Assignment:04 :Loop

1)

```java
// program for taking input from user and find natrual numbers
import java.io.*;
class InputAssign1
{
        public static void main(String[] args) throws IOException
        {
                BufferedReader br = new BufferedReader(new InputStreamReader(System.in));
                System.out.println("Enter Lower limit of natural numbers: ");
                int low = Integer.parseInt(br.readLine());

                System.out.println("Enter Upper limit of natural numbers: ");
                int upp = Integer.parseInt(br.readLine());

                for(int i=low; i<=upp; i++ )
                {
                        System.out.print(i+", ");
                }
        }
}
~
~
~
~
```

Output:

```
nivrutti17@DESKTOP-VG4KRH9:/mnt/e/java/8inputoutput$ javac 1program1.java
nivrutti17@DESKTOP-VG4KRH9:/mnt/e/java/8inputoutput$ java InputAssign1
Enter Lower limit of natural numbers:
10
Enter Upper limit of natural numbers:
15
10, 11, 12, 13, 14, 15, nivrutti17@DESKTOP-VG4KRH9:/mnt/e/java/8inputoutput$
```

2)

```
nivrutti17@DESKTOP-VG4KRH9: /mnt/e/java/8inputoutput                    —    □

// program for taking input and print even numbers in between rangs

import java.io.*;
class InputAssign2
{
        public static void main(String[] args) throws IOException
        {
                BufferedReader br = new BufferedReader(new InputStreamReader(System.in));

                System.out.println("Enter lower limit: ");
                int low =Integer.parseInt(br.readLine());

                System.out.println("Enter upper limit: ");
                int upp = Integer.parseInt(br.readLine());

                System.out.println("Output:");

                for(int i=low; i<=upp; i++)
                {
                        if(i%2==0)
                        {
                                System.out.print(i+", ");
                        }
                }
        }
}
"1program2.java" 26L, 559C                                          3,17
```

Output:

```
nivrutti17@DESKTOP-VG4KRH9: /mnt/e/java/8inputoutput

nivrutti17@DESKTOP-VG4KRH9:/mnt/e/java/8inputoutput$ vim 1program2.java
nivrutti17@DESKTOP-VG4KRH9:/mnt/e/java/8inputoutput$ javac 1program2.java
nivrutti17@DESKTOP-VG4KRH9:/mnt/e/java/8inputoutput$ java InputAssign2
Enter lower limit:
10
Enter upper limit:
15
Output:
10, 12, 14, nivrutti17@DESKTOP-VG4KRH9:/mnt/e/java/8inputoutput$ _
```

3)

```java
// program for taking input and print sum of natural numbers in between range.

import java.io.*;
class InputAssign3
{
        public static void main(String[] args) throws IOException
        {
                BufferedReader br = new BufferedReader(new InputStreamReader(System.in));

                System.out.println("Enter lower limit: ");
                int low =Integer.parseInt(br.readLine());

                System.out.println("Enter upper limit: ");
                int upp = Integer.parseInt(br.readLine());

                System.out.println("Output:");

                int sum=0;
                for(int i=low; i<=upp; i++)
                {
                        sum=sum+i;

                }
                System.out.println(sum);
        }
}
```

Output:

```
nivrutti17@DESKTOP-VG4KRH9:/mnt/e/java/8inputoutput$ vim 1program3.java
nivrutti17@DESKTOP-VG4KRH9:/mnt/e/java/8inputoutput$ javac 1program3.java
nivrutti17@DESKTOP-VG4KRH9:/mnt/e/java/8inputoutput$ java InputAssign3
Enter lower limit:
1
Enter upper limit:
10
Output:
55
nivrutti17@DESKTOP-VG4KRH9:/mnt/e/java/8inputoutput$
```

4)

```
// program for take input and print product of natural numbers within the range

import java.io.*;
class InputAssign4
{
        public static void main(String[] args) throws IOException
        {
                BufferedReader br = new BufferedReader(new InputStreamReader(System.in));

                System.out.println("Enter lower limit: ");
                int low = Integer.parseInt(br.readLine());

                System.out.println("Enter upper limit: ");
                int upp = Integer.parseInt(br.readLine());

                System.out.println("Product of entered natural numbers");
                int product=1;
                for(int i=low; i<= upp; i++)
                {
                        product=product*i;
                }
                System.out.println(product);
        }
}
```

