GANGADHAR _GANDIPADALA

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

program :

```
package assignment_4_Loops;


import java.util.Scanner;


public class NumbersInSequence {
// to print number in a sequence(1 to 10)  within a given range
	public static void main(String[] args) {
		// TODO Auto-generated method stub
		for (int i = 1; i <= 10; i++)// i=1, 1<=10(true),prints 1 then, i++ loop repeats
		{
			System.out.println(i);// numbers from 1 to 10 are printed
		}
	}


}
```

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

program :

```
package assignment_4_Loops;


public class NaturalNumberAddition {
// sum of first ten natural numbers
	// number means set of positive integers 1 to infinity
	public static void main(String[] args) {
		// TODO Auto-generated method stub
```

```java
        int sum = 0;

        for (int i = 1; i <= 10; i++) {

                sum += i;

        }

        System.out.println(sum);

    }


}
```

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

program :

```java
package assignment_4_Loops;


import java.util.Scanner;


public class MultiplicationTable {
// to print multiplication table by taking input from the user

        public static void main(String[] args) {

                // TODO Auto-generated method stub

                Scanner scanner = new Scanner(System.in);

                System.out.println("enter the number for multiplication : ");

                int num = scanner.nextInt();// reading input from the keyboard or user

                for (int i = 1; i <= 20; i++) {

                        System.out.println(num + "x" + i + "=" + (num * i));

                }

        }


}
```

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

program:

package assignment_4_Loops;

import java.util.Scanner;

public class FactorialOfNumber {

// to print factorial of a given number   by taking input from the user

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

        // TODO Auto-generated method stub

        Scanner scanner = new Scanner(System.in);

        System.out.println("Enter a number for its factorial value :");

        int num = scanner.nextInt();

        int fact = 1;

        while (num > 0) {

                fact *= num;// num=5 num>0(true) fact=1*5 and num =4 repeats the loop

                num--;

        }

        System.out.println("factorial of given number : " + fact);

}
```

}

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)

program:

package assignment_4_Loops;

import java.util.Scanner;

public class PowerOfNumber {

```
// to print the power of the number

public static void main(String[] args) {

        // TODO Auto-generated method stub

        Scanner scanner = new Scanner(System.in);

        System.out.println("enter a number :");

        int num1 = scanner.nextInt();

        System.out.println("enter a power number : ");

        int num2 = scanner.nextInt();

        int powerNumber = 1;

        for (int i = 1; i <= num2; i++) {

                powerNumber *= num1;

        }

        System.out.println(" power the number is : " + powerNumber);

    }


}
```

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.

program:

```
package assignment_4_Loops;


import java.util.Scanner;


public class ReversingNumber {
// reversing a number

public static void main(String[] args) {

        // TODO Auto-generated method stub

        Scanner scanner = new Scanner(System.in);

        System.out.println("enter the number to reverse it : ");
```

```java
                int num = scanner.nextInt();

                int num1 = num;

                int rev = 1;

                int remainder = 0;

                while (num > 0) {

                        remainder = num % 10;

                        // remainder is store in variable and printed evey time loop repeats

                        rev = rev * 10 + remainder;

                        num = num / 10;// 20/10

                }

                if (num1 == rev) {

                        System.out.println("it is ");

                }

        }


}
```

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

program:

```java
package assignment_4_Loops;


import java.util.Scanner;


//  to print sum of even and odd digit in given number taken from the user
public class SumOfEvenAndOddDigits {
// to perform addition of even and odd digits of given number from the user
        public static void main(String[] args) {
                // TODO Auto-generated method stub


                int eveSum = 0, oddSum = 0;
```

```java
        Scanner scanner = new Scanner(System.in);

        System.out.println("enter a number : ");

        int num = scanner.nextInt();

        int num2 = num;

        while (num > 0) {

                int rem = num % 10;

                if (rem % 2 == 0)

                        eveSum += rem;

                else

                        oddSum += rem;

                num /= 10;

        }

        System.out.println("sum of even number in " + num2 + ":" + eveSum);

