C: > Users > chani > src > J Main.java > ...

```java
import java.util.Scanner;

public class BusVanCalculator {
    Run main | Debug main
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);

        // Input number of people
        System.out.print("Enter the number of people: ");
        int people = sc.nextInt();

        // Calculate number of buses
        int busCapacity = 45;
        int buses = people / busCapacity;
        int vans = people % busCapacity;

        // Display results
        System.out.println("Number of buses needed: " + buses);
        System.out.println("Number of people needing to ride in vans: " + vans);
    }
}
```

PROBLEMS 2 OUTPUT DEBUG CONSOLE TERMINAL PORTS Filter (e.g. text, !exclu

```
Listening on 51520
User program running
Enter the number of people:
103

Number of buses needed: 2
Number of people needing to ride in vans: 13
User program finished
```

C: > Users > chani > src > J Main.java > ...

```java
import java.util.Scanner;

public class CalculatorSwitch {
    Run main | Debug main
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);

        // Input two numbers and operator
        System.out.print("Enter first number: ");
        double num1 = sc.nextDouble();

        System.out.print("Enter second number: ");
        double num2 = sc.nextDouble();

        System.out.print("Enter an operator (*, +, /, %, -): ");
        char operator = sc.next().charAt(0);

        // Perform operation using switch
        switch (operator) {
            case '+':
                System.out.println("Result: " + (num1 + num2));
                break;
            case '-':
                System.out.println("Result: " + (num1 - num2));
                break;
            case '*':
```

PROBLEMS 3 OUTPUT DEBUG CONSOLE TERMINAL PORTS Filter (e.

```
15

Enter second number:
3

Enter an operator (*, +, /, %, -):
*

User program finished
Result: 45.0
```

C: > Users > chani > src > Main.java > ...

```java
public class StringComparison {
    Run main | Debug main
    public static void main(String[] args) {
        String s1 = "ABC";
        String s2 = new String("DEF");
        String s3 = "AB" + "C";

        System.out.println("s1.compareTo(s2): " + s1.compareTo(s2)); // a.
        System.out.println("s2.equals(s3): " + s2.equals(s3)); // b.
        System.out.println("s3 == s1: " + (s3 == s1)); // c.
        System.out.println("s2.compareTo(s3): " + s2.compareTo(s3)); // d.
        System.out.println("s3.equals(s1): " + s3.equals(s1)); // e.
    }
}

```

PROBLEMS 4 OUTPUT DEBUG CONSOLE TERMINAL PORTS Filter (e.g. t

```
Listening on 51526
User program running
s1.compareTo(s2): -3
s2.equals(s3): false
s3 == s1: true
s2.compareTo(s3): 3
s3.equals(s1): true
```

C: > Users > chani > src > J Main.java > ...

```java
import java.util.Scanner;

public class TriangleArea {
    Run main | Debug main
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);

        // Input base and height
        System.out.print("Enter the base of the triangle: ");
        double base = sc.nextDouble();

        System.out.print("Enter the height of the triangle: ");
        double height = sc.nextDouble();

        // Calculate area
        double area = (base * height) / 2;

        // Display the area
        System.out.println("The area of the triangle is: " + area);
    }
}

```

PROBLEMS 2 OUTPUT DEBUG CONSOLE TERMINAL PORTS Filte

```
Listening on 51303
User program running
Enter the base of the triangle:
2

Enter the height of the triangle:
2

The area of the triangle is: 2.0
User program finished
```

C: > Users > chani > src > Main.java > ...

```java
public class MathFormulas {
    Run main | Debug main
    public static void main(String[] args) {
        // Example 1: Calculate square root and then the power
        double a = 2.0, b = 4.0;
        double result1 = Math.pow(Math.sqrt(a), b);
        System.out.println("Result1: " + result1);

        // Exam  double angle  e sine of an angle and square it
        double angle = Math.PI / 4; // 45 degrees in radians
        double result2 = Math.pow(Math.sin(angle), 2);
        System.out.println("Result2: " + result2);
    }
}

```

PROBLEMS 2 OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
Listening on 51511
User program running
Result1: 4.000000000000001
Result2: 0.4999999999999999
User program finished
```