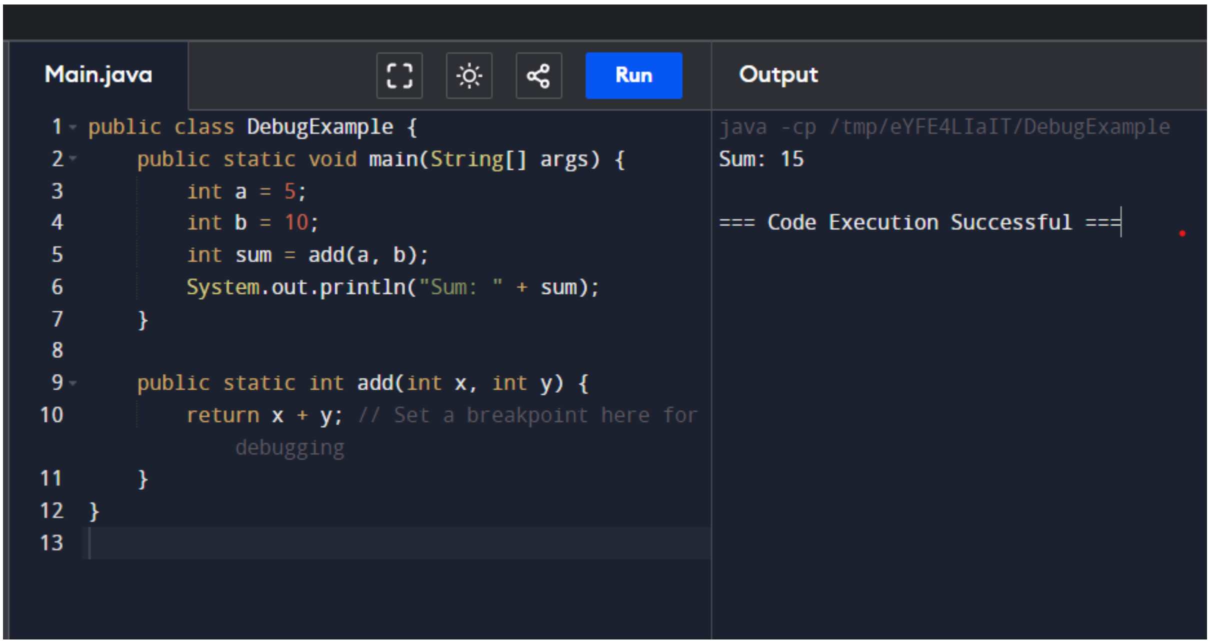
Moduel-1

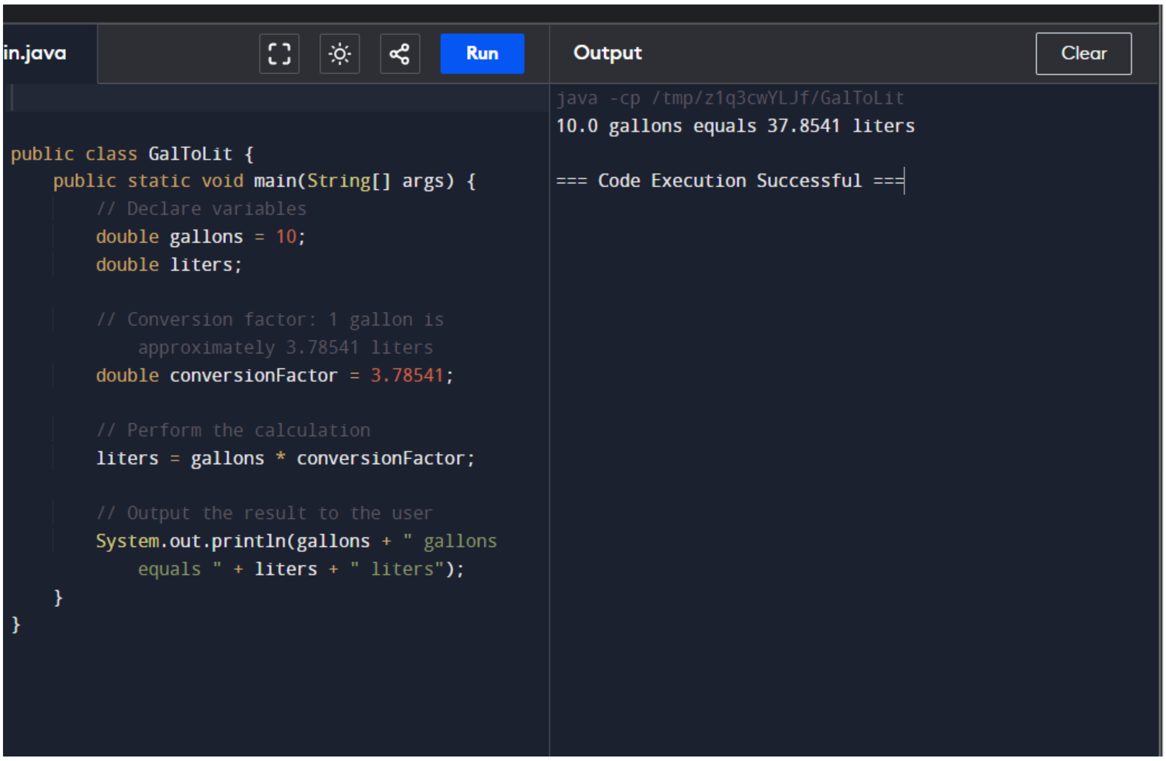
Section-1:

4.1



```java
public class DebugExample {
    public static void main(String[] args) {
        int a = 5;
        int b = 10;
        int sum = add(a, b);
        System.out.println("Sum: " + sum);
    }

    public static int add(int x, int y) {
        return x + y; // Set a breakpoint here for debugging
    }
}
```

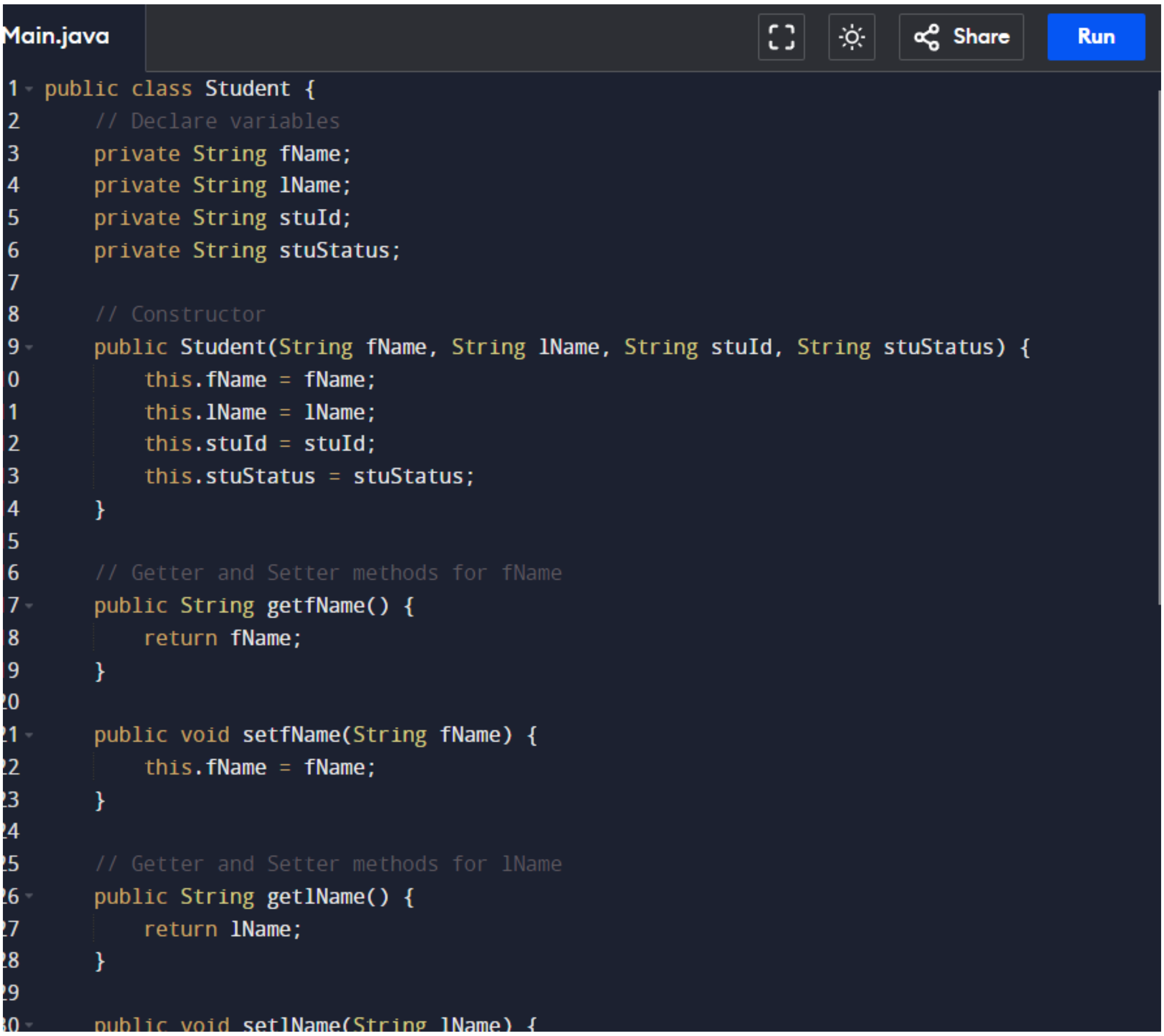
```
java -cp /tmp/eYFE4LIaIT/DebugExample
Sum: 15

=== Code Execution Successful ===
```



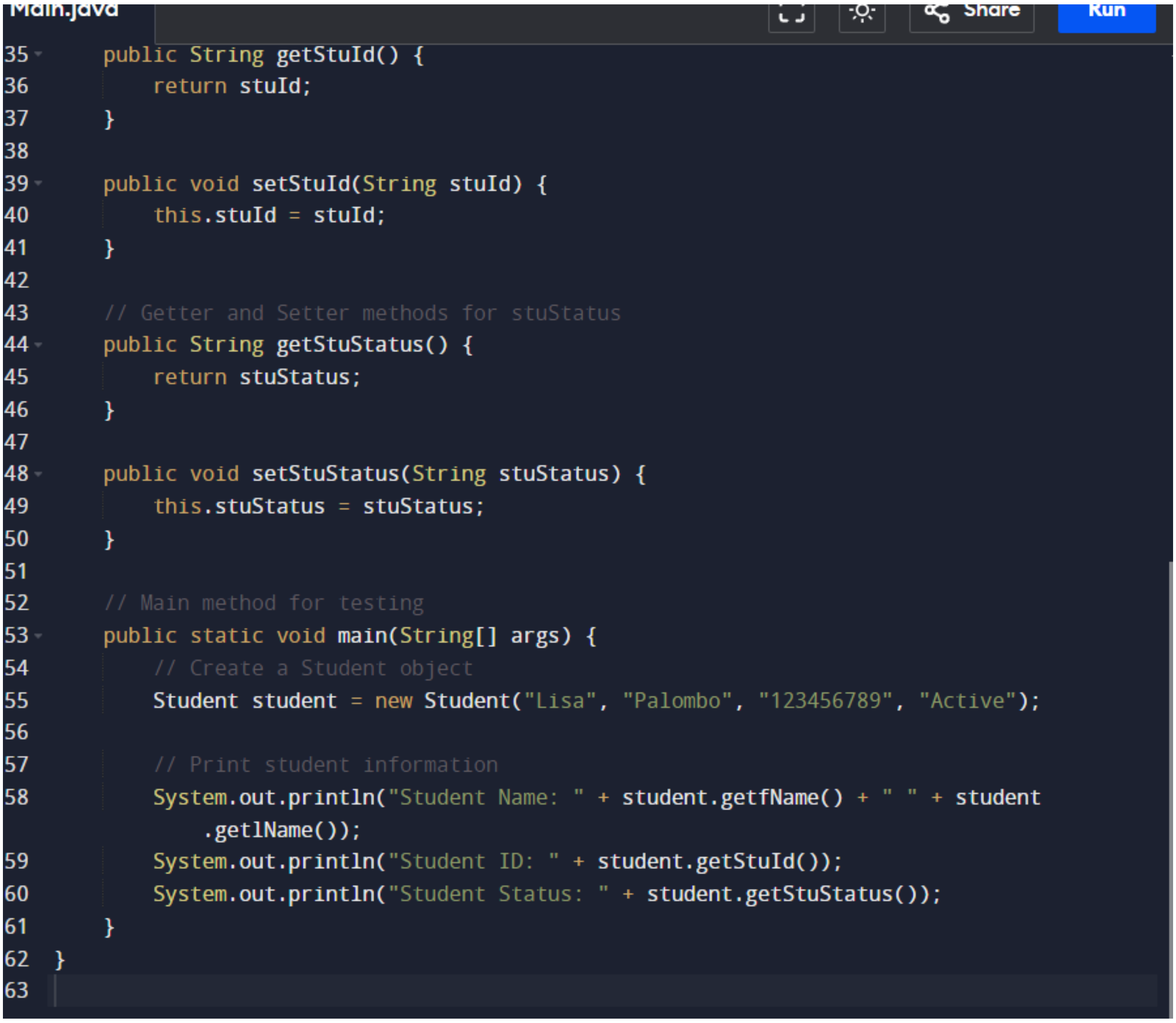
```java
public class GalToLit {
    public static void main(String[] args) {
        // Declare variables
        double gallons = 10;
        double liters;

        // Conversion factor: 1 gallon is approximately 3.78541 liters
        double conversionFactor = 3.78541;

        // Perform the calculation
        liters = gallons * conversionFactor;

        // Output the result to the user
        System.out.println(gallons + " gallons equals " + liters + " liters");
    }
}
```

```
java -cp /tmp/z1q3cwYLJf/GalToLit
10.0 gallons equals 37.8541 liters

=== Code Execution Successful ===
```

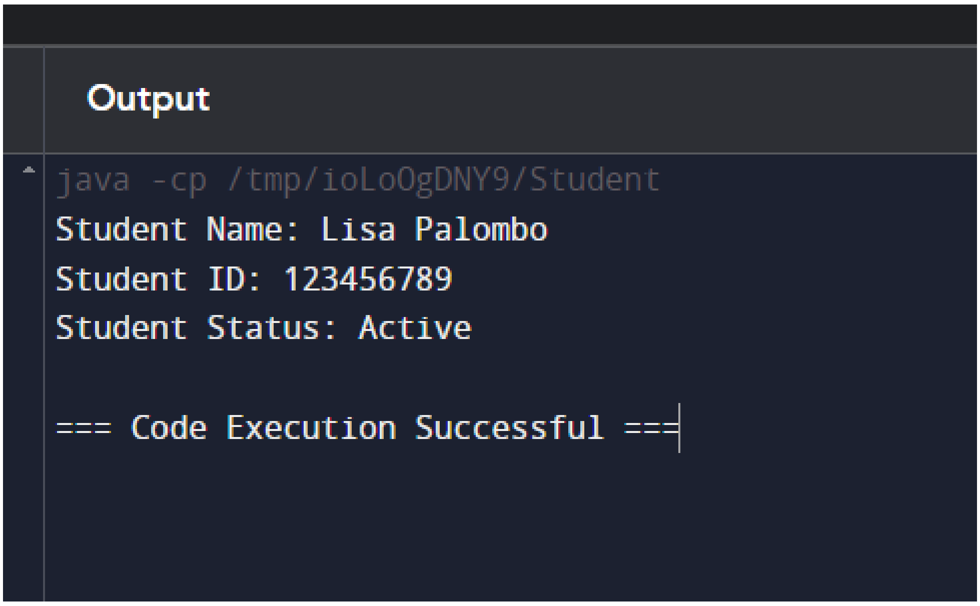
4.2



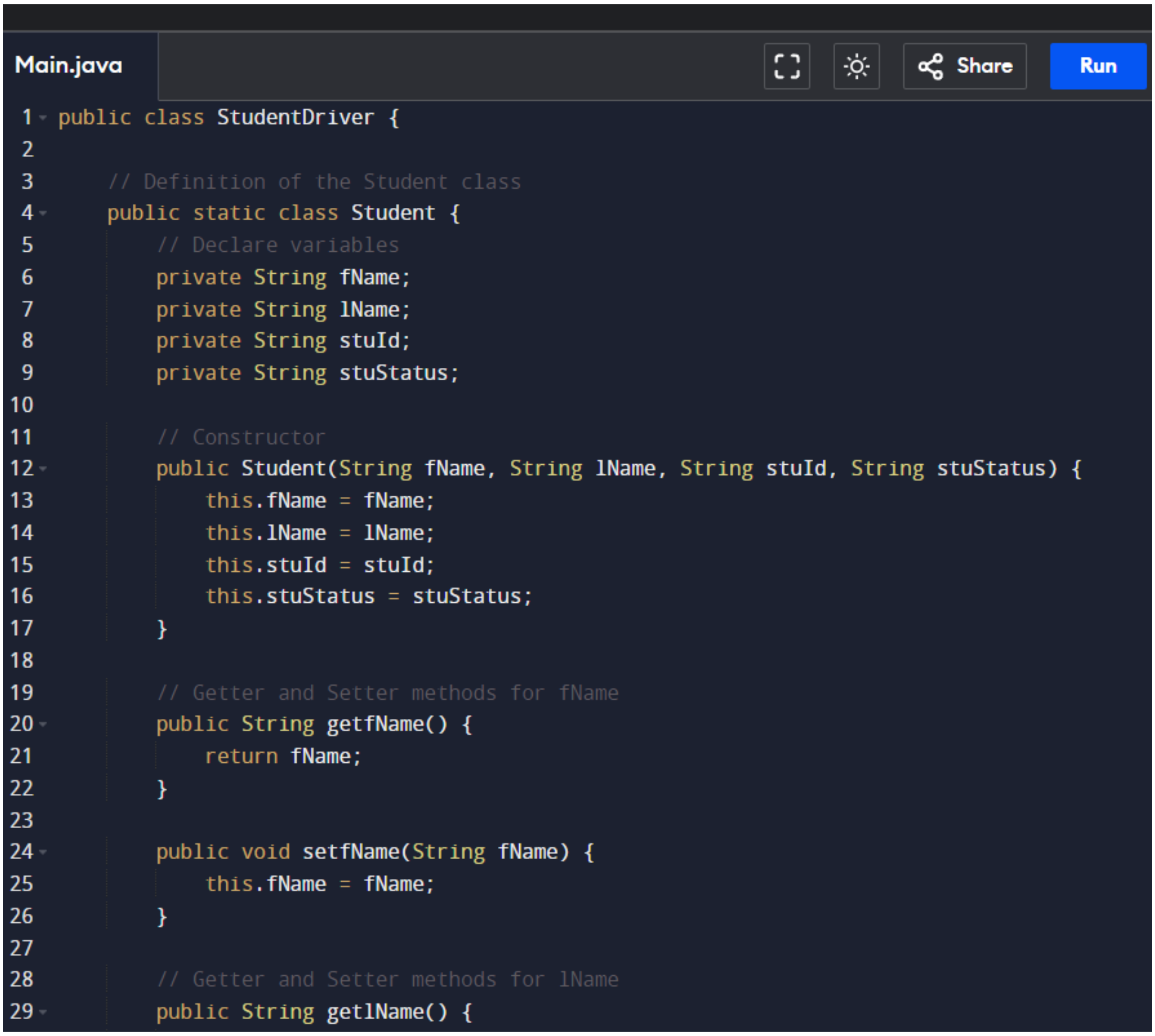
```java
public class Student {
    // Declare variables
    private String fName;
    private String lName;
    private String stuId;
    private String stuStatus;

    // Constructor
    public Student(String fName, String lName, String stuId, String stuStatus) {
        this.fName = fName;
        this.lName = lName;
        this.stuId = stuId;
        this.stuStatus = stuStatus;
    }

    // Getter and Setter methods for fName
    public String getfName() {
        return fName;
    }

    public void setfName(String fName) {
        this.fName = fName;
    }

    // Getter and Setter methods for lName
    public String getlName() {
        return lName;
    }

    public void setlName(String lName) {
```



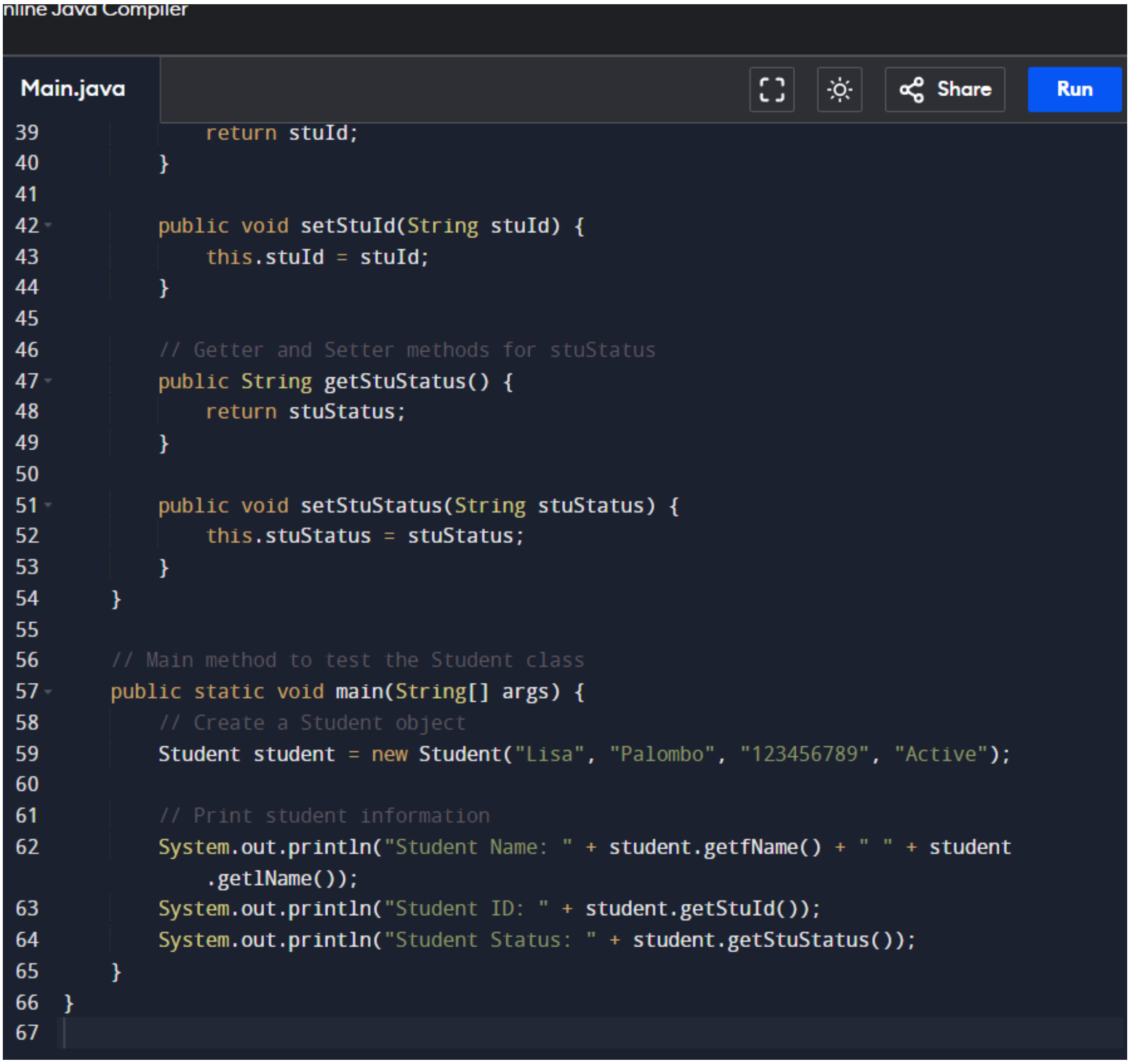
```java
    public String getStuId() {
        return stuId;
    }

    public void setStuId(String stuId) {
        this.stuId = stuId;
    }

    // Getter and Setter methods for stuStatus
    public String getStuStatus() {
        return stuStatus;
    }

    public void setStuStatus(String stuStatus) {
        this.stuStatus = stuStatus;
    }

    // Main method for testing
    public static void main(String[] args) {
        // Create a Student object
        Student student = new Student("Lisa", "Palombo", "123456789", "Active");

        // Print student information
        System.out.println("Student Name: " + student.getfName() + " " + student
            .getlName());
        System.out.println("Student ID: " + student.getStuId());
        System.out.println("Student Status: " + student.getStuStatus());
    }
}

```



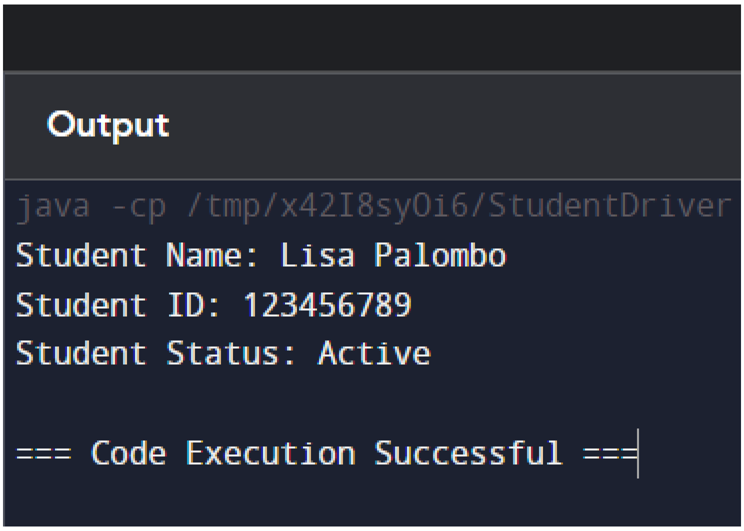
```
java -cp /tmp/ioLoOgDNY9/Student
Student Name: Lisa Palombo
Student ID: 123456789
Student Status: Active

=== Code Execution Successful ===
```



```java
public class StudentDriver {

    // Definition of the Student class
    public static class Student {
        // Declare variables
        private String fName;
        private String lName;
        private String stuId;
        private String stuStatus;

        // Constructor
        public Student(String fName, String lName, String stuId, String stuStatus) {
            this.fName = fName;
            this.lName = lName;
            this.stuId = stuId;
            this.stuStatus = stuStatus;
        }

        // Getter and Setter methods for fName
        public String getfName() {
            return fName;
        }

        public void setfName(String fName) {
            this.fName = fName;
        }

        // Getter and Setter methods for lName
        public String getlName() {
```

