OS-ASSIGNMENTS

Assignment -1 :

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

```
vaishnav@vaishnav-virtual-machine:~/myscripts/Assignments$ cat largestOfThree.sh
#!/usr/bin/bash

read -p "Enter first number : " a
read -p "Enter second number : " b
read -p "Enter third number : " c

if [ $a -gt $b ]
then
        if [ $a -gt $c ]
        then
                echo "$a is largest number"
        else
                echo "$c is largest number"
        fi
else
        if [ $b -gt $c ]
        then
                echo "$b is largest number"
        else
                echo "$c is largest number"
        fi
fi

vaishnav@vaishnav-virtual-machine:~/myscripts/Assignments$ bash largestOfThree.sh
Enter first number : 10
Enter second number : 2
Enter third number : 13
13 is largest number
```

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

```
vaishnav@vaishnav-virtual-machine:~/myscripts/Assignments$ cat largestOfTwo.sh
#!/usr/bin/bash

read -p "Enter first number : " a
read -p "Enter second number : " b

if [ $a -gt $b ]
then
        echo "$a is largest number"
else
        echo "$b is largest number"
fi

vaishnav@vaishnav-virtual-machine:~/myscripts/Assignments$ bash largestOfTwo.sh
Enter first number : 10
Enter second number : 2
10 is largest number
```

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

```
vaishnav@vaishnav-virtual-machine:~/myscripts/Assignments$ cat posNeg.sh
#!/usr/bin/bash

read -p "Enter a number : " n
if [ $n -gt 0 ]
then
        echo "Positive number"
elif [ $n -lt 0 ]
then
        echo "Negative number"
else
        echo "Zero"
fi

vaishnav@vaishnav-virtual-machine:~/myscripts/Assignments$ bash posNeg.sh
Enter a number : -89
Negative number
```

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

```
vaishnav@vaishnav-virtual-machine:~/myscripts/Assignments$ cat divBy5_11.sh
#!/usr/bin/bash

read -p "Enter a number : " n

let a=$n%5
let b=$n%11

if [ $a -eq 0 ] && [ $b -eq 0 ]
then
        echo "$n is divisible by 5 and 11"
else
        echo "$n is not divisible by 5 and 11"
fi

vaishnav@vaishnav-virtual-machine:~/myscripts/Assignments$ bash divBy5_11.sh
Enter a number : 55
55 is divisible by 5 and 11
```

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

```
vaishnav@vaishnav-virtual-machine:~/myscripts/Assignments$ cat evenOdd.sh
#!/usr/bin/bash

read -p "Enter a number : " a

let n=$a%2

if [ $n -eq 0 ]
then
        echo "Even number"
else
        echo "Odd number"
fi

vaishnav@vaishnav-virtual-machine:~/myscripts/Assignments$ bash evenOdd.sh
Enter a number : 26
Even number
```

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

```
vaishnav@vaishnav-virtual-machine:~/myscripts/Assignments$ cat checkLeapYear.sh
#!/usr/bin/bash

read -p "Enter a year : " y

let a=$y%4
let b=$y%100
let c=$y%400

if [ $a -eq 0 ] && [ $b -ne 0 ] || [ $c -eq 0 ]
then
        echo "Leap Year"
else
        echo "Not a Leap Year"
fi

vaishnav@vaishnav-virtual-machine:~/myscripts/Assignments$ bash checkLeapYear.sh
Enter a year : 2024
Leap Year
```

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

```
vaishnav@vaishnav-virtual-machine:~/myscripts/Assignments$ cat digit.sh
#!/usr/bin/bash

read -p "Enter a number between 1 - 10 : " n

case $n in
        1)
                echo "One"
                ;;
        2)
                echo "Two"
                ;;
        3)
                echo "Three"
                ;;
        4)
                echo "Four"
                ;;
        5)
                echo "Five"
                ;;
        6)
                echo "Six"
                ;;
        7)
                echo "Seven"
                ;;
        8)
                echo "Eight"
                ;;
        9)
                echo "Nine"
                ;;
        10)
                echo "Ten"
                ;;
        *)
                echo "Invalid option !"
                ;;
esac
vaishnav@vaishnav-virtual-machine:~/myscripts/Assignments$ bash digit.sh
Enter a number between 1 - 10 : 9
Nine
```

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

```
vaishnav@vaishnav-virtual-machine:~/myscripts/Assignments$ cat dept.sh
#!/usr/bin/bash

read -p "Enter department ID : " id

case $id in
        101)
                echo "HR"
                ;;
        102)
                echo "IT"
                ;;
        103)
                echo "Marketing"
                ;;
        *)
                echo "Unkown"
                ;;
esac

vaishnav@vaishnav-virtual-machine:~/myscripts/Assignments$ bash dept.sh
Enter department ID : 102
IT
```

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

```
vaishnav@vaishnav-virtual-machine:~/myscripts/Assignments$ cat encrypt.sh
#!/bin/usr/bash

read -p "Enter password to open the data.txt file : " pass

if [ $pass == $(cat password.txt) ]
then
        echo "Opening data.txt file ..."
        sleep 2s
        echo "Contents of data.txt are : "
        cat data.txt
else
        echo "Incorrect password ! please try again..."
fi

vaishnav@vaishnav-virtual-machine:~/myscripts/Assignments$ bash encrypt.sh
Enter password to open the data.txt file : Vaishv@123
Opening data.txt file ...
Contents of data.txt are :
Hello vaishnav
```

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

```
vaishnav@vaishnav-virtual-machine:~/myscripts/Assignments$ cat week.sh
#!/usr/bin/bash

read -p "Enter number between 1 - 7 : " n

case $n in
        1)
                echo "Monday"
                ;;
        2)
                echo "Tuesday"
                ;;
        3)
                echo "Wednesday"
                ;;
        4)
                echo "Thursday"
                ;;
        5)
                echo "Friday"
                ;;
        6)
                echo "Saturday"
                ;;
        7)
                echo "Sunday"
                ;;
        *)
                echo "Invalid option!"
                ;;
esac

vaishnav@vaishnav-virtual-machine:~/myscripts/Assignments$ bash week.sh
Enter number between 1 - 7 : 7
Sunday
```

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

```
vaishnav@vaishnav-virtual-machine:~/myscripts/Assignments$ cat calculator.sh
#!/usr/bin/bash

n=0
while [ $n -ne 5 ]
do
        echo "-------------Calculator-------------"
        echo "1. Addition"
        echo "2. Subtraction"
        echo "3. Multiplication"
        echo "4. Division"
        echo "5.Exit"
        read choice
        let n=$choice
        if [ $n -eq 5 ]
        then
                echo "Quitting ...."
                break;
        fi
        read -p "Enter first number : " a
        read -p "Enter second number : " b
        case $choice in
                1)
                        echo "Addition of $a and $b is : $(($a+$b))"
                        ;;
                2)
                        echo "Subtraction of $a and $b is : $(($a-$b))"
                        ;;
                3)
                        echo "Multiplication of $a and $b is : $(($a*$b))"
                        ;;
                4)
                        echo "Division of $a and $b is : $(($a/$b))"
                        ;;
                *)
                        echo "Invalid option!"
                        ;;
        esac
done

vaishnav@vaishnav-virtual-machine:~/myscripts/Assignments$ bash calculator.sh
-------------Calculator-------------
1. Addition
2. Subtraction
3. Multiplication
4. Division
5.Exit
1
Enter first number : 10
Enter second number : 2
Addition of 10 and 2 is : 12
-------------Calculator-------------
1. Addition
2. Subtraction
3. Multiplication
4. Division
5.Exit
5
Quitting ....
```

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.

```
vaishnav@vaishnav-virtual-machine:~$ cd folderCreation/
vaishnav@vaishnav-virtual-machine:~/folderCreation$ touch songsX.mp3{1..6}
vaishnav@vaishnav-virtual-machine:~/folderCreation$ ls
songsX.mp31  songsX.mp32  songsX.mp33  songsX.mp34  songsX.mp35  songsX.mp36
vaishnav@vaishnav-virtual-machine:~/folderCreation$ touch sanpX.jpg{1..6}
vaishnav@vaishnav-virtual-machine:~/folderCreation$ ls
sanpX.jpg1  sanpX.jpg3  sanpX.jpg5  songsX.mp31  songsX.mp33  songsX.mp35
sanpX.jpg2  sanpX.jpg4  sanpX.jpg6  songsX.mp32  songsX.mp34  songsX.mp36
vaishnav@vaishnav-virtual-machine:~/folderCreation$ touch filmX.avi{1..6}
vaishnav@vaishnav-virtual-machine:~/folderCreation$ ls
filmX.avi1  filmX.avi3  filmX.avi5  sanpX.jpg1  sanpX.jpg3  sanpX.jpg5  songsX.mp31  songsX.mp33  songsX.mp35
filmX.avi2  filmX.avi4  filmX.avi6  sanpX.jpg2  sanpX.jpg4  sanpX.jpg6  songsX.mp32  songsX.mp34  songsX.mp36
vaishnav@vaishnav-virtual-machine:~/folderCreation$
```

```
vaishnav@vaishnav-virtual-machine:~/folderCreation$ cat songs.sh
#!/usr/bin/bash

n=$(ls -l | grep 'songsX' | wc -l)

for (( i=1;i<=$n;i++ ))
do
        mv songsX.mp3$i songs$i.mp3
done
vaishnav@vaishnav-virtual-machine:~/folderCreation$ bash songs.sh
vaishnav@vaishnav-virtual-machine:~/folderCreation$ ls
filmX.avi1  filmX.avi3  filmX.avi5  snap.sh      songs2.mp3  songs4.mp3  songs6.mp3
filmX.avi2  filmX.avi4  filmX.avi6  songs1.mp3   songs3.mp3  songs5.mp3  songs.sh
vaishnav@vaishnav-virtual-machine:~/folderCreation$
```

```
vaishnav@vaishnav-virtual-machine:~/folderCreation$ cat snap.sh
#!/usr/bin/bash

n=$(ls -l | grep 'snapX' | wc -l)

for (( i=1;i<=$n;i++ ))
do
        mv snapX.jpg$i snap$i.jpg
done
vaishnav@vaishnav-virtual-machine:~/folderCreation$ bash snap.sh
vaishnav@vaishnav-virtual-machine:~/folderCreation$ ls
filmX.avi1  filmX.avi3  filmX.avi5  snap1.jpg  snap3.jpg  snap5.jpg  snap.sh     songs2.mp3  songs4.mp3  songs6.mp3
filmX.avi2  filmX.avi4  filmX.avi6  snap2.jpg  snap4.jpg  snap6.jpg  songs1.mp3  songs3.mp3  songs5.mp3  songs.sh
vaishnav@vaishnav-virtual-machine:~/folderCreation$
```

```
vaishnav@vaishnav-virtual-machine:~/folderCreation$ cat film.sh
#!/usr/bin/bash

n=$(ls -l | grep 'filmX' | wc -l)

for (( i=1;i<=$n;i++ ))
do
        mv filmX.avi$i film$i.avi
done
vaishnav@vaishnav-virtual-machine:~/folderCreation$ bash film.sh
vaishnav@vaishnav-virtual-machine:~/folderCreation$ ls
film1.avi  film3.avi  film5.avi  film.sh    snap2.jpg  snap4.jpg  snap6.jpg  songs1.mp3  songs3.mp3  songs5.mp3  songs.sh
film2.avi  film4.avi  film6.avi  snap1.jpg  snap3.jpg  snap5.jpg  snap.sh    songs2.mp3  songs4.mp3  songs6.mp3
vaishnav@vaishnav-virtual-machine:~/folderCreation$
```

