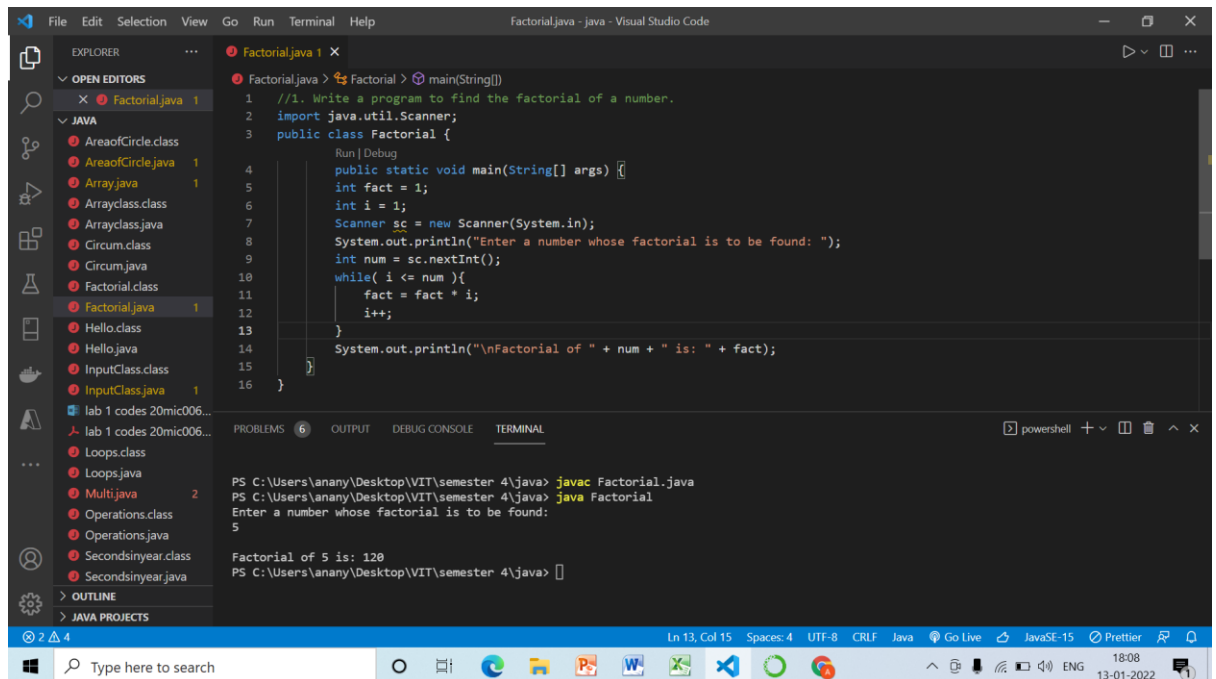1. Write a program to find the factorial of a number.

```java
import java.util.Scanner;
public class Factorial {
    public static void main(String[] args) {
        int fact = 1;
        int i = 1;
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter a number whose factorial is to be found: ");
        int num = sc.nextInt();
        while( i <= num ){
            fact = fact * i;
            i++;
        }
        System.out.println("\nFactorial of " + num + " is: " + fact);
    }
}
```
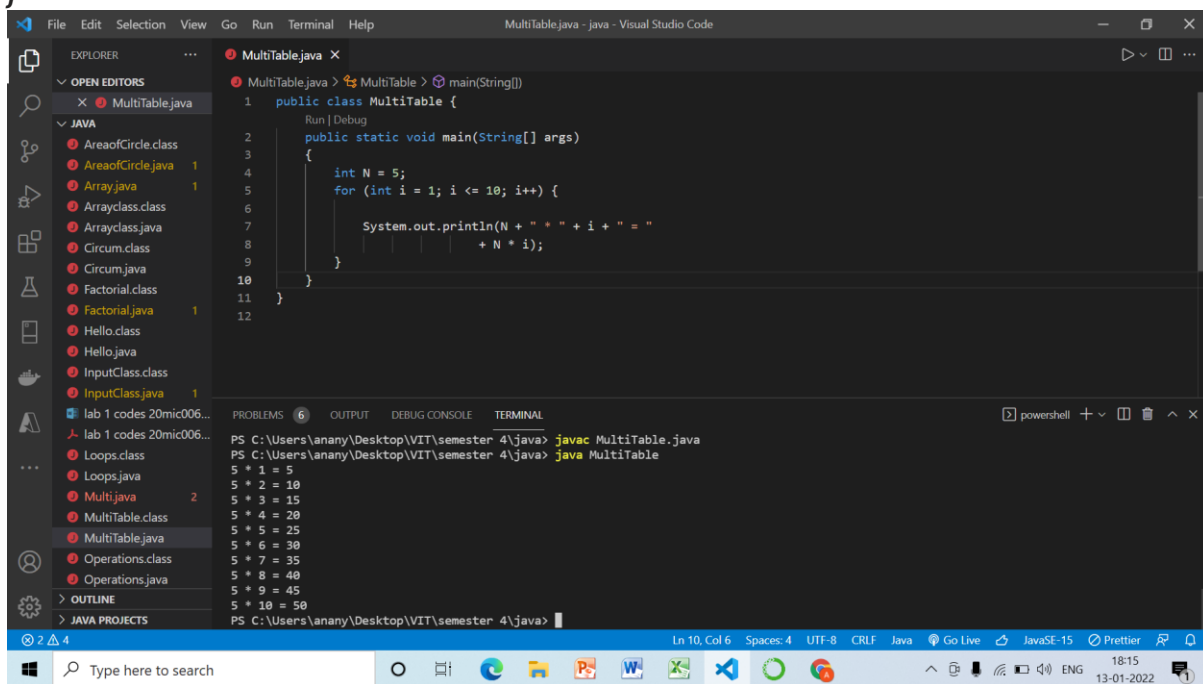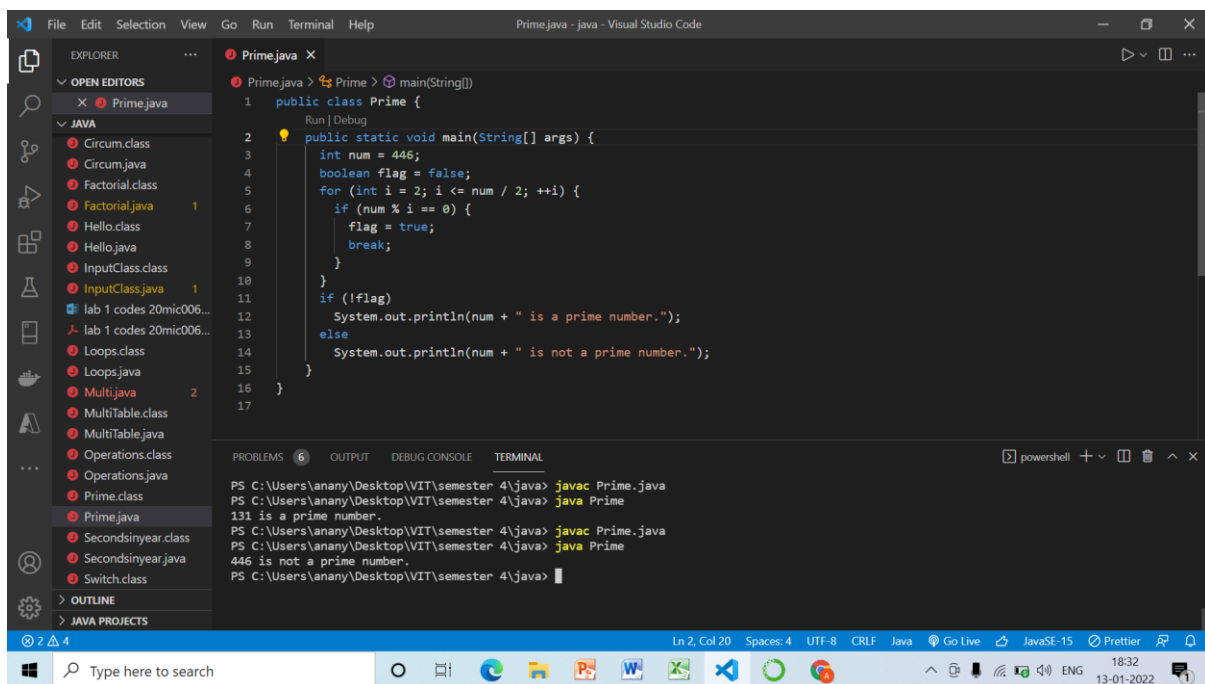
2. Write a program to print the multiplication table of a number.

```java
public class MultiTable {
    public static void main(String[] args)
    {
            int N = 5;
            for (int i = 1; i <= 10; i++) {

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

            }
    }
}
```

3. Write a program to check whether the given number is a prime number or not

```java
public class Prime {
    public static void main(String[] args) {
        int num = 446;
        boolean flag = false;
        for (int i = 2; i <= num / 2; ++i) {
            if (num % i == 0) {
                flag = true;
                break;
            }
        }
        if (!flag)
            System.out.println(num + " is a prime number.");
        else
            System.out.println(num + " is not a prime number.");
    }
}
```

4. Write a program to generate the following patterns.

i)

1
1 2
1 2 3
1 2
1

ii)

*
* *
* * *
* * * *

public class Patterb {

    public static void main(String[] args) {
        int rows = 4;

        for (int i = 1; i <= rows; ++i) {
            for (int j = 1; j <= i; ++j) {
                System.out.print("* ");
            }
            System.out.println();
        }
    }
}

5. Write a program to generate the Fibonacci series.

```java
import java.util.Scanner;

public class Fibbo {

 public static void main(String[] args) {
  int FibLength;
  Scanner sc = new Scanner(System.in);

  System.out.print("Please enter length: ");
  FibLength = sc.nextInt();

  int[] num = new int[FibLength];

  num[0] = 0;

  num[1] = 1;
  for (int i = 2; i < FibLength; i++) {
   num[i] = num[i - 1] + num[i - 2];
  }

  System.out.println("Fibonacci Series: ");
  for (int i = 0; i < FibLength; i++) {
   System.out.print(num[i] + " ");
  }
 }

}
```

6. Write a program to sort n numbers in ascending order.

```java
import java.util.Arrays;
import java.util.Scanner;

public class SortArr {
        private static Scanner sc;
        public static void main(String[] args)
        {
                int Size, i;
                sc = new Scanner(System.in);

                System.out.print(" Please Enter Number of elements in an array : ");
                Size = sc.nextInt();

                int [] a = new int[Size];

                System.out.print(" Please Enter " + Size + " elements of an Array  : ");
                for (i = 0; i < Size; i++)
                {
                        a[i] = sc.nextInt();
                }

                Arrays.sort(a);

                System.out.println("\n Result of a Sorted Array :  ");
                for (int Number: a)
                {
                        System.out.print(Number + "  ");
                }
        }
}
```
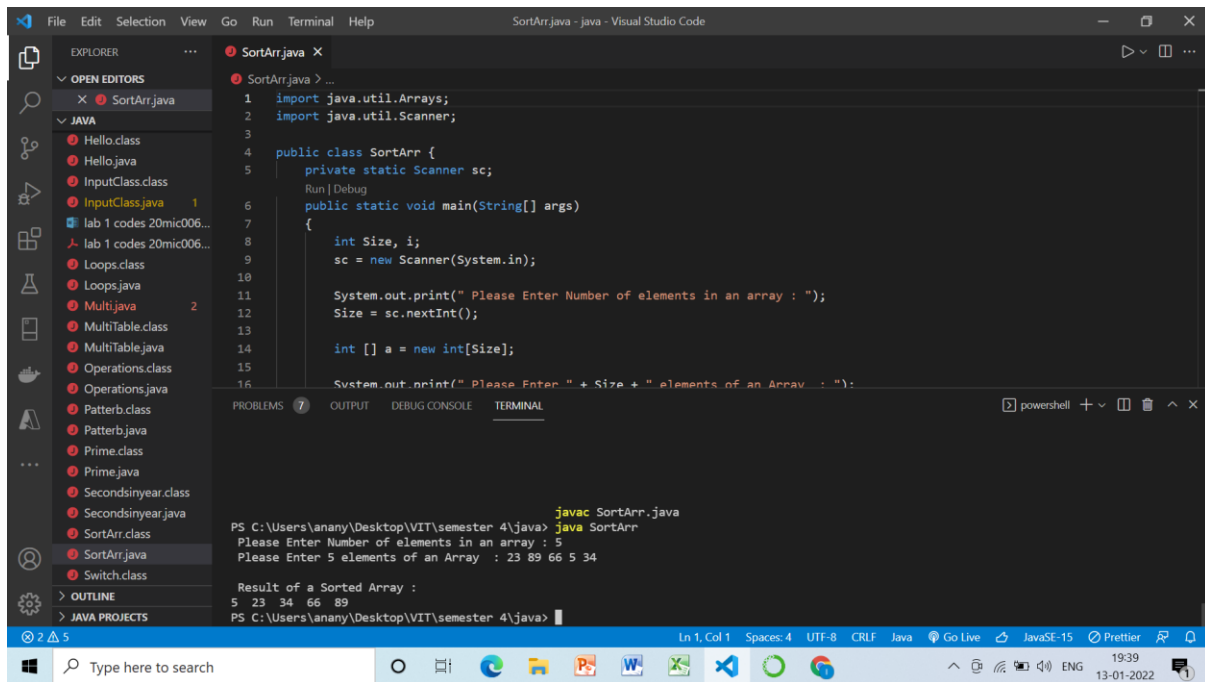
7. Write a program to search a number among n numbers

*import java.util.\*;*

*public class SearchNum*
*{*
  *public static void main(String args[]){*
    *int n,loop;*

    *Scanner SC=new Scanner(System.in);*
    *System.out.print("Enter total number of elements: ");*
    *n=SC.nextInt();*


    *int arr[]=new int[n];*

    *System.out.println("Enter array elements:");*
    *for(loop=0; loop<n; loop++){*
      *System.out.print("Enter element (" + (loop+1) +"): ");*
      *arr[loop]=SC.nextInt();*
    *}*


    *int num;*
    *System.out.print("Enter number to search: ");*
    *num=SC.nextInt();*


    *int index=-1;*

```java
                for(loop=0;loop<n;loop++){
                        if(arr[loop]==num){
                                index=loop;
                                break;
                        }
                }

                if(index==-1){
                        System.out.println("Sorry! " + num + " is not found in array.");
                }
                else{
                        System.out.println(num + " found at index " + index);
                }

                SC.close();
        }
}
```
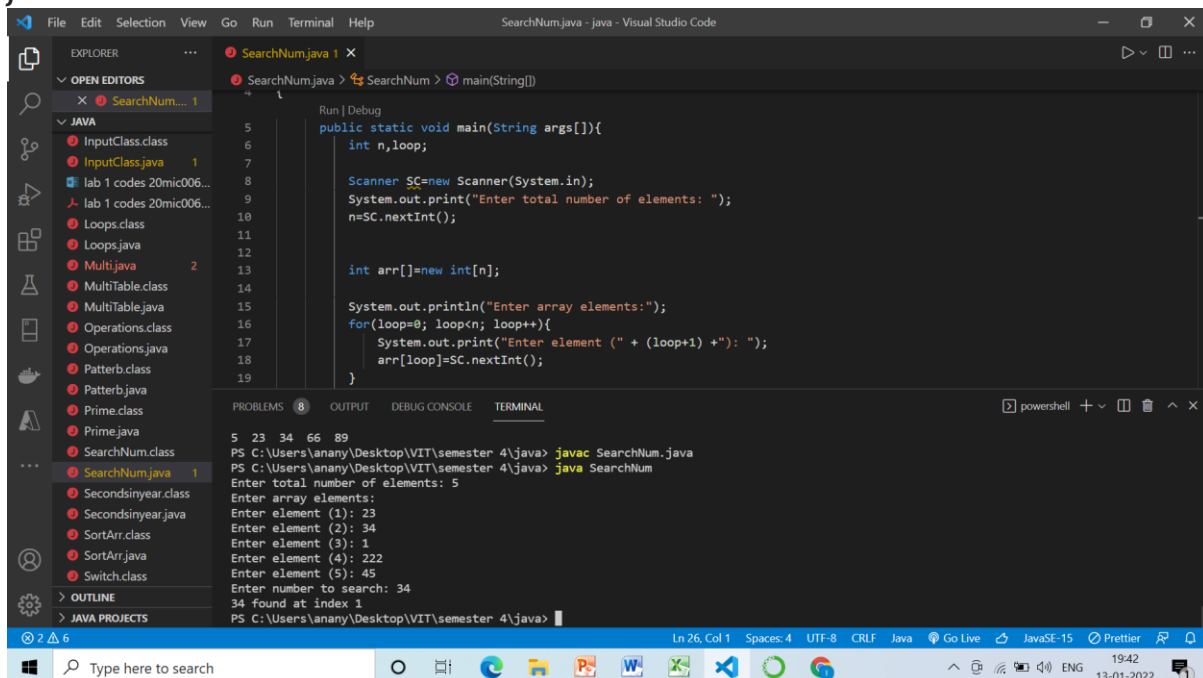