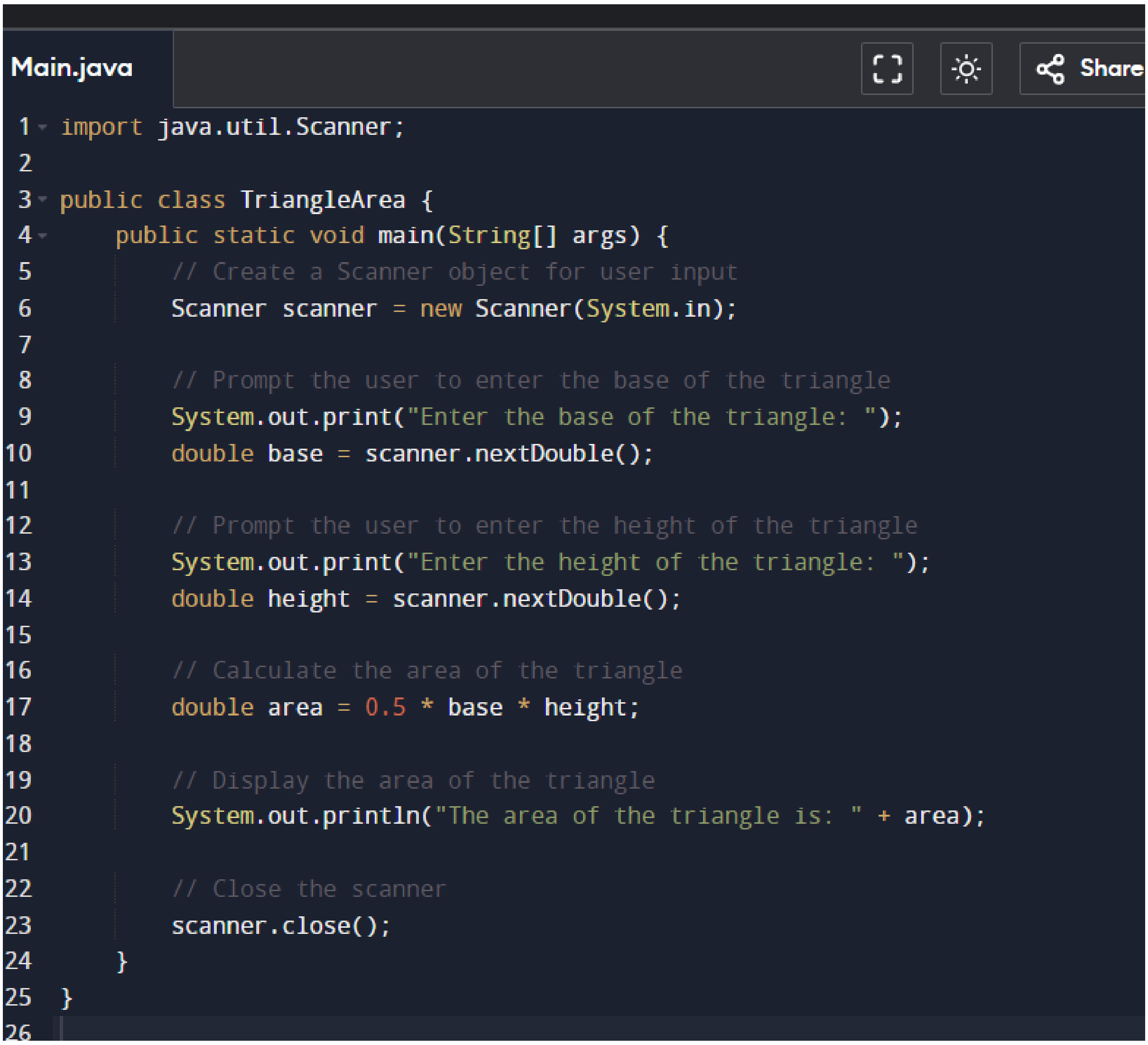


```java
            return stuId;
        }

        public void setStuId(String stuId) {
            this.stuId = stuId;
        }

        // Getter and Setter methods for stuStatus
        public String getStuStatus() {
            return stuStatus;
        }

        public void setStuStatus(String stuStatus) {
            this.stuStatus = stuStatus;
        }
    }

    // Main method to test the Student class
    public static void main(String[] args) {
        // Create a Student object
        Student student = new Student("Lisa", "Palombo", "123456789", "Active");

        // Print student information
        System.out.println("Student Name: " + student.getfName() + " " + student
            .getlName());
        System.out.println("Student ID: " + student.getStuId());
        System.out.println("Student Status: " + student.getStuStatus());
    }
}
```

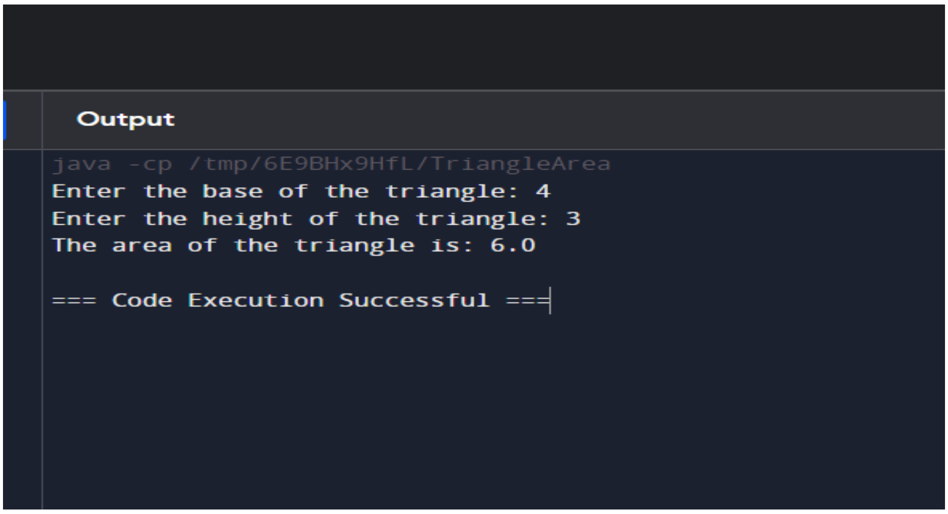


```
java -cp /tmp/x42I8syOi6/StudentDriver
Student Name: Lisa Palombo
Student ID: 123456789
Student Status: Active

=== Code Execution Successful ===
```