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

```
vaishnav@vaishnav-virtual-machine:~/folderCreation$ mkdir music
vaishnav@vaishnav-virtual-machine:~/folderCreation$ mkdir pictures
vaishnav@vaishnav-virtual-machine:~/folderCreation$ mkdir videos
vaishnav@vaishnav-virtual-machine:~/folderCreation$ mv songs{1..6}.mp3 ./music/
vaishnav@vaishnav-virtual-machine:~/folderCreation$ cd music/
vaishnav@vaishnav-virtual-machine:~/folderCreation/music$ ls
songs1.mp3  songs2.mp3  songs3.mp3  songs4.mp3  songs5.mp3  songs6.mp3
vaishnav@vaishnav-virtual-machine:~/folderCreation/music$ cd ..
vaishnav@vaishnav-virtual-machine:~/folderCreation$ mv film{1..6}.avi ./videos/
vaishnav@vaishnav-virtual-machine:~/folderCreation$ cd videos/
vaishnav@vaishnav-virtual-machine:~/folderCreation/videos$ ls
film1.avi  film2.avi  film3.avi  film4.avi  film5.avi  film6.avi
vaishnav@vaishnav-virtual-machine:~/folderCreation/videos$ cd ..
vaishnav@vaishnav-virtual-machine:~/folderCreation$ mv snap{1..6}.jpg ./pictures/
vaishnav@vaishnav-virtual-machine:~/folderCreation$ cd pictures/
vaishnav@vaishnav-virtual-machine:~/folderCreation/pictures$ ls
snap1.jpg  snap2.jpg  snap3.jpg  snap4.jpg  snap5.jpg  snap6.jpg
vaishnav@vaishnav-virtual-machine:~/folderCreation/pictures$
```

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

```
vaishnav@vaishnav-virtual-machine:~/folderCreation$ mkdir friends family work
vaishnav@vaishnav-virtual-machine:~/folderCreation$ ls
family  film.sh  friends  music  pictures  snap.sh  songs.sh  videos  work
vaishnav@vaishnav-virtual-machine:~/folderCreation$
```

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

```
vaishnav@vaishnav-virtual-machine:~/folderCreation/music$ cp songs{1..2}.mp3 ../friends/
vaishnav@vaishnav-virtual-machine:~/folderCreation/music$ cd ../pictures/
vaishnav@vaishnav-virtual-machine:~/folderCreation/pictures$ cp snap{1..2}.jpg ../friends/
vaishnav@vaishnav-virtual-machine:~/folderCreation/pictures$ cd ../videos/
vaishnav@vaishnav-virtual-machine:~/folderCreation/videos$ cp film{1..2}.avi ../friends/
vaishnav@vaishnav-virtual-machine:~/folderCreation/videos$ cd ../friends/
vaishnav@vaishnav-virtual-machine:~/folderCreation/friends$ ls
film1.avi  film2.avi  snap1.jpg  snap2.jpg  songs1.mp3  songs2.mp3
vaishnav@vaishnav-virtual-machine:~/folderCreation/friends$
```

```
vaishnav@vaishnav-virtual-machine:~/folderCreation/music$ cp songs{3..4}.mp3 ../family/
vaishnav@vaishnav-virtual-machine:~/folderCreation/music$ cd ..
vaishnav@vaishnav-virtual-machine:~/folderCreation$ cd pictures/
vaishnav@vaishnav-virtual-machine:~/folderCreation/pictures$ cp snap{3..4}.jpg ../family/
vaishnav@vaishnav-virtual-machine:~/folderCreation/pictures$ cd ..
vaishnav@vaishnav-virtual-machine:~/folderCreation$ cd videos/
vaishnav@vaishnav-virtual-machine:~/folderCreation/videos$ cp film{3..4}.avi ../family/
vaishnav@vaishnav-virtual-machine:~/folderCreation/videos$ cd ../family/
vaishnav@vaishnav-virtual-machine:~/folderCreation/family$ ls
film3.avi  film4.avi  snap3.jpg  snap4.jpg  songs3.mp3  songs4.mp3
vaishnav@vaishnav-virtual-machine:~/folderCreation/family$
```

```
vaishnav@vaishnav-virtual-machine:~/folderCreation$ cd music/
vaishnav@vaishnav-virtual-machine:~/folderCreation/music$ cp songs{5..6}.mp3 ../work/
vaishnav@vaishnav-virtual-machine:~/folderCreation/music$ cd ..
vaishnav@vaishnav-virtual-machine:~/folderCreation$ cd pictures/
vaishnav@vaishnav-virtual-machine:~/folderCreation/pictures$ cp snap{5..6}.jpg ../work/
vaishnav@vaishnav-virtual-machine:~/folderCreation/pictures$ cd ..
vaishnav@vaishnav-virtual-machine:~/folderCreation$ cd videos/
vaishnav@vaishnav-virtual-machine:~/folderCreation/videos$ cp film{5..6}.avi ../work/
vaishnav@vaishnav-virtual-machine:~/folderCreation/videos$ cd ../work/
vaishnav@vaishnav-virtual-machine:~/folderCreation/work$ ls
film5.avi  film6.avi  snap5.jpg  snap6.jpg  songs5.mp3  songs6.mp3
vaishnav@vaishnav-virtual-machine:~/folderCreation/work$
```

6. Delete all files in family subdirectory.

```
vaishnav@vaishnav-virtual-machine:~/folderCreation/family$ ls
film3.avi  film4.avi  snap3.jpg  snap4.jpg  songs3.mp3  songs4.mp3
vaishnav@vaishnav-virtual-machine:~/folderCreation/family$ cd ..
vaishnav@vaishnav-virtual-machine:~/folderCreation$ rm ./family/*
vaishnav@vaishnav-virtual-machine:~/folderCreation$ cd family/
vaishnav@vaishnav-virtual-machine:~/folderCreation/family$ ls
vaishnav@vaishnav-virtual-machine:~/folderCreation/family$
```

7. Delete friends subdirectory

```
vaishnav@vaishnav-virtual-machine:~/folderCreation/friends$ ls
film1.avi  film2.avi  snap1.jpg  snap2.jpg  songs1.mp3  songs2.mp3
vaishnav@vaishnav-virtual-machine:~/folderCreation/friends$ cd ..
vaishnav@vaishnav-virtual-machine:~/folderCreation$ rm -f ./friends/*
vaishnav@vaishnav-virtual-machine:~/folderCreation$ cd friends/
vaishnav@vaishnav-virtual-machine:~/folderCreation/friends$ ls
vaishnav@vaishnav-virtual-machine:~/folderCreation/friends$ cd ..
vaishnav@vaishnav-virtual-machine:~/folderCreation$ rmdir friends/
vaishnav@vaishnav-virtual-machine:~/folderCreation$ ls
family  film.sh  music  pictures  snap.sh  songs.sh  videos  work
vaishnav@vaishnav-virtual-machine:~/folderCreation$
```

