

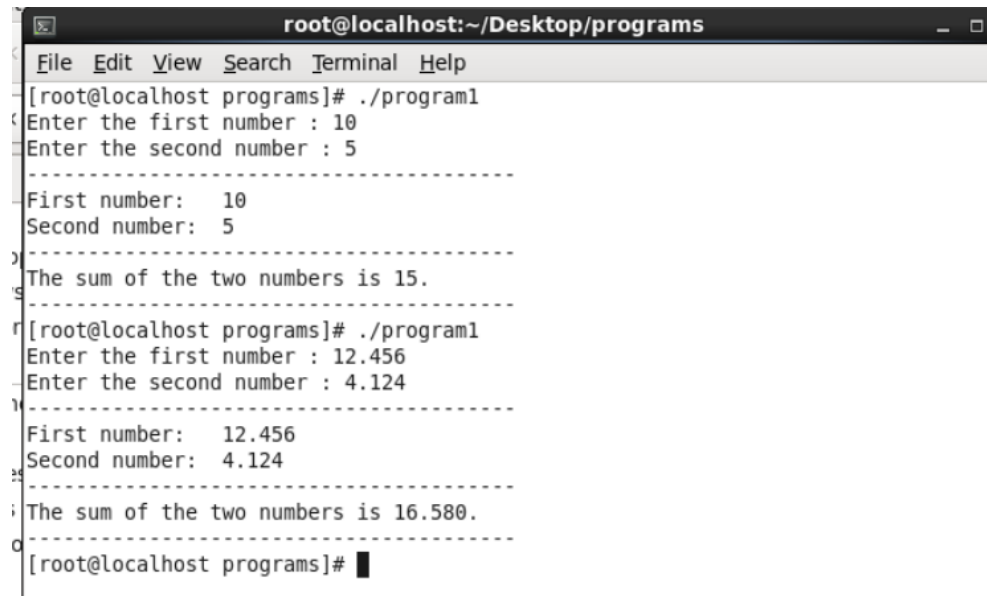
Question 1 Write a shell program to enter two values from the user and print the addition of the two numbers?

Note: This program works for both integer as well as decimal values.

Program

```
read -p "Enter the first number : " x
read -p "Enter the second number : " y
z=`echo $x + $y|bc -l`
echo "-----"
echo -e "First number: \t$x"
echo -e "Second number: \t$y"
echo "-----"
echo "The sum of the two numbers is $z."
echo "-----"
```

Output



```
root@localhost:~/Desktop/programs
File Edit View Search Terminal Help
[root@localhost programs]# ./program1
Enter the first number : 10
Enter the second number : 5
-----
First number: 10
Second number: 5
-----
The sum of the two numbers is 15.
-----
[root@localhost programs]# ./program1
Enter the first number : 12.456
Enter the second number : 4.124
-----
First number: 12.456
Second number: 4.124
-----
The sum of the two numbers is 16.580.
-----
[root@localhost programs]#
```

Question 2 Write a shell program to print the date, list of directories and the current working directory?

Program

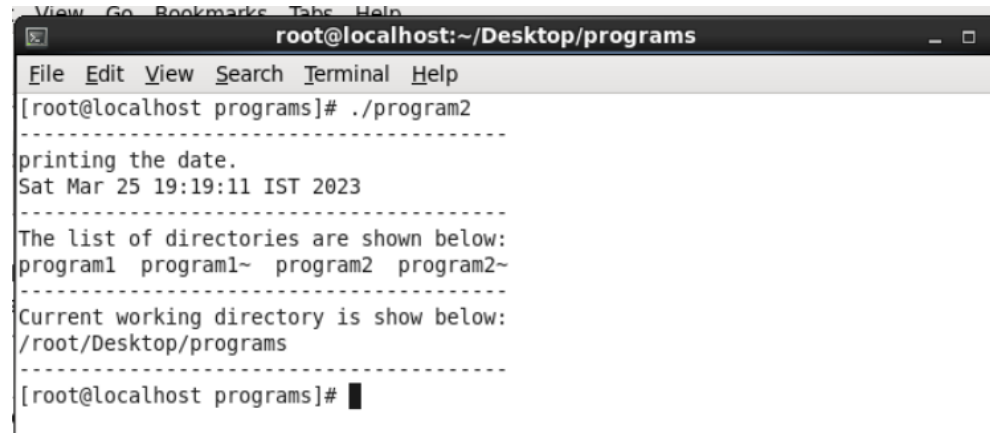
```
echo "-----"
echo "printing the date."
date
echo "-----"
```

```

echo "The list of directories are shown below:"
ls
echo "-----"
echo "Current working directory is show below:"
pwd
echo "-----"

```

Output



```

View Go Bookmarks Tabs Help
root@localhost:~/Desktop/programs
File Edit View Search Terminal Help
[root@localhost programs]# ./program2
-----
printing the date.
Sat Mar 25 19:19:11 IST 2023
-----
The list of directories are shown below:
program1 program1~ program2 program2~
-----
Current working directory is show below:
/root/Desktop/programs
-----
[root@localhost programs]# █

```

Question 3

Write a shell script to enter values of any two variables from the user and perform all the basic calculator operations like addition, subtraction, multiplication, division and modulus?

Program

```

read -p "Enter the first number : " x
read -p "Enter the first number : " y
echo "-----"
echo -e "First number: \t$x"
echo -e "Second number: \t$y"
echo "-----"
z=`echo $x + $y|bc -l`
echo "The sum of the two numbers is $z."
echo "-----"
z=`echo $x - $y|bc -l`
echo "The difference of the two numbers is $z."
echo "-----"
z=`echo "scale=2; $x * $y"|bc -l`
echo "The multiplication of the two numbers is $z."
echo "-----"
z=`echo "scale=2; $x / $y"|bc -l`

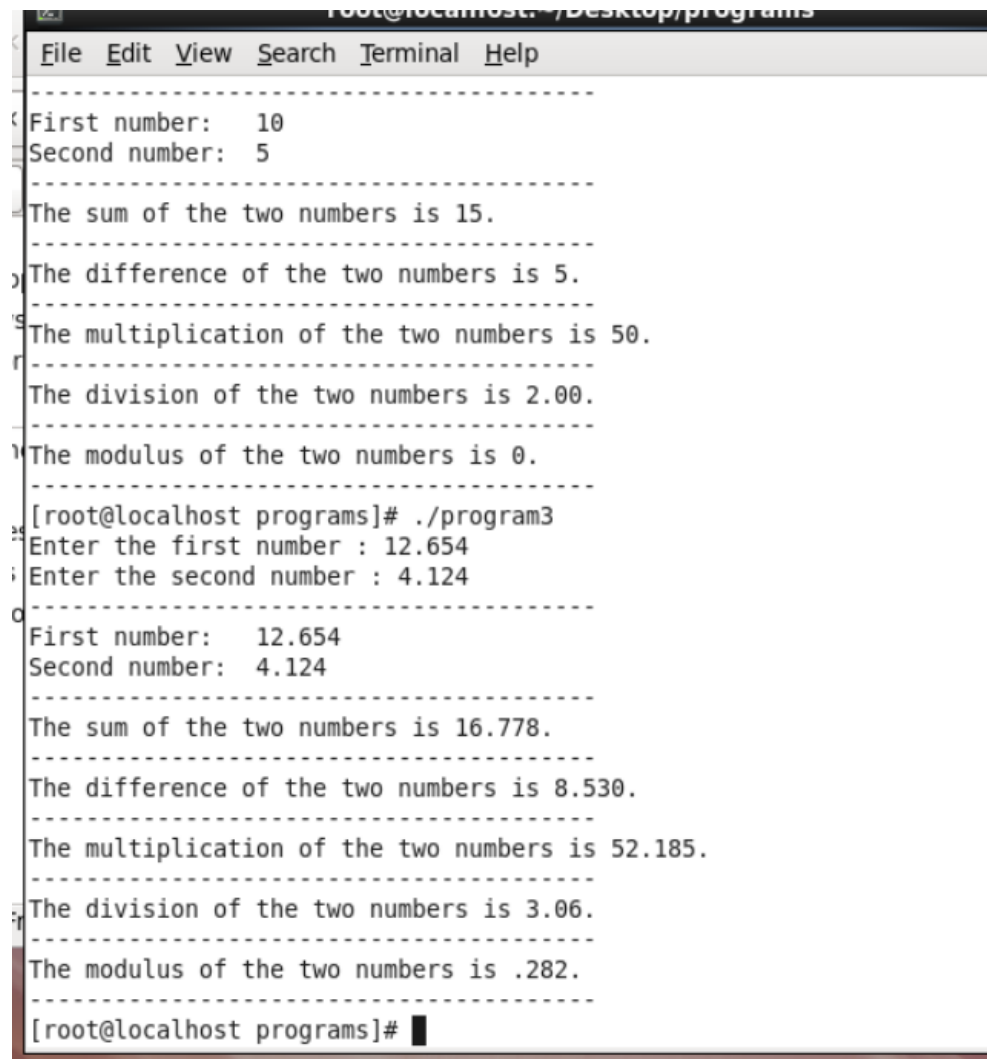
```

```

echo "The division of the two numbers is $z."
echo "-----"
z=`echo $x % $y|bc`
echo "The modulus of the two numbers is $z."
echo "-----"

```

Output



```

root@localhost: ~/Desktop/programs
File Edit View Search Terminal Help
-----
First number: 10
Second number: 5
-----
The sum of the two numbers is 15.
-----
The difference of the two numbers is 5.
-----
The multiplication of the two numbers is 50.
-----
The division of the two numbers is 2.00.
-----
The modulus of the two numbers is 0.
-----
[root@localhost programs]# ./program3
Enter the first number : 12.654
Enter the second number : 4.124
-----
First number: 12.654
Second number: 4.124
-----
The sum of the two numbers is 16.778.
-----
The difference of the two numbers is 8.530.
-----
The multiplication of the two numbers is 52.185.
-----
The division of the two numbers is 3.06.
-----
The modulus of the two numbers is .282.
-----
[root@localhost programs]#

```

Question 4 Write a shell script that takes 2 input values and swap the values using a third variable and without using a third variable?

