Assignment-3

1. Write a Shell Script to find maximum between two numbers.

```
ubuntu@ip-172-31-41-250:~/assignment$ cat q1.sh
read -p "Enter the first no --" num1
read -p "Enter the second no --" num2
echo " Number selected by you $num1 $num2 "
if [ $num1 -gt $num2 ]
then
   echo " $num1 is greater than $num2 "
else
   echo " $num1 is less than $num2 "
fi
ubuntu@ip-172-31-41-250:~/assignment$ ./q1.sh
Enter the first no --10
Enter the second no --20
 Number selected by you 10 20
 10 is less than 20
ubuntu@ip-172-31-41-250:~/assignment$
```

2. Write a Shell Script to find maximum between three numbers.

```
ubuntu@ip-172-31-41-250:~/assignment/person1$ cat q2.sh
read -p " Enter number num1  " num1
read -p "Enter number num2 " num2
read -p " Enter number num3 " num3
echo " Number entered $num1 $num2 $num3 "
if [ $num1 -gt $num2 ] && [ $num1 -gt $num3 ]
then
echo " $num1 is greater  "
elif [ $num2 -gt $num1 ] && [ $num2 -gt $num3 ]
then
echo " $num2 is greater "
else
echo  " $num3 is greater "
 fi
ubuntu@ip-172-31-41-250:~/assignment/person1$ ./q2.sh
 Enter number num1  1
Enter number num2 2
 Enter number num3 3
 Number entered 1 2 3
 3 is greater
ubuntu@ip-172-31-41-250:~/assignment/person1$
```

3. Write a Shell Script to check whether a number is negative, positive or zero.

```
ubuntu@ip-172-31-41-250:~/assignment/personl$ cat q3.sh
// Write a Shell Script to check whether a number is negative, positive or zero.
read -p " Enter the number " num1
if [ $num1 -gt 0 ]
then
echo " number is positive "
elif [ $num1 -lt 0 ]
then
echo " number is negative "
else
echo " number is zero "
fi
ubuntu@ip-172-31-41-250:~/assignment/personl$ ./q3.sh
./q3.sh: line 1: //: Is a directory
 Enter the number 1
 number is positive
ubuntu@ip-172-31-41-250:~/assignment/personl$ ./q3.sh
./q3.sh: line 1: //: Is a directory
 Enter the number -1
 number is negative
ubuntu@ip-172-31-41-250:~/assignment/personl$ ./q3.sh
./q3.sh: line 1: //: Is a directory
 Enter the number 0
 number is zero
ubuntu@ip-172-31-41-250:~/assignment/personl$
```

4. Write a Shell Script to check whether a number is divisible by 5 and 11 or not.

```
ubuntu@ip-172-31-22-35:~$ nano q4.sh
ubuntu@ip-172-31-22-35:~$ cat q4.sh
read -p " Enter the Number : " num
n1=`expr $num % 5`
n2=`expr $num % 11`
if [ $n1 -eq 0 ] && [ $n2 -eq 0 ]
then
echo " Number is Divisible by 5 & 11 "
else
echo " Number is not Devisible by 5 & 11 "
fi
ubuntu@ip-172-31-22-35:~$ ./q4.sh
 Enter the Number : 55
 Number is Divisible by 5 & 11
ubuntu@ip-172-31-22-35:~$ ./q4.sh
 Enter the Number : 24
 Number is not Devisible by 5 & 11
ubuntu@ip-172-31-22-35:~$
```

5. Write a Shell Script to check whether a number is even or odd.

```
ubuntu@ip-172-31-41-250:~/assignment/personl/personl$ cat q5.sh
#Write a Shell Script to check whether a number is even or odd
read -p " Enter the number " n
n1=` expr $n % 2 `
if [ $n1 -eq 0 ]
then
echo " Number is even "
else
echo " Number is odd "
fi
ubuntu@ip-172-31-41-250:~/assignment/personl/personl$ ./q5.sh
 Enter the number 2
 Number is even
ubuntu@ip-172-31-41-250:~/assignment/personl/personl$ ./q5.sh
 Enter the number 3
 Number is odd
ubuntu@ip-172-31-41-250:~/assignment/personl/personl$
```

6. Write a Shell Script to check whether a year is leap year or not.

```
ubuntu@ip-172-31-41-250:~/assignment/personl/personl$ cat q6.sh
 # Write a Shell Script to check whether a year is leap year or not.
read -p " Enter the Year " y
m=$(( y % 4 ))
if [ $m -eq 0 ]
then
  echo "$y is leap year"
else
  echo "$y is not a leap year"
fi
ubuntu@ip-172-31-41-250:~/assignment/personl/personl$ ./q6.sh
 Enter the Year 2024
2024 is leap year
ubuntu@ip-172-31-41-250:~/assignment/personl/personl$ ./q6.sh
 Enter the Year 2023
2023 is not a leap year
ubuntu@ip-172-31-41-250:~/assignment/personl/personl$
```