8. Create user tom , bob , sam , prince

```
vaishnav@vaishnav-virtual-machine:~$ sudo adduser tom
Adding user `tom' ...
Adding new group `tom' (1001) ...
Adding new user `tom' (1001) with group `tom' ...
The home directory `/home/tom' already exists.  Not copying from `/etc/skel'.
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
passwd: password updated successfully
Changing the user information for tom
Enter the new value, or press ENTER for the default
        Full Name []: tom
        Room Number []:
        Work Phone []:
        Home Phone []:
        Other []:
Is the information correct? [Y/n] y
vaishnav@vaishnav-virtual-machine:~$ sudo adduser bob
Adding user `bob' ...
Adding new group `bob' (1002) ...
Adding new user `bob' (1002) with group `bob' ...
The home directory `/home/bob' already exists.  Not copying from `/etc/skel'.
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
passwd: password updated successfully
Changing the user information for bob
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
```

```
vaishnav@vaishnav-virtual-machine:~$ sudo adduser sam
Adding user `sam' ...
Adding new group `sam' (1003) ...
Adding new user `sam' (1003) with group `sam' ...
Creating home directory `/home/sam' ...
Copying files from `/etc/skel' ...
New password:
BAD PASSWORD: The password is shorter than 8 characters
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 []:
        Room Number []:
        Work Phone []:
        Home Phone []:
        Other []:
Is the information correct? [Y/n] y
vaishnav@vaishnav-virtual-machine:~$ sudo adduser prince
Adding user `prince' ...
Adding new group `prince' (1004) ...
Adding new user `prince' (1004) with group `prince' ...
Creating home directory `/home/prince' ...
Copying files from `/etc/skel' ...
New password:
BAD PASSWORD: The password contains the user name in some form
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 []:
        Room Number []:
        Work Phone []:
        Home Phone []:
        Other []:
Is the information correct? [Y/n] y
```

9. Create Group dac , dbda ,ditiss

```
vaishnav@vaishnav-virtual-machine:~$ sudo addgroup dac
Adding group `dac' (GID 1005) ...
Done.
vaishnav@vaishnav-virtual-machine:~$ sudo addgroup dbda
Adding group `dbda' (GID 1006) ...
Done.
vaishnav@vaishnav-virtual-machine:~$ sudo addgroup ditiss
Adding group `ditiss' (GID 1007) ...
Done.
vaishnav@vaishnav-virtual-machine:~$
```

10. add user:

Tom in dac

Bob in dbda

Sam in ditiss

```
vaishnav@vaishnav-virtual-machine:~$ sudo usermod -aG dac tom
vaishnav@vaishnav-virtual-machine:~$ sudo usermod -aG dbda bob
vaishnav@vaishnav-virtual-machine:~$ sudo usermod -aG ditiss sam
vaishnav@vaishnav-virtual-machine:~$ cat /etc/group | grep 'tom'
tom:x:1001:
dac:x:1005:tom
vaishnav@vaishnav-virtual-machine:~$ cat /etc/group | grep 'bob'
bob:x:1002:
dbda:x:1006:bob
vaishnav@vaishnav-virtual-machine:~$ cat /etc/group | grep 'sam'
sambashare:x:136:vaishnav
sam:x:1003:
ditiss:x:1007:sam
vaishnav@vaishnav-virtual-machine:~$
```

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

```
vaishnav@vaishnav-virtual-machine:~$ su - prince
Password:
prince@vaishnav-virtual-machine:~$ mkdir temp
prince@vaishnav-virtual-machine:~$ cd temp/
prince@vaishnav-virtual-machine:~/temp$ mkdir iacsd
prince@vaishnav-virtual-machine:~/temp$ cd iacsd/
prince@vaishnav-virtual-machine:~/temp/iacsd$ touch project-{1..4}
prince@vaishnav-virtual-machine:~/temp/iacsd$ ls
project-1  project-2  project-3  project-4
prince@vaishnav-virtual-machine:~/temp/iacsd$
```

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.

```
prince@vaishnav-virtual-machine:~/temp/iacsd$ ls
project-1  project-2  project-3  project-4
prince@vaishnav-virtual-machine:~/temp/iacsd$ sudo chown -c tom project-1
changed ownership of 'project-1' from prince to tom
prince@vaishnav-virtual-machine:~/temp/iacsd$ sudo chgrp -c dac project-2
changed group of 'project-2' from prince to dac
prince@vaishnav-virtual-machine:~/temp/iacsd$ ls -l project-1
-rwxrwxrwx 1 tom prince 0 Sep 30 21:09 project-1
prince@vaishnav-virtual-machine:~/temp/iacsd$ ls -l project-2
-rw-rw-r-- 1 prince dac 0 Sep 30 21:09 project-2
prince@vaishnav-virtual-machine:~/temp/iacsd$ chmod 660 project-3
prince@vaishnav-virtual-machine:~/temp/iacsd$ ls -l project-3
-rw-rw---- 1 prince prince 0 Sep 30 21:09 project-3
prince@vaishnav-virtual-machine:~/temp/iacsd$ sudo chown -c tom project-3
[sudo] password for prince:
changed ownership of 'project-3' from prince to tom
prince@vaishnav-virtual-machine:~/temp/iacsd$ ls -l project-3
-rw-rw---- 1 tom prince 0 Sep 30 21:09 project-3
prince@vaishnav-virtual-machine:~/temp/iacsd$ chmod 666 project-3
chmod: changing permissions of 'project-3': Operation not permitted
prince@vaishnav-virtual-machine:~/temp/iacsd$ exit
logout
vaishnav@vaishnav-virtual-machine:~/temp/iacsd$ su - tom
Password:
tom@vaishnav-virtual-machine:~$ exit
logout
vaishnav@vaishnav-virtual-machine:~/temp/iacsd$ su - prince
Password:
prince@vaishnav-virtual-machine:~$ cd temp/iacsd/
prince@vaishnav-virtual-machine:~/temp/iacsd$ sudo chmod 666 project-3
prince@vaishnav-virtual-machine:~/temp/iacsd$ ls -l project-3
-rw-rw-rw- 1 tom prince 0 Sep 30 21:09 project-3
prince@vaishnav-virtual-machine:~/temp/iacsd$
```

```
prince@vaishnav-virtual-machine:~/temp/iacsd$ ls -l
total 0
-rwxrwxrwx 1 tom     prince 0 Sep 30 21:09 project-1
-rw-rw-r-- 1 prince dac    0 Sep 30 21:09 project-2
-rw-rw-rw- 1 tom     prince 0 Sep 30 21:09 project-3
-rw-rw-r-- 1 prince prince 0 Sep 30 21:09 project-4
prince@vaishnav-virtual-machine:~/temp/iacsd$ sudo chgrp -c dbda project-4
changed group of 'project-4' from prince to dbda
prince@vaishnav-virtual-machine:~/temp/iacsd$ sudo chmod 674 project-4
prince@vaishnav-virtual-machine:~/temp/iacsd$ ls -l project-4
-rw-rwxr-- 1 prince dbda 0 Sep 30 21:09 project-4
prince@vaishnav-virtual-machine:~/temp/iacsd$
```

