/**/

OUTPUT:

```
$ ./mult.sh
8
Multiplication
8 x 1 = 8
8 x 2 = 16
8 x 3 = 24
8 x 4 = 32
8 x 5 = 40
8 x 6 = 48
8 x 7 = 56
8 x 8 = 64
8 x 9 = 72
8 x 10 = 80
```

/**/

PROGRAM – 1

```
/*****************************************************************/
/* Name of the Program : mult.sh                                 */
/* Aim                 : Demonstrate multiplication table        */
/* Author              : Gayathri V S                            */
/* Date Written        :                                         */
 /****************************************************************/

/*****************************************************************/
/* PROGRAM:                                                      */

read a
echo Multiplication
for i in 1 2 3 4 5 6 7 8 9 10
do
     echo $a "x" $i "=" `expr $a \* $i`
done
/
*****************************************************************/

/*****************************************************************/
/* RESULT :                                                      */
/*                                                               */
/* The script is executed and the output is verified             */
/*                                                               */
/*****************************************************************/
```

/**/

OUTPUT:

```
mca1619@mca-pc61:~/shell/cycle1$ bash sum_odd.sh
Enter n :5
1
2
3
4
5
sum=15
even sum =6
odd=9
```

/**/

PROGRAM – 2

```
/*****************************************************************/
/* Name of the Program : sum_odd.sh
*/
/* Aim                 : Demostrate sum of odd/even/all numbers     */
/* Author              : Gayathri V S                               */
/* Date Written        :                                            */
/*****************************************************************/

/*****************************************************************/
/* PROGRAM:                                                        */

#!bin/sh
echo "Enter n"
read n
i=0
while [ $i -ne $n ]
do
      read num
      arr[$i]=$num
      i=`expr $i + 1`
done
sum=0
for((i=0;i<$n;i++))
do
      sum=` expr $sum + ${arr[$i]}`
      rem=$(( ${arr[$i]} % 2 ))
      if [ $rem -eq 0 ]
      then
            esum=` expr $esum + ${arr[$i]}`
      else
            osum=` expr $osum + ${arr[$i]}`
      fi
done
echo "sum=$sum"
echo "even sum =$esum"
echo "odd=$osum"


/
*****************************************************************/

/*****************************************************************/
/* RESULT :                                                        */
/*                                                                 */
/* The script is executed and the output is verified               */
/*                                                                 */
/*****************************************************************/
```

/**/

OUTPUT:

```
mca1619@mca-pc61:~/shell/cycle1$ chmod 777 leap.sh
mca1619@mca-pc61:~/shell/cycle1$ bash leap.sh
enter year
2000
2000 is a Leap year
mca1619@mca-pc61:~/shell/cycle1$ bash leap.sh
enter year
1990
1990 is not a leap year
```

/**/

PROGRAM – 3

```
/*****************************************************************/
/* Name of the Program : leap.sh                                 */
/* Aim                 : Check a year is leap year or not        */
/* Author              : Gayathri V S                            */
/* Date Written        :                                         */
 /****************************************************************/

/*****************************************************************/
/* PROGRAM:                                                      */

#!/bin/bash
echo -e "enter year "
read year
if [ `expr $year % 400` -eq 0 ]; then
     echo "$year is a Leap year"
     elif [ `expr $year % 100` -ne 0 -a `expr $year % 4 ` -eq 0 ];
then
          echo "$year is  a Leap year"
else
echo "$year is not a leap year"
fi
/
*****************************************************************/

/*****************************************************************/
/* RESULT :                                                      */
/*                                                               */
/* The script is executed and the output is verified             */
/*                                                               */
/*****************************************************************/
```

/**/

OUTPUT:

```
mca1619@mca-pc61:~/shell/cycle1$ bash ques4.sh 2 3
2 3
2 ^ 3 =8
```

/**/

PROGRAM – 4

```
/*****************************************************************/
/* Name of the Program : ques4.sh                                */
/* Aim                 : compute power of a number using arguments  */
/* Author              : Gayathri V S                            */
/* Date Written        :                                         */
 /*****************************************************************/

/*****************************************************************/
/* PROGRAM:                                                      */

#!/bin/bash
echo $1 $2
var=$(( $1 ** $2 ))
echo "$1 ^ $2 =$var"
/
*****************************************************************/

/*****************************************************************/
/* RESULT :                                                      */
/*                                                               */
/* The script is executed and the output is verified             */
/*                                                               */
/*****************************************************************/
```

/**/
OUTPUT:

```
mca1619@mca-pc61:~/shell/cycle1$ bash ques5.sh
Basic Salary
10000
HRA= 500
DA=9800
Basic salary >=1500 20300
mca1619@mca-pc61:~/shell/cycle1$ bash ques5.sh
Basic Salary
1000
HRA= 100
DA=900
for basic salary<1500 is 2000
```

