Linux Shell Script Assignment – 5

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

```
login_name=$(whoami)
echo "LOGIN NAME: $login_name"

home_directory=$HOME
echo "HOME DIRECTORY: $home_directory"
~
~
~
```

```
sunbeam@sunbeam-HP-Laptop-15s-fr4xxx:~$ vim script11.sh
sunbeam@sunbeam-HP-Laptop-15s-fr4xxx:~$ bash script11.sh
LOGIN NAME: sunbeam
HOME DIRECTORY: /home/sunbeam
```

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.

```
 1  echo "1. Date"
 2  echo "2. Cal"
 3  echo "3. Ls"
 4  echo "4. Pwd"
 5  echo "5. Exit"
 6
 7  echo -n "Enter your choice : "
 8  read choice
 9
10 case $choice in
11 1)
12      date
13      ;;
14 2)
15     cal
16     ;;
17 3)
18     ls
19     ;;
20 4)
21     pwd
22     ;;
23 5)
24     exit
25     ;;
26 *)
27     echo "invalid Operation"
28     exit
29     ;;
30 esac
31
32
```

```
sunbeam@sunbeam-HP-Laptop-15s-fr4xxx:~$ bash script12.sh
1. Date
2. Cal
3. Ls
4. Pwd
5. Exit
Enter your choice : 1
Thursday 28 December 2023 10:11:57 PM IST
sunbeam@sunbeam-HP-Laptop-15s-fr4xxx:~$ bash script12.sh
1. Date
2. Cal
3. Ls
4. Pwd
5. Exit
Enter your 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
sunbeam@sunbeam-HP-Laptop-15s-fr4xxx:~$
```

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.

script13

4. Write a shell script to determine whether a given number is prime or not

```
#!/bin/bash

is_prime() {
    num=$1
    if [ $num -lt 2 ]; then
        echo "$num is not a prime number."
        return
    fi

    for (( i=2; i<=num/2; i++ )); do
        if [ $((num%i)) -eq 0 ]; then
            echo "$num is not a prime number."
            return
        fi
    done

    echo "$num is a prime number."
}

read -p "Enter a number: " number

is_prime $number
```

```
sunbeam@sunbeam-HP-Laptop-15s-fr4xxx:~$ bash script14.sh
Enter a number: 5
5 is a prime number.
sunbeam@sunbeam-HP-Laptop-15s-fr4xxx:~$ bash script14.sh
Enter a number: 2
2 is a prime number.
sunbeam@sunbeam-HP-Laptop-15s-fr4xxx:~$ bash script14.sh
Enter a number: 6
6 is not a prime number.
sunbeam@sunbeam-HP-Laptop-15s-fr4xxx:~$
```

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

```
echo -n "Enter three numbers : "
read num1 num2 num3

max=0
if [ $num1 -eq $num2 -a  $num3 ]
then
    echo "num1 and num2 num3 are equal"
    max=$num1
elif [ $num1 -gt $num2 -a $num1 -gt $num3 ]
then
    echo "num1 is grater"
    max=$num1
elif [ $num2 -gt $num1 -a $num2 -gt $num3 ]
then
   echo "num2 is grater"
   max=$num2
else
    echo "num3 is grater"
    max=$num3
fi

echo "grater number is  : $max"


~
```

```
sunbeam@sunbeam-HP-Laptop-15s-fr4xxx:~$ bash script15.sh
Enter three numbers : 30 50 70
num3 is grater
grater number is  : 70
sunbeam@sunbeam-HP-Laptop-15s-fr4xxx:~$ bash script15.sh
Enter three numbers : 90 70 60
num1 is grater
grater number is  : 90
sunbeam@sunbeam-HP-Laptop-15s-fr4xxx:~$
```

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

```
 1 echo -n " enter year: "
 2 read year
 3 if [ `expr $year % 400` -eq 0 ]
 4 then
 5 echo this is leap year
 6 elif [ `expr $year % 100` -eq 0 ]
 7 then
 8 echo this is not a leap year
 9 elif [ `expr $year % 4` -eq 0 ]
10 then
11 echo this is leap year
12 else
13 echo this is not a leap year
14 fi
~
~
```

```
sunbeam@sunbeam-HP-Laptop-15s-fr4xxx:~$ bash script16.sh
enter year
2004
leap year
sunbeam@sunbeam-HP-Laptop-15s-fr4xxx:~$ vim script16.sh
Error detected while processing /home/sunbeam/.vimrc:
line    7:
E492: Not an editor command: colrscheme slate
Press ENTER or type command to continue
sunbeam@sunbeam-HP-Laptop-15s-fr4xxx:~$ bash script16.sh
enter year
2006
this is not a leap year
sunbeam@sunbeam-HP-Laptop-15s-fr4xxx:~$ vim script16.sh
Error detected while processing /home/sunbeam/.vimrc:
line    7:
E492: Not an editor command: colrscheme slate
Press ENTER or type command to continue
sunbeam@sunbeam-HP-Laptop-15s-fr4xxx:~$ bash script16.sh
 enter year: 2024
this is leap year
sunbeam@sunbeam-HP-Laptop-15s-fr4xxx:~$ bash script16.sh
 enter year: 2005
this is not a leap year
sunbeam@sunbeam-HP-Laptop-15s-fr4xxx:~$
```

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

```
echo -n "Enter the number: "
read number
if [ $number -gt 0 ]
then
echo number is positive
elif [ $number -lt 0 ]
then
echo number is negative
else
 echo number is neither positive or negative
fi
```

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

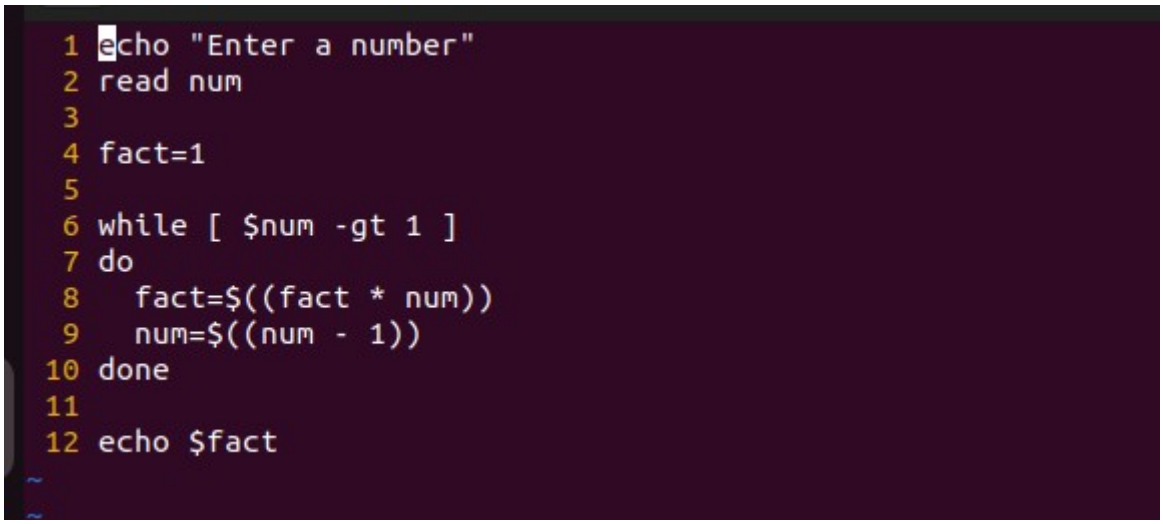
```
echo -n "Enter number : "
read num

echo "Table of $num : "

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

```
sunbeam@sunbeam-HP-Laptop-15s-fr4xxx:~$ bash script18.sh
Enter number : 5
Table of 5 :
5
10
15
20
25
30
35
40
45
50
sunbeam@sunbeam-HP-Laptop-15s-fr4xxx:~$
```

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



```
1 echo "Enter a number"
2 read num
3
4 fact=1
5
6 while [ $num -gt 1 ]
7 do
8   fact=$((fact * num))
9   num=$((num - 1))
10 done
11
12 echo $fact
```

```
sunbeam@sunbeam-HP-Laptop-15s-fr4xxx:~$ bash script19.sh
Enter a number
5
120
sunbeam@sunbeam-HP-Laptop-15s-fr4xxx:~$ bash script19.sh
Enter a number
7
5040
sunbeam@sunbeam-HP-Laptop-15s-fr4xxx:~$ bash script19.sh
Enter a number
6
720
sunbeam@sunbeam-HP-Laptop-15s-fr4xxx:~$ bash script19.sh
Enter a number
4
24
sunbeam@sunbeam-HP-Laptop-15s-fr4xxx:~$ bash script19.sh
Enter a number
1
1
```

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

```
1  echo "enter number"
2  read n
3  function fibonacci
4  {
5    x=0
6    y=1
7    i=2
8    echo "Fibonacci Series up to $n number :"
9    echo "$x"
10   echo "$y"
11   # -lt stands for equal to
12   while [ $i -lt $n ]
13   do
14       i=`expr $i + 1 `
15       z=`expr $x + $y `
16       echo "$z"
17       x=$y
18       y=$z
19   done
20 }
21 r=`fibonacci $n`
22 echo "$r"
```

```
sunbeam@sunbeam-HP-Laptop-15s-fr4xxx:~$ bash script20.sh
enter number
10
Fibonacci Series up to 10 number :
0
1
1
2
3
5
8
13
21
34
sunbeam@sunbeam-HP-Laptop-15s-fr4xxx:~$
```

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).

```
1 #!/bin/bash
2 echo "enter the basic salary:"
3 read basal
4 grosal=$( echo "$basal+((40/100)*$basal)+((20/100)*$basal)" | bc -l)
5 echo "The gross salary : $grosal"
~
~
~
~
~
~
~
```

```
sunbeam@sunbeam-HP-Laptop-15s-fr4xxx:~$ bash script24.sh
enter the basic salary:
60000
The gross salary : 96000.00000000000000000000
sunbeam@sunbeam-HP-Laptop-15s-fr4xxx:~$
```

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 -n "Enter name of the file:"
read filename
if [ -e $filename ]
then
echo 'Last modification time is' `ls -l $filename | cut -d" " -f 6,7,8`
else
echo "file does not exist"
fi
```

```
sunbeam@sunbeam-HP-Laptop-15s-fr4xxx:~$ bash script23.sh
Enter name of the file: data.txt
Last modification time is Dec 28 17:09
sunbeam@sunbeam-HP-Laptop-15s-fr4xxx:~$
```

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

```
sunbeam@sunbeam-HP-Laptop-15s-fr4xxx:~$ bash script21.sh
hidden files in current directory:
.bash_history
.bash_logout
.bashrc
.gitconfig
.hidden.txt
.lesshst
.my.cnf
.mysql_history
.profile
.sudo_as_admin_successful
.swp
.viminfo
.vimrc
sunbeam@sunbeam-HP-Laptop-15s-fr4xxx:~$
```

```
echo "hidden files in current directory: "
for file in .*
do
if [ -f "$file" ] && [ "${file:0:1}" == "." ]
then
echo "$file"
fi
done
```

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

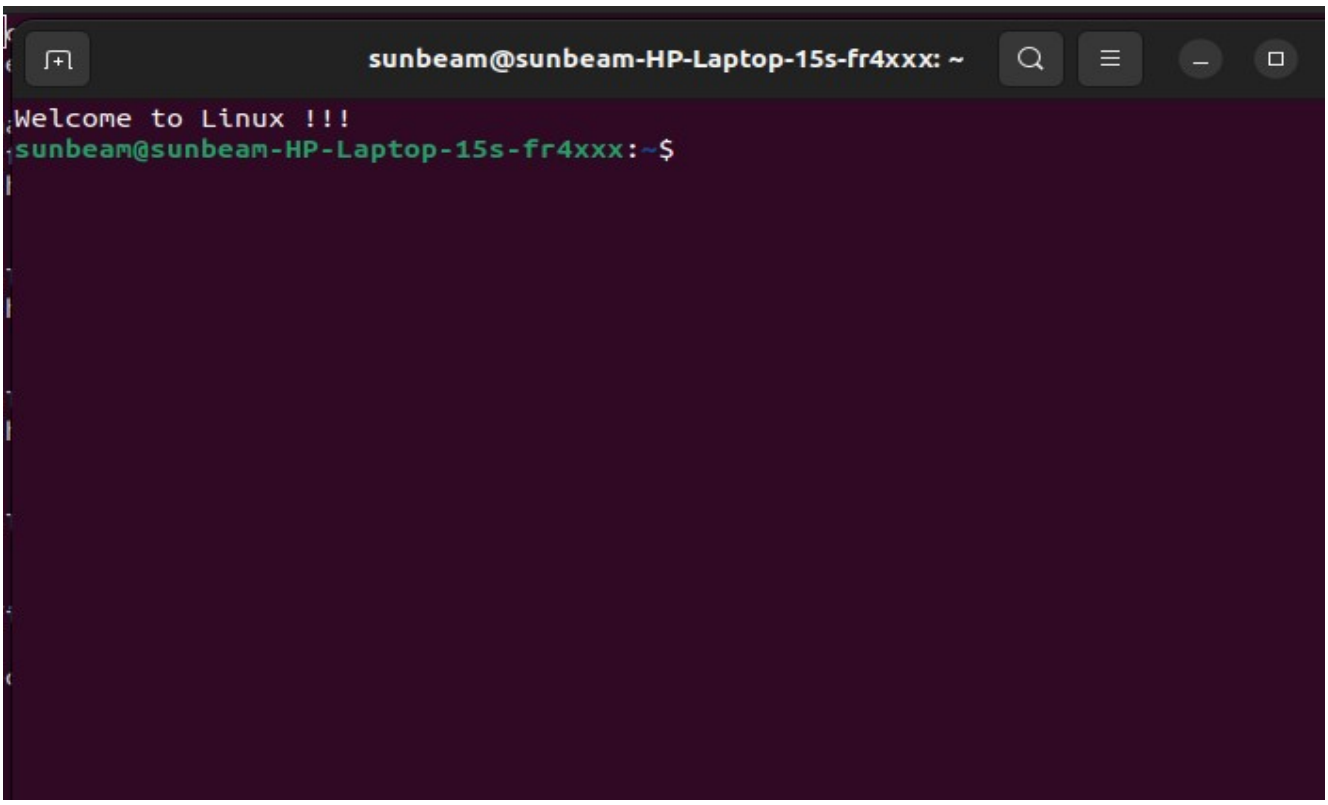
```
echo "Executable files are : "
for file in *
do
if [ -x "$file" ]
then
echo "$file"
fi
done

```

```
sunbeam@sunbeam-HP-Laptop-15s-fr4xxx:~$ bash script22.sh
Executable files are :
Android
AndroidStudioProjects
classwork
data.txt
delete_files
Desktop
DMC
Documents
Downloads
edit_files
gitProjectRepo
hackathon1 Case_study
hackthon
linux
Music
one
os
Pictures
Public
share_files
snap
Templates
Videos
sunbeam@sunbeam-HP-Laptop-15s-fr4xxx:~$
```

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

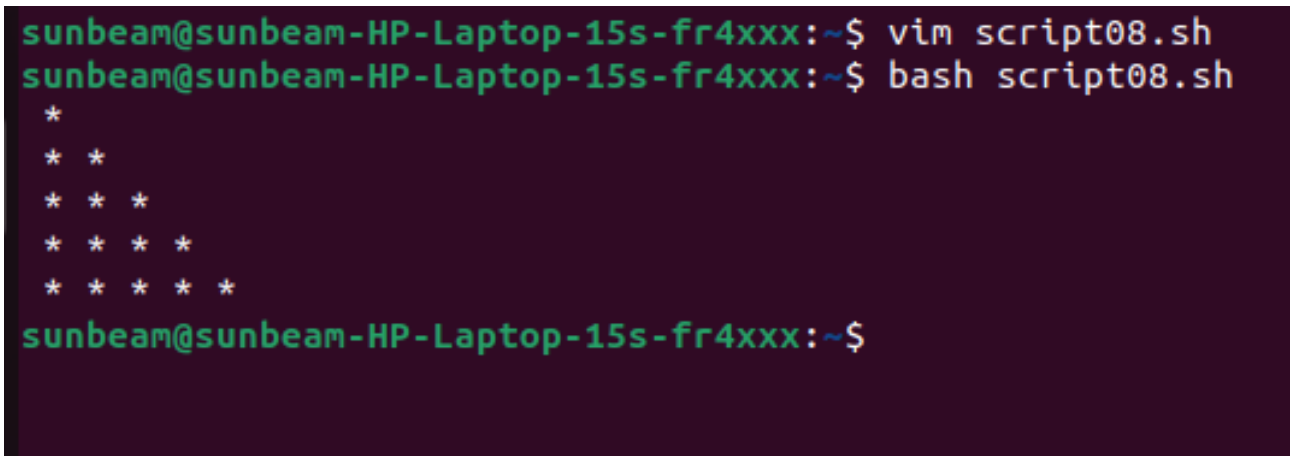
16. Write a shell script to display welcome message to the user along with contents of his home directory. Ensure that shell script will execute automatically when user login to the shell. (Make entry of your shell script into .bashrc file into your home directory).



17. Print the following pattern.

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

```
for (( i=1; i<=5; i++ ))
do
   for (( j=1; j<=i; j++ ))
   do
     echo -n " *"
   done
   echo ""
done
~
~
```


sunbeam@sunbeam-HP-Laptop-15s-fr4xxx:~$ vim script08.sh
sunbeam@sunbeam-HP-Laptop-15s-fr4xxx:~$ bash script08.sh
*
* *
* * *
* * * *
* * * * *
sunbeam@sunbeam-HP-Laptop-15s-fr4xxx:~$