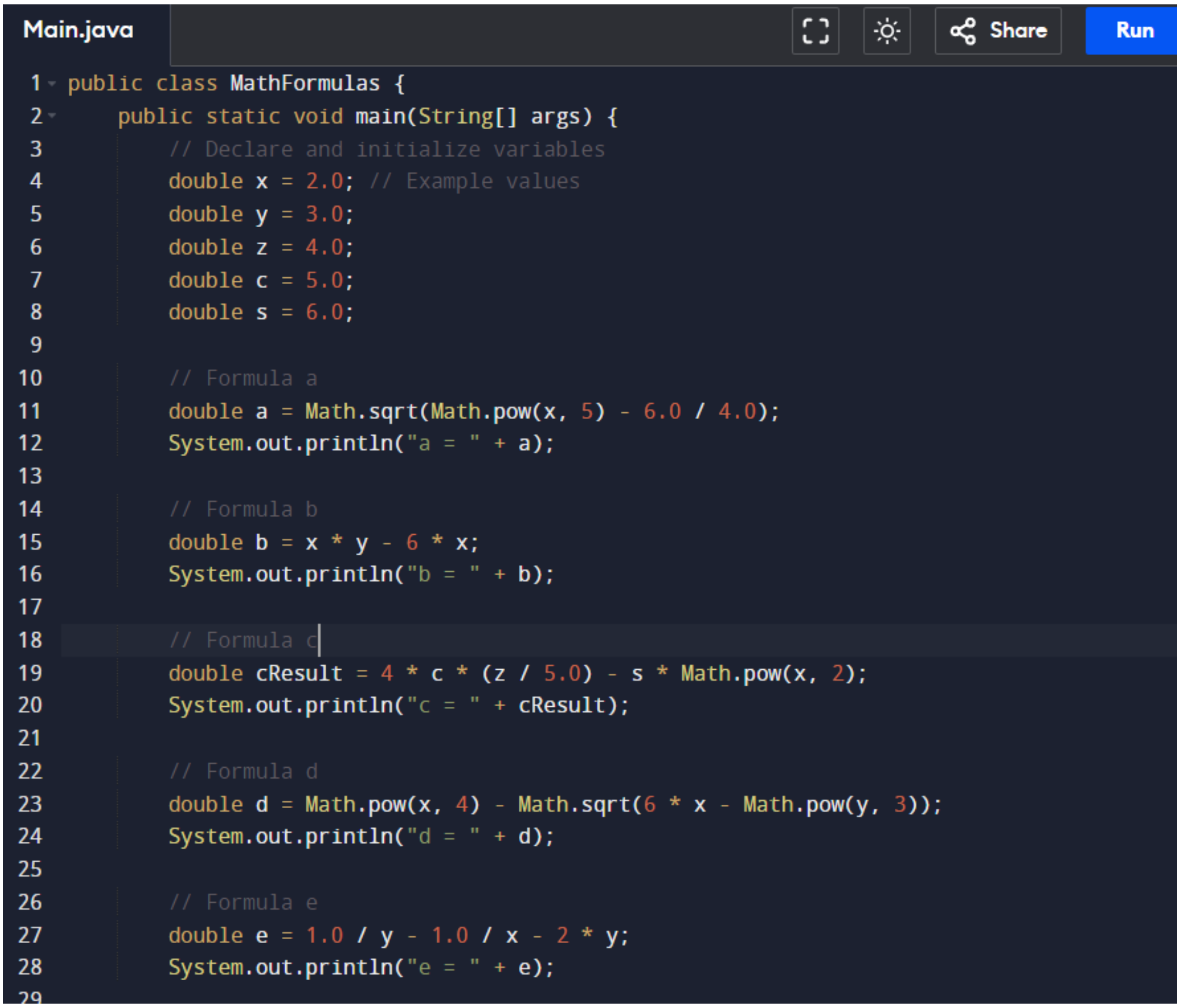
4.3



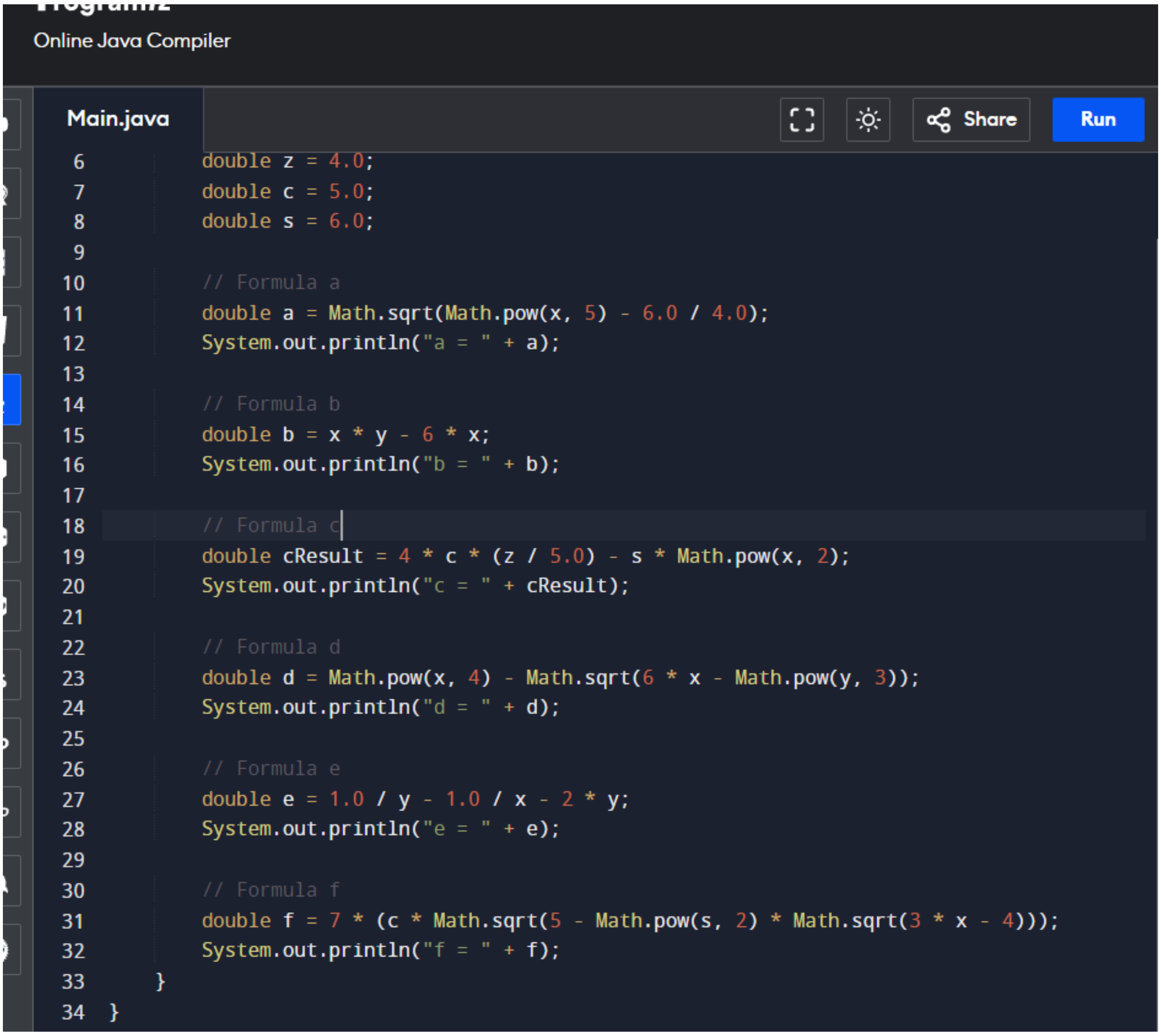
```java
import java.util.Scanner;

public class TriangleArea {
    public static void main(String[] args) {
        // Create a Scanner object for user input
        Scanner scanner = new Scanner(System.in);

        // Prompt the user to enter the base of the triangle
        System.out.print("Enter the base of the triangle: ");
        double base = scanner.nextDouble();

        // Prompt the user to enter the height of the triangle
        System.out.print("Enter the height of the triangle: ");
        double height = scanner.nextDouble();

        // Calculate the area of the triangle
        double area = 0.5 * base * height;

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

        // Close the scanner
        scanner.close();
    }
}

```



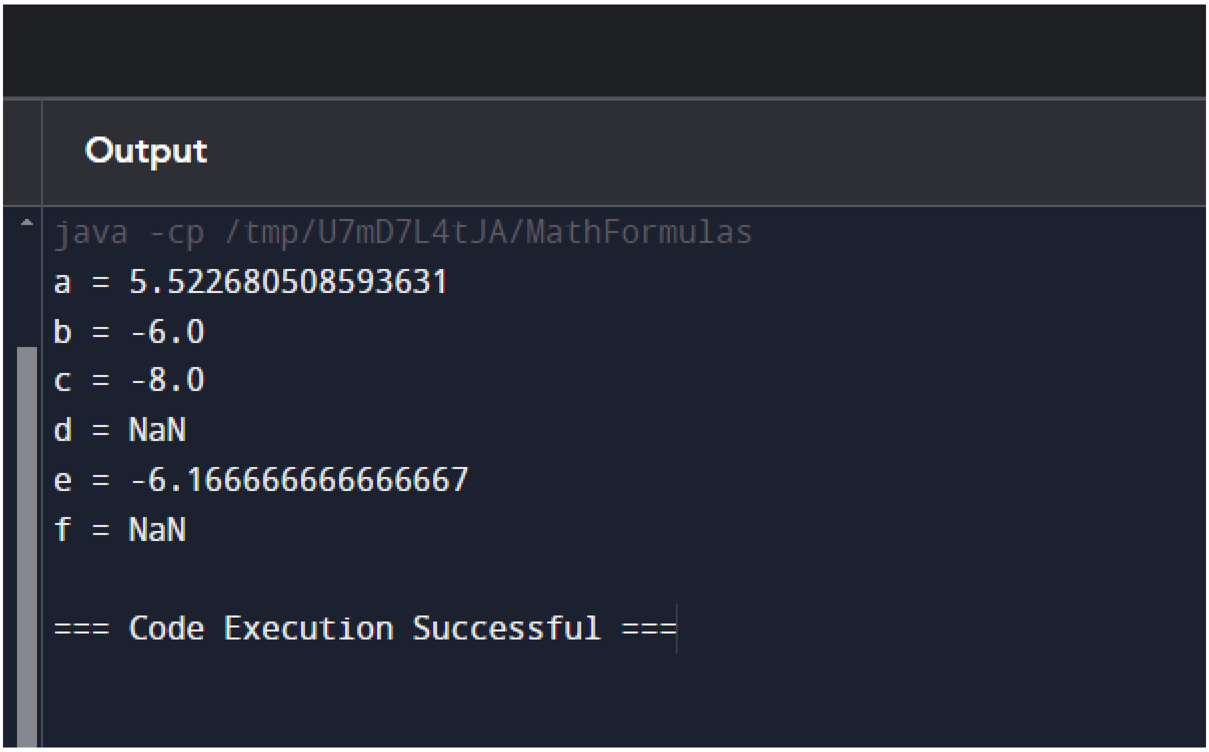
```
java -cp /tmp/6E9BHx9HfL/TriangleArea
Enter the base of the triangle: 4
Enter the height of the triangle: 3
The area of the triangle is: 6.0

=== Code Execution Successful ===
```



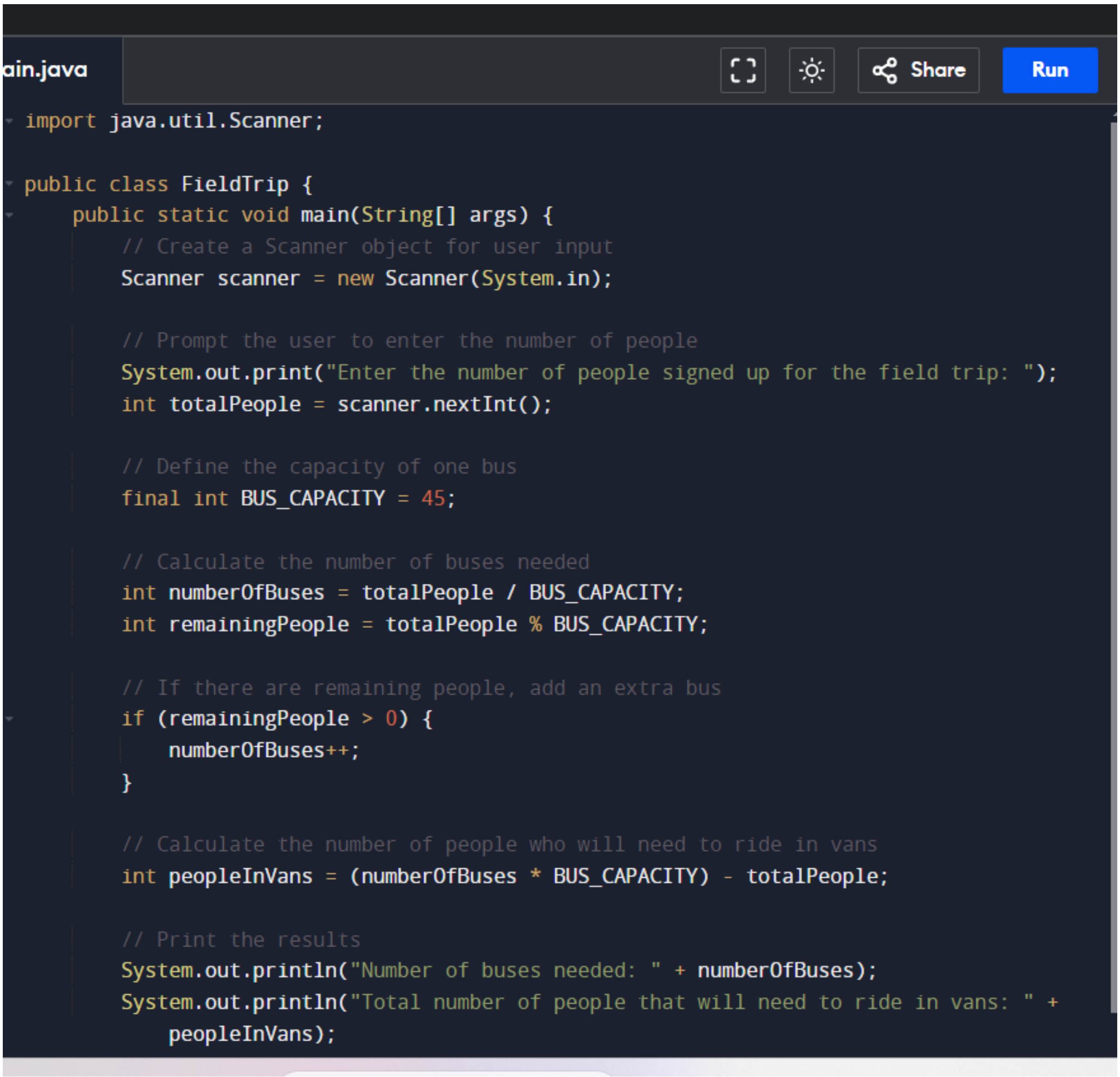
```java
public class MathFormulas {
    public static void main(String[] args) {
        // Declare and initialize variables
        double x = 2.0; // Example values
        double y = 3.0;
        double z = 4.0;
        double c = 5.0;
        double s = 6.0;

        // Formula a
        double a = Math.sqrt(Math.pow(x, 5) - 6.0 / 4.0);
        System.out.println("a = " + a);

        // Formula b
        double b = x * y - 6 * x;
        System.out.println("b = " + b);

        // Formula c
        double cResult = 4 * c * (z / 5.0) - s * Math.pow(x, 2);
        System.out.println("c = " + cResult);

        // Formula d
        double d = Math.pow(x, 4) - Math.sqrt(6 * x - Math.pow(y, 3));
        System.out.println("d = " + d);

        // Formula e
        double e = 1.0 / y - 1.0 / x - 2 * y;
        System.out.println("e = " + e);
```



