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# Assignment-3

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

```
dbda@iacsd:~$ mkdir script && cd script
```

```
dbda@iacsd:~/script$ nano two.sh
```

```
#!/bin/bash
read -p "Enter Number 1: " num1
read -p "Enter Number 2: " num2
if [ $num1 -gt $num2 ]
then
        echo "The Maximum Number is: " $num1
else
        echo "The Maximum Number is: " $num2
fi
```

```
dbda@iacsd:~/script$ chmod u+x two.sh
```

```
dbda@iacsd:~/script$ ./two.sh
Enter Number 1: 11
Enter Number 2: 12
The Maximum Number is:  12
```

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

```
dbda@iacsd:~/script$ nano three.sh
```

```
#!/bin/bash
read -p "Enter Number 1: " num1
read -p "Enter Number 2: " num2
read -p "Enter Number 3: " num3
if [ $num1 -gt $num2 ] && [ $num1 -gt $num3 ]
then
        echo "The Maximum Number is: " $num1
elif [ $num2 -gt $num1 ] && [ $num2 -gt $num3 ]
then
        echo "The Maximum Number is: " $num2
else [ $num3 -gt $num1 ] && [ $num3 -gt $num2 ]
        echo "The Maximum Number is: " $num3
fi
```

```
dbda@iacsd:~/script$ chmod u+x three.sh
```

```
dbda@iacsd:~/script$ ./three.sh
Enter Number 1: 11
Enter Number 2: 12
Enter Number 3: 13
The Maximum Number is:  13
```

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

```
dbda@iacsd:~/script$ nano qthree.sh
```

```
#!/bin/bash
read -p "Enter the Number: " num
if [ $num -lt 0 ]
then
        echo "Number is Negative"
elif [ $num -eq 0 ]
then
        echo "Number is Zero"
else
        echo "Number is Positive"
fi
```

```
dbda@iacsd:~/script$ chmod u+x qthree.sh
```

```
dbda@iacsd:~/script$ ./qthree.sh
Enter the Number: 2
Number is Positive
dbda@iacsd:~/script$ ./qthree.sh
Enter the Number: 0
Number is Zero
dbda@iacsd:~/script$ ./qthree.sh
Enter the Number: -2
Number is Negative
```

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

```
dbda@iacsd:~/script$ nano qfour.sh
```

```
#!/bin/bash
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 divisible by 5 & 11"
fi
```

```
dbda@iacsd:~/script$ chmod u+x qfour.sh
```

```
dbda@iacsd:~/script$ ./qfour.sh
Enter the Number: 5
Number is not divisible by 5 & 11
dbda@iacsd:~/script$ ./qfour.sh
Enter the Number: 55
Number is Divisible by 5 & 11
```

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

```
dbda@iacsd:~/script$ nano qfive.sh
```

```
#!/bin/bash
read -p "Enter the Number: " num
n1=`expr $num % 2`
if [ $n1 -eq 0 ]
then
        echo "Number is Even"
else
        echo "Number is Odd"
fi
```

```
dbda@iacsd:~/script$ chmod u+x qfive.sh
```

```
dbda@iacsd:~/script$ ./qfive.sh
Enter the Number: 5
Number is Odd
dbda@iacsd:~/script$ ./qfive.sh
Enter the Number: 4
Number is Even
```

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

```
dbda@iacsd:~/script$ nano qsix.sh
```

```
#!/bin/bash
read -p "Enter the Year: " num
n1=`expr $num % 4`
n2=`expr $num % 400`
if [ $n1 -eq 0 ] && [ $n2 -eq 0 ]
then
        echo "Leap Year"
else
        echo "not a Leap Year"
fi
```

```
dbda@iacsd:~/script$ chmod u+x qsix.sh
```

```
dbda@iacsd:~/script$ ./qsix.sh
Enter the Year: 1900
not a Leap Year
dbda@iacsd:~/script$ ./qsix.sh
Enter the Year: 2000
Leap Year
```

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

```
dbda@iacsd:~/script$ nano qseven.sh
```

```
#!/bin/bash
read -p "Enter your Age: " num
if [ $num -lt 18 ]
then
        echo "Not Eligible"
else
        echo "Eligible"
fi
```

```
dbda@iacsd:~/script$ chmod u+x qseven.sh
dbda@iacsd:~/script$ ./qseven.sh
Enter your Age: 12
Not Eligible
dbda@iacsd:~/script$ ./qseven.sh
Enter your Age: 32
Eligible
```

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

```
dbda@iacsd:~/script$ nano qeight.sh
```

```
#!/bin/bash
for a in 1 2 3 4 5 6 7 8 9 10
do
        echo -n $a" "
done
echo " "
```

```
dbda@iacsd:~/script$ chmod u+x qeight.sh
```

```
dbda@iacsd:~/script$ ./qeight.sh
1 2 3 4 5 6 7 8 9 10
```

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@iacsd:~/script$ nano qnine.sh
```

```
#!/bin/bash
echo "The first 10 natural number is :"
for a in {1..10}
do
        echo -n $a" "
done
echo " "
n1=$((10*11/2))
echo "The Sum is : "$n1
```

```
dbda@iacsd:~/script$ chmod u+x qnine.sh
```

```
dbda@iacsd:~/script$ ./qnine.sh
The first 10 natural number is :
1 2 3 4 5 6 7 8 9 10
The Sum is : 55
```

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

