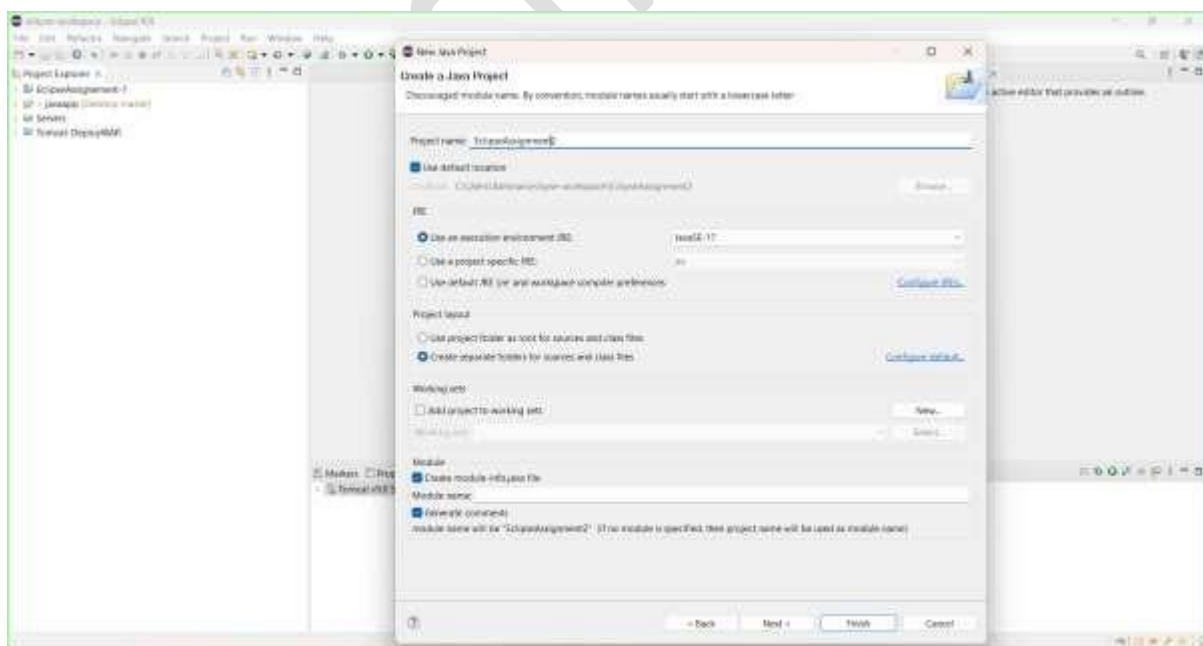
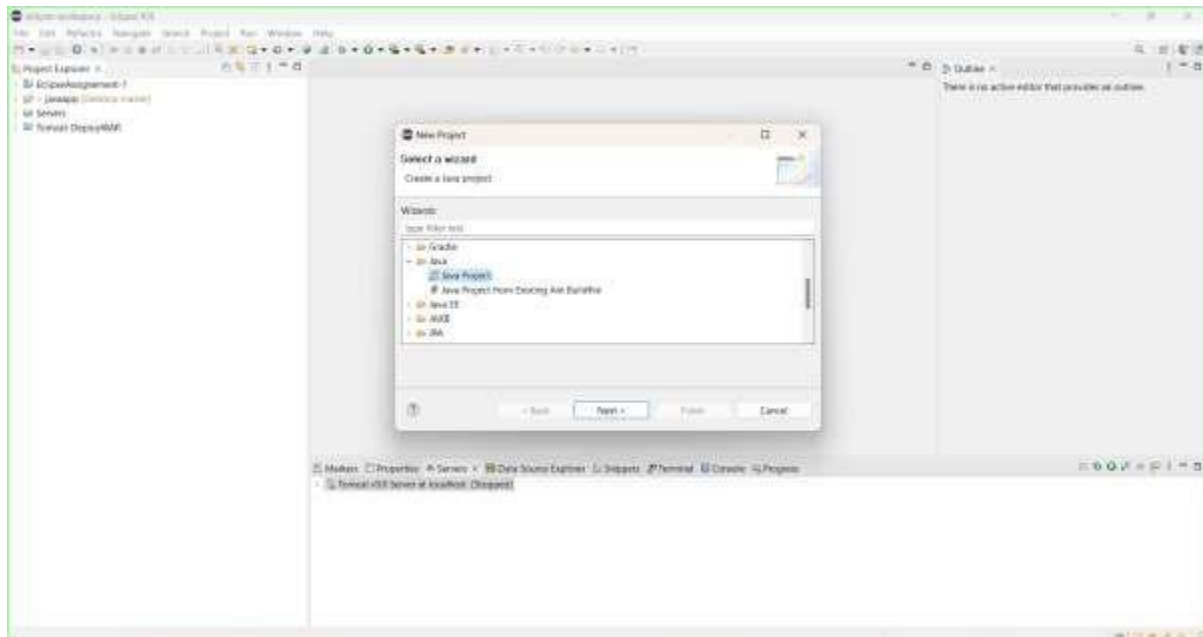