8. Write a program to read 'n' numbers and print their sum and average.

```java
import static java.lang.Float.sum;
import java.util.Scanner;
public class Avgsum {
  public static void main(String[] args)
  {
    int n, count = 1;
    float  xF, averageF, sumF = 0;
    Scanner sc = new Scanner(System.in);
    System.out.println("Enter the value of n");
    n = sc.nextInt();
    while (count <= n)
```
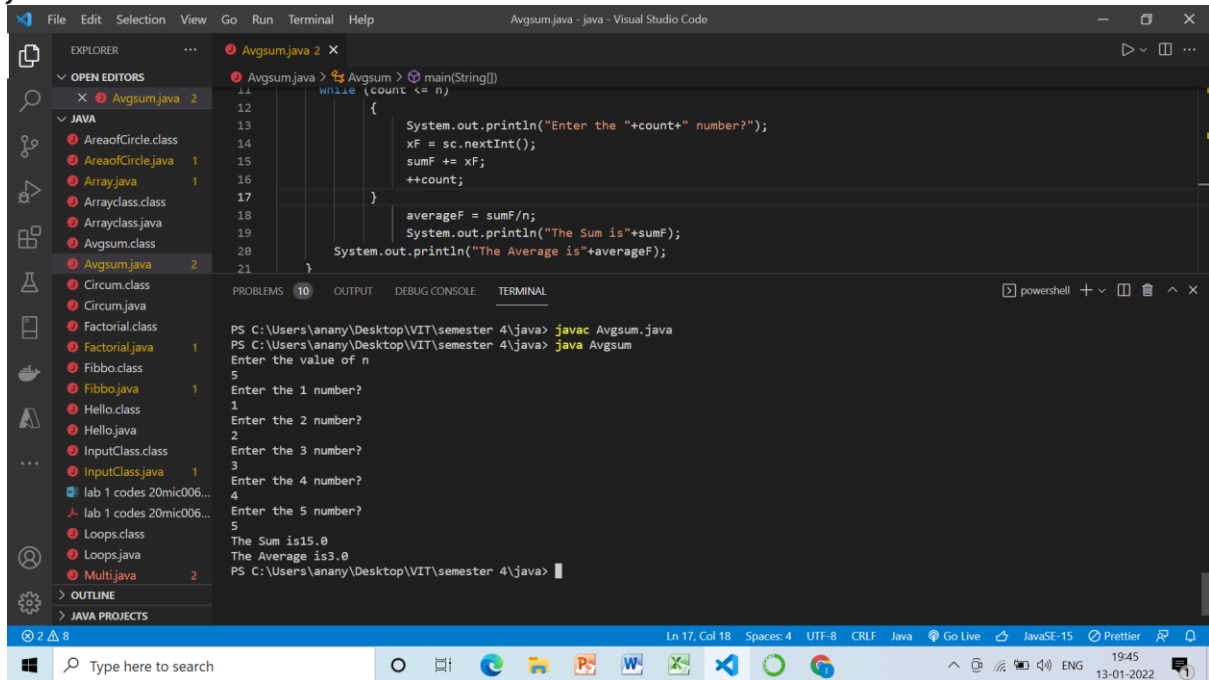
```java
    {
        System.out.println("Enter the "+count+" number?");
        xF = sc.nextInt();
        sumF += xF;
        ++count;
    }

        averageF = sumF/n;
        System.out.println("The Sum is"+sumF);
    System.out.println("The Average is"+averageF);
    }
}
```