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Project Explorer

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```java
1 package tejal;
2
3
4 import java.util.Scanner;
5
6 public class task4 {
7
8     private static double getValidNumber(String prompt)
9     {
10         Scanner sc = new Scanner(System.in);
11         while (true) {
12             try {
13                 System.out.print(prompt);
14                 return Double.parseDouble(sc.nextLine());
15             } catch (NumberFormatException e) {
16                 System.out.println("Invalid input. Enter a number.");
17             }
18         }
19     }
20
```

Problems   Servers   Terminal   Data Source Explorer   Properties   Console ×   Eclipse IDE for Enterprise Java and Web Developers 2025-12 Release

task4 [Java Application] C:\Users\visha\.p2\pool\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64_21.0.7.v20250502-0916\jre\bin\javaw.exe  (20-Jan-2026, 6:23:48 pm elapsed: 0:03:10) [pid: 8892]

6. Exit

Writable        Smart Insert        2 : 1 : 16

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Project Explorer

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      - task4.java
      - module-info.java

```java
21    public static int add(int a, int b) {
22        return a + b;
23    }
24
25    // Method overloading - add(double, double)
26    public static double add(double a, double b) {
27        return a + b;
28    }
29
30    // Method overloading - subtract
31    public static int subtract(int a, int b) {
32        return a - b;
33    }
34
35    public static double subtract(double a, double b) {
36        return a - b;
37    }
38
39    // Method overloading - multiply
40    public static int multiply(int a, int b) {
```

Problems    Servers    Terminal    Data Source Explorer    Properties    Console ×    Eclipse IDE for Enterprise Java and Web Developers 2025-12 Release

task4 [Java Application] C:\Users\visha\.p2\pool\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64_21.0.7.v20250502-0916\jre\bin\javaw.exe  (20-Jan-2026, 6:23:48 pm elapsed: 0:03:33) [pid: 8892]

```
6. Exit
```

Writable    Smart Insert    2 : 1 : 16

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first.jsp   task_3.java   task_4.java   slip10q1.java   slip17q2.java   slip1q1.java   slip21q2.java   demo.java   aids.java   task4.java

```java
39      // Method overloading - multiply
40      public static int multiply(int a, int b) {
41          return a * b;
42      }
43
44      public static double multiply(double a, double b) {
45          return a * b;
46      }
47
48      // Division with exception handling
49      public static double divide(double a, double b) {
50          if (b == 0) {
51              throw new ArithmeticException("Divide by zero error");
52          }
53          return a / b;
54      }
55
56      // Demonstrating pass-by-value (swap does NOT change original values)
57      public static void swap(int x, int y) {
58          int temp = x;
59          x = y;
```

Problems   Servers   Terminal   Data Source Explorer   Properties   Console ×   Eclipse IDE for Enterprise Java and Web Developers 2025-12 Release

task4 [Java Application] C:\Users\visha\.p2\pool\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64_21.0.7.v20250502-0916\jre\bin\javaw.exe  (20-Jan-2026, 6:23:48 pm elapsed: 0:03:55) [pid: 8892]

```
6. Exit
```

Writable          Smart Insert          39 : 37 : 934

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Project Explorer ×

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```java
58            int temp = x;
59            x = y;
60            y = temp;
61            System.out.println("Inside swap: x = " + x + ", y = " + y);
62        }
63
64●    public static void main(String[] args) {
65        Scanner sc = new Scanner(System.in);
66        int choice;
67
68●        do {
69            System.out.println("\nCalculator Menu:");
70            System.out.println("1. Add");
71            System.out.println("2. Subtract");
72            System.out.println("3. Multiply");
73            System.out.println("4. Divide");
74            System.out.println("5. Test Pass-by-Value");
75            System.out.println("6. Exit");
76            choice = sc.nextInt();
77
```

> komal [visha master]
✓ komal1
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✓ tejal
  > JRE System Library [JavaSE-21]
  ✓ src
    ✓ tejal
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Problems    Servers    Terminal    Data Source Explorer    Properties    Console ×    🛈 Eclipse IDE for Enterprise Java and Web Developers 2025-12 Release

task4 [Java Application] C:\Users\visha\.p2\pool\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64_21.0.7.v20250502-0916\jre\bin\javaw.exe  (20-Jan-2026, 6:23:48 pm elapsed: 0:04:07) [pid: 8892]

```
6. Exit
```