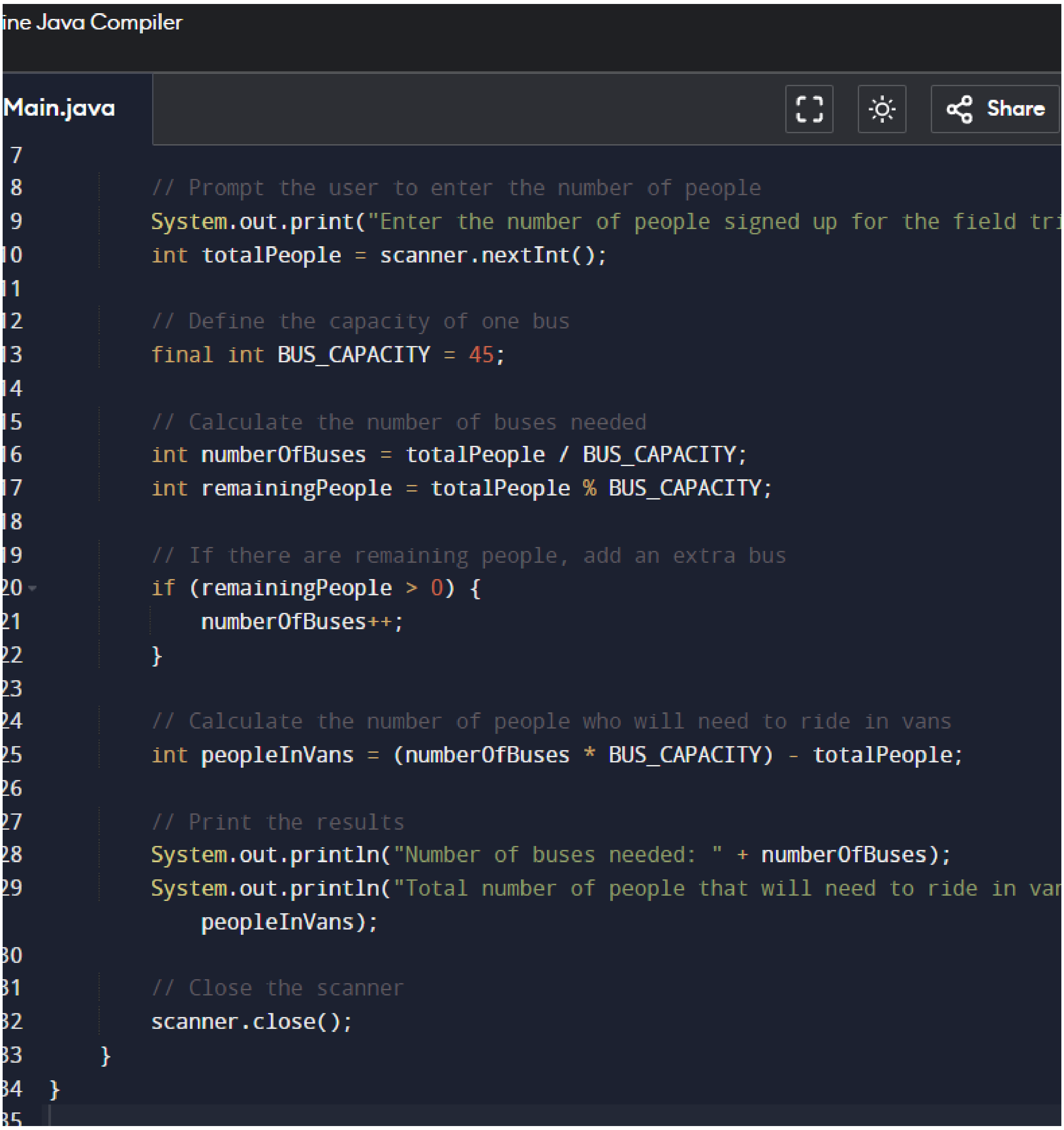
```java
        double z = 4.0;
        double c = 5.0;
        double s = 6.0;

        // Formula a
        double a = Math.sqrt(Math.pow(x, 5) - 6.0 / 4.0);
        System.out.println("a = " + a);

        // Formula b
        double b = x * y - 6 * x;
        System.out.println("b = " + b);

        // Formula c
        double cResult = 4 * c * (z / 5.0) - s * Math.pow(x, 2);
        System.out.println("c = " + cResult);

        // Formula d
        double d = Math.pow(x, 4) - Math.sqrt(6 * x - Math.pow(y, 3));
        System.out.println("d = " + d);

        // Formula e
        double e = 1.0 / y - 1.0 / x - 2 * y;
        System.out.println("e = " + e);

        // Formula f
        double f = 7 * (c * Math.sqrt(5 - Math.pow(s, 2) * Math.sqrt(3 * x - 4)));
        System.out.println("f = " + f);
    }
}
```



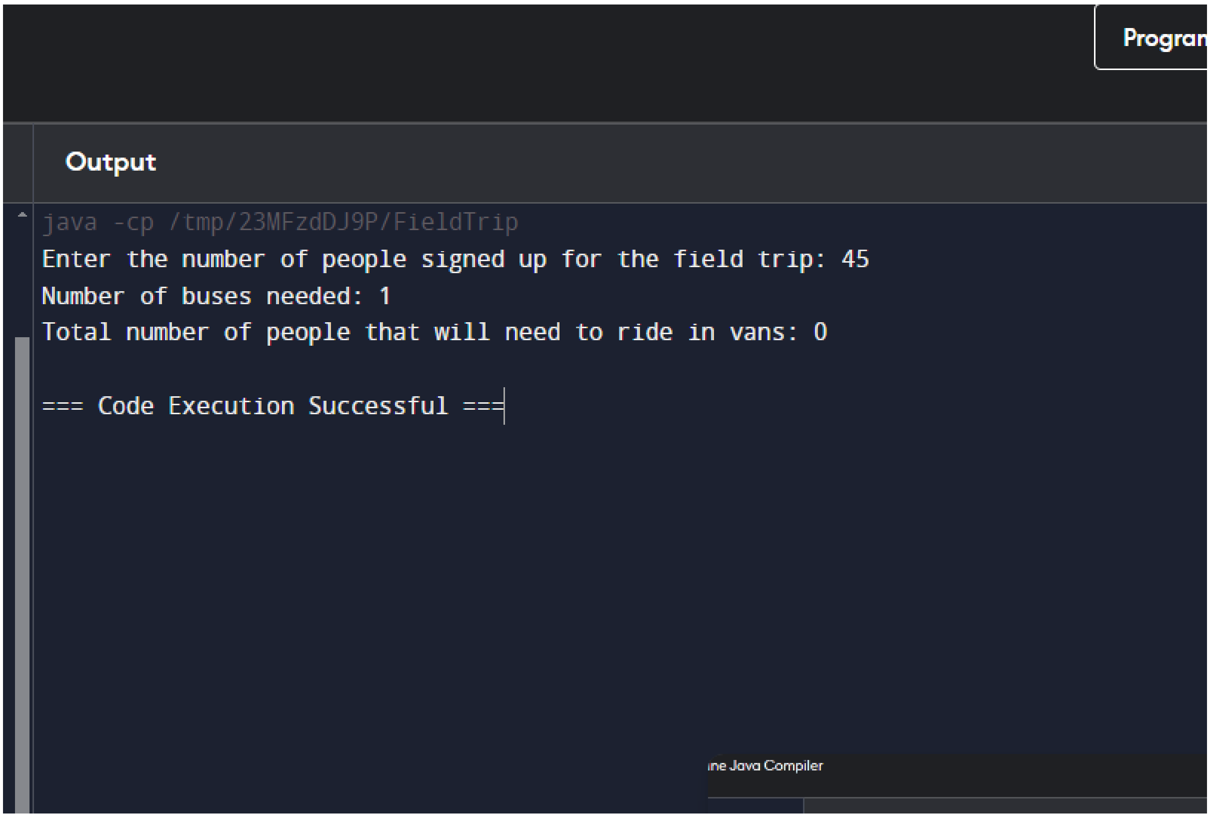
```
java -cp /tmp/U7mD7L4tJA/MathFormulas
a = 5.522680508593631
b = -6.0
c = -8.0
d = NaN
e = -6.166666666666667
f = NaN

=== Code Execution Successful ===
```



```java
import java.util.Scanner;

public class FieldTrip {
    public static void main(String[] args) {
        // Create a Scanner object for user input
        Scanner scanner = new Scanner(System.in);

        // Prompt the user to enter the number of people
        System.out.print("Enter the number of people signed up for the field trip: ");
        int totalPeople = scanner.nextInt();

        // Define the capacity of one bus
        final int BUS_CAPACITY = 45;

        // Calculate the number of buses needed
        int numberOfBuses = totalPeople / BUS_CAPACITY;
        int remainingPeople = totalPeople % BUS_CAPACITY;

        // If there are remaining people, add an extra bus
        if (remainingPeople > 0) {
            numberOfBuses++;
        }

        // Calculate the number of people who will need to ride in vans
        int peopleInVans = (numberOfBuses * BUS_CAPACITY) - totalPeople;

        // Print the results
        System.out.println("Number of buses needed: " + numberOfBuses);
        System.out.println("Total number of people that will need to ride in vans: " +
            peopleInVans);
```