Assignment1 :

one

    apple

banana

cat

dog

elephant

two

fish

gun

horse

icecream

three

jelly

kitkat

lolipop

marshmallow

four

new

oppo

vivo

china

/home -> mkdir EVERYONE

chmod 777 EVERYONE

Create a file with every user (whoami >> username.txt)

oppo -> primary group change -> one

vivo -> primary group change -> two

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

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

```
vaishnav@vaishnav-virtual-machine:~$ cat /etc/group | grep "one"
one:x:1008:apple,banana,cat,dog,elephant
vaishnav@vaishnav-virtual-machine:~$ cat /etc/group | grep "two"
systemd-network:x:102:
two:x:1009:fish,gun,horse,icecream
vaishnav@vaishnav-virtual-machine:~$ cat /etc/group | grep "three"
three:x:1010:jelly,kitkat,lolipop,marshmellow
vaishnav@vaishnav-virtual-machine:~$ cat /etc/group | grep "four"
four:x:1011:new,oppo,vivo,china
vaishnav@vaishnav-virtual-machine:~$
```

```
apple@vaishnav-virtual-machine:~$ cat username.txt
apple
apple@vaishnav-virtual-machine:~$ su - banana
Password:
banana@vaishnav-virtual-machine:~$ cat username.txt
banana
banana@vaishnav-virtual-machine:~$ su - cat
Password:
cat@vaishnav-virtual-machine:~$ cat username.txt
cat
cat@vaishnav-virtual-machine:~$ su - dog
Password:
dog@vaishnav-virtual-machine:~$ cat username.txt
dog
dog@vaishnav-virtual-machine:~$ su - elephant
Password:
elephant@vaishnav-virtual-machine:~$ cat username.txt
elephant
elephant@vaishnav-virtual-machine:~$ su - fish
Password:
fish@vaishnav-virtual-machine:~$ cat username.txt
fish
fish@vaishnav-virtual-machine:~$ su - gun
Password:
gun@vaishnav-virtual-machine:~$ cat username.txt
gun
gun@vaishnav-virtual-machine:~$ su - horse
Password:
horse@vaishnav-virtual-machine:~$ cat username.txt
horse
horse@vaishnav-virtual-machine:~$ su - icecream
Password:
icecream@vaishnav-virtual-machine:~$ cat username.txt
icecream
icecream@vaishnav-virtual-machine:~$ su - jelly
Password:
jelly@vaishnav-virtual-machine:~$ cat username.txt
jelly
jelly@vaishnav-virtual-machine:~$ su - kitkat
Password:
kitkat@vaishnav-virtual-machine:~$ cat username.txt
kitkat
kitkat@vaishnav-virtual-machine:~$ su - lolipop
Password:
lolipop@vaishnav-virtual-machine:~$ cat username.txt
lolipop
lolipop@vaishnav-virtual-machine:~$ su - marshmellow
Password:
marshmellow@vaishnav-virtual-machine:~$ cat username.txt
marshmellow
marshmellow@vaishnav-virtual-machine:~$ su - new
Password:
new@vaishnav-virtual-machine:~$ cat username.txt
new
new@vaishnav-virtual-machine:~$ su - oppo
Password:
oppo@vaishnav-virtual-machine:~$ cat username.txt
oppo
oppo@vaishnav-virtual-machine:~$ su - vivo
Password:
vivo@vaishnav-virtual-machine:~$ cat username.txt
vivo
. .
```

