Assignment-Loops

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

Program.

```
public class Loops {
public static void main(String[] args) {
     for(int a=1;a<=10;a++)
          System.out.print(a+"  ");
}
}
```

Output:

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

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

```
public class Loops {
public static void main(String[] args) {
     int sum=0;
     for(int a=1;a<=10;a++)
          sum = a+sum;
          System.out.print("Sum of 10 numbers"+sum);
}
}
```

Output

```
Sum of 1to10 numbers :55
```

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

```
public class Loops {
public static void main(String[] args) {

       Scanner ss = new Scanner(System.in);

       System.out.print("Input a number: ");
       int num1 = ss.nextInt();

       for (int i=0; i< 10; i++)
       {
        System.out.println(num1 + " * " + (i+1) + " =
" + (num1 * (i+1)));
```

```
        }

}

}
```

Output

```
Input a number: 12
12 * 1 = 12
12 * 2 = 24
12 * 3 = 36
12 * 4 = 48
12 * 5 = 60
12 * 6 = 72
12 * 7 = 84
12 * 8 = 96
12 * 9 = 108
12 * 10 = 120
```

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

```
public class Loops {
    public static void main(String[] args) {
        int count = 1;
        Scanner r = new Scanner(System.in);
        System.out.println("Enter a number:");
        float num = r.nextFloat();
        for (int i = 1; i <= num; i++) {
            count = count * i;
        }
        System.out.println("Factorial number
is:"+count);

}

}
```

Output:

```
Enter a number:
6
Factorial number is:720
```

Assignment-Loops

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)

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.

```
public class Loops {
    public static void main(String[] args) {
        Scanner rn = new Scanner(System.in);
        System.out.println("Enter a number");
        int n = rn.nextInt();
        int a, i = 0, j = 0;
        a = n;
        while (a > 0) //123>0
        {
        i = a % 10;//123%10=3
        j = (j * 10) + i;//0*10=0+3=3 (3*10)+2=32
(32*10)+2=321
        a = a / 10;//123/10=12
        }
        System.out.println("Reverse number is=" + j);
```

Output

```
Enter a number
123
Reverse number is=321
```

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

Program:

```
import java.util.Scanner;

public class Even_Odd {
    public static void main(String[] args) {
        int num = 0, even = 0, odd = 0;
        Scanner j = new Scanner(System.in);
        System.out.println("Enter the Range of
number");
```

```
            int e = j.nextInt();
            for (int i = 1; i <= e; i++) {
                System.out.print("Enter the number:");
                int ec = j.nextInt();
                if (ec % 2 == 0)
                    even += ec;
                else
                    odd += ec;
            }
            System.out.println("----------------------");
            System.out.println("Sum of even numbers:" +
even);
            System.out.println("Sum of odd numbers:" +
odd);

        }

}
```

Output:

```
Enter the Range of number
4
Enter the number:6
Enter the number:9
Enter the number:3
Enter the number:4
----------------------
Sum of even numbers:10
Sum of odd numbers:12
```

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.

Program:

```
import java.util.Scanner;

public class Prime_Or_Not {
    public static void main(String[] args) {
            int count=0;
            Scanner sc = new Scanner(System.in);
            System.out.print("Enter a Number:");
            int num = sc.nextInt();

            for(int i=1;i<=num;i++) //1<=4
```

```
            {
                if(num%i==0) //4%1
                    count++;
            }
            if(count==2) {
                System.out.println(num+" is a Prime
Number");
            }
            else {
                System.out.println(num+" is  Not a Prime
Number");
            }
            sc.close();
        }
}
```

Output

```
Enter a Number:7
7 is a Prime Number
```

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

Program

```
import java.util.Scanner;

public class HCF {

    public static void main(String[] args) {
        int hcf = 0;
        Scanner gg = new Scanner(System.in);
        System.out.println("Enter the two numbers");
        int a = gg.nextInt();
        int b = gg.nextInt();

        for (int i = 1; i <= a || i <= b; i++) {
            if ((a % i == 0) && (b % i == 0))
                hcf = i;
        }
        System.out.println("HCF is " + hcf);

    }

}
```

Output

```
Enter the two numbers
12
30
HCF is 6
```

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.

Program:

```
import java.util.Scanner;

public class Sumofnumber {
    public static void main(String[] args) {
        int sum;
        char ch1;
        do {
            Scanner q = new Scanner(System.in);
            System.out.println("Enter the two
numbers");
            int add = q.nextInt();
            int add2 = q.nextInt();
            sum = add + add2;
            System.out.println("Adding two numbers:"
+ sum);
            System.out.println("press y to continue
else press n");
            ch1 = q.next().charAt(0);
        } while (ch1 == 'y' || ch1 == 'Y');
        {
            System.out.println("Thank You!");
        }
    }
}
```

Output:

```
Enter the two numbers
9
54
Adding two numbers:63
press y to continue else press n
```

```
y
Enter the two numbers
32
10
Adding two numbers:42
press y to continue else press n
n
Thank You!
```

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

Program :

```
import java.util.Scanner;

public class Numbers {
    public static void main(String[] args) {
        int positive = 0, negative = 0, zero = 0;

        char c;
        do {
            Scanner b = new Scanner(System.in);
            System.out.println("Enter the Number");
            int n = b.nextInt();

            if (n > 0) {
                positive++;
            } else if (n < 0) {
                negative++;
            } else {
                zero++;
            }

            System.out.println("Do you want to
continue y else press n");
            c = b.next().charAt(0);
        } while (c == 'y' || c == 'Y');
        System.out.println("Positive Numbers:" +
positive);
        System.out.println("negative Numbers:" +
negative);
        System.out.println("zero:" + zero);
    }
}
```

Output:

```
Enter the Number
5
Do you want to continue y else press n
y
Enter the Number
0
Do you want to continue y else press n
y
Enter the Number
-5
Do you want to continue y else press n
n
Positive Numbers:1
negative Numbers:1
zero:1
```

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

Program :

```
import java.util.Scanner;

public class Smallest_Largest {
    public static void main(String[] args) {
        int i = 0,large=0,small=0;
        char c1;
        int num;
        do {
            Scanner g = new Scanner(System.in);
            System.out.println("Enter the number:");
            num=g.nextInt();

        if(num>large) {
            large=num;
        }
        else if(large>small) {
            small=num;
        }
        System.out.println("press y to continue or
press n");
```

```
            c1 = g.next().charAt(0);
            }while(c1=='y'||c1=='Y');
            System.out.println("Largest number:"+large);
            System.out.println("Smallest number:"+small);
    }

}
```

Output

```
Enter the number:
6
press y to continue or press n
y
Enter the number:
-3
press y to continue or press n
n
Largest number:6
Smallest number:-3
```