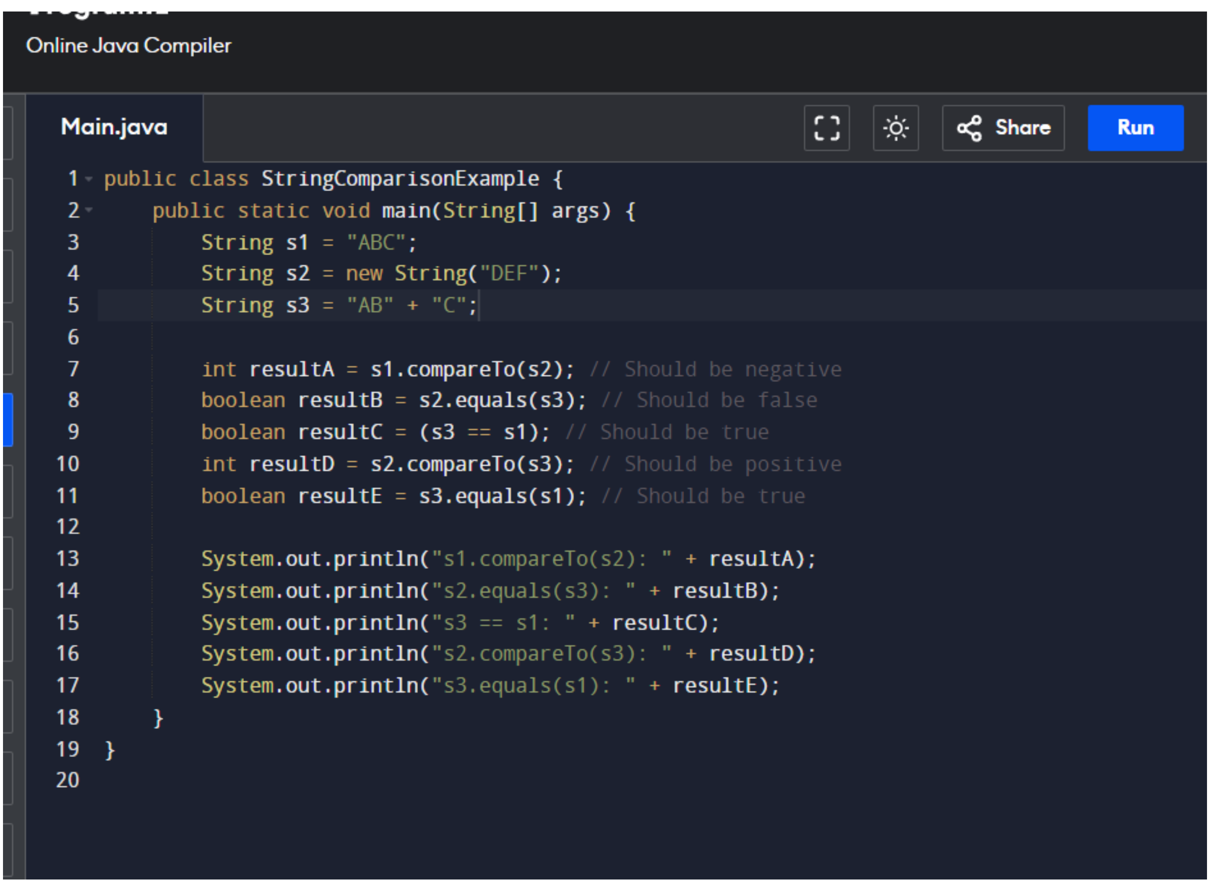


```java

        // Prompt the user to enter the number of people
        System.out.print("Enter the number of people signed up for the field tri
        int totalPeople = scanner.nextInt();

        // Define the capacity of one bus
        final int BUS_CAPACITY = 45;

        // Calculate the number of buses needed
        int numberOfBuses = totalPeople / BUS_CAPACITY;
        int remainingPeople = totalPeople % BUS_CAPACITY;

        // If there are remaining people, add an extra bus
        if (remainingPeople > 0) {
            numberOfBuses++;
        }

        // Calculate the number of people who will need to ride in vans
        int peopleInVans = (numberOfBuses * BUS_CAPACITY) - totalPeople;

        // Print the results
        System.out.println("Number of buses needed: " + numberOfBuses);
        System.out.println("Total number of people that will need to ride in var
            peopleInVans);

        // Close the scanner
        scanner.close();
    }
}

```

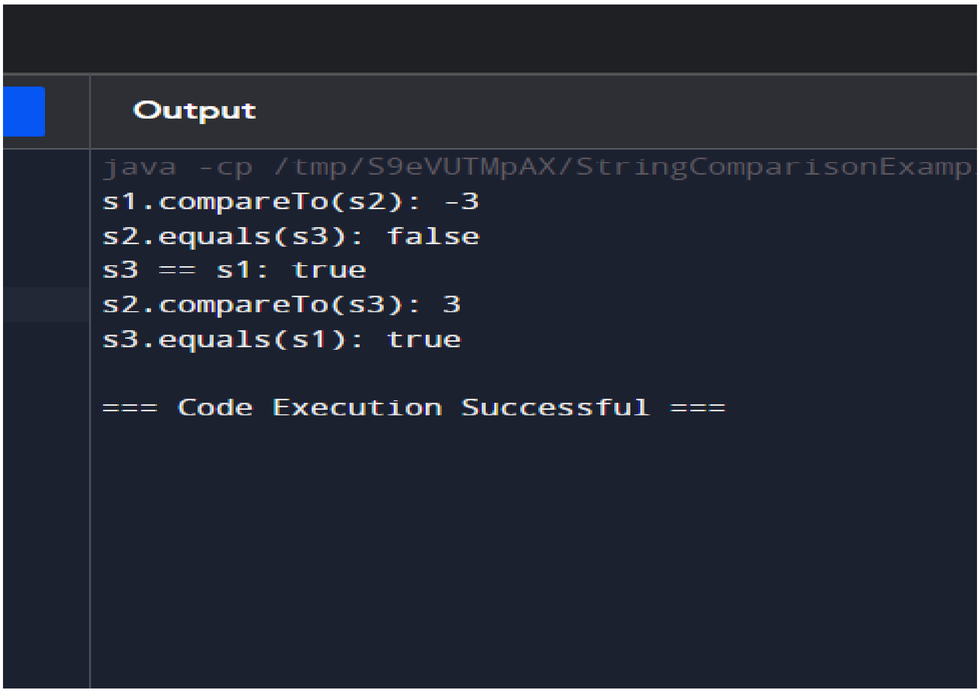


```
java -cp /tmp/23MFzdDJ9P/FieldTrip
Enter the number of people signed up for the field trip: 45
Number of buses needed: 1
Total number of people that will need to ride in vans: 0

=== Code Execution Successful ===
```