Program Using a third variable.

```
read -p "Enter the first number : " x
```

```

read -p "Enter the second number : " y
echo "-----"
echo "Before swapping, the value of x is $x and the value
of y is $y."
echo "-----"
z=$x
x=$y
y=$z
echo "After swapping, the value of x becomes $x and the
value of y becomes $y."
echo "-----"

```

Without using a third variable.

```

read -p "Enter the first number : " x
read -p "Enter the second number : " y
echo "-----"
echo "Before swapping, the value of x is $x and the value
of y is $y."
echo "-----"
x=`echo $x+$y|bc -l`
y=`echo $x-$y|bc -l`
x=`echo $x-$y|bc -l`
echo "After swapping, the value of x becomes $x and the
value of y becomes $y."
echo "-----"

```

Output

The output will be the same for both the programs.

```

root@localhost: ~/Desktop/programs
File Edit View Search Terminal Help
[root@localhost programs]# ./program4
Enter the first number : 10
Enter the second number : 20
-----
Before swapping, the value of x is 10 and the value of y is 20.
-----
After swapping, the value of x becomes 20 and the value of y becomes 10.
-----
[root@localhost programs]#

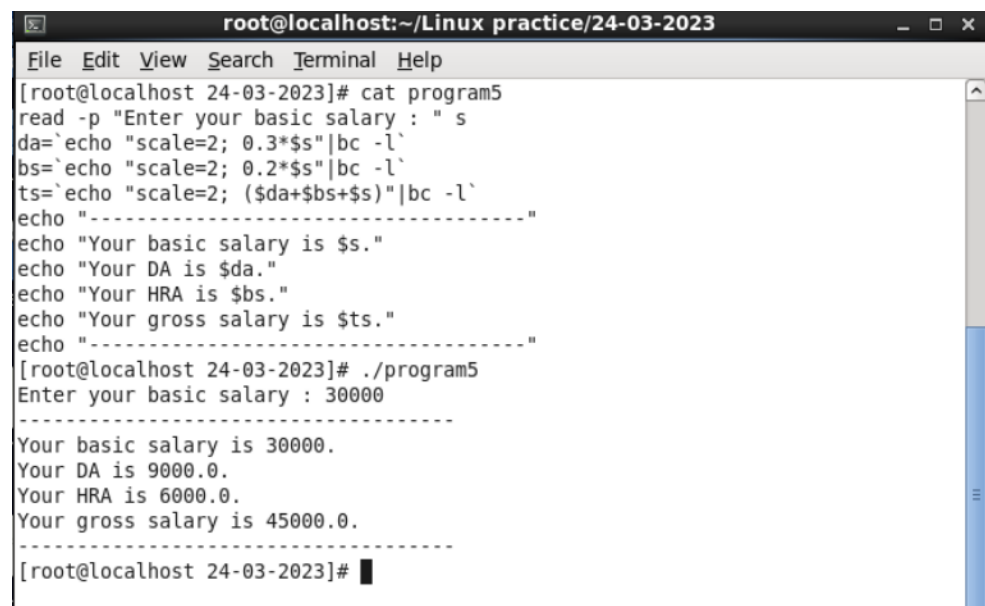
```

Question 5 Take Basic salary as input where Da is 30 % and HRA 20% of basic salary
calculate his gross salary.

Program

```
read -p "Enter your salary " s
da=`echo "scale=2; 0.3*$s"|bc -l`
bs=`echo "scale=2; 0.2*$s"|bc -l`
ts=`echo "scale=2; ($da+$bs+$s)"|bc -l`
echo "-----"
echo "Your basic salary is $s"
echo "Your DA is $da"
echo "Your HRA is $bs"
echo "Your gross salary is $ts."
echo "-----"
```

Output



```
root@localhost:~/Linux practice/24-03-2023
File Edit View Search Terminal Help
[root@localhost 24-03-2023]# cat program5
read -p "Enter your basic salary : " s
da=`echo "scale=2; 0.3*$s"|bc -l`
bs=`echo "scale=2; 0.2*$s"|bc -l`
ts=`echo "scale=2; ($da+$bs+$s)"|bc -l`
echo "-----"
echo "Your basic salary is $s."
echo "Your DA is $da."
echo "Your HRA is $bs."
echo "Your gross salary is $ts."
echo "-----"
[root@localhost 24-03-2023]# ./program5
Enter your basic salary : 30000
-----
Your basic salary is 30000.
Your DA is 9000.0.
Your HRA is 6000.0.
Your gross salary is 45000.0.
-----
[root@localhost 24-03-2023]#
```

Question 6 Enter the marks of 5 subjects and find the percentage of the student.

Program

```
read -p "Enter your marks in Math : " m
read -p "Enter your marks in English : " e
read -p "Enter your marks in Hindi : " h
read -p "Enter your marks in Science : " s
read -p "Enter your marks in GK : " g
```

```
p=`echo -e "scale=2; ($m+$e+$h+$s+$g)/5"|bc -l`
echo "-----"
echo -e "Math\t $m"
echo -e "English\t $e"
echo -e "Hindi\t $h"
echo -e "Science\t $s"
echo -e "Gk\t $g"
echo "-----"
echo "Your percentage is $p."
echo "-----"
```

Output

```
[root@localhost 24-03-2023]# cat program3
read -p "Enter your marks in Math : " m
read -p "Enter your marks in English : " e
read -p "Enter your marks in Hindi : " h
read -p "Enter your marks in Science : " s
read -p "Enter your marks in GK : " g
p=`echo -e "scale=2; ($m+$e+$h+$s+$g)/5"|bc -l`
echo "-----"
echo -e "Math\t $m"
echo -e "English\t $e"
echo -e "Hindi\t $h"
echo -e "Science\t $s"
echo -e "Gk\t $g"
echo "-----"
echo "Your percentage is $p."
echo "-----"
[root@localhost 24-03-2023]# ./program3
Enter your marks in Math : 91
Enter your marks in English : 86
Enter your marks in Hindi : 85
Enter your marks in Science : 75
Enter your marks in GK : 98
-----
Math      91
English   86
Hindi     85
Science   75
Gk        98
-----
Your percentage is 87.00.
-----
[root@localhost 24-03-2023]#
```

Question 7

Write a shell script to read a file name from the user and append new content to the file and display the content of the file.

Program

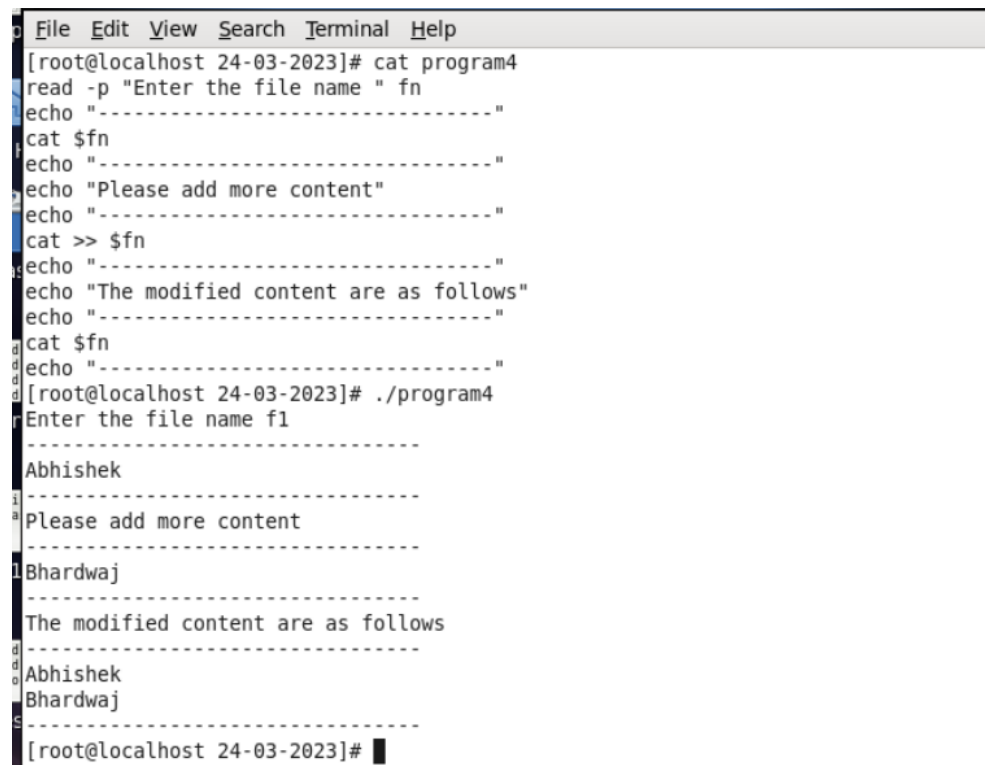
```
read -p "Enter the file name " fn
```

```

echo "-----"
cat $fn
echo "-----"
echo "Please add more content"
echo "-----"
cat >> $fn
echo "-----"
echo "The modified content are as follows"
echo "-----"
cat $fn
echo "-----"

```

Output



```

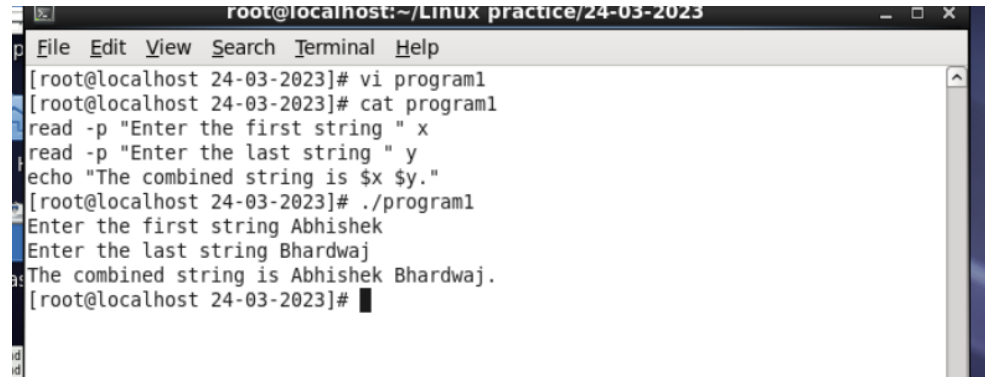
File Edit View Search Terminal Help
[root@localhost 24-03-2023]# cat program4
read -p "Enter the file name " fn
echo "-----"
cat $fn
echo "-----"
echo "Please add more content"
echo "-----"
cat >> $fn
echo "-----"
echo "The modified content are as follows"
echo "-----"
cat $fn
echo "-----"
[root@localhost 24-03-2023]# ./program4
Enter the file name f1
-----
Abhishek
-----
Please add more content
-----
Bhardwaj
-----
The modified content are as follows
-----
Abhishek
Bhardwaj
-----
[root@localhost 24-03-2023]#

```

Question 8 Read two strings and concatenate the two string in a third string

Program `read -p "Enter the first string " x`
 `read -p "Enter the last string " y`
 `echo "The combined string is $x $y."`

Output



```
root@localhost:~/Linux practice/24-03-2023
File Edit View Search Terminal Help
[root@localhost 24-03-2023]# vi program1
[root@localhost 24-03-2023]# cat program1
read -p "Enter the first string " x
read -p "Enter the last string " y
echo "The combined string is $x $y."
[root@localhost 24-03-2023]# ./program1
Enter the first string Abhishek
Enter the last string Bhardwaj
The combined string is Abhishek Bhardwaj.
[root@localhost 24-03-2023]#
```

Question 9 Enter the name of the student, passing year and degree marks of student and store the content in a file.

