeksha-VirtualBox:/home/apeksha/assignment/loops# nano 9
```

12. Shell Script to make such a pattern like a right angle triangle with the number increased by 1.

The pattern like :

```
1
2 3
4 5 6
7 8 9 10
```



The screenshot shows a terminal window titled "root@apeksha-VirtualBox: /home/apeksha/assignment/loops". The window contains a file named "9" which is a bash script. The script uses nested loops to print a triangle pattern. The code is as follows:

```
GNU nano 6.2
#!/bin/bash
a=1
for((i=1;i<=5;i++))
do
    for((j=1;j<=i-1;j++))
    do
        echo -n "$a "
        (( a++ ))
    done
    echo ""
done
```

```
root@apeksha-VirtualBox:/home/apeksha/assignment/loops# nano 9
root@apeksha-VirtualBox:/home/apeksha/assignment/loops# bash 9
```

```
1
2 3
4 5 6
7 8 9 10
root@apeksha-VirtualBox:/home/apeksha/assignment/loops#
```