Output:

```
nivrutti17@DESKTOP-VG4KRH9:/mnt/e/java/8inputoutput$ vim 1program4.java
nivrutti17@DESKTOP-VG4KRH9:/mnt/e/java/8inputoutput$ javac 1program4.java
nivrutti17@DESKTOP-VG4KRH9:/mnt/e/java/8inputoutput$ java InputAssign4
Enter lower limit:
1
Enter upper limit:
10
Product of entered natural numbers
3628800
nivrutti17@DESKTOP-VG4KRH9:/mnt/e/java/8inputoutput$ vim 1program4.java
nivrutti17@DESKTOP-VG4KRH9:/mnt/e/java/8inputoutput$ _
```

5)

```java
// program for find frequency of digit taken form user
import java.io.*;
class InputAssign5
{
        public static void main(String[] args) throws IOException
        {
                BufferedReader br = new BufferedReader(new InputStreamReader(System.in));

                System.out.println("Enter a number: ");
                int var = Integer.parseInt(br.readLine());
                System.out.println("frequency of digits");
                int x;          //count of digits
                int y;
                int digit;
                for(int i=0; i<=9;i++)
                {
                        x=0;
                        y=var;
                        while(y>0)
                        {
                                digit=y%10;
                                if(digit==i)
                                {
                                        x++;
                                }
                                y=y/10;
                        }
                        if(x>0)
                        {
                                System.out.println("Frequency of "+i+":   "+x);
                        }
                }
        }
}
```

Output:

```
nivrutti17@DESKTOP-VG4KRH9:/mnt/e/java/8inputoutput$ vim 1program5.java

nivrutti17@DESKTOP-VG4KRH9:/mnt/e/java/8inputoutput$ javac 1program5.java
nivrutti17@DESKTOP-VG4KRH9:/mnt/e/java/8inputoutput$ java InputAssign5
Enter a number:
1231100
frequency of digits
Frequency of 0:  2
Frequency of 1:  3
Frequency of 2:  1
Frequency of 3:  1
nivrutti17@DESKTOP-VG4KRH9:/mnt/e/java/8inputoutput$
```

6)

```java
// check given number is palindrome or not

import java.io.*;
class InputAssign6
{
        public static void main(String[] args) throws IOException
        {
                BufferedReader br = new BufferedReader(new InputStreamReader(System.in));

                System.out.println("Enter number to find it is palindrome or not:");
                int no = Integer.parseInt(br.readLine());
                int d;
                int s=0;
                int t;

                t=no;
                while(no!=0)
                {
                        d=no%10;
                        no=no/10;
                        s=s*10+d;
                }
                if(s==t)
                {
                        System.out.println("Given number is palindrome");
                }
                else
                        System.out.println("Given number is not palindrome");

        }
}
~
~
```

```
nivrutti17@DESKTOP-VG4KRH9:/mnt/e/java/8inputoutput$ vim 1program6.java
nivrutti17@DESKTOP-VG4KRH9:/mnt/e/java/8inputoutput$ javac 1program6.java
nivrutti17@DESKTOP-VG4KRH9:/mnt/e/java/8inputoutput$ java InputAssign6
Enter number to find it is palindrome or not:
151
151 is palindrome number
nivrutti17@DESKTOP-VG4KRH9:/mnt/e/java/8inputoutput$ java InputAssign6
Enter number to find it is palindrome or not:
153
153 is not palindrome number
nivrutti17@DESKTOP-VG4KRH9:/mnt/e/java/8inputoutput$ _
```

7)

8)

```java
// program for taking input from user and reverse it

import java.io.*;
class InputAssign8
{
        public static void main(String[] args) throws IOException
        {
                BufferedReader br = new BufferedReader(new InputStreamReader(System.in));
                System.out.println("Enter number you want to reverse: ");

                int num = Integer.parseInt(br.readLine());

                int rev =0;
                int x;   // remainder
                /*while(num > 0)
                {
                        x = num%10;
                        rev = rev*10+x;
                        num = num/10;
                }*/


                //using for loop

                for(num!= 0; num=num/10)
                {
                        int x = num % 10;
                        rev = rev*10 + x;
                }
                System.out.println("The reverse of the given number is: "+ rev);
        }
}
~
~
~
~
```

```
nivrutti17@DESKTOP-VG4KRH9:/mnt/e/java/8inputoutput$ vim 1program8.java
nivrutti17@DESKTOP-VG4KRH9:/mnt/e/java/8inputoutput$ vim 1program8.java
nivrutti17@DESKTOP-VG4KRH9:/mnt/e/java/8inputoutput$ javac 1program8.java
nivrutti17@DESKTOP-VG4KRH9:/mnt/e/java/8inputoutput$ java InputAssign8
Enter number you want to reverse:
123
The reverse of the given number is: 321
nivrutti17@DESKTOP-VG4KRH9:/mnt/e/java/8inputoutput$
```