ASSIGNMENT-2

-submitted by **Dinesh kumar Kunchala** Date:09/04/2023

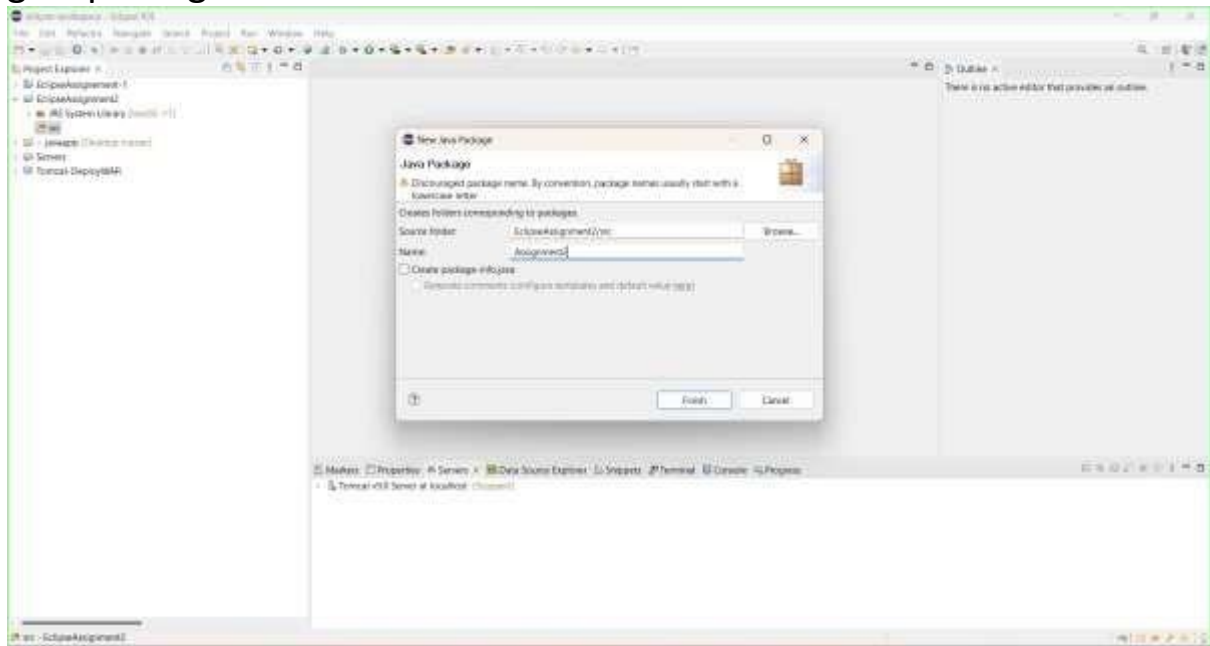
Step1: Create Java Project.

