CAT B: OOPS

B1- Write an Arithmetic class that includes methods for operations such as addition, subtraction, multiplication, division, etc and test it.

Arithmetic.java-

Code:

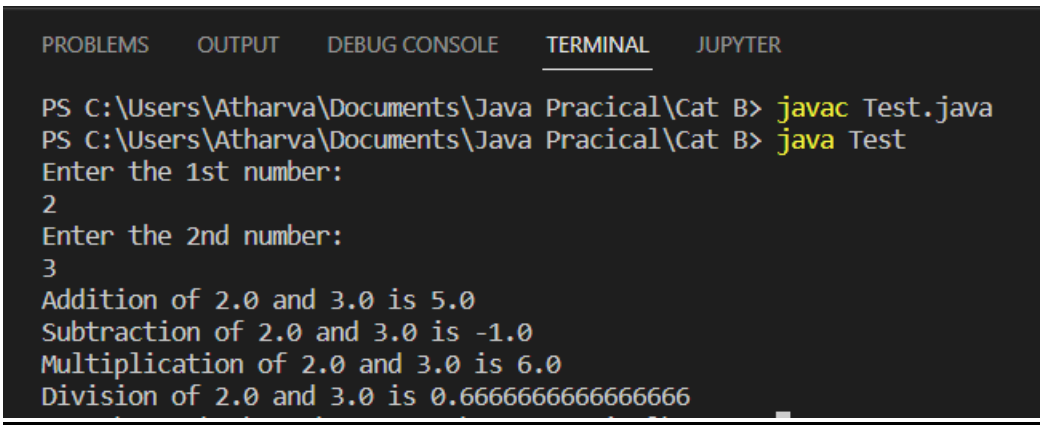
```
class Arithmetic
{
	public String add(double i, double j)
	{
		return("Addition of "+i+" and "+j+" is "+(i+j));
	}
	public String sub(double i, double j)
	{
		return("Subtraction of "+i+" and "+j+" is "+(i-j));
	}
	public String multi(double i, double j)
	{
		return("Multiplication of "+i+" and "+j+" is "+(i*j));
	}
	public String div(double i, double j)
	{
		return("Division of "+i+" and "+j+" is "+(i/j));
	}
}
```

Test.java-

Code:

```
import java.util.Scanner;
class Test
{
	public static void main(String[] args)
	{
		Scanner sc=new Scanner(System.in);
		System.out.println("Enter the 1st number: ");
		double i = sc.nextDouble();
		System.out.println("Enter the 2nd number: ");
		double j = sc.nextDouble();
      sc.close();
		Arithmetic a=new Arithmetic();
		System.out.println(a.add(i,j));
		System.out.println(a.sub(i,j));
		System.out.println(a.multi(i,j));
		System.out.println(a.div(i,j));
	}
}
```

Output:



B2- Write a JAVA program to design a class Area for calculating area of rectangle. Use the concept of constructor. (default and parameterized constructor).

Code:

```
import java.util.Scanner;
class Area
{
	double l, b;
	Area()
	{
		l=25.3;
		b=67;
	}
	Area(double l, double b)
	{
		this.l=l;
		this.b=b;
	}
	public String calArea()
	{
		return("Area of rectangle with length= "+l+" and breadth= "+b+" is"+(l*b));
	}
}

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

```
            Scanner sc = new Scanner(System.in);
            System.out.println("Enter length: ");
            double i=sc.nextDouble();
            System.out.println("Enter breadth: ");
            double j=sc.nextDouble();
        sc.close();
            Area a=new Area();
            System.out.println("Default constructor: "+a.calArea());
            a=new Area(i,j);
            System.out.println("Parametrized constructor: "+a.calArea());
        }
}
```

Output: