Assignment 5

1. Write a shell script to display your LOGIN NAME and HOME directory.

Code:

```
#!/bin/bash

echo "Login Name : $LOGNAME"

echo "Home Directory : $HOME"
```

```
tushar@tushar-HP-Pavilion-Notebook:~/Documents/os_assignments/Assignment_5$ vim assQ1_login.sh
tushar@tushar-HP-Pavilion-Notebook:~/Documents/os_assignments/Assignment_5$ bash assQ1_login.sh
Login Name : tushar
Home Directory : /home/tushar
tushar@tushar-HP-Pavilion-Notebook:~/Documents/os_assignments/Assignment_5$
```

2. Write a shell script to display menu like “1. Date, 2. Cal, 3. Ls, 4. Pwd, 5. Exit” and execute the commands depending on user choice.

```
#!/bin/bash
echo "Select Anyone Option"
echo "**************Menu************"
echo "1.Date"
echo "2.Cal"
echo "3.Ls"
echo "4.Pwd"
echo "5.Exit"
echo "***********Menu Khatam*******"


echo -n "Enter your choice : "
read choice

case $choice in

1)echo "You have selected choice 1"
        date;;
2)echo "You have selected choice 2"
        cal;;
3)echo "You have selected choice 3"
        ls;;
4)echo " You have selected choice 4"
        pwd;;
5)echo "Exit";;
*)echo "Enter valid choice";;
esac
```

a)Date-

```
tushar@tushar-HP-Pavilion-Notebook:~/Documents/os_assignments/Assignment_5$ vim ass5Q2_menu.sh
tushar@tushar-HP-Pavilion-Notebook:~/Documents/os_assignments/Assignment_5$ bash ass5Q2_menu.sh
Select Anyone Option
************Menu**********
1.Date
2.Cal
3.Ls
4.Pwd
5.Exit
**********Menu Khatam*******
Enter your choice : 1
You have selected choice 1
Friday 29 December 2023 10:49:16 AM IST
tushar@tushar-HP-Pavilion-Notebook:~/Documents/os_assignments/Assignment_5$ bash ass5Q2_menu.sh
```

b)Cal-

```
Friday 29 December 2023 10:49:16 AM IST
tushar@tushar-HP-Pavilion-Notebook:~/Documents/os_assignments/Assignment_5$ bash ass5Q2_menu.sh
Select Anyone Option
************Menu**********
1.Date
2.Cal
3.Ls
4.Pwd
5.Exit
**********Menu Khatam*******
Enter your choice : 2
You have selected choice 2
   December 2023
Su Mo Tu We Th Fr Sa
                1  2
 3  4  5  6  7  8  9
10 11 12 13 14 15 16
17 18 19 20 21 22 23
24 25 26 27 28 29 30
31
tushar@tushar-HP-Pavilion-Notebook:~/Documents/os_assignments/Assignment_5$ bash ass5Q2_menu.sh
Select Anyone Option
```

c)ls-

```
31
tushar@tushar-HP-Pavilion-Notebook:~/Documents/os_assignments/Assignment_5$ bash ass5Q2_menu.sh
Select Anyone Option
************Menu**********
1.Date
2.Cal
3.Ls
4.Pwd
5.Exit
**********Menu Khatam*******
Enter your choice : 3
You have selected choice 3
ass5Q2_menu.sh  assQ1_login.sh
tushar@tushar-HP-Pavilion-Notebook:~/Documents/os_assignments/Assignment_5$ bash ass5Q2_menu.sh
Select Anyone Option
```

d)pwd-

```
ass5Q2_menu.sh  assQ1_login.sh
tushar@tushar-HP-Pavilion-Notebook:~/Documents/os_assignments/Assignment_5$ bash ass5Q2_menu.sh
Select Anyone Option
************Menu**********
1.Date
2.Cal
3.Ls
4.Pwd
5.Exit
**********Menu Khatam*******
Enter your choice : 4
 You have selected choice 4
/home/tushar/Documents/os_assignments/Assignment_5
```

e)Exit-

```
tushar@tushar-HP-Pavilion-Notebook:~/Documents/os_assignments/Assignment_5$ bash ass5Q2_menu.sh
Select Anyone Option
************Menu**********
1.Date
2.Cal
3.Ls
4.Pwd
5.Exit
**********Menu Khatam*******
Enter your choice : 5
Exit
tushar@tushar-HP-Pavilion-Notebook:~/Documents/os_assignments/Assignment_5$
```