Writable          Smart Insert          39 : 37 : 934

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Tabs: first.jsp | task_3.java | task_4.java | slip10q1.java | slip17q2.java | slip1q1.java | slip21q2.java | demo.java | aids.java | task4.java ×

```java
77
78        switch (choice) {
79            case 1:
80
81                System.out.println("Add integers: " + add(5, 3));
82                System.out.println("Add doubles: " + add(5.5, 3.2));
83                break;
84            case 2:
85                System.out.println("Subtract integers: " + subtract(10, 4));
86                System.out.println("Subtract doubles: " + subtract(10.5, 4.2));
87                break;
88            case 3:
89                System.out.println("Multiply integers: " + multiply(6, 7));
90                System.out.println("Multiply doubles: " + multiply(6.3, 2.5));
91                break;
92            case 4:
93                try {
94                    double num1 = getValidNumber("Enter dividend: ");
95                    double num2 = getValidNumber("Enter divisor: ");
96                    System.out.println("Result: " + divide(num1, num2));
97                } catch (ArithmeticException e) {
```

Problems   Servers   Terminal   Data Source Explorer   Properties   Console ×   ⓘ Eclipse IDE for Enterprise Java and Web Developers 2025-12 Release

6. Exit

Writable          Smart Insert          39 : 37 : 934

```java
                System.out.println("Result: " + divide(num1, num2));
            } catch (ArithmeticException e) {
                System.out.println(e.getMessage());
            }
            break;
        case 5:
            int a = 10, b = 20;
            System.out.println("Before swap: a = " + a + ", b = " + b);
            swap(a, b);
            System.out.println("After swap: a = " + a + ", b = " + b);
            break;
        case 6:
            System.out.println("Exiting...");
            break;
        default:
            System.out.println("Invalid choice.");
        }
    } while (choice != 6);
}
}
```

```
6. Exit
```

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Project Explorer ×          first.jsp    task_3.java    task_4.java    slip10q1.java    slip17q2.java    slip1q1.java    slip21q2.java    demo.java    aids.java    task4.java ×

```
        System.out.println( Result: "+divide(num1, num2));
97              } catch (ArithmeticException e) {
```

Problems    Servers    Terminal    Data Source Explorer    Properties    Console ×    Eclipse IDE for Enterprise Java and Web Developers 2025-12 Release

<terminated> task4 [Java Application] C:\Users\visha\.p2\pool\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64_21.0.7.v20250502-0916\jre\bin\javaw.exe (20-Jan-2026, 6:23:48 pm – 6:29:16 pm elapsed: 0:05:27.728) [pid:

```
Calculator Menu:
1. Add
2. Subtract
3. Multiply
4. Divide
5. Test Pass-by-Value
6. Exit
1
Add integers: 8
Add doubles: 8.7

Calculator Menu:
1. Add
2. Subtract
3. Multiply
4. Divide
5. Test Pass-by-Value
6. Exit
2
Subtract integers: 6
Subtract doubles: 6.3
```

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97              } catch (ArithmeticException e) {

Problems   Servers   Terminal   Data Source Explorer   Properties   Console ×   Eclipse IDE for Enterprise Java and Web Developers 2025-12 Release