Go to **file->new->project..->java->java project** and give project name and click on finish.

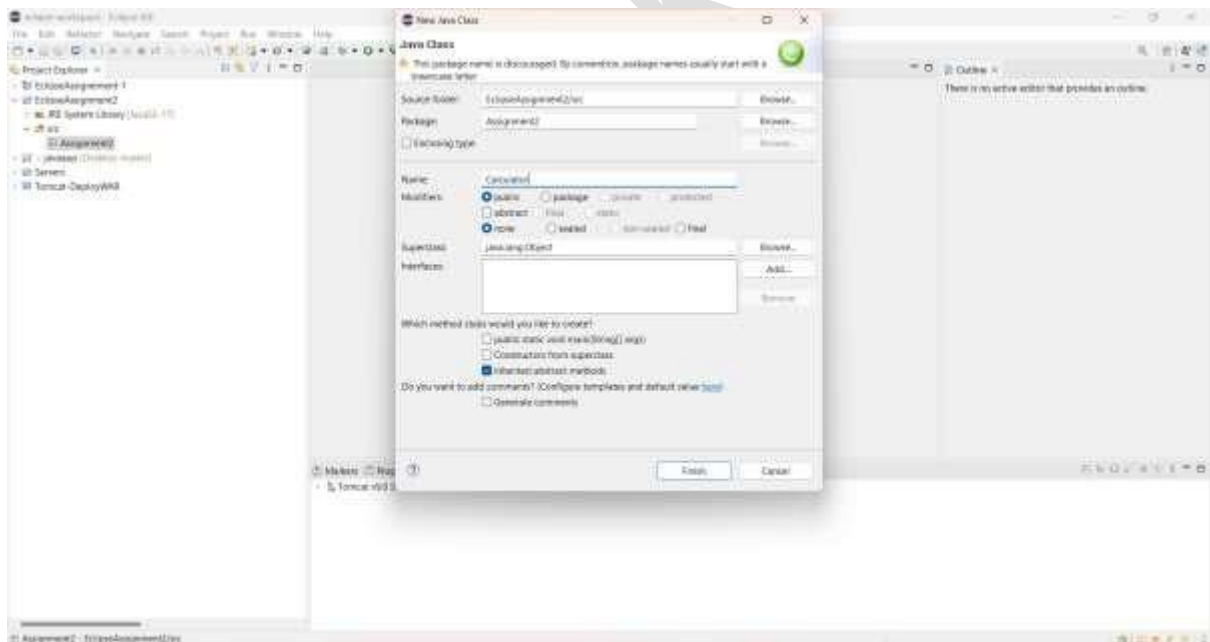


Step2: Create a class Calculator.java.

Create a new package by right clicking on **src**->**new**->**package** and give package name.



Right click on **package** ->**new**->**class** give new class name and click on Finish.



Step3: Write 4 public methods for (Sum, Subtract, Multiply, Divide).

```
1 package Assignment2;  
2  
3 import java.util.Scanner;  
4  
5 public class Calculator {  
6  
7     public static int Sum(int a, int b) {  
8         return a + b;  
9     }  
10  
11     public static int Subtract(int a, int b) {  
12         return a - b;  
13     }  
14  
15     public static int Multiply(int a, int b) {  
16         return a * b;  
17     }  
18  
19     public static int Divide(int a, int b) {  
20         return a / b;  
21     }  
22  
23     public static void main(String[] args) {  
40 }  
41  
42
```

Step4: Each method takes 2 integer values as input .

In the image above input a,b are integer parameters for methods.