3. Write a shell script to accept the name from the user and check whether user entered name is file or directory. If name is file display its size and if it is directory display its contents.

```
tushar@tushar-HP-Pavilion-Notebook:~/Documents/os_assignments/Assignment_5$ bash filedir.sh
Enter file or directory name
/home/tushar/Documents/OSC_Assignments
Directory Content : ass5Q2_menu.sh assQ1_login.sh filedir.sh states /home/tushar/Documents/OSC_Assignments
```

4. Write a shell script to determine whether a given number is prime or not #!/bin/bash

```
echo "Enter the number : "
read num
i=2
if [ $num -lt 2 ]
then
        echo "number is not prime number"
        exit
fi
while [ $i -lt $num ]
do
        if [ `expr $num % $i` -eq 0 ]
        then
                echo "number is not prime number."
                exit
        fi
        i=`expr $i + 1`
done

echo "$num is prime number!!"
```

```
5 is prime number!!
tushar@tushar-HP-Pavilion-Notebook:~/Documents/os_assignments/Assignment_5$ bash primeno.sh
Enter the number :
47
47 is prime number!!
```

5. Write a Program to find the greatest of three numbers

```
#!/bin/bash

echo "Enter three numbers: "
read num1 num2 num3

if [ $num1 -gt $num2 ] && [ $num1 -gt $num3 ]
then
        echo  "$num1 is greatest number"
elif [ $num2 -gt $num1 ] && [ $num2 -gt $num3 ]
then
        echo "$num2 is greatest number"
else
        echo "$num3 is greates number"
fi
```

```
tushar@tushar-HP-Pavilion-Notebook:~/Documents/os_assignments/Assignment_5$ vim grtof3.sh
tushar@tushar-HP-Pavilion-Notebook:~/Documents/os_assignments/Assignment_5$ bash grtof3.sh
Enter three numbers:
12 22 33
33 is greates number
tushar@tushar-HP-Pavilion-Notebook:~/Documents/os_assignments/Assignment_5$
```

6. Write a Program to find whether a given year is a leap year or not

```
#!/bin/bash

echo "Enter Year: "
read year

if [ `expr $year % 400` -eq 0 ] || [ `expr $year % 100` -ne 0 ] && [ `expr $year % 4` -eq 0 ]
then
        echo "Leap Year!!!"
else
        echo "Not Leap year"
fi
```

```
tushar@tushar-HP-Pavilion-Notebook:~/Documents/os_assignments/Assignment_5$ vim leapyr.sh
tushar@tushar-HP-Pavilion-Notebook:~/Documents/os_assignments/Assignment_5$ bash leapyr.sh
Enter Year:
2021
Not Leap year
tushar@tushar-HP-Pavilion-Notebook:~/Documents/os_assignments/Assignment_5$
```

7. Write a Program to find whether a given number is positive or negative

```
#!/bin/bash
echo "Enter Number : "
read num

if [ $num -lt 0 ]
then
        echo "$num is Negative."
elif [ $num -gt 0 ]
then
        echo "$num is positive."
else
        echo "Entered number is 0"
fi
```

```
Not Leap year
tushar@tushar-HP-Pavilion-Notebook:~/Documents/os_assignments/Assignment_5$ vim posineg.sh
tushar@tushar-HP-Pavilion-Notebook:~/Documents/os_assignments/Assignment_5$ bash posineg.sh
Enter Number :
0
Entered number is 0
tushar@tushar-HP-Pavilion-Notebook:~/Documents/os_assignments/Assignment_5$ bash posineg.sh
Enter Number :
2
 2 is positive.
tushar@tushar-HP-Pavilion-Notebook:~/Documents/os_assignments/Assignment_5$ vim posineg.sh
tushar@tushar-HP-Pavilion-Notebook:~/Documents/os_assignments/Assignment_5$ bash posineg.sh
Enter Number :
-1
-1 is Negative.
tushar@tushar-HP-Pavilion-Notebook:~/Documents/os_assignments/Assignment_5$
```