Program

```
read -p "Enter your name : " name
read -p "Enter your course : " course
read -p "Enter your age : " age
read -p "Enter your passing Year : " year
echo -e "Name\t Course\t Age\t Year"
echo -e "$name\t $course\t $age \t $year" >>info
echo "-----"
cat info
echo "-----"
```


Output

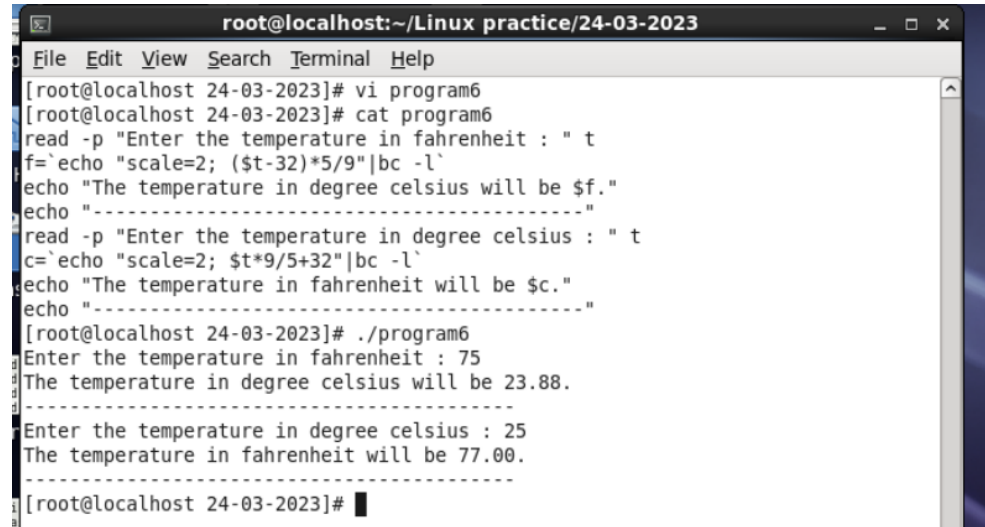
```
root@localhost:~/Linux practice/24-03-2023
File Edit View Search Terminal Help
[root@localhost 24-03-2023]# vi program2
[root@localhost 24-03-2023]# cat program2
read -p "Enter your name : " name
read -p "Enter your course : " course
read -p "Enter your age : " age
read -p "Enter your passing Year : " year
echo -e "Name\t Course\t Age\t Year"
echo -e "$name\t$course\t$age \t$year" >>info
echo "-----"
cat info
echo "-----"
[root@localhost 24-03-2023]# ./program2
Enter your name : Vikas
Enter your course : DBDA
Enter your age : 26
Enter your passing Year : 2018
Name      Course  Age    Year
-----
Vikas    DBDA    26     2018
-----
[root@localhost 24-03-2023]# ./program2
Enter your name : Aman
Enter your course : DAC
Enter your age : 22
Enter your passing Year : 2022
Name      Course  Age    Year
-----
Vikas    DBDA    26     2018
Aman     DAC     22     2022
-----
[root@localhost 24-03-2023]#
```

Question 10 Enter the temp in fahrenheit and convert it to celsius and vice versa.

Program

```
read -p "Enter the temperature in fahrenheit : " t
f=`echo "scale=2; ($t-32)*5/9"|bc -l`
echo "The temperature in degree celsius will be $f."
echo "-----"
read -p "Enter the temperature in degree celsius : " t
c=`echo "scale=2; $t*9/5+32"|bc -l`
echo "The temperature in fahrenheit will be $c."
echo "-----"
```

Output



```
root@localhost:~/Linux practice/24-03-2023
File Edit View Search Terminal Help
[root@localhost 24-03-2023]# vi program6
[root@localhost 24-03-2023]# cat program6
read -p "Enter the temperature in fahrenheit : " t
f=`echo "scale=2; ($t-32)*5/9"|bc -l`
echo "The temperature in degree celsius will be $f."
echo "-----"
read -p "Enter the temperature in degree celsius : " t
c=`echo "scale=2; $t*9/5+32"|bc -l`
echo "The temperature in fahrenheit will be $c."
echo "-----"
[root@localhost 24-03-2023]# ./program6
Enter the temperature in fahrenheit : 75
The temperature in degree celsius will be 23.88.
-----
Enter the temperature in degree celsius : 25
The temperature in fahrenheit will be 77.00.
-----
[root@localhost 24-03-2023]#
```

Question 11 Write a shell program to enter the values of two variables and print the larger value.

Program

```
read -p "Enter the value of a : " a
read -p "Enter the value of b : " b
echo "-----"
if [ $a -gt $b ]
then
echo "The value of a is greater than b that is $a > $b."
echo "-----"
else
echo "The value of b is greater than a that is $b > $a."
echo "-----"
fi
```

Output

```
root@localhost:~/Linux practice/24-03-2023
File Edit View Search Terminal Help
[root@localhost 24-03-2023]# vi program7
[root@localhost 24-03-2023]# cat program7
read -p "Enter the value of a : " a
read -p "Enter the value of b : " b
echo "-----"
if [ $a -gt $b ]
then
    echo "The value of a is greater than b that is $a > $b."
    echo "-----"
else
    echo "The value of b is greater than a that is $b > $a."
    echo "-----"
fi
[root@localhost 24-03-2023]# ./program7
Enter the value of a : 25
Enter the value of b : 30
-----
The value of b is greater than a that is 30 > 25.
-----
[root@localhost 24-03-2023]# ./program7
Enter the value of a : 80
Enter the value of b : 50
-----
The value of a is greater than b that is 80 > 50.
-----
[root@localhost 24-03-2023]#
```

Question 12 Write a shell program to enter the values of two variables and if both the numbers are equal then print both the numbers are equal else print the larger value.

Program

```
read -p "Enter the value of a : " a
read -p "Enter the value of b : " b
if [ $a -ne $b ]
then
    if [ $a -gt $b ]
    then
        echo "The value of a is greater than b that is
$a > $b."
        echo "-----"
    else
        echo "The value of b is greater than a that is
$b > $a."
        echo "-----"
    fi
else
```

```

        echo "Both the numbers are equal"
        echo "-----"
    fi

```

Output

```

root@localhost:~/Linux practice/24-03-2023
File Edit View Search Terminal Help
[root@localhost 24-03-2023]# cat program8
read -p "Enter the value of a : " a
read -p "Enter the value of b : " b
if [ $a -ne $b ]
then
    if [ $a -gt $b ]
    then
        echo "The value of a is greater than b that is $a > $b."
        echo "-----"
    else
        echo "The value of b is greater than a that is $b > $a."
        echo "-----"
    fi
else
    echo "Both the numbers are equal."
    echo "-----"
fi
[root@localhost 24-03-2023]# ./program8
Enter the value of a : 20
Enter the value of b : 20
Both the numbers are equal.
-----
[root@localhost 24-03-2023]# ./program8
Enter the value of a : 20
Enter the value of b : 10
The value of a is greater than b that is 20 > 10.
-----
[root@localhost 24-03-2023]# ./program8
Enter the value of a : 30
Enter the value of b : 50
The value of b is greater than a that is 50 > 30.
-----
[root@localhost 24-03-2023]#

```

Question 13 Input a number to check a number is even or odd.

Program

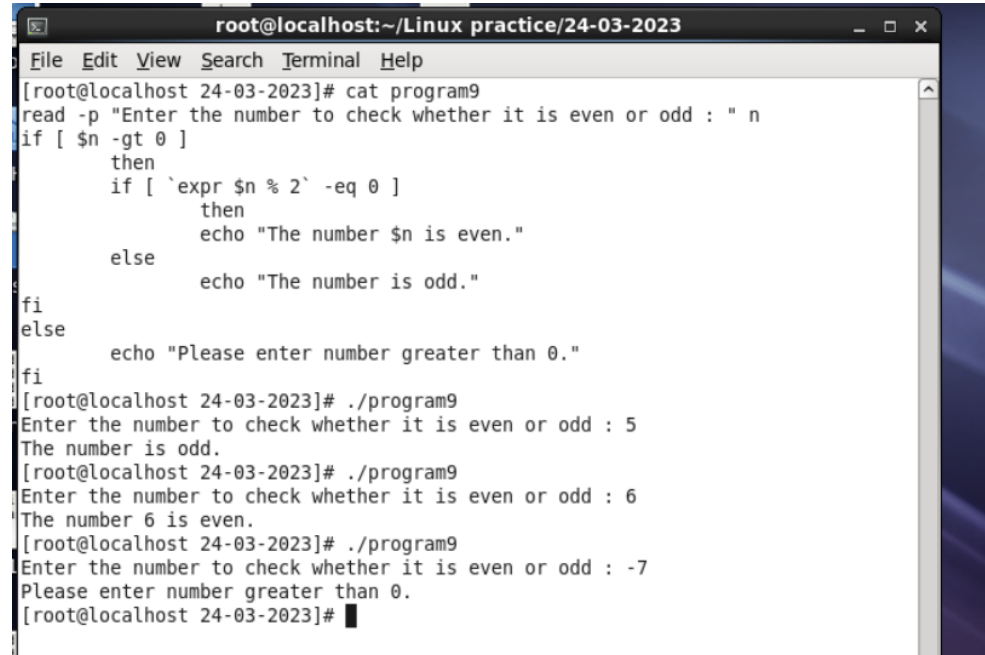
```

read -p "Enter the number to check whether it is even or
odd " n
if [ $n -gt 0 ]
then
    if [ `expr $n % 2` -eq 0 ]
    then
        echo "The number $n is even."
    else
        echo "The number is odd."
    fi
else

```

```
        echo "Please enter number greater than 0."
    fi
```

Output



```
root@localhost:~/Linux practice/24-03-2023
File Edit View Search Terminal Help
[root@localhost 24-03-2023]# cat program9
read -p "Enter the number to check whether it is even or odd : " n
if [ $n -gt 0 ]
then
    if [ `expr $n % 2` -eq 0 ]
    then
        echo "The number $n is even."
    else
        echo "The number is odd."
    fi
else
    echo "Please enter number greater than 0."
fi
[root@localhost 24-03-2023]# ./program9
Enter the number to check whether it is even or odd : 5
The number is odd.
[root@localhost 24-03-2023]# ./program9
Enter the number to check whether it is even or odd : 6
The number 6 is even.
[root@localhost 24-03-2023]# ./program9
Enter the number to check whether it is even or odd : -7
Please enter number greater than 0.
[root@localhost 24-03-2023]#
```

Question 14 Enter three numbers and check and print the largest number.