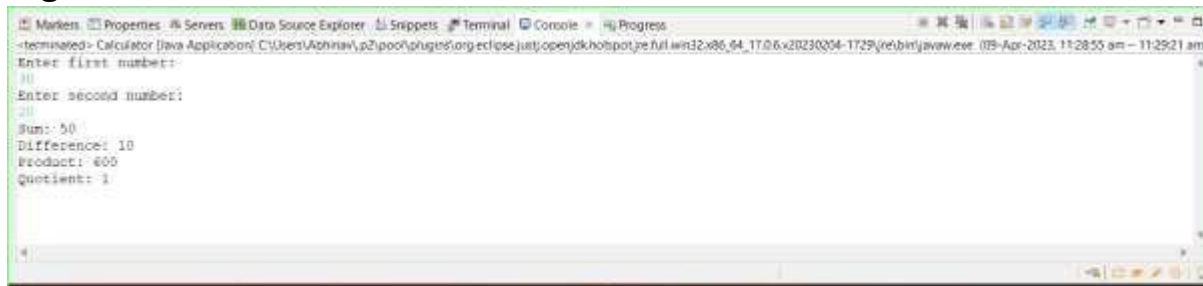
Step5: Read input from the console.

Scanner Is used to read input from console.

Step6: Write the main method to read 2 input values from terminal.

```
1 package Assignment2;  
2  
3 import java.util.Scanner;  
4  
5 public class Calculator {  
6  
7     public static int Sum(int a, int b) {  
10  
11     public static int Subtract(int a, int b) {  
14  
15     public static int Multiply(int a, int b) {  
18  
19     public static int Divide(int a, int b) {  
22  
23     public static void main(String[] args) {  
24         Scanner scanner = new Scanner(System.in);  
25         System.out.println("Enter first number:");  
26         int num1 = scanner.nextInt();  
27         System.out.println("Enter second number:");  
28         int num2 = scanner.nextInt();  
29         scanner.close();  
30         int sum = Sum(num1, num2);  
31         int difference = Subtract(num1, num2);  
32         int product = Multiply(num1, num2);  
33         int quotient = Divide(num1, num2);  
34  
35         System.out.println("Sum: " + sum);  
36         System.out.println("Difference: " + difference);  
37         System.out.println("Product: " + product);  
38         System.out.println("Quotient: " + quotient);  
39     }  
40 }  
41  
42
```

Step7: Call all the methods and print the output of the methods.
Right click on click on run.

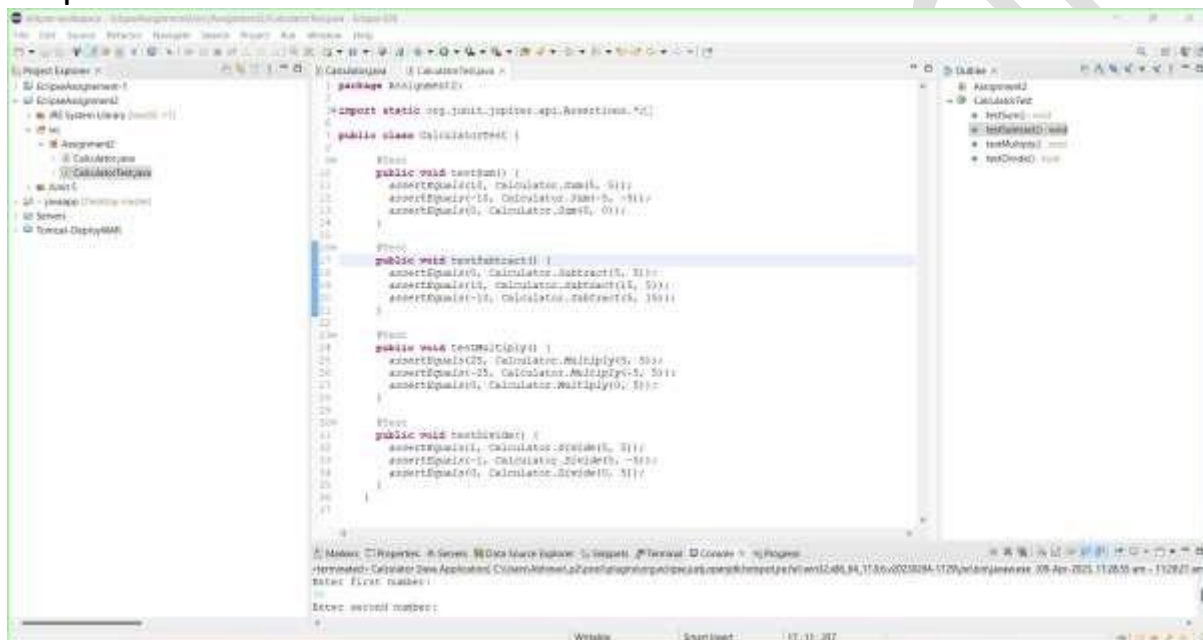


```
-terminated- Calculator [Java Application] C:\Users\Ajithnaiv\p2\poo\plugins\org.eclipse.jdt.openide\jdk hotspot\bin\win32\java.exe 17.0.6.x20230204-1729\rebeljavaw.exe 078-Apr-2023, 11:28:55 am - 11:29:21 am
Enter first number:
Enter second number:
Sum: 50
Difference: 10
Product: 600
Quotient: 3
```