        System.out.println("sum of odd number in " + num2 + ":" + oddSum);

    }


}
```

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:

package assignment_4_Loops;

import java.util.Scanner;

public class PrimeNUmber {

// to check given number is prime or not

        public static void main(String[] args) {

                // TODO Auto-generated method stub

```java
            int count = 0;

            Scanner scanner = new Scanner(System.in);

            System.out.println("enter a number : ");

            int num = scanner.nextInt();

            for (int i = 1; i <= num; i++) {

                    if (num % i == 0)

                            count++;

            }

            if (count == 2)

                    System.out.println("it is a prime number ");

            else

                    System.out.println("it is not a prime number ");

    }


}
```

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

program:

```java
package assignment_4_Loops;


import java.util.Scanner;


public class HcfOfTwoNumbers {
// to find hcf of a given numbers
        public static void main(String[] args) {

                // TODO Auto-generated method stub

                Scanner scanner = new Scanner(System.in);

                System.out.println("enter 1st number : ");

                int num1 = scanner.nextInt();

                System.out.println("enter 2nd number : ");
```

```java
            int num2 = scanner.nextInt();

            int hcf = 0;

            for (int i = 1; i <= num1 || i <= num2; i++) {

                    if (num1 % i == 0 && num2 % i == 0) {


                            hcf = i;

                    }

            }

            System.out.println("hcf of " + num1 + " and " + num2 + "is : " + hcf);

        }


}
```

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:

```java
package assignment_4_Loops;


import java.util.Scanner;


public class AdditionOfTwoNumbers {
// addition of two number taken from the user ask to do again or exit
        public static void main(String[] args) {

                int exit;

                // TODO Auto-generated method stub

                Scanner scanner = new Scanner(System.in);


                do {
```

```java
System.out.println("enter a number :");

int num1 = scanner.nextInt();

System.out.println("enter a number : ");

int num2 = scanner.nextInt();

int total = num1 + num2;// addition operation

System.out.println("Addtion of two number is : " + total);// printing output


System.out.println("enter  1 to continue or 0 to exit ");

exit = scanner.nextInt();
} while (exit == 1);// if input matches loop repeats
System.out.println("Thank you!!!");


}


}
```

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.

program:

```java
package assignment_4_Loops;


import java.util.Scanner;


public class CountOfPositiveNegativeAndZero {
// to count positive ,negative and Zero from the user input
    public static void main(String[] args) {
        // TODO Auto-generated method stub
        int positiveCount = 0;
        int negativeCount = 0;
        int zeroCount = 0;
```

```java
        String check;

        Scanner scanner = new Scanner(System.in);


        int num;
        do {

                System.out.println("enter a number ");

                int number = scanner.nextInt();

                if (number > 0)

                        positiveCount++;// count +ve numbers

                else if (number < 0)

                        negativeCount++;// counts negative numbers

                else

                        zeroCount++;// counts zeros

                System.out.println("do want to continue !");

                System.out.println("enter 0 to stop or 1 to continue : ");

                num = scanner.nextInt();


        } while (num == 1);


        System.out.println(" no of positive integers :" + positiveCount);

        System.out.println(" no of negative  integers :" + negativeCount);

        System.out.println(" no of zeros  :" + zeroCount);


    }


}
```

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.

program:

```java
package assignment_4_Loops;

import java.util.Scanner;

public class LargestAndSmallestNumbers {
// to print largest and smallest number  among the user input
	public static void main(String[] args) {
		// TODO Auto-generated method stub
		Scanner scanner = new Scanner(System.in);
		int largestNum = 0;
		int smallestNum = 0;
		char ch;
		do {
			System.out.println(" enter a number :");
			int num = scanner.nextInt();
			// largestNum=num;
			if (num > largestNum) {
				largestNum = num;
			} else if (num < largestNum)
				smallestNum = num;
			System.out.println("enter y to continue or anything to stop : ");
			ch = scanner.next().charAt(0);
		} while (ch == 'y');
		System.out.println(" largest number is " + largestNum);
		System.out.println(" smallest number is +" + smallestNum);
	}

}
```