Program

```
read -p "Enter the first number : " a
read -p "Enter the second number : " b
read -p "Enter the third number : " c
if [ $a -gt $b ]
then
    if [ $a -gt $c ]
    then
        echo "The number a is the largest number."
    else
        echo "The number c is the largest number."
    fi
else
    if [ $b -gt $c ]
    then
        echo "The number b is the largest number."
    else
```

```

        echo "The number c is the largest number."
    fi
fi

```

OR

```

read -p "Enter the first number : " a
read -p "Enter the second number : " b
read -p "Enter the third number : " c
if [ $a -gt $b -a $a -gt $c ]
then
    echo "The number a is the largest number."
elif [ $b -gt $a -a $b -gt $c ]
then
    echo "The number b is the largest number."
else
    echo "The number c is the largest number."
fi

```

Output

```

root@localhost:~/Linux practice/24-03-2023
File Edit View Search Terminal Help
[root@localhost 24-03-2023]# vi program10
[root@localhost 24-03-2023]# cat program10
read -p "Enter the first number : " a
read -p "Enter the second number : " b
read -p "Enter the third number : " c
if [ $a -gt $b -a $a -gt $c ]
then
    echo "The number a is the largest number."
elif [ $b -gt $a -a $b -gt $c ]
then
    echo "The number b is the largest number."
else
    echo "The number c is the largest number."
fi
[root@localhost 24-03-2023]# ./program10
Enter the first number : 10
Enter the second number : 20
Enter the third number : 30
The number c is the largest number.
[root@localhost 24-03-2023]# ./program10
Enter the first number : 20
Enter the second number : 10
Enter the third number : 5
The number a is the largest number.
[root@localhost 24-03-2023]# ./program10
Enter the first number : 10
Enter the second number : 20
Enter the third number : 5
The number b is the largest number.
[root@localhost 24-03-2023]#

```

Question 15 Enter the marks of 5 subjects. Find the grade of student based on the following percentage criteria.

Percentage =100 or percentage 90-99 A++

percentage 80-89 A

percentage 70-79 B++

percentage 60-69 B

....

<40 Fail

Otherwise no such grade.

Program

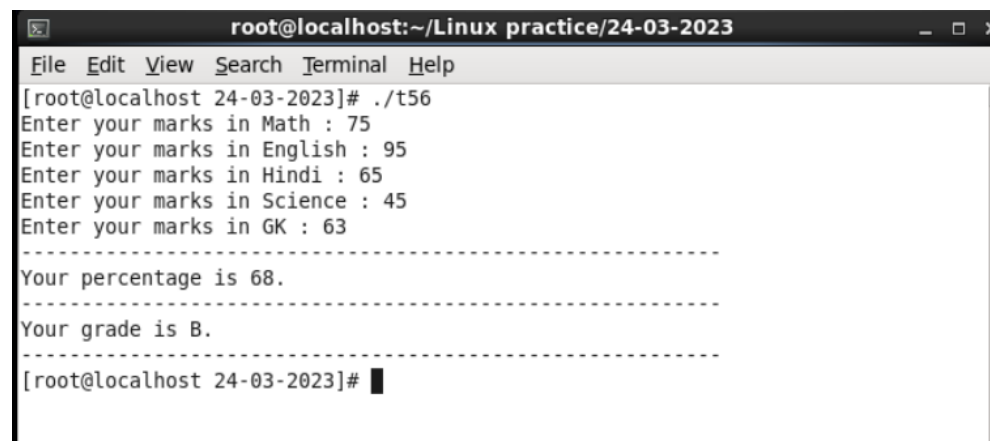
```
read -p "Enter your marks in Math : " m
read -p "Enter your marks in English : " e
read -p "Enter your marks in Hindi : " h
read -p "Enter your marks in Science : " s
read -p "Enter your marks in GK : " g
s=`expr $m + $e + $h + $s + $g`
p=`expr $s/5|bc`
echo "-----"
echo "Your percentage is $p."
echo "-----"
if [ $p -ge 90 -o $p -eq 100 ]
then
    echo "Your grade is A++".
    echo "-----"
elif [ $p -ge 80 -a $p -le 89 ]
then
    echo "Your grade is A".
    echo "-----"
elif [ $p -ge 70 -a $p -le 79 ]
then
    echo "Your grade is B++".
    echo "-----"
elif [ $p -ge 60 -a $p -le 69 ]
then
    echo "Your grade is B".
    echo "-----"
elif [ $p -ge 50 -a $p -le 59 ]
then
```

```

        echo "Your grade is C++".
        echo "-----"
    elif [ $p -ge 40 -a $p -le 49 ]
    then
        echo "Your grade is D".
        echo "-----"
    else
        echo "You failed."
        echo "-----"
    fi

```

Output



```

root@localhost:~/Linux practice/24-03-2023
File Edit View Search Terminal Help
[root@localhost 24-03-2023]# ./t56
Enter your marks in Math : 75
Enter your marks in English : 95
Enter your marks in Hindi : 65
Enter your marks in Science : 45
Enter your marks in GK : 63
-----
Your percentage is 68.
-----
Your grade is B.
-----
[root@localhost 24-03-2023]#

```

Question 16 Basic salary as input

If some employee's basic salary is greater than 50000, then Da is 70% and HRA 20%

If some employee's basic salary is greater than 20000 and less than 50000 then Da is 60% and HRA 30%

If some employee's basic salary is less than 20000, then Da is 50% and HRA 30% and calculate his gross salary

Program

```

read -p "Enter your basic salary : " s
if [ $s -gt 50000 ]
then
    da=`echo "scale=2; 0.7*$s"|bc -l`
    bs=`echo "scale=2; 0.2*$s"|bc -l`
    ts=`echo "scale=2; ($da+$bs+$s)|bc -l`
    echo "Your gross salary is $ts."
    echo "-----"

```



```

elif [ $s -gt 20000 -a $s -lt 50000 ]
then
da=`echo "scale=2; 0.6*$s"|bc -l`
bs=`echo "scale=2; 0.3*$s"|bc -l`
ts=`echo "scale=2; ($da+$bs+$s)"|bc -l`
echo "Your gross salary is $ts."
echo "-----"
else
da=`echo "scale=2; 0.5*$s"|bc -l`
bs=`echo "scale=2; 0.3*$s"|bc -l`
ts=`echo "scale=2; ($da+$bs+$s)"|bc -l`
echo "Your gross salary is $ts."
echo "-----"
fi

```

Output

```

root@localhost:~/Linux practice/24-03-2023
File Edit View Search Terminal Help
[root@localhost 24-03-2023]# ./t56
Enter your marks in Math : 85
Enter your marks in English : 94
Enter your marks in Hindi : 76
Enter your marks in Science : 15
Enter your marks in GK : 34
-----
Your percentage is 60.
-----
Your grade is B.
-----
[root@localhost 24-03-2023]# ./t56
Enter your marks in Math : 76
Enter your marks in English : 4
Enter your marks in Hindi : 56
Enter your marks in Science : 2
Enter your marks in GK : 32
-----
Your percentage is 34.
-----
You are failed.
-----
[root@localhost 24-03-2023]# █

```

Question

Write a shell program to check whether the name input by the user is a file or a directory?

Program

```

read -p "Enter the name : " n
if [ -f $n ]

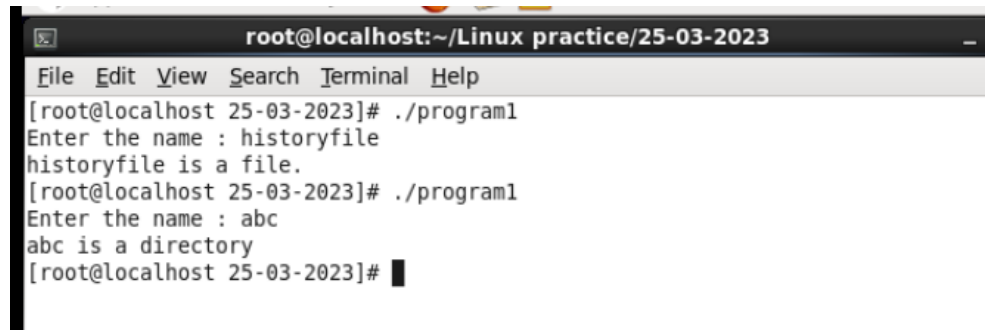
```

```

        then
        echo "$n is a file."
    elif [ -d $n ]
    then
        echo "$n is a directory"
    else
        echo "This file or directory does not exist."
    fi

```

Output



```

root@localhost:~/Linux practice/25-03-2023
File Edit View Search Terminal Help
[root@localhost 25-03-2023]# ./program1
Enter the name : historyfile
historyfile is a file.
[root@localhost 25-03-2023]# ./program1
Enter the name : abc
abc is a directory
[root@localhost 25-03-2023]# █

```

Question

Write a shell program that takes the name of the file from the user, if the file exists, display the content in the file, add new content and show content after adding content else create the file if it does not exist?