<terminated> task4 [Java Application] C:\Users\visha\.p2\pool\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64_21.0.7.v20250502-0916\jre\bin\javaw.exe  (20-Jan-2026, 6:23:48 pm – 6:29:16 pm elapsed: 0:05:27.728) [pid:

```
Subtract integers: 6
Subtract doubles: 6.3

Calculator Menu:
1. Add
2. Subtract
3. Multiply
4. Divide
5. Test Pass-by-Value
6. Exit
3
Multiply integers: 42
Multiply doubles: 15.75

Calculator Menu:
1. Add
2. Subtract
3. Multiply
4. Divide
5. Test Pass-by-Value
6. Exit
```
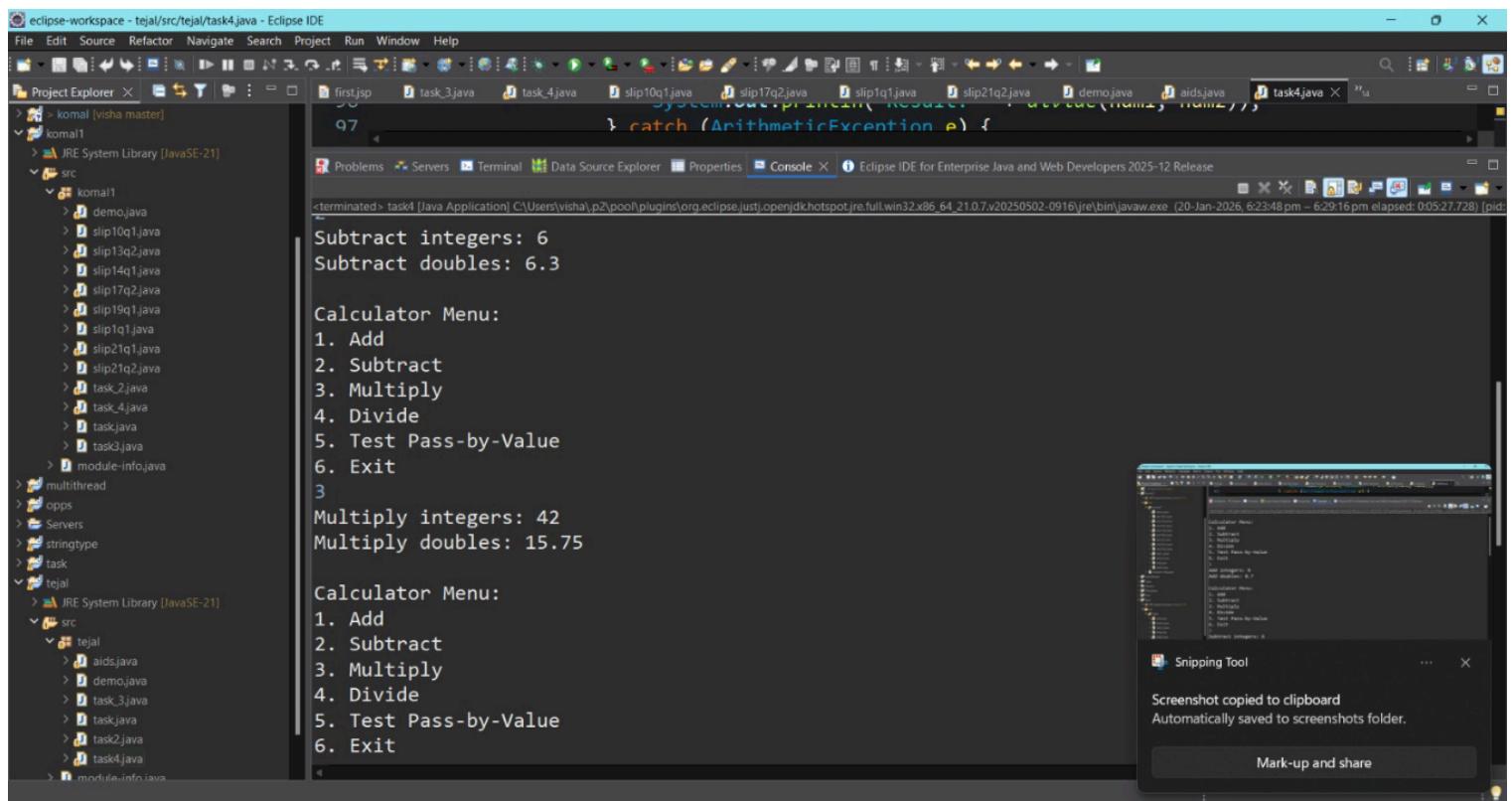
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97                    } catch (ArithmeticException e) {

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```
Calculator Menu:
1. Add
2. Subtract
3. Multiply
4. Divide
5. Test Pass-by-Value
6. Exit
5
Before swap: a = 10, b = 20
Inside swap: x = 20, y = 10
After swap: a = 10, b = 20

Calculator Menu:
1. Add
2. Subtract
3. Multiply
4. Divide
5. Test Pass-by-Value
6. Exit
6
Exiting...
```

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```
97                    } catch (ArithmeticException e) {
```

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```
6. Exit
4
Enter dividend: 2
Enter divisor: 2
Result: 1.0

Calculator Menu:
1. Add
2. Subtract
3. Multiply
4. Divide
5. Test Pass-by-Value
6. Exit
5
Before swap: a = 10, b = 20
Inside swap: x = 20, y = 10
After swap: a = 10, b = 20

Calculator Menu:
1. Add
2. Subtract
3. Multiply
```

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