7. Write shell script to check eligibility of candidate for voter id card

```
dbda@dbda-VirtualBox:~/assignment$ cat q7.sh
read -p " Enter age " a
if [ $a -eq 18 ]
then
 echo " elegible for voter id "
elif [ $a -gt 18 ]
then
echo " elegible for voter id "
else
echo " not elegible for voter id "
fi
dbda@dbda-VirtualBox:~/assignment$ ./q7.sh
 Enter age 18
 elegible for voter id
dbda@dbda-VirtualBox:~/assignment$ ./q7.sh
 Enter age 25
 elegible for voter id
dbda@dbda-VirtualBox:~/assignment$ ./q7.sh
 Enter age 17
 not elegible for voter id
dbda@dbda-VirtualBox:~/assignment$
```

8. Shell Script to display the first 10 natural numbers.
   Expected Output :
   1 2 3 4 5 6 7 8 9 10

```
dbda@dbda-VirtualBox:~/assignment$ cat q8.sh
#!/bin/bash
for (( a=1;a<=10;a++ ))
do
echo -n " $a "
done
echo " "

dbda@dbda-VirtualBox:~/assignment$ ./q8.sh
 1  2  3  4  5  6  7  8  9  10
dbda@dbda-VirtualBox:~/assignment$
```

9. Shell Script to compute the sum of the first 10 natural numbers.
   Expected Output :
   The first 10 natural number is :
   1 2 3 4 5 6 7 8 9 10
   The Sum is : 55

```
dbda@dbda-VirtualBox:~/assignment$ cat q9.sh
sum=0
for (( a=0;a<=10;a++ ))
do
sum=`expr $sum + $a`
done
echo "sum of First 10 natural no. is $sum "
dbda@dbda-VirtualBox:~/assignment$ ./q9.sh
sum of First 10 natural no. is 55
dbda@dbda-VirtualBox:~/assignment$
```

10. Shell Script to display n terms of natural numbers and their sum.
    Test Data : 7
    Expected Output :
    The first 7 natural number is :
    1 2 3 4 5 6 7
    The Sum of Natural Number upto 7 terms : 28

```
ubuntu@ip-172-31-22-35:~$ nano q10.sh
ubuntu@ip-172-31-22-35:~$ cat q10.sh
read -p " Enter number " num
echo " The First $num natural number is : "
for a in {1..7}
do
echo -n $a " "
done
 echo " "
n=$((num*(num+1)/2))
echo " The sum of Natural Number upto $num term : "$n
ubuntu@ip-172-31-22-35:~$ ./q10.sh
 Enter number 7
 The First 7 natural number is :
1  2  3  4  5  6  7
 The sum of Natural Number upto 7 term : 28
ubuntu@ip-172-31-22-35:~$
```

11. Shell Script to read 10 numbers from the keyboard and find their sum and average.
    Test Data :
    Input the 10 numbers :
    Number-1 :2
    ...
    Number-10 :2
    Expected Output :

The sum of 10 no is : 55
The Average is : 5.500000

```
dbda@dbda-VirtualBox:~/assignment$ nano q11.sh
dbda@dbda-VirtualBox:~/assignment$ cat q11.sh
for n in {1..10}
do
read -p "Enter Number$n::" n1
sum=$(( sum+n1))
done
echo " the sum of $num no is : $sum "
avg=`echo " scale=2;$sum / 10 " | bc`
echo " The Average is :: $avg "
dbda@dbda-VirtualBox:~/assignment$ ./q11.sh
Enter Number1::1
Enter Number2::2
Enter Number3::3
Enter Number4::4
Enter Number5::5
Enter Number6::6
Enter Number7::7
Enter Number8::8
Enter Number9::9
Enter Number10::10
 the sum of  no is : 55
 The Average is :: 5.50
dbda@dbda-VirtualBox:~/assignment$
```

12. Shell Script to display the cube of the number up to an integer.
    Test Data :
    Input number of terms : 5
    Expected Output :
    Number is : 1 and cube of the 1 is :1
    Number is : 2 and cube of the 2 is :8
    Number is : 3 and cube of the 3 is :27
    Number is : 4 and cube of the 4 is :64
    Number is : 5 and cube of the 5 is :125

```
dbda@dbda-VirtualBox:~/assignment$ nano q12.sh
dbda@dbda-VirtualBox:~/assignment$ cat q12.sh
echo "Enter number "
read -p " input number of terms "
for n in {1..5}
do echo " number is $n and cube of the $n is : " $(($n*$n*$n))
done

dbda@dbda-VirtualBox:~/assignment$ ./q12.sh
Enter number
 input number of terms 5
 number is 1 and cube of the 1 is :  1
 number is 2 and cube of the 2 is :  8
 number is 3 and cube of the 3 is :  27
 number is 4 and cube of the 4 is :  64
 number is 5 and cube of the 5 is :  125
dbda@dbda-VirtualBox:~/assignment$
```

13. Shell Script to display the multiplication table for a given integer.
    Test Data :
    Input the number (Table to be calculated) : 15
    Expected Output :
    15 X 1 = 15
    ...
    ...
    15 X 10 = 150

```
ubuntu@ip-172-31-22-35:~$ nano q13.sh
ubuntu@ip-172-31-22-35:~$ cat q13.sh
echo " Enter number "
read -p " Input the number : " num
for n in {1..10}
do
echo " $num x $n = " $((num*n))
done
ubuntu@ip-172-31-22-35:~$ ./q13.sh
 Enter number
 Input the number : 15
 15 x 1 =  15
 15 x 2 =  30
 15 x 3 =  45
 15 x 4 =  60
 15 x 5 =  75
 15 x 6 =  90
 15 x 7 =  105
 15 x 8 =  120
 15 x 9 =  135
 15 x 10 =  150
ubuntu@ip-172-31-22-35:~$
```

14. Shell Script to display the multiplier table vertically from 1 to n.
    Test Data :
    Input upto the table number starting from 1 : 8
    Expected Output :
    Multiplication table from 1 to 8
    1x1 = 1, 2x1 = 2, 3x1 = 3, 4x1 = 4, 5x1 = 5, 6x1 = 6, 7x1 = 7, 8x1 = 8
    ...
    1x10 = 10, 2x10 = 20, 3x10 = 30, 4x10 = 40, 5x10 = 50, 6x10 = 60, 7x10 = 70, 8x10 = 80

```
dbda@dbda-VirtualBox:~/assignment$ nano q14.sh
dbda@dbda-VirtualBox:~/assignment$ cat q14.sh
echo " Enter Data "
read -p " Input upto the table number starting from 1:" num
echo " Multiplication table from 1 to $sum "
for ((n=1;n<=10;n++))
do
 for (( m=1;m<=$num;m++))
do
echo -n $m"x"$n = $((n*m))
echo -n ","
done
echo " "
done
dbda@dbda-VirtualBox:~/assignment$ ./q14.sh
 Enter Data
 Input upto the table number starting from 1:10
 Multiplication table from 1 to
1x1 = 1,2x1 = 2,3x1 = 3,4x1 = 4,5x1 = 5,6x1 = 6,7x1 = 7,8x1 = 8,9x1 = 9,10x1 = 1
1x2 = 2,2x2 = 4,3x2 = 6,4x2 = 8,5x2 = 10,6x2 = 12,7x2 = 14,8x2 = 16,9x2 = 18,10x
1x3 = 3,2x3 = 6,3x3 = 9,4x3 = 12,5x3 = 15,6x3 = 18,7x3 = 21,8x3 = 24,9x3 = 27,10
1x4 = 4,2x4 = 8,3x4 = 12,4x4 = 16,5x4 = 20,6x4 = 24,7x4 = 28,8x4 = 32,9x4 = 36,1
1x5 = 5,2x5 = 10,3x5 = 15,4x5 = 20,5x5 = 25,6x5 = 30,7x5 = 35,8x5 = 40,9x5 = 45,
1x6 = 6,2x6 = 12,3x6 = 18,4x6 = 24,5x6 = 30,6x6 = 36,7x6 = 42,8x6 = 48,9x6 = 54,
1x7 = 7,2x7 = 14,3x7 = 21,4x7 = 28,5x7 = 35,6x7 = 42,7x7 = 49,8x7 = 56,9x7 = 63,
1x8 = 8,2x8 = 16,3x8 = 24,4x8 = 32,5x8 = 40,6x8 = 48,7x8 = 56,8x8 = 64,9x8 = 72,
1x9 = 9,2x9 = 18,3x9 = 27,4x9 = 36,5x9 = 45,6x9 = 54,7x9 = 63,8x9 = 72,9x9 = 81,
1x10 = 10,2x10 = 20,3x10 = 30,4x10 = 40,5x10 = 50,6x10 = 60,7x10 = 70,8x10 = 80,
dbda@dbda-VirtualBox:~/assignment$
```

15. Shell Script to display the n terms of odd natural numbers and their sum.

    Test Data
    Input number of terms : 10
    Expected Output :
    The odd numbers are :1 3 5 7 9 11 13 15 17 19
    The Sum of odd Natural Number upto 10 terms : 100

```
dbda@dbda-VirtualBox:~/assignment$ nano q15.sh
dbda@dbda-VirtualBox:~/assignment$ cat q15.sh
echo " data"
read -p " input number of terms : " num
echo -n " the odd number are : "
m=$((2*$num))
for ((n=1;n<=m;n++))
do
if [ $(($n%2)) -ne 0 ]
then
echo -n $n" "
sum=$((sum+$n))
fi
done
echo " "
echo " the sum of odd natural number upto $num terms : $sum"
dbda@dbda-VirtualBox:~/assignment$ ./q15.sh
 data
 input number of terms : 10
 the odd number are : 1 3 5 7 9 11 13 15 17 19
 the sum of odd natural number upto 10 terms : 100
dbda@dbda-VirtualBox:~/assignment$
```