sudo adduser <username> sudo – add the user to sudoers before changing its file group/owner

```
oppo@vaishnav-virtual-machine:~$ ls -l
total 4
-rw-rw-rw- 1 oppo oppo 5 Sep 30 23:43 username.txt
oppo@vaishnav-virtual-machine:~$ sudo chgrp -c one username.txt
[sudo] password for oppo:
changed group of 'username.txt' from oppo to one
oppo@vaishnav-virtual-machine:~$ ls -l
total 4
-rw-rw-rw- 1 oppo one 5 Sep 30 23:43 username.txt
oppo@vaishnav-virtual-machine:~$
```

```
vivo@vaishnav-virtual-machine:~$ ls -l
total 4
-rw-rw-r-- 1 vivo vivo 5 Sep 30 23:55 username.txt
vivo@vaishnav-virtual-machine:~$ sudo chgrp -c two username.txt
[sudo] password for vivo:
changed group of 'username.txt' from vivo to two
vivo@vaishnav-virtual-machine:~$ ls -l
total 4
-rw-rw-r-- 1 vivo two 5 Sep 30 23:55 username.txt
vivo@vaishnav-virtual-machine:~$
```

```
vaishnav@vaishnav-virtual-machine:~$ sudo adduser jelly sudo
Adding user `jelly' to group `sudo' ...
Adding user jelly to group sudo
Done.
vaishnav@vaishnav-virtual-machine:~$ sudo adduser kitkat sudo
Adding user `kitkat' to group `sudo' ...
Adding user kitkat to group sudo
Done.
vaishnav@vaishnav-virtual-machine:~$ sudo adduser lolipop sudo
Adding user `lolipop' to group `sudo' ...
Adding user lolipop to group sudo
Done.
vaishnav@vaishnav-virtual-machine:~$ sudo adduser marshmellow sudo
Adding user `marshmellow' to group `sudo' ...
Adding user marshmellow to group sudo
Done.
vaishnav@vaishnav-virtual-machine:~$
```

```
fish@vaishnav-virtual-machine:~$ ls -l
total 4
-rw-rw-r-- 1 fish fish 5 Sep 30 23:39 username.txt
fish@vaishnav-virtual-machine:~$ sudo chgrp -c one username.txt
[sudo] password for fish:
changed group of 'username.txt' from fish to one
fish@vaishnav-virtual-machine:~$ su - gun
Password:
To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

gun@vaishnav-virtual-machine:~$ sudo chgrp -c one username.txt
[sudo] password for gun:
changed group of 'username.txt' from gun to one
gun@vaishnav-virtual-machine:~$
```

Assignment -4 :

1. Write a shell script to print your 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 .

```
vaishnav@vaishnav-virtual-machine:~/myscripts/Assignments/tasks$ cat onescript.sh
#!/usr/bin/bash

echo "Logged in as user : "
whoami
echo "Directory you are in : "
pwd
echo "Terminal you are working : "
echo "$TERM"
echo "Total files in current directory are : "
ls -l | grep "^-" | wc -l
echo "Total directories in current directory are : "
find . -maxdepth 1 -type d ! -name ".*" | wc -l
vaishnav@vaishnav-virtual-machine:~/myscripts/Assignments/tasks$ bash onescript.sh
Logged in as user :
vaishnav
Directory you are in :
/home/vaishnav/myscripts/Assignments/tasks
Terminal you are working :
xterm-256color
Total files in current directory are :
18
Total directories in current directory are :
1
vaishnav@vaishnav-virtual-machine:~/myscripts/Assignments/tasks$
```

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.

```
vaishnav@vaishnav-virtual-machine:~/myscripts/Assignments/tasks$ cat recordHandling.sh
#!/usr/bin/bash

n=0
while [ $n -ne 4 ]
do
        echo "1.Add a record"
        echo "2.Delete a record"
        echo "3.Display a record"
        echo "4.Exit"
        read choice
        let n=$choice
        if [ $n -eq 4 ]
        then
                echo "Quitting..."
                break
        fi

        case $choice in
                1)
                        echo "Enter roll no : "
                        read rollno
                        echo "Enter name : "
                        read name
                        echo "Enter semister : "
                        read sem
                        echo "Enter three subjects marks : "
                        read marks1
                        read marks2
                        read marks3

                        echo "$rollno $name $sem $marks1 $marks2 $marks3" >> database.txt

                        echo "Record added successfully "

                        ;;
                2)
                        echo "Enter roll no : "
                        read rollno
                        #awk -v "rollno=$rollno" '$1!=rollno' database.txt > temp.txt
                        result=$(grep -v "$rollno" database.txt)
                        echo $result > temp.txt
                        mv temp.txt database.txt
                        echo "Deleted the record"

                        ;;
                3)
                        echo "Enter roll no : "
                        read rollno
                        result=$(grep "$rollno" database.txt)
                        if [ "$result" == "" ]
                        then
                                echo "Record not found !"
                        else
                                echo "$result"
                        fi
                        ;;
                *)echo "Invalid option !"
                        ;;
        esac
done
```

```
vaishnav@vaishnav-virtual-machine:~/myscripts/Assignments/tasks$ bash recordHandling.sh
1.Add a record
2.Delete a record
3.Display a record
4.Exit
3
Enter roll no :
321
321 vijay 5 67 78 98
1.Add a record
2.Delete a record
3.Display a record
4.Exit
2
Enter roll no :
321
Deleted the record
1.Add a record
2.Delete a record
3.Display a record
4.Exit
3
Enter roll no :
321
Record not found !
1.Add a record
2.Delete a record
3.Display a record
4.Exit
1
Enter roll no :
123
Enter name :
vaishnav
Enter semister :
8
Enter three subjects marks :
89
88
97
Record added successfully
1.Add a record
2.Delete a record
3.Display a record
4.Exit
3
Enter roll no :
123
123 vaishnav 8 89 88 97
1.Add a record
2.Delete a record
3.Display a record
4.Exit
4
Quitting...
```

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

```
vaishnav@vaishnav-virtual-machine:~/myscripts/Assignments/tasks$ cat countSignNums.sh
#!/usr/bin/bash

read -p "Enter the size of the numbers : " n
myArray=()
echo "Enter values :"
for (( i=0;i<$n;i++ ))
do
        read a
        myArray+=($a)
done

let pos=0
let neg=0
let z=0
for (( i=0;i<${#myArray[*]};i++ ))
do
        if [ ${myArray[$i]} -gt 0 ]
        then
                let pos++
        elif [ ${myArray[i]} -lt 0 ]
        then
                let neg++
        else
                let z++
        fi
done

echo "Count of positive numbers are : $pos"
echo "Count of negative number are : $neg"
echo "Count of Zeros are : $z"
vaishnav@vaishnav-virtual-machine:~/myscripts/Assignments/tasks$ bash countSignNums.sh
Enter the size of the numbers : 10
Enter values :
1
-1
-34
0
-99
100
140
76
0
89
Count of positive numbers are : 5
Count of negative number are : 3
Count of Zeros are : 2
```

