Assingment-4

1.Write a program to print numbers from 1 to 10.

```
1.  public class Use_For_Loop
2. {
3.     public static void main(String[] args)
4.     {
5.         for(int i = 1; i <= 10; i++)
6.         {
7.             System.out.println(i);
8.         }
9.     }
10. }
```

Output:

```
$ javac Use_For_Loop.java
$ java Use_For_Loop
```

```
1
2
3
4
5
6
7
8
9
10
```

2. Write a program to calculate the sum of first 10 natural number.

```
11.     public class SumOfNaturalNumber1
12.     {
13.     public static void main(String[] args)
14.     {
15.     int i, num = 10, sum = 0;
16.     //executes until the condition returns true
17.     for(i = 1; i <= num; ++i)
18.     {
```

```
19.      //adding the value of i into sum variable
20.      sum = sum + i;
21.      }
22.      System.out.println("Sum of First 10 Natural Numbers is = " +
   sum);
23.      }
24.      }
```

Output:

```
Sum of first 10 natural number is=55
```

3. Write a program that prompts the user to input a positive integer. It should then print the multiplication table of that number.

```
import java.util.Scanner;
public class JavaApplication67 {

   public static void main(String[] args) {
       Scanner scan = new Scanner(System.in);
       System.out.print("Enter a positive integer: ");
       int num = scan.nextInt();
       while (num < 0){
           System.out.println("Please only enter positive
numbers!");
           num = scan.nextInt();
       }

       for (int i = 0; i <= 10; i++){
```

```
            System.out.println(num*i);
        }

    }

}
```

4. Write a program to find the factorial value of any number entered through the keyboard.

```
public class Factorial {

    public static void main(String[] args) {

        int num = 10;
        long factorial = 1;
        for(int i = 1; i <= num; ++i)
        {
            // factorial = factorial * i;
            factorial *= i;
        }
        System.out.printf("Factorial of %d = %d", num, factorial);
    }
}
```

Output

```
Factorial of 10 = 3628800
```

5. Two numbers are entered through the keyboard. Write a program to find the value of one number raised to the power of another. (Do not use Java built-in method)

```
import java.util.Scanner;
public class power {
   public static void main(String[] args) {
       Scanner sc = new Scanner(System.in);
       System.out.println("ENTER THE NO. ");
       int n1 = sc.nextInt();
       System.out.println("ENTER THE POWER FOR THAT NO.");
       int n2 = sc.nextInt();
       int power = 1;
       if (n2 >= 1) {
           for (int i = 1; i <= n2; i++) {
               power = power * n1;
           }
           System.out.println(power);
       }
   }
}
```

6. Write a program that prompts the user to input an integer and then outputs the number with the digits reversed. For example, if the input is 12345, the output should be 54321.

```
import java.util.Scanner;
public class JavaLoopExcercise
{
public static void main(String[] args)
{
```

```
Scanner console = new Scanner(System.in);
int number;
int reverse = 0;
System.out.print("Enter the number ");
number = console.nextInt();
int temp = number;
int remainder = 0;
while(temp>0)
{
remainder = temp % 10;
reverse = reverse * 10 + remainder;
temp /= 10;
}
System.out.println("Reverse of " + number + " is " + reverse);
}
}
```

Output:

Enter the no is:12345

Reverse of:54321

7. Write a program that reads a set of integers, and then prints the sum of the even and odd integers.

```
import java.util.Scanner;
public class JavaLoopExcercise
{
public static void main(String[] args)
{
Scanner console = new Scanner(System.in);
int number;
char choice;
```

```
int even = 0;
int odd = 0;
do
{
System.out.print("Enter any number ");
number = console.nextInt();
if( number % 2 == 0)
{
even += number;
}
else
{
odd += number;
}
System.out.print("Do you want to continue y/n? ");
choice = console.next().charAt(0);
}while(choice=='y' || choice == 'Y');
System.out.println("Sum of even numbers: " + even);
System.out.println("Sum of odd numbers: " + odd);
}
}
```

8. Write a program that prompts the user to input a positive integer. It should then output a message indicating whether the number is a prime number.

```
    import java.util.Scanner;
class PrimeCheck
{
   public static void main(String args[])
   {
       int temp;
       boolean isPrime=true;
       Scanner scan= new Scanner(System.in);
       System.out.println("Enter any number:");
       int num=scan.nextInt();
```

```
        scan.close();
      for(int i=2;i<=num/2;i++)
      {
           temp=num%i;
         if(temp==0)
         {
            isPrime=false;
            break;
         }
      }

      if(isPrime)
         System.out.println(num + " is a Prime Number");
      else
         System.out.println(num + " is not a Prime Number");
   }
}
```

Output:

```
Enter any number:
19
19 is a Prime Number
```

Output 2:

```
Enter any number:
6
6 is not a Prime Number
```

9.Write a program to calculate HCF of Two given number

```
class Main
{
  public static void main (String[]args)
  {
    int num1 = 36, num2 = 60, hcf=0;

    for (int i = 1; i <= num1 || i <= num2; i++)
      {
     if (num1 % i == 0 && num2 % i == 0)
        hcf = i;
      }

    System.out.println("The HCF: "+ hcf);
  }
}
```

Output:

HCF of 36 and 60 is 12

10. Write a do-while loop that asks the user to enter two numbers. The numbers should be added and the sum displayed. The loop should ask the user whether he or she wishes to perform the operation again. If so, the loop should repeat; otherwise it should terminate.

```
import java.util.Scanner;
 public class TestClock {
 public static void main(String[] args) {
 Scanner in = new Scanner(System.in);
 int sum = 0;
 char op;
  do{
 System.out.println("Enter two numbers");
   int num1= in.nextInt();
 int num2 = in.nextInt();
 sum = sum+num1+num2;
 System.out.println("Do you wish to perform another operation, Y/N");
   op =in.next().charAt(0);
 }
while(op =='Y'||op=='y');
System.out.println("sum "+sum);
 }
}
```

11. Write a program to enter the numbers till the user wants and at the end it should display the count of positive, negative and zeros entered.

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```
import java.util.Scanner;
public class JavaLoopExcercise
{
public static void main(String[] args)
{
Scanner console = new Scanner(System.in);
int number,
countPositive = 0,
countNegative = 0,
countZero = 0;
char choice;
do
{
System.out.print("Enter the number ");
number = console.nextInt();
if(number > 0)
{
countPositive++;
}
else if(number < 0)
{
countNegative++;
}
else
{
countZero++;
}
System.out.print("Do you want to continue y/n? ");
choice = console.next().charAt(0);
}while(choice=='y' || choice == 'Y');
System.out.println("Positive numbers: " + countPositive);
System.out.println("Negative numbers: " + countNegative);
```

```
System.out.println("Zero numbers: " + countZero);
}
}
```

12. Write a program to enter the numbers till the user wants and at the end the program should display the largest and smallest numbers entered.

```
import java.util.Scanner;
public class JavaLoopExcercise
{
public static void main(String[] args)
{
Scanner console = new Scanner(System.in);
int number;
int max = Integer.MIN_VALUE;
int min = Integer.MAX_VALUE;
char choice;
do
{
System.out.print("Enter the number ");
number = console.nextInt();
if(number > max)
{
max = number;
}
if(number < min)
{
min = number;
}
System.out.print("Do you want to continue y/n? ");
choice = console.next().charAt(0);
}while(choice=='y' || choice == 'Y');
```

```
System.out.println("Largest number: " + max);

System.out.println("Smallest number: " + min);

}

}
```