8. Write a program to print the table of a given number.

```
#!/bin/bash

echo "Enter Number : "
read num

echo "Table of $num : "

i=1
until [ $i -eq 11 ]
do
        res=`expr $i \* $num`
        echo $res
        i=`expr $i + 1`
done
```

```
tushar@tushar-HP-Pavilion-Notebook:~/Documents/os_assignments/Assignment_5$ vim notbl.sh
tushar@tushar-HP-Pavilion-Notebook:~/Documents/os_assignments/Assignment_5$ bash notbl.sh
Enter Number :
2
Table of 2 :
2
4
6
8
10
12
14
16
18
20
tushar@tushar-HP-Pavilion-Notebook:~/Documents/os_assignments/Assignment_5$
```

9. Write a program to find the factorial of given number.

```
tushar@tushar-HP-Pavilion-Notebook:~/Documents/os_assignments/Assignment_5$ vim factorial.sh
tushar@tushar-HP-Pavilion-Notebook:~/Documents/os_assignments/Assignment_5$ bash factorial.sh
*****Factorial******
Enter Number :
2
2
tushar@tushar-HP-Pavilion-Notebook:~/Documents/os_assignments/Assignment_5$
tushar@tushar-HP-Pavilion-Notebook:~/Documents/os_assignments/Assignment_5$ bash factorial.sh
*****Factorial******
Enter Number :
4
24
tushar@tushar-HP-Pavilion-Notebook:~/Documents/os_assignments/Assignment_5$
```

10. Write a program to find given number of terms in the Fibonacci series.

```
#!/bin/bash

echo "Enter the value of n : "
read n

a=0
b=1

count=2

echo "Fibonacci Series : "
echo $a
echo $b
while [ $count -le $n ]
do

        res=$((a + b))
        echo $res

        a=$b
        b=$res

        count=`expr $count + 1`
done
```

```
tushar@tushar-HP-Pavilion-Notebook:~/Documents/os_assignments/Assignment_5$ vim fibonacci.sh
tushar@tushar-HP-Pavilion-Notebook:~/Documents/os_assignments/Assignment_5$ bash fibonacci.sh
Enter the value of n :
6
Fibonacci Series :
0
1
1
2
3
5
8
tushar@tushar-HP-Pavilion-Notebook:~/Documents/os_assignments/Assignment_5$
```

11. Write a program to calculate gross salary if the DA is 40%, HRA is 20% of basic salary.Accept basic salary form user and display gross salary (Result can be floating point value).

```
#!/bin/bash
echo "Enter basic salary : "
read sal

hra=`expr $sal \* 20 / 100`
da=`expr $sal \* 40 / 100`
gs=`expr $sal + $da + $hra`
echo "Gross Salary=$gs"
```

```
tushar@tushar-HP-Pavilion-Notebook:~/Documents/os_assignments/Assignment_5$ vim grssalary.sh
tushar@tushar-HP-Pavilion-Notebook:~/Documents/os_assignments/Assignment_5$ bash grssalary.sh
Enter basic salary :
100
Gross Salary=160
tushar@tushar-HP-Pavilion-Notebook:~/Documents/os_assignments/Assignment_5$
```