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

```bash
vaishnav@vaishnav-virtual-machine:~/myscripts/Assignments/tasks$ cat minMax.sh
#!/usr/bin/bash

read -p "Enter the size of numbers to enter : " n

myArray=()
let max=0
let min=100000000
echo "Enter values : "
for ((i=0;i<$n;i++ ))
do
        read a
        myArray+=($a)
done

for ((i=0;i<${#myArray[*]};i++ ))
do
        if [ ${myArray[$i]} -gt $max ]
        then
                let max=${myArray[$i]}
        fi
        if [ ${myArray[$i]} -lt $min ]
        then
                let min=${myArray[$i]}
        fi
done

echo "Maximum number is : $max"
echo "Minimum number is : $min"
vaishnav@vaishnav-virtual-machine:~/myscripts/Assignments/tasks$ bash minMax.sh
Enter the size of numbers to enter : 5
Enter values :
1
9
18
4
7
Maximum number is : 18
Minimum number is : 1
```

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

```
vaishnav@vaishnav-virtual-machine:~/myscripts/Assignments/tasks$ cat stringPal.sh
#!/usr/bin/bash

read -p "Enter a string : " str

rev=""
let length=${#str}
for (( i=$length-1;i>=0;i-- ))
do
        rev="$rev${str:$i:1}"
done


if [ $str == $rev ]
then
        echo "Palindrome"
else
        echo "Not a Palindrome"
fi

vaishnav@vaishnav-virtual-machine:~/myscripts/Assignments/tasks$ bash stringPal.sh
Enter a string : racecar
Palindrome
```

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)

```
vaishnav@vaishnav-virtual-machine:~/myscripts/Assignments/tasks$ cat sumOfNum.sh
#!/usr/bin/bash

read -p "Enter a number : " n

let sum=0

while [ $n -ne 0 ]
do
        let last=n%10
        let sum=sum+last
        let n=n/10
done

echo "Sum of the digits is : $sum"
vaishnav@vaishnav-virtual-machine:~/myscripts/Assignments/tasks$ bash sumOfNum.sh
Enter a number : 123
Sum of the digits is : 6
```

7. Create a script to :

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

```
vaishnav@vaishnav-virtual-machine:~/myscripts/Assignments/tasks$ cat userMgm.sh
#!/usr/bin/bash

n=0
while [ $n -ne 5 ]
do
        echo "1.Create a user"
        echo "2.Delete a user"
        echo "3.Create a group"
        echo "4.Delete a group"
        echo "5.Exit"
        read choice
        let n=$choice
        if [ $choice -eq 5 ]
        then
                echo "Quitting.."
        fi
        case $choice in
                1)
                        read -p "Enter user name : " user
                        sudo adduser $user
                        ;;
                2)
                        read -p "Enter user name : " user
                        sudo userdel $user
                        echo "Deleted user $user"
                        ;;
                3)
                        read -p "Enter group name : " grp
                        sudo addgroup $grp
                        ;;
                4)
                        read -p "Enter group name : " grp
                        sudo groupdel $grp
                        echo "Deleted group $grp"
                        ;;
                5)

                        ;;
                *)
                        echo "Invlid option selected !!"
                        ;;
        esac
done
vaishnav@vaishnav-virtual-machine:~/myscripts/Assignments/tasks$
```

```
vaishnav@vaishnav-virtual-machine:~/myscripts/Assignments/tasks$ bash userMgm.sh
1.Create a user
2.Delete a user
3.Create a group
4.Delete a group
5.Exit
1
Enter user name : dummy
Adding user `dummy' ...
Adding new group `dummy' (1009) ...
Adding new user `dummy' (1005) with group `dummy' ...
The home directory `/home/dummy' already exists.  Not copying from `/etc/skel'.
adduser: Warning: The home directory `/home/dummy' does not belong to the user you are currently creating.
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
passwd: password updated successfully
Changing the user information for dummy
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
1.Create a user
2.Delete a user
3.Create a group
4.Delete a group
5.Exit
2
Enter user name : dummy
Deleted user dummy
1.Create a user
2.Delete a user
3.Create a group
4.Delete a group
5.Exit
3
Enter group name : dgroup
Adding group `dgroup' (GID 1009) ...
Done.
1.Create a user
2.Delete a user
3.Create a group
4.Delete a group
5.Exit
4
Enter group name : dgroup
Deleted group dgroup
1.Create a user
2.Delete a user
3.Create a group
4.Delete a group
5.Exit
5
Quitting..
```

Loop Assignments :

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

```
vaishnav@vaishnav-virtual-machine:~/myscripts/Assignments/tasks$ cat displayFirst10.sh
#!/usr/bin/bash

for ((i=1;i<=10;i++ ))
do
        echo -n "$i "
done
echo ""
vaishnav@vaishnav-virtual-machine:~/myscripts/Assignments/tasks$ bash displayFirst10.sh
1 2 3 4 5 6 7 8 9 10
```

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

```
vaishnav@vaishnav-virtual-machine:~/myscripts/Assignments/tasks$ cat sumOfFirst10.sh
#!/usr/bin/bash

let sum=0
for (( i=1;i<=10;i++ ))
do
        let sum+=$i
done

echo "Sum of 1 - 10 is : $sum"
vaishnav@vaishnav-virtual-machine:~/myscripts/Assignments/tasks$ bash sumOfFirst10.sh
Sum of 1 - 10 is : 55
```

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

```
vaishnav@vaishnav-virtual-machine:~/myscripts/Assignments/tasks$ cat displayAndSumOfN.sh
#!/usr/bin/bash

read -p "Enter a number : " n

let sum=0

if [ $n -eq 1 ]
then
        echo "1"
        echo "Sum is : 1"
else
for (( i=1;i<=$n;i++ ))
do
        echo -n "$i "
done
echo ""

for (( i=1;i<=$n;i++ ))
do
        let sum+=$i
done

echo "Sum of first $n numbers is : $sum"
fi
vaishnav@vaishnav-virtual-machine:~/myscripts/Assignments/tasks$ bash displayAndSumOfN.sh
Enter a number : 10
1 2 3 4 5 6 7 8 9 10
Sum of first 10 numbers is : 55
```