Program

```

read -p "Enter the name : " n
if [ -f $n ]
then
    echo "$n is a file."
    if [ -s $n ]
    then
        echo "Previous content are shown below:"
        cat $n
        echo "-----"
        cat >> $n
        echo "-----"
        echo "The modified content are shown below:"
        cat $n
    else
        cat >> $n
        echo "-----"
    fi
fi

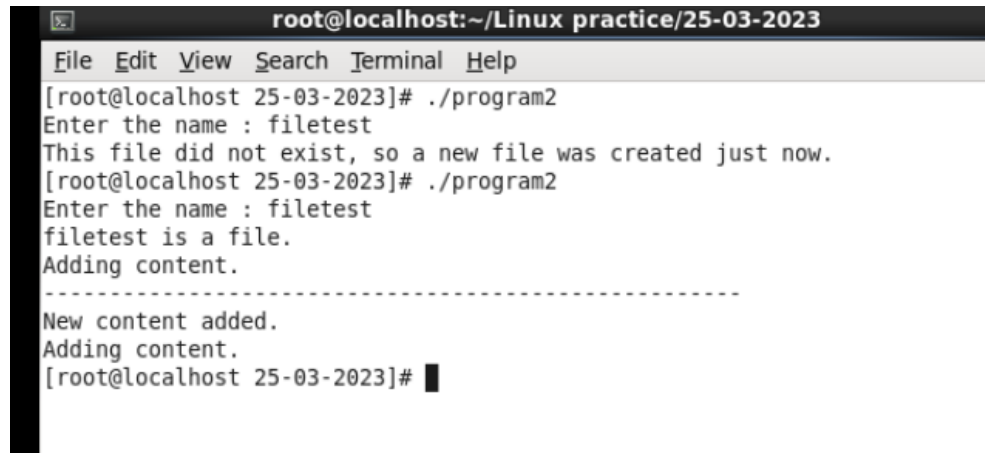
```

```

        echo "New content added."
        cat $n
    fi
else
    touch $n
    echo "This file did not exist, so a new file was
created just now."
fi

```

Output



```

root@localhost:~/Linux practice/25-03-2023
File Edit View Search Terminal Help
[root@localhost 25-03-2023]# ./program2
Enter the name : filetest
This file did not exist, so a new file was created just now.
[root@localhost 25-03-2023]# ./program2
Enter the name : filetest
filetest is a file.
Adding content.
-----
New content added.
Adding content.
[root@localhost 25-03-2023]# █

```

Question

Write a shell program that takes the name of the file from the user to check whether the file has execution permission. If the file does not have execution permission, then assign permission to the file?

Program

```

read -p "Enter file name to check its permission : " n
if [ -x $n ]
then
    echo " The given file has execution permission"
else
    chmod 744 $n
    echo "The file does not have execution permission."
    echo "Now the execution permission is given to the
file $n."
fi

```

Output

```
[root@localhost 25-03-2023]# ./program3
Enter file name to check its permission : abc
The given file has execution permission
[root@localhost 25-03-2023]# cat >f12
[root@localhost 25-03-2023]# ./program3
Enter file name to check its permission : f12
The file does not have execution permission.
Now the execution permission is given to the file f12.
[root@localhost 25-03-2023]# █
```

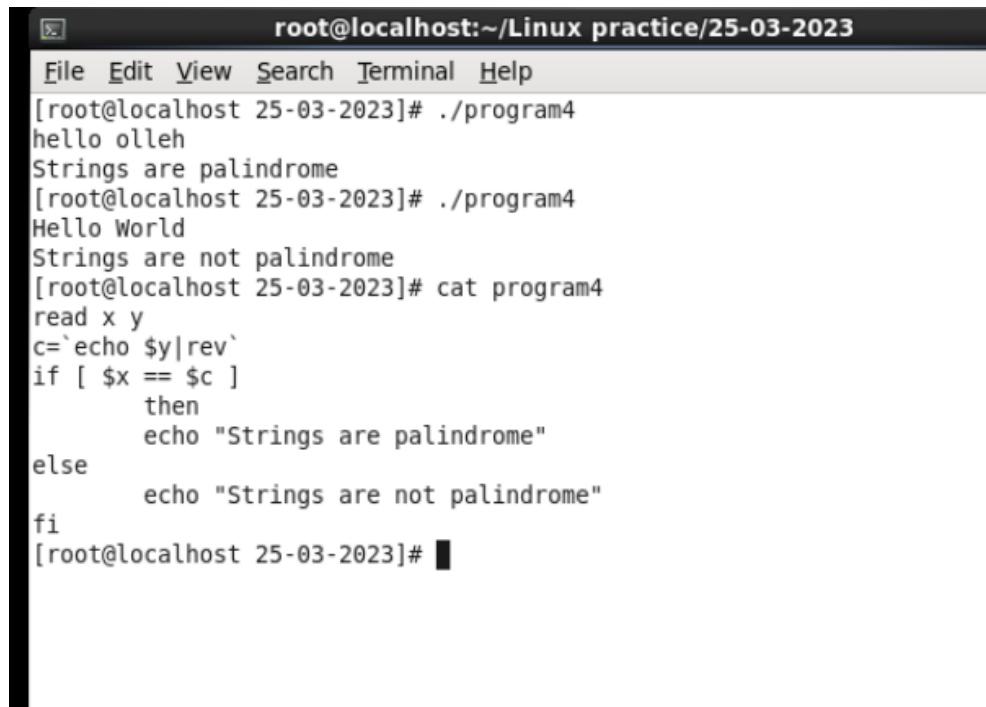
Question

Write a shell program to check whether the string input by the user is palindrome or not?

Program

```
read x y
c=`echo $y|rev`
if [ $x == $c ]
then
    echo "Strings are palindrome"
else
    echo "Strings are not palindrome"
fi
```

Output



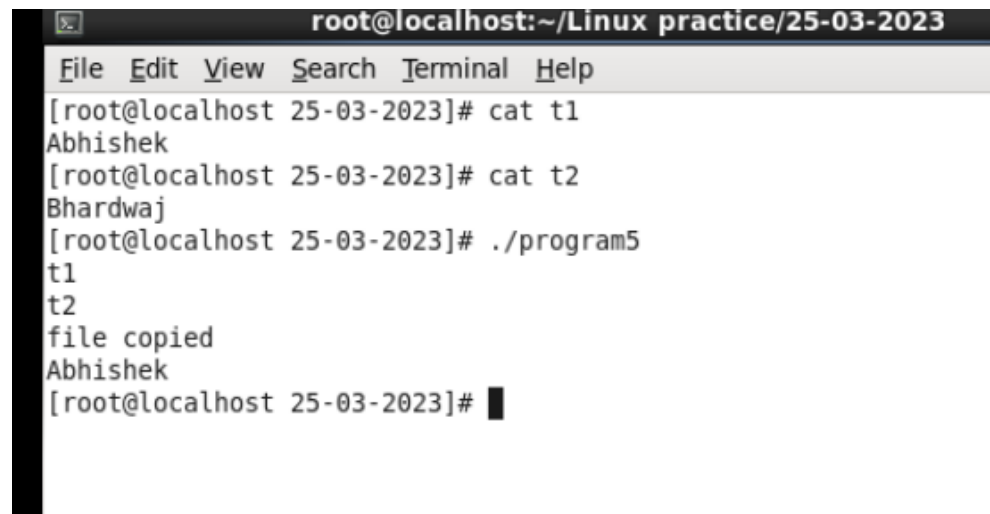
```
root@localhost:~/Linux practice/25-03-2023
File Edit View Search Terminal Help
[root@localhost 25-03-2023]# ./program4
hello olleh
Strings are palindrome
[root@localhost 25-03-2023]# ./program4
Hello World
Strings are not palindrome
[root@localhost 25-03-2023]# cat program4
read x y
c=`echo $y|rev`
if [ $x == $c ]
then
    echo "Strings are palindrome"
else
    echo "Strings are not palindrome"
fi
[root@localhost 25-03-2023]# █
```

Question Write a shell program to copy content from one file to another file?

Program

```
read s1
read s2
if cp $s1 $s2
then
    echo "file copied"
    cat $s2
else
    echo "not copied"
fi
```

Output

A terminal window titled 'root@localhost:~/Linux practice/25-03-2023' with a menu bar (File, Edit, View, Search, Terminal, Help). The terminal shows the following commands and output:

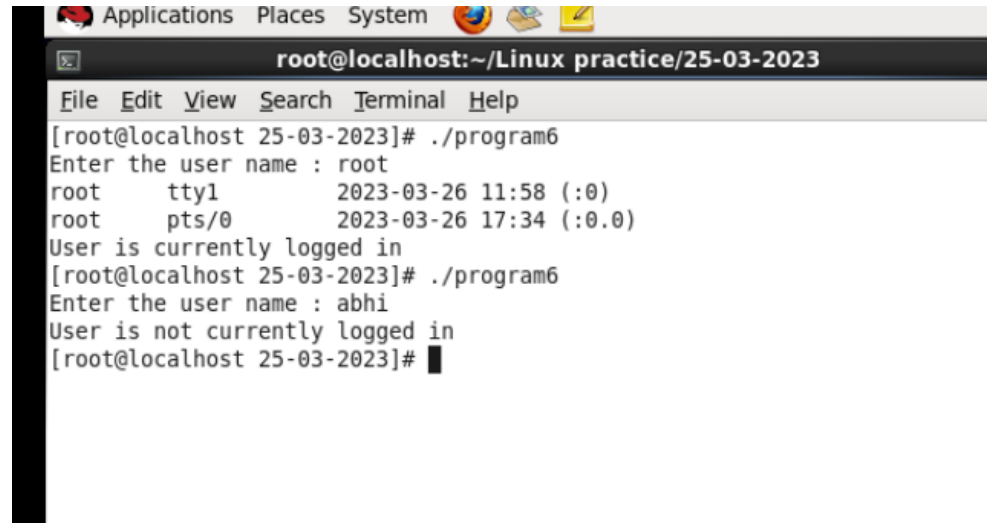
```
[root@localhost 25-03-2023]# cat t1
Abhishek
[root@localhost 25-03-2023]# cat t2
Bhardwaj
[root@localhost 25-03-2023]# ./program5
t1
t2
file copied
Abhishek
[root@localhost 25-03-2023]#
```

Question Write a shell program to check whether a particular user is logged in or not?

Program

```
read -p "Enter the user name : " u
if who| grep $u
then
    echo "User is currently logged in"
else
    echo "User is not currently logged in"
fi
```

Output



```
Applications Places System
root@localhost:~/Linux practice/25-03-2023
File Edit View Search Terminal Help
[root@localhost 25-03-2023]# ./program6
Enter the user name : root
root      tty1      2023-03-26 11:58 (:0)
root      pts/0     2023-03-26 17:34 (:0.0)
User is currently logged in
[root@localhost 25-03-2023]# ./program6
Enter the user name : abhi
User is not currently logged in
[root@localhost 25-03-2023]#
```

Question Write a shell program such that when user enter 1 then list directory command run, when user enter 2 then tty command run, when user enter 3 then date command run else it prints "enter only 1, 2, or 3" using **if else** control structure?

Program

```
read -p "Enter the number : " n
if [ $n -eq 1 ]
then
ls
elif [ $n -eq 2 ]
then
tty
elif [ $n -eq 3 ]
then
date
else
echo "Enter only 1 or 2 or 3"
fi
```

Output

```
root@localhost:~/Linux practice/25-03-2023
File Edit View Search Terminal Help
[root@localhost 25-03-2023]# ./program7
Enter the number : 1
abc      dir1  file      newfile   program10~ program4  program8
check1   edit  file~     pal~      program11 program5  program9
check1~  f1    filecheck program1  program2  program5~ t1
check3~  f12   filetest  program1~ program2~  program6  t2
check4~  f2    historyfile program10 program3  program7  userinfo
[root@localhost 25-03-2023]# ./program7
Enter the number : 2
/dev/pts/0
[root@localhost 25-03-2023]# ./program7
Enter the number : 3
Sun Mar 26 20:41:58 IST 2023
[root@localhost 25-03-2023]# ./program7
Enter the number : 8
Enter only 1 or 2 or 3
[root@localhost 25-03-2023]# █
```

Question

Write a shell program such that when user enter 1 then list directory command run, when user enter 2 then tty command run, when user enter 3 then date command run else it prints "enter only 1, 2, or 3" using **switch case** control structure?

Program

```
read -p "Enter any number : " n
case $n in
1) echo "ls command"
ls
;;
2) echo "tty command"
tty
;;
3) echo "date command"
date
;;
*) echo "Enter number either 1, 2, or 3."
;;
esac
```

Output

```
root@localhost:~/Linux practice/25-03-2023
File Edit View Search Terminal Help
[root@localhost 25-03-2023]# ./program8
Enter any number : 1
ls command
abc      dir1  file      newfile   program10~  program4  program8
check1~  edit  file~     pal~      program11  program5  program9
check1~  f1    filecheck program1  program2   program5~  t1
check3~  f12   filetest  program1~ program2~   program6  t2
check4~  f2    historyfile program10  program3   program7  userinfo
[root@localhost 25-03-2023]# ./program8
Enter any number : 2
tty command
/dev/pts/0
[root@localhost 25-03-2023]# ./program8
Enter any number : 3
date command
Sun Mar 26 20:44:11 IST 2023
[root@localhost 25-03-2023]# ./program8
Enter any number : 9
Enter number either 1, 2, or 3.
[root@localhost 25-03-2023]# █
```

Question

Write a shell program such that when user enter 0-9 then list directory command run, when user enter a-z then tty command run, when user enter 100 then date command run else it prints "enter only 1, 2, or 3" using **switch case** control structure?

Program

```
read -p "Enter any number : " n
case $n in
[0-9]) echo "ls command"
ls
;;
[a-z]) echo "tty command"
tty
;;
100) echo "date command"
date
;;
*) echo "Enter number either 1, 2, or 3."
;;
esac
```


Output

```
root@localhost:~/Linux practice/25-03-2023
File Edit View Search Terminal Help
[root@localhost 25-03-2023]# ./program9
Enter any number : 5
ls command
abc      dir1  file      newfile   program10~ program4  program8
check1~  edit  file~     pal~      program11 program5  program9
check1~  f1    filecheck program1   program2  program5~ t1
check3~  f12   filetest  program1~ program2~  program6  t2
check4~  f2    historyfile program10  program3  program7  userinfo
[root@localhost 25-03-2023]# ./program9
Enter any number : g
tty command
/dev/pts/0
[root@localhost 25-03-2023]# ./program9
Enter any number : 100
date command
Sun Mar 26 20:46:12 IST 2023
[root@localhost 25-03-2023]# ./program9
Enter any number : +
Enter number either 1, 2, or 3.
[root@localhost 25-03-2023]#
```

Question

Write a shell program such that when user enter either 1 or 2 or 3 then list directory command run, when user enter either a or b or c then tty command run, when user enter 100 then date command run else it prints "enter only 1, 2, or 3" using **switch case** control structure?

Program

```
read -p "Enter any number : " n
case $n in
[1,2,3]) echo "ls command"
ls
;;
[a,b,c]) echo "tty command"
tty
;;
100) echo "date command"
date
;;
*) echo "Enter number either 1, 2, or 3."
;;
esac
```

Output

```
root@localhost:~/Linux practice/25-03-2023
File Edit View Search Terminal Help
[root@localhost 25-03-2023]# ./program10
Enter any number : 2
ls command
abc      dir1  file      newfile   program10~  program4  program8
check1~  edit  file~     pal~      program11  program5  program9
check1~  f1    filecheck program1   program2   program5~  t1
check3~  f12   filetest  program1~ program2~   program6  t2
check4~  f2    historyfile program10  program3   program7  userinfo
[root@localhost 25-03-2023]# ./program10
Enter any number : c
tty command
/dev/pts/0
[root@localhost 25-03-2023]# ./program10
Enter any number : 100
date command
Sun Mar 26 20:47:56 IST 2023
[root@localhost 25-03-2023]# ./program10
Enter any number : y
Enter number either 1, 2, or 3.
[root@localhost 25-03-2023]# █
```

Question

Enter the marks of 5 subjects. Find the grade of student based on the following percentage criteria.

Percentage =100 or percentage 90-99 A++

percentage 80-89 A

percentage 70-79 B++

percentage 60-69 B

....

<40 Fail

Otherwise no such grade.

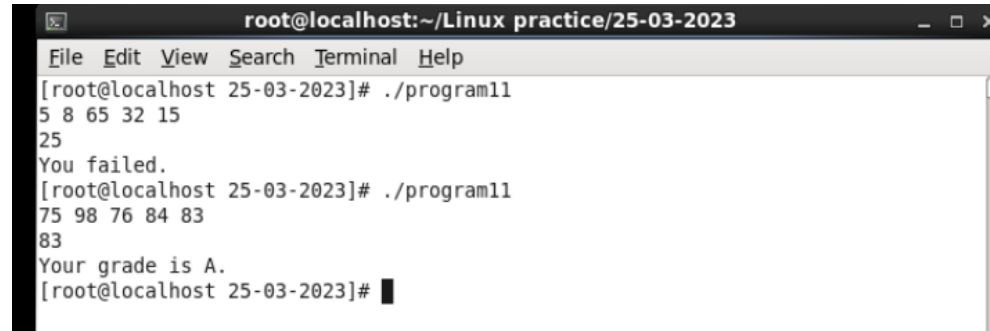
Using Switch case

Program

```
read m1 m2 m3 m4 m5
total=`expr $m1 + $m2 + $m3 + $m4 + $m5`
per=`expr $total / 5`
echo $per
case $per in
100) echo "Your grade is A++.";;
9[0-9]) echo "Your grade is A++.";;
8[0-9]) echo "Your grade is A.";;
7[0-9]) echo "Your grade is B++.";;
6[0-9]) echo "Your grade is B.";;
5[0-9]) echo "Your grade is C++.";;
```

```
4[0-9]) echo "Your grade is C.>";;
*) echo "You failed."
esac
```

Output



```
root@localhost:~/Linux practice/25-03-2023
File Edit View Search Terminal Help
[root@localhost 25-03-2023]# ./program11
5 8 65 32 15
25
You failed.
[root@localhost 25-03-2023]# ./program11
75 98 76 84 83
83
Your grade is A.
[root@localhost 25-03-2023]#
```

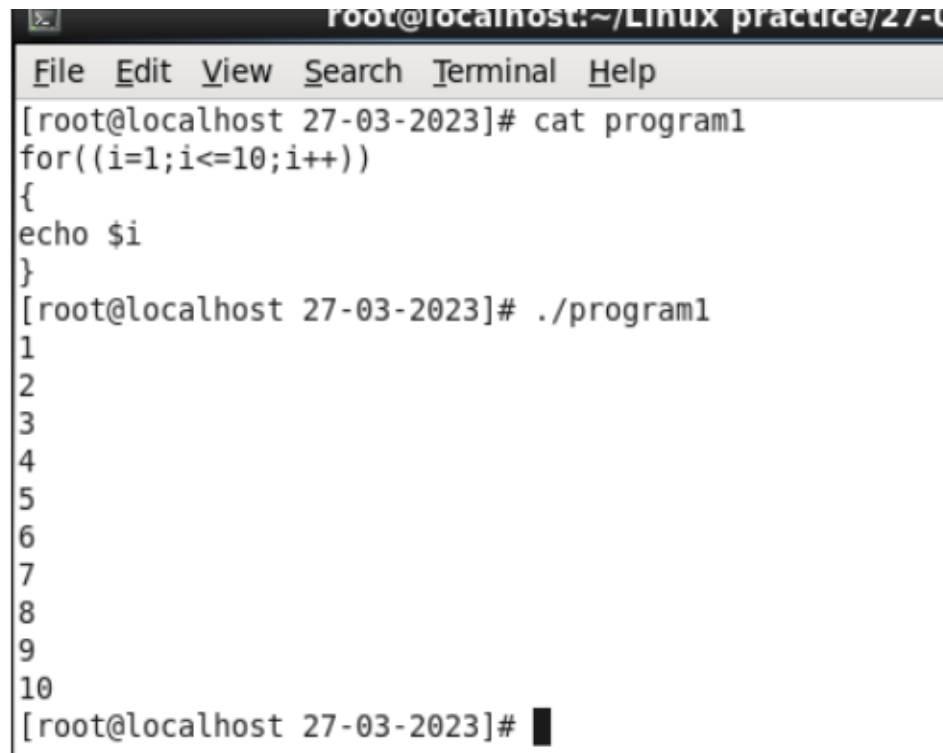
Question

Write a shell program to print the number from 1 to 10 using a **for** loop?

Program

```
for((i=1;i<=10;i++))
{
echo $i
}
```

Output



```
root@localhost:~/Linux practice/27-03-2023
File Edit View Search Terminal Help
[root@localhost 27-03-2023]# cat program1
for((i=1;i<=10;i++))
{
echo $i
}
[root@localhost 27-03-2023]# ./program1
1
2
3
4
5
6
7
8
9
10
[root@localhost 27-03-2023]#
```

Question Write a shell program that takes the start value and the end value from the user and print the number from start value to end value using a for loop?

Program

```
echo "Enter the start and end value :"  
read start  
read end  
echo "-----"  
echo "The numbers are shown below:"  
echo "-----"  
for((i=start;i<=end;i++))  
{  
echo $i  
}
```

Output

```
[root@localhost 27-03-2023]# cat program2
echo "Enter the start and end value :"
read start
read end
echo "-----"
echo "The numbers are shown below:"
echo "-----"
for((i=start;i<=end;i++))
{
echo $i
}
[root@localhost 27-03-2023]# ./program2
Enter the start and end value :
5
10
-----
The numbers are shown below:
-----
5
6
7
8
9
10
[root@localhost 27-03-2023]#
```

Question

Write a shell program to print the words of a given sentence one by one using a for loop?

Program

```
for w in we are good students
{
echo $w
}
```

Output

```
root@localhost:~/Linux practice/27-03-2023
File Edit View Search Terminal Help
[root@localhost 27-03-2023]# cat program3
for w in we are good students
{
echo $w
}
[root@localhost 27-03-2023]# ./program3
we
are
good
students
[root@localhost 27-03-2023]# █
```

Question Write a shell program to print the all number for a given range using a for loop?

Program # for loop using range
for i in {5..10}
{
echo \$i
}

Output

```
root@localhost:~/Linux practice/27
File Edit View Search Terminal Help
[root@localhost 27-03-2023]# cat program4
# for loop using range
for i in {5..10}
{
echo $i
}
[root@localhost 27-03-2023]# ./program4
5
6
7
8
9
10
[root@localhost 27-03-2023]#
```

Question Write a shell program to print the all number for a given sequence with start, step and end values using a for loop?

Program for i in \$(seq 20 2 50)
do
echo \$i
done

Output

```
root@localhost:~/Linux practice/27-03-2023
File Edit View Search Terminal Help
[root@localhost 27-03-2023]# cat program5
for i in $(seq 20 2 50)
do
echo $i
done
[root@localhost 27-03-2023]# ./program5
20
22
24
26
28
30
32
34
36
38
40
42
44
46
48
50
6 C [root@localhost 27-03-2023]#
```

Question Write a shell program that uses positional parameters and takes input from the user and display the result?

Program echo "Use of positional parameter or command line arguments"
echo \$1
echo \$2
echo \$3
echo \$4
a=\$2
echo \$a

Output

```
root@localhost:~/Linux practice/27-03-2023
File Edit View Search Terminal Help
[root@localhost 27-03-2023]# cat program6
echo "Use of positional parameter or command line arguments"
echo $1
echo $2
echo $3
echo $4
a=$2
echo $a
[root@localhost 27-03-2023]# ./program6 20 30 45 50
Use of positional parameter or command line arguments
20
30
45
50
30
[root@localhost 27-03-2023]# █
```

Question Write a shell program that uses positional parameters and takes input from the user and display the sum of all the input numbers?

Program

```
echo "Enter the numbers for which you want to sum: "
sum=0
for i in $*
do
sum=`expr $sum + $i`
done
echo "-----"
echo "The sum of all the numbers is $sum."
```

Output

```
root@localhost:~/Linux practice/27-03-2023
File Edit View Search Terminal Help
[root@localhost 27-03-2023]# cat program7
echo "Enter the numbers for which you want to sum: "
sum=0
for i in $*
do
sum=`expr $sum + $i`
done
echo "-----"
echo "The sum of all the numbers is $sum."
[root@localhost 27-03-2023]# ./program7 20 30 40 50 60
Enter the numbers for which you want to sum:
-----
The sum of all the numbers is 200.
[root@localhost 27-03-2023]#
```

Question Write a shell program to print the number from 1 to 10 using a **while** loop?

Program

```
i=0
while [ $i -le 10 ]
do
echo $i
i=`expr $i + 1`
done
```

Output

```
File Edit View Search Terminal Help
[root@localhost 27-03-2023]# cat program9
i=0
while [ $i -le 10 ]
do
echo $i
i=`expr $i + 1`
done

[root@localhost 27-03-2023]# ./program9
0
1
2
3
4
5
6
7
8
9
10
[root@localhost 27-03-2023]# █
```

Question Write a shell program to print the number from 10 to 1 using a **for** loop?

Program

```
i=10
while [ $i -ge 1 ]
do
echo $i
i=`expr $i - 1`
done
```

Output

```
root@localhost:~/Linux practice/2
File Edit View Search Terminal Help
[root@localhost 27-03-2023]# cat program10
i=10
while [ $i -ge 1 ]
do
echo $i
i=`expr $i - 1`
done

[root@localhost 27-03-2023]# ./program10
10
9
8
7
6
5
4
3
2
1
[root@localhost 27-03-2023]#
```

Question Write a shell program to print the number from 10 to 1 using a **until while** loop?

Program

```
i=1
until [ $i -ge 10 ]
do
echo $i
i=`expr $i + 1`
done
```

Output

```
root@localhost:~/Linux practice/
File Edit View Search Terminal Help
[root@localhost 27-03-2023]# cat program11
i=1
until [ $i -ge 10 ]
do
echo $i
i=`expr $i + 1`
done

[root@localhost 27-03-2023]# ./program11
1
2
3
4
5
6
7
8
9
[root@localhost 27-03-2023]#
```

Question Write a shell program that takes a string input from the user and print each character one by one using a while loop?

Program

```
read -p "Enter the string : " s
i=1
z=`echo -n "$s"|wc -m`
while [ $i -le $z ]
do
echo $s|cut -c$i
i=`expr $i + 1`
done
```

Output

```
root@localhost:~/Linux practice
File Edit View Search Terminal Help
[root@localhost 27-03-2023]# cat program12
read -p "Enter the string : " s
i=1
z=`echo -n "$s"|wc -m`
while [ $i -le $z ]
do
echo $s|cut -c$i
i=`expr $i + 1`
done

[root@localhost 27-03-2023]# ./program12
Enter the string : Abhishek
A
b
h
i
s
h
e
k
[root@localhost 27-03-2023]#
```

Question Write a shell program to find the factorial using a **while** loop?

Program

```
read -p "Enter the number: " n
temp=1
while [ $n -gt 0 ]
do
temp=`echo $temp*$n|bc`
n=`expr $n - 1`
done
echo $temp
```

Output

```
root@localhost:~/Linux practice/31-03-2023-
File Edit View Search Terminal Help
[root@localhost 31-03-2023]# cat program1
read -p "Enter the number: " n
temp=1
while [ $n -gt 0 ]
do
temp=`echo $temp*$n|bc`
n=`expr $n - 1`
done
echo $temp
[root@localhost 31-03-2023]# ./program1
Enter the number: 5
120
[root@localhost 31-03-2023]# ./program1
Enter the number: 8
40320
[root@localhost 31-03-2023]# █
```

Question Write a shell program to find the factorial using a **for** loop?

Program

```
read -p "Enter the number: " n
temp=1
for ((i=1;i<=$n;i++))
do
temp=$((temp*i))
done
echo $temp
```

Output

```
root@localhost:~/Linux practice/31
File Edit View Search Terminal Help
[root@localhost 31-03-2023]# cat program2
read -p "Enter the number: " n
temp=1
for ((i=1;i<=$n;i++))
do
temp=$((temp*i))
done
echo $temp

[root@localhost 31-03-2023]# ./program2
Enter the number: 5
120
[root@localhost 31-03-2023]# ./program2
Enter the number: 8
40320
[root@localhost 31-03-2023]# █
```

Question

Write a shell program that prints the digit at an odd place when a user enters a large digit number?

Program

```
read -p "Enter the number : " x
l=`echo -n $x|wc -c`
echo "The length is $l."
i=1
while [ $i -le $l ]
do
digit=`echo $x|cut -c$i`
echo "The digit at position $i is =$digit."
i=$((i+2))
done
```


Output

```
root@localhost: ~/Linux practice/31
File Edit View Search Terminal Help
[root@localhost 31-03-2023]# gedit program3
[root@localhost 31-03-2023]# cat program3
read -p "Enter the number : " x
l=`echo -n $x|wc -c`
echo "The length is $l."
i=1
while [ $i -le $l ]
do
digit=`echo $x|cut -c$i`
echo "The digit at position $i is =$digit."
i=$((i+2))
done
[root@localhost 31-03-2023]# ./program3
Enter the number : 14578946532147
The length is 14.
The digit at position 1 is =1.
The digit at position 3 is =5.
The digit at position 5 is =8.
The digit at position 7 is =4.
The digit at position 9 is =5.
The digit at position 11 is =2.
The digit at position 13 is =4.
[root@localhost 31-03-2023]#
```

Question Write a shell program that counts the occurrence of a particular digit in a large number entered by the user?

Program

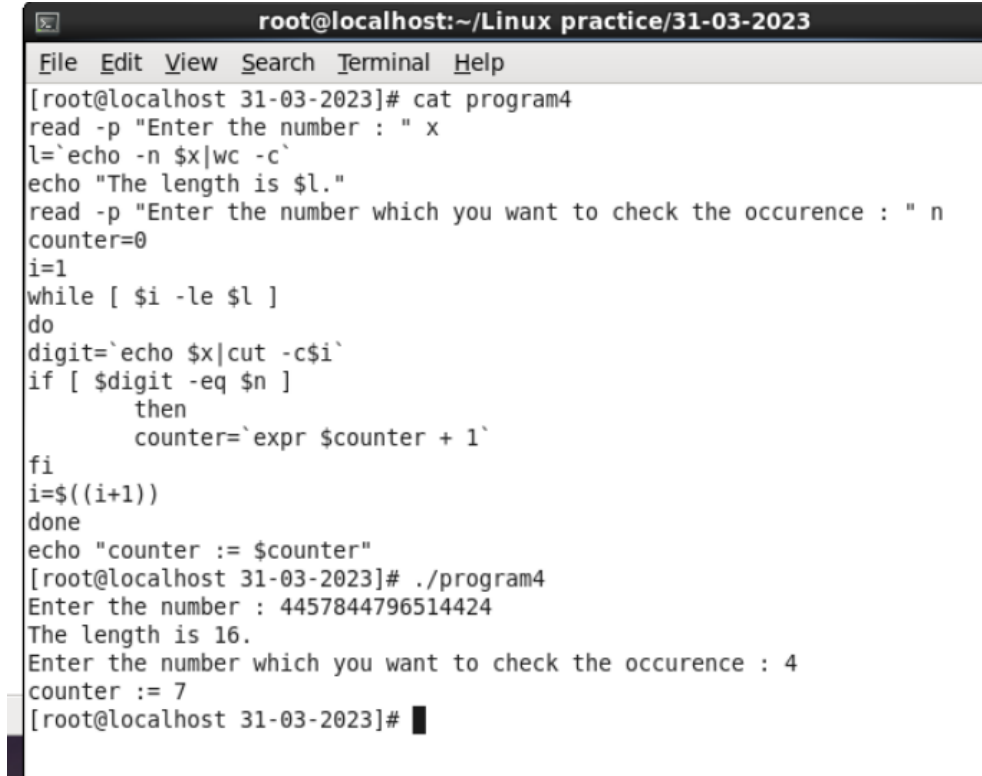
```
read -p "Enter the number : " x
l=`echo -n $x|wc -c`
echo "The length is $l."
read -p "Enter the number which you want to check the
occurrence : " n
counter=0
i=1
while [ $i -le $l ]
do
digit=`echo $x|cut -c$i`
if [ $digit -eq $n ]
```

```

        then
        counter=`expr $counter + 1`
    fi
    i=$((i+1))
done
echo "counter := $counter"

```

Output



```

root@localhost:~/Linux practice/31-03-2023
File Edit View Search Terminal Help
[root@localhost 31-03-2023]# cat program4
read -p "Enter the number : " x
l=`echo -n $x|wc -c`
echo "The length is $l."
read -p "Enter the number which you want to check the occurrence : " n
counter=0
i=1
while [ $i -le $l ]
do
    digit=`echo $x|cut -c$i`
    if [ $digit -eq $n ]
    then
        counter=`expr $counter + 1`
    fi
    i=$((i+1))
done
echo "counter := $counter"
[root@localhost 31-03-2023]# ./program4
Enter the number : 4457844796514424
The length is 16.
Enter the number which you want to check the occurrence : 4
counter := 4
[root@localhost 31-03-2023]#

```

Question

Write a shell program to check whether the number entered by the user is palindrome or not?