/**/

PROGRAM – 5

```
/*****************************************************************/
/* Name of the Program : ques5.sh                                */
/* Aim                 : compute basic salary                    */
/* Author              : Gayathri V S                            */
/* Date Written        :                                         */
 /****************************************************************/

/*****************************************************************/
/* PROGRAM:                                                      */

#!/bin/bash
echo "Basic Salary"
read bsalary
if [ $bsalary -lt 1500 ];then
     hra=` expr $bsalary \* 10 / 100`
     da=` expr  $bsalary \* 90 / 100`
     salary=` expr $bsalary + $hra + $da`
     echo "HRA= $hra"
     echo "DA=$da"
     echo "fo bs<1500 is $salary"
fi
if [ $bsalary -ge 1500 ];then
     hra=500
     da=` expr $bsalary \* 98 / 100`
     salary=` expr $bsalary + $hra + $da`
     echo "HRA= $hra"
     echo "DA=$da"
     echo "Basic salary >=1500 $salary"
fi
/
*****************************************************************/

/*****************************************************************/
/* RESULT :                                                      */
/*                                                               */
/* The script is executed and the output is verified             */
/*                                                               */
/*****************************************************************/
```

/**/

OUTPUT:

```
mca1619@mca-pc61:~/shell/cycle1$ bash ques6.sh
Read the string
hello welcome to shell Programming
hello welcome to shell Programming is 34 characters long
Read start pos
6
Read end pos
15
welcome to shel
Length of substring is 15
```

/**/

PROGRAM – 6

```
/*****************************************************************/
/* Name of the Program : ques6.sh                                */
/* Aim                 : Demonstrate string operations           */
/* Author              : Gayathri V S                            */
/* Date Written        :                                         */
 /****************************************************************/

/*****************************************************************/
/* PROGRAM:                                                      */

#!/bin/bash
echo "Read the string"
read string
echo "$string is ${#string} characters long"
echo "Read start pos"
read startpos
echo "Read end pos"
read endpos
substring=${string:$startpos:$endpos}
echo $substring
echo "Length of substring is ${#substring}"
/
*****************************************************************/

/*****************************************************************/
/* RESULT :                                                      */
/*                                                               */
/* The script is executed and the output is verified             */
/*                                                               */
/*****************************************************************/
```

/***/

OUTPUT:

```
mca1619@mca-pc61:~/shell/cycle1$ bash ques7.sh g1 g2
Files g1 and g2 are identical
g2 deleted
```

/***/

PROGRAM – 7

```
/*****************************************************************/
/* Name of the Program : ques7.sh                                */
/* Aim                 : Delete one of the two identical files   */
/* Author              : Gayathri V S                            */
/* Date Written        :                                         */
 /****************************************************************/

/*****************************************************************/
/* PROGRAM:                                                      */

#!/bin/bash
 diff -s $1 $2
if [ -f $2 ] ; then
 rm $2
echo "$2 deleted"
fi
/
*****************************************************************/

/*****************************************************************/
/* RESULT :                                                      */
/*                                                               */
/* The script is executed and the output is verified             */
/*                                                               */
/*****************************************************************/
```

/**/
OUTPUT:

```
mca1619@mca-pc61:~/shell/cycle1$ bash ques8.sh g1 g2
Original Content

file g1
GAYATHRI

file g2
gowri

Converted Content

file g1
gayathri

file g2
GOWRI
```

/**/

PROGRAM – 8

```
/*****************************************************************/
/* Name of the Program : ques8.sh                                */
/* Aim                 : Case conversion in file contents        */
/* Author              : Gayathri V S                            */
/* Date Written        :                                         */
 /****************************************************************/

/*****************************************************************/
/* PROGRAM:                                                      */

echo "Original Content"
echo "file $1"
cat $1
echo "file $2"
cat $2
for filename in $*
do
     cat $filename | tr '[:upper:][:lower:]' '[:lower:][:upper:]'>
tempo.tmp
     mv tempo.tmp $filename
done
echo "Converted Content"
echo "file $1"
cat $1
echo "file $2"
cat $2
/
*****************************************************************/

/*****************************************************************/
/* RESULT :                                                      */
/*                                                               */
/* The script is executed and the output is verified             */
/*                                                               */
/*****************************************************************/
```

/**/
OUTPUT:

```
mca1619@mca-pc61:~/shell/cycle1$ bash ques9.sh
Read filename
ques9
Read Word to be counted
helo
3
```

/**/

PROGRAM – 9

```
/*****************************************************************/
/* Name of the Program : ques9.sh                                */
/* Aim                 : Count occurance of a word in a file     */
/* Author              : Gayathri V S                            */
/* Date Written        :                                         */
 /****************************************************************/

/*****************************************************************/
/* PROGRAM:                                                      */

#!/bin/bash
echo "Read filename"
read file1
if [ -f "$file1" ]
then
     echo "Read Word to be counted "
read word
     grep -o $word  $file1 | wc -l
else
     echo "$file1 not found."
fi
/
*****************************************************************/

/*****************************************************************/
/* RESULT :                                                      */
/*                                                               */
/* The script is executed and the output is verified             */
/*                                                               */
/*****************************************************************/
```