12. Write a shell script to accept a filename as argument and displays the last modification time if the file exists and a suitable message if it doesn’t exist.

```
#!/bin/bash
echo "Enter a filename to see last modification time : "
read filename


if [ ! -f $filename ]
then
        echo "$filename not file"
        exit 1
fi
echo "$filename was last modified on $(stat -c %x $filename)"
```

```
tushar@tushar-HP-Pavilion-Notebook:~/Documents/os_assignments/Assignment_5$ vim ass5Q12.sh
tushar@tushar-HP-Pavilion-Notebook:~/Documents/os_assignments/Assignment_5$ bash ass5Q12.sh
Enter a filename to see last modification time :
notbl.sh
notbl.sh was last modified on 2023-12-29 16:28:59.395222316 +0530
tushar@tushar-HP-Pavilion-Notebook:~/Documents/os_assignments/Assignment_5$
```

13. Write a shell script to display only hidden file of current directory.

```
#! /bin/bash
arr=(`ls -dm .*`)
echo "Hidden Files are : ${arr[*]}"
```

```
tushar@tushar-HP-Pavilion-Notebook:~/Documents/os_assignments/Assignment_5$ bash
 hidefile.sh
Hidden Files are : ., .., .data.txt, .hidefile.sh.swp
tushar@tushar-HP-Pavilion-Notebook:~/Documents/os_assignments/Assignment_5$
```

14. Write a shell script to display only executable files of current directory.

```
#! /bin/bash
arr=(`ls`)
for i in ${arr[*]}
do
        if [ -f $i -a -x $i ]
        then
                echo "$i"
        fi
done
```

```
tushar@tushar-HP-Pavilion-Notebook:~/Documents/os_assignments/Assignment_5$ bash
 exefile.sh
data2.txt
tushar@tushar-HP-Pavilion-Notebook:~/Documents/os_assignments/Assignment_5$
```

15. Accept the two file names from user and append the contents in reverse case of first file into second file.

```
#! /bin/bash
echo "Enter file path to be append : "
read path1
echo ""
echo "Enter file path to append file `ls $path1` : "
read path2
echo ""
cat $path1 | tac >> $path2
echo "Appended file : "
echo ""

cat $path2
```

```
 Q15.sh
Enter File path to be append :
../Assignment_5/name.txt

File file path to append file ../Assignment_5/name.txt :
../Assignment_5/data2.txt

Append File :

hi from me.
tushar
tushar@tushar-HP-Pavilion-Notebook:~/Documents/os_assignments/Assignment_5$
```

16. Write a shell script to display welcome message to the user along with contents of his home directory. Ensure that shell script will execute automatically when user login to the shell. (Make entry of your shell script into .bashrc file into your home directory).

echo "Welcome to linux , User `logname | tr [:lower:] [:upper:]`"
echo "Content of Home Directory are : "
ls -m $HOME

```
Q16.sh
tushar@tushar-HP-Pavilion-Notebook:~/Documents/os_assignments/Assignment_5$ bash
 Q16.sh
Welcome to Linux,User tushar | tr [:lower:][:upper:]
Content of Home Directory are :
230944221041ADVJAVA, 230944221041ADVJAVA.zip, 80778-DMC-ass, Android,
AndroidMovieReview, AndroidStudioProjects, ass2_1, assign_01_as_os.pdf,
DBTAssignments_80778, DBTExam_80778, Desktop, Documents, Downloads, Exam_80778,
Exam_80778.zip, Examoutput, 'github personal token', hack, hack2, hack3,
Hybrid80778, Hybrid_80778.zip, Hybrid80778.zip, 'HybridExam(230944221041)1.zip',
'Java<230944221041>', Lab, 'LabExam<230944221041>', LabExam_80778,
LabExam_80778.zip, loginfo.properties, movieapp, Music, package.json,
package-lock.json, Pictures, pom.xml, Postman, pratikHybridexam, Public,
review.js, scrap, server, snap, Templates, Videos, vips
tushar@tushar-HP-Pavilion-Notebook:~/Documents/os_assignments/Assignment_5$
```

17. Print the following pattern.

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

```
#! /bin/bash
for i in `seq 5`
do
        r1=`expr 0 + $i`
        for j in `seq $r1`

        do
        echo -n "* "
        done
        echo " "
done
```