Step8: Import the Junit jar.

Right click on package new->junit->junit Testcase and give project name as Calculator Test and include junit in project.

Step9: Write the Junit testcases for each of the 4 methods.



```
package Assignment2;

import static org.junit.jupiter.api.Assertions.*;

public class CalculatorTest {

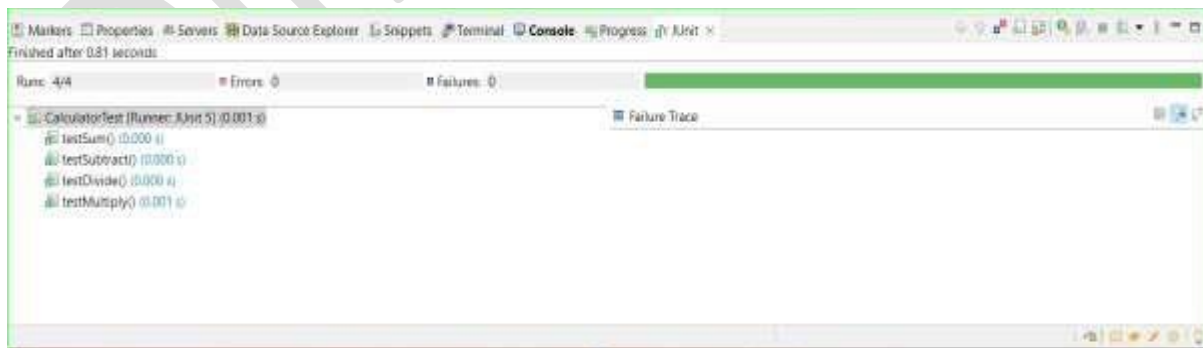
    @Test
    public void testSum() {
        assertEquals(50, Calculator.sum(1, 5));
        assertEquals(10, Calculator.sum(5, -5));
        assertEquals(0, Calculator.sum(0, 0));
    }

    @Test
    public void testSubtract() {
        assertEquals(40, Calculator.subtract(5, 10));
        assertEquals(15, Calculator.subtract(10, 5));
        assertEquals(10, Calculator.subtract(10, 0));
    }

    @Test
    public void testMultiply() {
        assertEquals(500, Calculator.multiply(5, 10));
        assertEquals(-25, Calculator.multiply(5, -5));
        assertEquals(0, Calculator.multiply(0, 5));
    }

    @Test
    public void testDivide() {
        assertEquals(1, Calculator.divide(5, 5));
        assertEquals(-1, Calculator.divide(5, -5));
        assertEquals(0, Calculator.divide(0, 5));
    }
}
```

Step10: Run the test cases to validate the method output.
Click on run->run as-> Junit Test.



```
Finished after 0.81 seconds
Run: 4/4
Errors: 0
Failures: 0

CalculatorTest [Runner: JUnit 5] (0.001 s)
  testSum() (0.000 s)
  testSubtract() (0.000 s)
  testDivide() (0.000 s)
  testMultiply() (0.001 s)
```