/***/

OUTPUT:

```
mca1619@mca-pc61:~/shell/cycle1$ bash ques10.sh
=================
File Manipulation
=================
1. Copy
2. Remove
3. Rename
4. Linking
Enter your choice :
1
Enter the filename
q9
Enter new filename
q10
file copied to q10

Enter your choice :
2
Enter the filename
q10
file removed

Enter your choice :
3
Enter the filename
q9
Enter new filename
qq9
File renamed

Enter your choice :
4
Enter the filename
qq9
Enter filename to be linked
q10
Files linked
```

/***/

PROGRAM – 10

```
/*****************************************************************/
/* Name of the Program : ques10.sh                               */
/* Aim                 : Demonstrate file manipulation           */
/* Author              : Gayathri V S                            */
/* Date Written        :                                         */
 /****************************************************************/

/*****************************************************************/
/* PROGRAM:                                                      */

#!/bin/bash
clear
echo "================="
echo "File Manipulation"
echo "================="
echo "1. Copy"
echo "2. Remove"
echo "3. Rename"
echo "4. Linking"
echo "Enter your choice : "
read choice
case $choice in
     1) echo "Enter the filename"
        read file1
     if [ -f $file1 ]
     then

              echo "Enter new filename"
              read new
              cp $file1 $new
              echo "file copied to $new"


     else
          echo "File not found"
     fi
;;

     2) echo "Enter the filename"
        read file1
     if [ -f $file1 ]
     then
          rm  $file1
          echo "file removed"
     else
          echo "file not found"
     fi
;;
```

```
     3) echo "Enter the filename"
        read file1
     if [ -f $file1 ]
     then

             echo "Enter new filename"
             read new
             mv $file1 $new
             echo "File renamed"
     else
          echo "File not found"
     fi
;;
     4) echo "Enter the filename"
        read file1
        if [ -f $file1 ]
      then

          echo "Enter filename to be linked"
             read new
          link $file1 $new
          echo "Files linked"
     else
          echo "File not found"
     fi
;;
     *) echo "Invalid option"



esac
/
*********************************************************************/

/*********************************************************************/
/* RESULT :                                                          */
/*                                                                   */
/* The script is executed and the output is verified                 */
/*                                                                   */
/*********************************************************************/
```

/**/
OUTPUT:

```
mca1619@mca-pc61:~/shell/cycle1$ bash ques11.sh mca1619
mca1619 logged in
```

/**/

PROGRAM – 11

```
/*****************************************************************/
/* Name of the Program : ques11.sh                               */
/* Aim                 : Display some message when user logs in  */
/* Author              : Gayathri V S                            */
/* Date Written        :                                         */
 /****************************************************************/

/*****************************************************************/
/* PROGRAM:                                                      */

#!/bin/bash
user=`whoami`
user1=$1
if [ "$user1" = "$user" ]
then
echo ""$1" logged in"
else
echo "invalid user"
fi
/
*****************************************************************/

/*****************************************************************/
/* RESULT :                                                      */
/*                                                               */
/* The script is executed and the output is verified             */
/*                                                               */
/*****************************************************************/
```

/***/

OUTPUT:

```
mca1619@mca-pc61:~/shell/cycle1$ bash ques12.sh
- enter the user name :\c
mca1619
user name : mca1619
login period : 1 : 19
```

/***/

PROGRAM – 12

```
/*****************************************************************/
/* Name of the Program : ques12.sh                               */
/* Aim                 : Determine period of working of a user   */
/* Author              : Gayathri V S                            */
/* Date Written        :                                         */
/*****************************************************************/

/*****************************************************************/
/* PROGRAM:                                                      */

#!/bin/bash

echo - "enter the user name :\c"
read usr

tuser=`who | tr -s " " | head -1 | cut -d " " -f1` #username
if [ "$tuser" = "$usr" ]
then
tm=`who | tr -s " " | head -1 | cut -d " " -f4` #login time
uhr=`echo $tm | cut -d ":" -f1`
umin=`echo $tm | cut -d ":" -f2`
shr=`date "+%H"`
smin=`date "+%M"`
if [ $smin -lt $umin ]
then
shr=`expr $shr - 1`
smin=`expr $smin + 60`
fi
h=`expr $shr - $uhr`
m=`expr $smin - $umin`
echo "user name : $usr"
echo "login period : $h : $m"
else
echo "Invalid User"
fi
/
*****************************************************************/

/*****************************************************************/
/* RESULT :                                                      */
/*                                                               */
/* The script is executed and the output is verified             */
/*                                                               */
/*****************************************************************/
```