LAB 3

1.factorial of a number

```sh
#/bin/sh
echo "enter a number"
read num
i=1
fact=1

while [ $i -le $num ]
do
fact=`expr $fact \* $i`
i=`expr $i + 1`
done
echo "Factorial of a number = $fact"
```

```
bmsce@bmsce-Precision-T1700:~$ vi fact_of_num.sh
bmsce@bmsce-Precision-T1700:~$ sh fact_of_num.sh
enter a number
6
Factorial of a number = 720
bmsce@bmsce-Precision-T1700:~$
```

2.calculate gross salary of an employee

```sh
#/bin/sh
echo "Enter basic salary of the employee"
read basic

da=`echo "$basic * 0.1" | bc `
hra=`echo "$basic * 0.2" | bc`
gs=`echo "$basic + $da + $hra"|bc`



echo "Gross salary= $gs"
```

```
bmsce@bmsce-Precision-T1700:~$ vi salary.sh
bmsce@bmsce-Precision-T1700:~$ sh salary.sh
Enter basic salary of the employee
1000
Gross salary= 1300.0
bmsce@bmsce-Precision-T1700:~$
```

3. Convert temperature to celsius

```
Q                         bmsce@bmsce-Precision-T1700: ~

#/bin/sh
echo "enter temperatur fahrenheit"
read temp
t=`expr $temp - 32 `
res=`echo "$t * 5 / 9" | bc`
echo "Temperature in celsius = $res"
~
~
~
~
L~
```

```
bmsce@bmsce-Precision-T1700:~$ vi temperature.sh
bmsce@bmsce-Precision-T1700:~$ sh temperature.sh
enter temperatur fahrenheit
97
Temperature in celsius = 36
bmsce@bmsce-Precision-T1700:~$ sh temperature.sh
enter temperatur fahrenheit
32
Temperature in celsius = 0
```

4. Arithmetic operations on 2 numbers

```
echo "menu \n 1.Addition \n 2.Subtraction \n 3.Multiplication\n 4.Division \n 5.Exit"
echo "Enterr your choice"
read choice
case "$choice" in
    1)echo "Enter the numbers"
        read a
        read b
        echo "Addition of two number is "
        expr $a + $b ;;

    2)echo "Enter the numbers"
        read a
        read b
        echo "Subtraction of two number is "
         expr $a - $b ;;
    3)echo "Enter the numbers"
        read a
        read b

        echo "Mulitplication of two number is "
        expr $a \* $b ;;
    4)echo "Enter the numbers"
        read a
        read b
        echo "Division of two numbers is"
         div= expr $a / $b ;;
    5)exit ;;
    *)echo "Invalid option"
esac
~
```

```
bmsce@bmsce-Precision-T1700:~$ sh arithmetic.sh
menu
 1.Addition
 2.Subtraction
 3.Multiplication
 4.Division
 5.Exit
Enterr your choice
1
Enter the numbers
10
20
Addition of two number is
30
bmsce@bmsce-Precision-T1700:~$ vi arithmetic.sh
bmsce@bmsce-Precision-T1700:~$ sh arithmetic.sh
menu
 1.Addition
 2.Subtraction
 3.Multiplication
 4.Division
 5.Exit
Enterr your choice
3
Enter the numbers
5
5
Mulitplication of two number is
25
bmsce@bmsce-Precision-T1700:~$
```

5.sum of odd numbers upto N

```sh
#/bin/sh
echo "enter a number"
read n
sum=0
i=1
while [ $i -le $n ]
do
sum=`expr $sum + $i`
i=`expr $i + 2`
done
echo "Sum of odd numbers upto $n = $sum"
~
~
~
~
~
~
```

```
bmsce@bmsce-Precision-T1700:~$ vi sum_of_odd.sh
bmsce@bmsce-Precision-T1700:~$ sh sum_of_odd.sh
enter a number
10
Sum of odd numbers upto 10 = 25
bmsce@bmsce-Precision-T1700:~$
```