```
dbda@iacsd:~/script$ nano qten.sh
```

```
#!/bin/bash
read -p "Test Data : " 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 "$num" terms : "$n
```

```
dbda@iacsd:~/script$ chmod u+x qten.sh
```

```
dbda@iacsd:~/script$ ./qten.sh
Test Data : 7
The first 7 natural number is :
1 2 3 4 5 6 7
The Sum of Natural Number upto 7 terms : 28
```

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@iacsd:~/script$ nano qeleven.sh
```

```
#!/bin/bash
read -p "Test Data : " num
echo "Input the $num numbers : "
for n in {1..10}
do
        read -p "Number-$n: " n1
        sum=$((sum+n1))
done
echo "The sum of $num no is : $sum"
avg=`echo "scale=2; $sum / $num" | bc`
echo "The Average is : $avg"
```

```
dbda@iacsd:~/script$ chmod u+x qeleven.sh
```

```
dbda@iacsd:~/script$ ./qeleven.sh
Test Data : 10
Input the 10 numbers :
Number-1: 2
Number-2: 2
Number-3: 2
Number-4: 2
Number-5: 2
Number-6: 2
Number-7: 2
Number-8: 2
Number-9: 2
Number-10: 2
The sum of 10 no is : 20
The Average is : 2.00
```

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@iacsd:~/script$ nano qtwelve.sh
```

```
#!/bin/bash
echo "Test Data : "
read -p "Input number of terms : " num
for n in {1..5}
do
        echo "Number is : $n and cube of the $n is : " $(($n*$n*$n))
done
```

```
dbda@iacsd:~/script$ chmod u+x qtwelve.sh
dbda@iacsd:~/script$ ./qtwelve.sh
Test Data :
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
```

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

```
dbda@iacsd:~/script$ nano qthirteen.sh
```

```
#!/bin/bash
echo "Test Data : "
read -p "Input the number : " num
for n in {1..10}
do
        echo "$num X $n = "$(($num*$n))
done
```

```
dbda@iacsd:~/script$ chmod u+x qthirteen.sh
```

```
dbda@iacsd:~/script$ ./qthirteen.sh
Test Data :
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
```

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@iacsd:~/script$ nano qfourteen.sh
```

```
#!/bin/bash
echo "Test Data : "
read -p "Input upto the table number starting from 1:" num
echo "Multiplication table from 1 to $num"
for((n=1;n<=10;n++))
do
        for((m=1;m<=$num;m++))
        do
                echo -n $m"X"$n = $(($n*$m))
                echo -n ", "
        done
echo " "
done
```

```
dbda@iacsd:~/script$ chmod u+x qfourteen.sh
```

```
dbda@iacsd:~/script$ ./qfourteen.sh
Test Data :
Input upto the table number starting from 1:8
Multiplication table from 1 to 8
1X1 = 1, 2X1 = 2, 3X1 = 3, 4X1 = 4, 5X1 = 5, 6X1 = 6, 7X1 = 7, 8X1 = 8,
1X2 = 2, 2X2 = 4, 3X2 = 6, 4X2 = 8, 5X2 = 10, 6X2 = 12, 7X2 = 14, 8X2 = 16,
1X3 = 3, 2X3 = 6, 3X3 = 9, 4X3 = 12, 5X3 = 15, 6X3 = 18, 7X3 = 21, 8X3 = 24,
1X4 = 4, 2X4 = 8, 3X4 = 12, 4X4 = 16, 5X4 = 20, 6X4 = 24, 7X4 = 28, 8X4 = 32,
1X5 = 5, 2X5 = 10, 3X5 = 15, 4X5 = 20, 5X5 = 25, 6X5 = 30, 7X5 = 35, 8X5 = 40,
1X6 = 6, 2X6 = 12, 3X6 = 18, 4X6 = 24, 5X6 = 30, 6X6 = 36, 7X6 = 42, 8X6 = 48,
1X7 = 7, 2X7 = 14, 3X7 = 21, 4X7 = 28, 5X7 = 35, 6X7 = 42, 7X7 = 49, 8X7 = 56,
1X8 = 8, 2X8 = 16, 3X8 = 24, 4X8 = 32, 5X8 = 40, 6X8 = 48, 7X8 = 56, 8X8 = 64,
1X9 = 9, 2X9 = 18, 3X9 = 27, 4X9 = 36, 5X9 = 45, 6X9 = 54, 7X9 = 63, 8X9 = 72,
1X10 = 10, 2X10 = 20, 3X10 = 30, 4X10 = 40, 5X10 = 50, 6X10 = 60, 7X10 = 70, 8X10 = 80,
dbda@iacsd:~/script$
```

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@iacsd:~/script$ nano qfiveteen.sh
```

```
#!/bin/bash
echo "Test Data"
read -p "Input number of terms : " num
echo -n "The odd numbers 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@iacsd:~/script$ chmod u+x qfiveteen.sh
```

```
dbda@iacsd:~/script$ ./qfiveteen.sh
Test Data
Input number of terms : 10
The odd numbers are : 1 3 5 7 9 11 13 15 17 19
The Sum of odd Natural Number upto 10 terms : 100
```