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

```
vaishnav@vaishnav-virtual-machine:~/myscripts/Assignments/tasks$ cat sumAndAvg.sh
#!/usr/bin/bash

read -p "Enter no.of elements : " n

myArray=()
echo "Enter values :"
for (( i=0;i<$n;i++ ))
do
        read a
        myArray+=($a)
done
let sum=0
let avg
for (( i=0;i<$n;i++ ))
do
        let sum+=${myArray[$i]}
done

avg=$( echo "scale=2; $sum/$n" | bc)

echo "Sum of the elements : $sum"
echo "Average of the elements : $avg"

vaishnav@vaishnav-virtual-machine:~/myscripts/Assignments/tasks$ bash sumAndAvg.sh
Enter no.of elements : 5
Enter values :
1
2
3
4
5
Sum of the elements : 15
Average of the elements : 3.00
```

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

```
vaishnav@vaishnav-virtual-machine:~/myscripts/Assignments/tasks$ cat cubes.sh
#!/usr/bin/bash

read -p "Enter no.of elements : " n

myArray=()
echo "Enter values : "
for (( i=0;i<$n;i++ ))
do
        read a
        myArray+=($a)
done

for (( i=0;i<$n;i++ ))
do
        let b=${myArray[$i]}
        let c=b*b*b
        echo "For $b cube is : $c"
done

vaishnav@vaishnav-virtual-machine:~/myscripts/Assignments/tasks$ bash cubes.sh
Enter no.of elements : 5
Enter values :
1
2
3
4
5
For 1 cube is : 1
For 2 cube is : 8
For 3 cube is : 27
For 4 cube is : 64
For 5 cube is : 125
```

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

```
vaishnav@vaishnav-virtual-machine:~/myscripts/Assignments/tasks$ cat tableCal.sh
#!/usr/bin/bash

read -p "Enter the number to find its table : " n

for (( i=1;i<=10;i++ ))
do
        let val=n*$i
        echo "$n x $i = $val"
done

vaishnav@vaishnav-virtual-machine:~/myscripts/Assignments/tasks$ bash tableCal.sh
Enter the number to find its table : 15
15 x 1 = 15
15 x 2 = 30
15 x 3 = 45
15 x 4 = 60
15 x 5 = 75
15 x 6 = 90
15 x 7 = 105
15 x 8 = 120
15 x 9 = 135
15 x 10 = 150
```

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

```
vaishnav@vaishnav-virtual-machine:~/myscripts/Assignments/tasks$ cat tableCal1.sh
#!/usr/bin/bash

read -p "Enter the number to find its table : " n

for (( i=1;i<=10;i++ ))
do
        let val=n*$i
        echo -n "$n x $i = $val , "
done

vaishnav@vaishnav-virtual-machine:~/myscripts/Assignments/tasks$ bash tableCal1.sh
Enter the number to find its table : 15
15 x 1 = 15 , 15 x 2 = 30 , 15 x 3 = 45 , 15 x 4 = 60 , 15 x 5 = 75 , 15 x 6 = 90 , 15 x 7 = 105 , 15 x 8 = 120 , 15 x 9 = 135 , 15 x 10 = 150
```

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

```
vaishnav@vaishnav-virtual-machine:~/myscripts/Assignments/tasks$ cat displayAndSumOdd.sh
#!/usr/bin/bash

read -p "Enter a number : " n

let sum=0

if [ $n -eq 1 ]
then
        echo "1"
        echo "Sum is : 1"
else
for (( i=1;i<=$n;i++ ))
do
        let v=$i%2
        if [ $v -ne 0 ]
        then
                echo -n "$i "
        fi
done
echo ""

for (( i=1;i<=$n;i++ ))
do
        let v=$i%2
        if [ $v -ne 0 ]
        then
                let sum+=$i
        fi
done

echo "Sum of odd numbers is : $sum"
fi
vaishnav@vaishnav-virtual-machine:~/myscripts/Assignments/tasks$ bash displayAndSumOdd.sh
Enter a number : 10
1 3 5 7 9
Sum of odd numbers is : 25
```

9. Shell Script to display a pattern like :

*

**

***

****

```
vaishnav@vaishnav-virtual-machine:~/myscripts/Assignments/tasks$ cat patterns1.sh
#!/usr/bin/bash

read -p "Enter n value : " n

for (( i=0;i<$n;i++ ))
do
        for (( j=0;j<$i;j++ ))
        do
                echo -n "*"
        done
        echo " "
done
vaishnav@vaishnav-virtual-machine:~/myscripts/Assignments/tasks$ bash patterns1.sh
Enter n value : 5

*
**
***
****
```

10. Shell Script to display a pattern like :

1

12

123

1234

```
vaishnav@vaishnav-virtual-machine:~/myscripts/Assignments/tasks$ cat patterns2.sh
#!/usr/bin/bash

read -p "Enter n value : " n

for (( i=0;i<$n;i++ ))
do
        for (( j=0;j<$i;j++ ))
        do
                echo -n "$(($j+1))"
        done
        echo " "
done
vaishnav@vaishnav-virtual-machine:~/myscripts/Assignments/tasks$ bash patterns2.sh
Enter n value : 5

1
12
123
1234
```

11. Shell Script to make such a pattern like

1

22

333

4444

```
vaishnav@vaishnav-virtual-machine:~/myscripts/Assignments/tasks$ cat patterns3.sh
#!/usr/bin/bash

read -p "Enter n value : " n

for (( i=0;i<$n;i++ ))
do
        for (( j=0;j<$i;j++ ))
        do
                echo -n "$i"
        done
        echo " "
done
vaishnav@vaishnav-virtual-machine:~/myscripts/Assignments/tasks$ bash patterns3.sh
Enter n value : 5

1
22
333
4444
```

12. Shell Script to make such a pattern like:

1

2 3

4 5 6

7 8 9 10

```
vaishnav@vaishnav-virtual-machine:~/myscripts/Assignments/tasks$ cat patterns4.sh
#!/usr/bin/bash

read -p "Enter n value : " n
let a=1
for (( i=0;i<$n;i++ ))
do
        for (( j=0;j<$i;j++ ))
        do
                echo -n "$a "
                let a++
        done
        echo " "
done
vaishnav@vaishnav-virtual-machine:~/myscripts/Assignments/tasks$ bash patterns4.sh
Enter n value : 5

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