Program

```

read -p "Enter any number to check whether the number is
palindrome or not? : " n
temp=$n
rev=0
while [ $n -gt 0 ]
do
    r=`echo $n%10|bc`
    rev=`echo $rev*10 + $r |bc`
    n=`expr $n / 10`
done

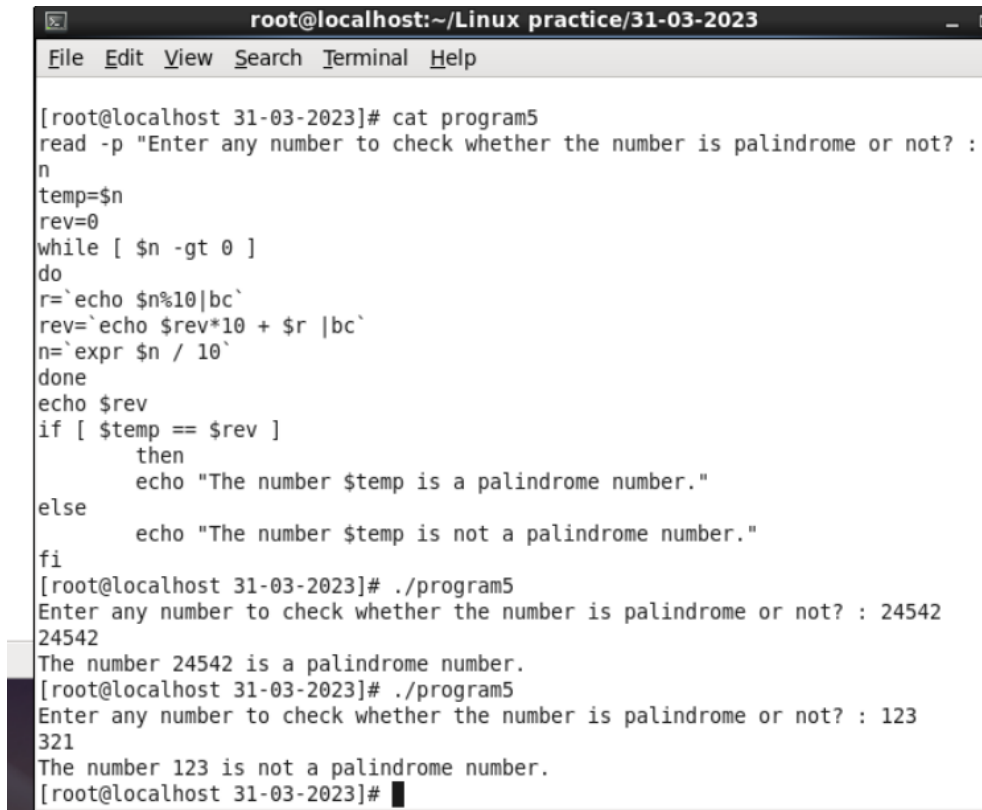
```

```

echo $rev
if [ $temp == $rev ]
then
    echo "The number $temp is a palindrome number."
else
    echo "The number $temp is not a palindrome
number."
fi

```

Output



```

root@localhost:~/Linux practice/31-03-2023
File Edit View Search Terminal Help

[root@localhost 31-03-2023]# cat program5
read -p "Enter any number to check whether the number is palindrome or not? :
n
temp=$n
rev=0
while [ $n -gt 0 ]
do
r=`echo $n%10|bc`
rev=`echo $rev*10 + $r |bc`
n=`expr $n / 10`
done
echo $rev
if [ $temp == $rev ]
then
    echo "The number $temp is a palindrome number."
else
    echo "The number $temp is not a palindrome number."
fi
[root@localhost 31-03-2023]# ./program5
Enter any number to check whether the number is palindrome or not? : 24542
24542
The number 24542 is a palindrome number.
[root@localhost 31-03-2023]# ./program5
Enter any number to check whether the number is palindrome or not? : 123
321
The number 123 is not a palindrome number.
[root@localhost 31-03-2023]#

```

Question

Write a shell program that uses the “break” command?

Program

```

for ((i=1;i<=10;i++))
do
{
if [ $i -eq 5 ]
then
break;
fi
echo $i

```

```
}  
done
```

Output



```
root@localhost:~/Linux practice  
File Edit View Search Terminal Help  
[root@localhost 31-03-2023]# cat program6  
for ((i=1;i<=10;i++))  
do  
{  
if [ $i -eq 5 ]  
then  
break;  
fi  
echo $i  
}  
done  
[root@localhost 31-03-2023]# ./program6  
1  
2  
3  
4  
[root@localhost 31-03-2023]#
```

Question Write a shell program that uses the “continue” command?

Program

```
for ((i=1;i<=10;i++))  
do  
{  
if [ $i -eq 5 ]  
then  
continue;  
fi  
echo $i  
}  
done
```

Output

```
root@localhost:~/Linux practice/31
File Edit View Search Terminal Help
[root@localhost 31-03-2023]# cat program7
for ((i=1;i<=10;i++))
do
{
if [ $i -eq 5 ]
then
continue;
fi
echo $i
}
done
[root@localhost 31-03-2023]# ./program7
1
2
3
4
6
7
8
9
10
[root@localhost 31-03-2023]#
```

Question

Write a shell program that uses function?

Program

```
echo "Function example"
add()
{
echo "Hello world"
}
echo call the function
add
```

Output

```
root@localhost:~/Linux practice/31-0
File Edit View Search Terminal Help
[root@localhost 31-03-2023]# cat program8
echo "Function example"
add()
{
echo "Hello world"
}
echo call the function
add

[root@localhost 31-03-2023]# ./program8
Function example
call the function
Hello world
[root@localhost 31-03-2023]#
```

Question

Write a shell program that uses a function to add two numbers?

Program

```
add()
{
a=$1
b=$2
c=`expr $a + $b`
echo $c
}
echo call the function
add 100 300
```

Output

```
root@localhost:~/Linux practice/31-03
File Edit View Search Terminal Help
[root@localhost 31-03-2023]# cat program9
echo "Function example"
add()
{
a=$1
b=$2
c=`expr $a + $b`
echo $c
}
echo call the function
add 100 300

[root@localhost 31-03-2023]# ./program9
Function example
call the function
400
[root@localhost 31-03-2023]#
```

Question Write a shell program that takes two numbers from the user and print the table from the first number to the second number?

Program read -p "Enter the first number : " x
read -p "Enter the second number : " y

```
table()
{
echo "Table of $1"
for ((i=1;i<=10;i++))
{
z=`echo $1*$i|bc`
echo "$1 * $i = $z"
}
echo "-----"
}
for i in $(seq $x 1 $y)
{
```

```
table $i  
}
```

Output

```
root@localhost:~/Linux practice/31-03-2023  
File Edit View Search Terminal Help  
[root@localhost 31-03-2023]# ./program11  
Enter the first number : 5  
Enter the second number : 8  
Table of 5  
5 * 1 = 5  
5 * 2 = 10  
5 * 3 = 15  
5 * 4 = 20  
5 * 5 = 25  
5 * 6 = 30  
5 * 7 = 35  
5 * 8 = 40  
5 * 9 = 45  
5 * 10 = 50  
-----  
Table of 6  
6 * 1 = 6  
6 * 2 = 12  
6 * 3 = 18  
6 * 4 = 24  
6 * 5 = 30  
6 * 6 = 36  
6 * 7 = 42  
6 * 8 = 48  
6 * 9 = 54  
6 * 10 = 60  
-----
```



```
-----  
Table of 7  
7 * 1 = 7  
7 * 2 = 14  
7 * 3 = 21  
7 * 4 = 28  
7 * 5 = 35  
7 * 6 = 42  
7 * 7 = 49  
7 * 8 = 56  
7 * 9 = 63  
7 * 10 = 70  
-----
```

```
-----  
Table of 8  
8 * 1 = 8  
8 * 2 = 16  
8 * 3 = 24  
8 * 4 = 32  
8 * 5 = 40  
8 * 6 = 48  
8 * 7 = 56  
8 * 8 = 64  
8 * 9 = 72  
8 * 10 = 80  
-----
```

Question Write a shell program that takes five inputs from the user, store them into an array and then finally display the list of all elements in the array?

Program

```
for ((i=0;i<5;i++))  
{  
  read arr[i]  
}  
echo ${arr[*]}
```

Output

```
root@localhost:~/Linux practice/31-03-2023
File Edit View Search Terminal Help
[root@localhost 31-03-2023]# cat program12
for ((i=0;i<5;i++))
{
read arr[i]
}
echo ${arr[*]}
[root@localhost 31-03-2023]# ./program12
5
6
7
9
2
5 6 7 9 2
[root@localhost 31-03-2023]#
```

Question

Write a shell program that takes five inputs from the user, store them into an array and then finally display the list of all elements in the array?

Program

```
sum=0
for ((i=0;i<5;i++))
{
read arr[i]
sum=`expr $sum + ${arr[i]}`
}
echo ${arr[*]}
echo "The sum is $sum."
```

Output

```
root@localhost:~/Linux practice/3
File Edit View Search Terminal Help
[root@localhost 31-03-2023]# cat program13
sum=0
for ((i=0;i<5;i++))
{
read arr[i]
sum=`expr $sum + ${arr[i]}`
}
echo ${arr[*]}
echo "The sum is $sum."
[root@localhost 31-03-2023]# ./program13
4
6
8
3
2
4 6 8 3 2
The sum is 23.
[root@localhost 31-03-2023]#
```