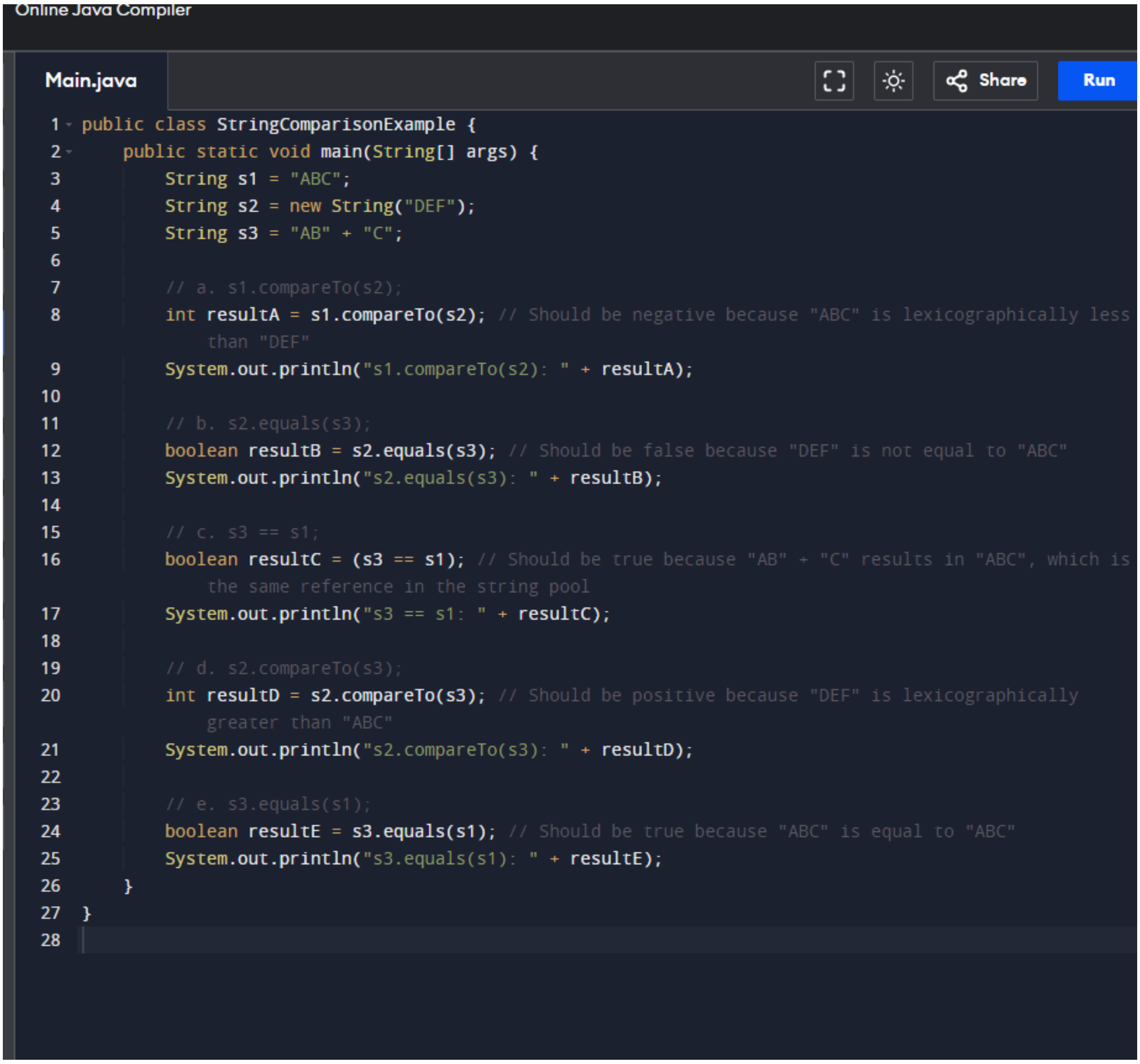
4.4



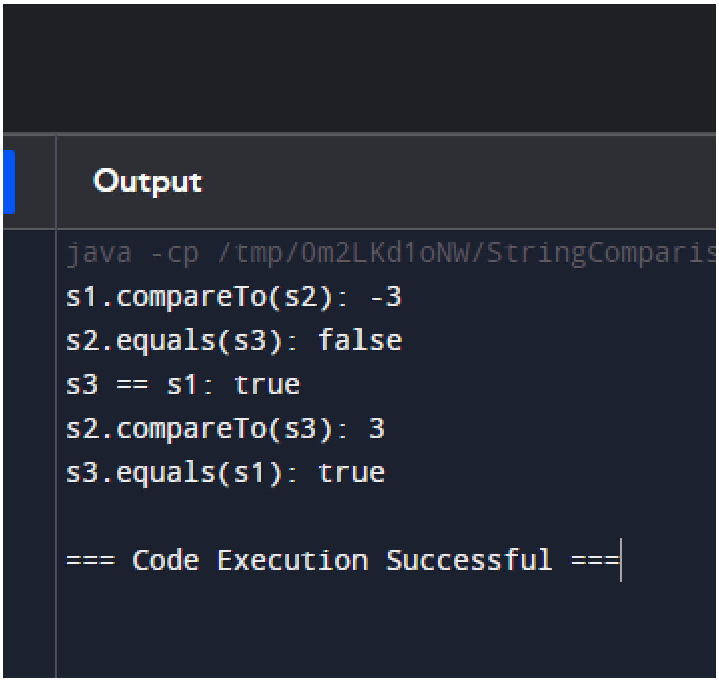
```java
public class StringComparisonExample {
    public static void main(String[] args) {
        String s1 = "ABC";
        String s2 = new String("DEF");
        String s3 = "AB" + "C";

        int resultA = s1.compareTo(s2); // Should be negative
        boolean resultB = s2.equals(s3); // Should be false
        boolean resultC = (s3 == s1); // Should be true
        int resultD = s2.compareTo(s3); // Should be positive
        boolean resultE = s3.equals(s1); // Should be true

        System.out.println("s1.compareTo(s2): " + resultA);
        System.out.println("s2.equals(s3): " + resultB);
        System.out.println("s3 == s1: " + resultC);
        System.out.println("s2.compareTo(s3): " + resultD);
        System.out.println("s3.equals(s1): " + resultE);
    }
}
```



```
java -cp /tmp/S9eVUTMpAX/StringComparisonExamp
s1.compareTo(s2): -3
s2.equals(s3): false
s3 == s1: true
s2.compareTo(s3): 3
s3.equals(s1): true

=== Code Execution Successful ===
```

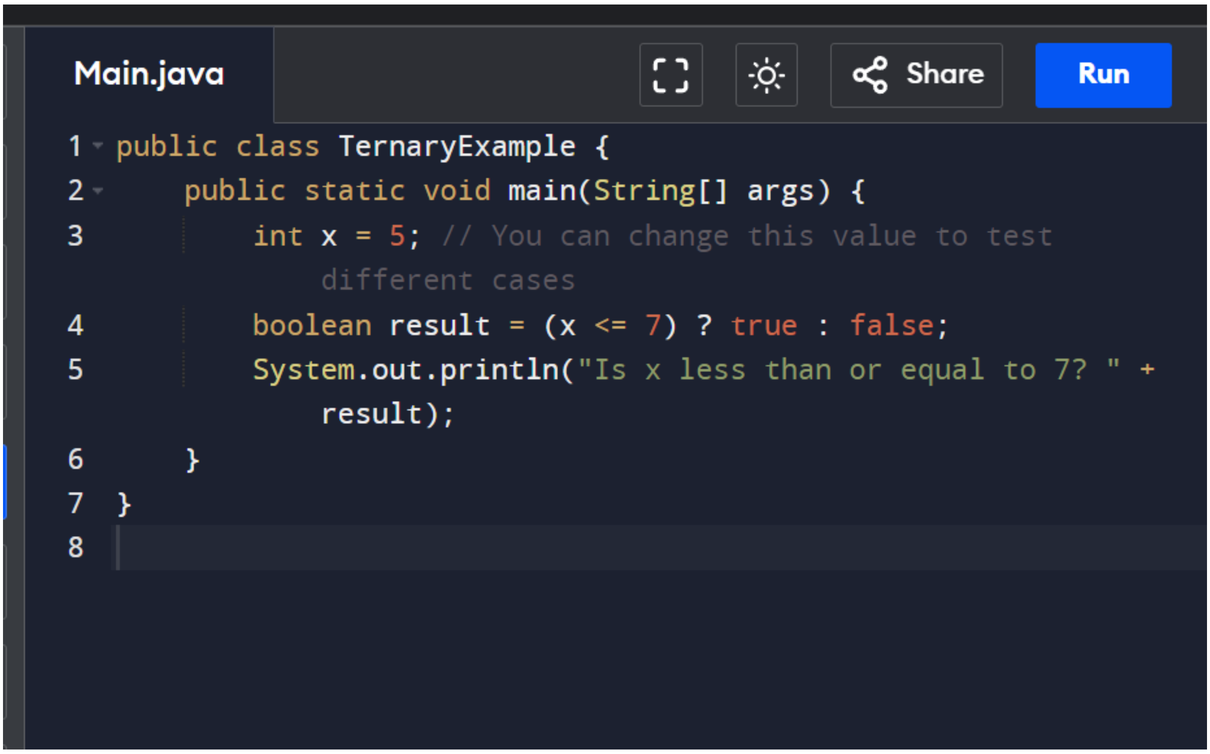


```java
public class StringComparisonExample {
    public static void main(String[] args) {
        String s1 = "ABC";
        String s2 = new String("DEF");
        String s3 = "AB" + "C";

        // a. s1.compareTo(s2);
        int resultA = s1.compareTo(s2); // Should be negative because "ABC" is lexicographically less than "DEF"
        System.out.println("s1.compareTo(s2): " + resultA);

        // b. s2.equals(s3);
        boolean resultB = s2.equals(s3); // Should be false because "DEF" is not equal to "ABC"
        System.out.println("s2.equals(s3): " + resultB);

        // c. s3 == s1;
        boolean resultC = (s3 == s1); // Should be true because "AB" + "C" results in "ABC", which is the same reference in the string pool
        System.out.println("s3 == s1: " + resultC);

        // d. s2.compareTo(s3);
        int resultD = s2.compareTo(s3); // Should be positive because "DEF" is lexicographically greater than "ABC"
        System.out.println("s2.compareTo(s3): " + resultD);

        // e. s3.equals(s1);
        boolean resultE = s3.equals(s1); // Should be true because "ABC" is equal to "ABC"
        System.out.println("s3.equals(s1): " + resultE);
    }
}
```

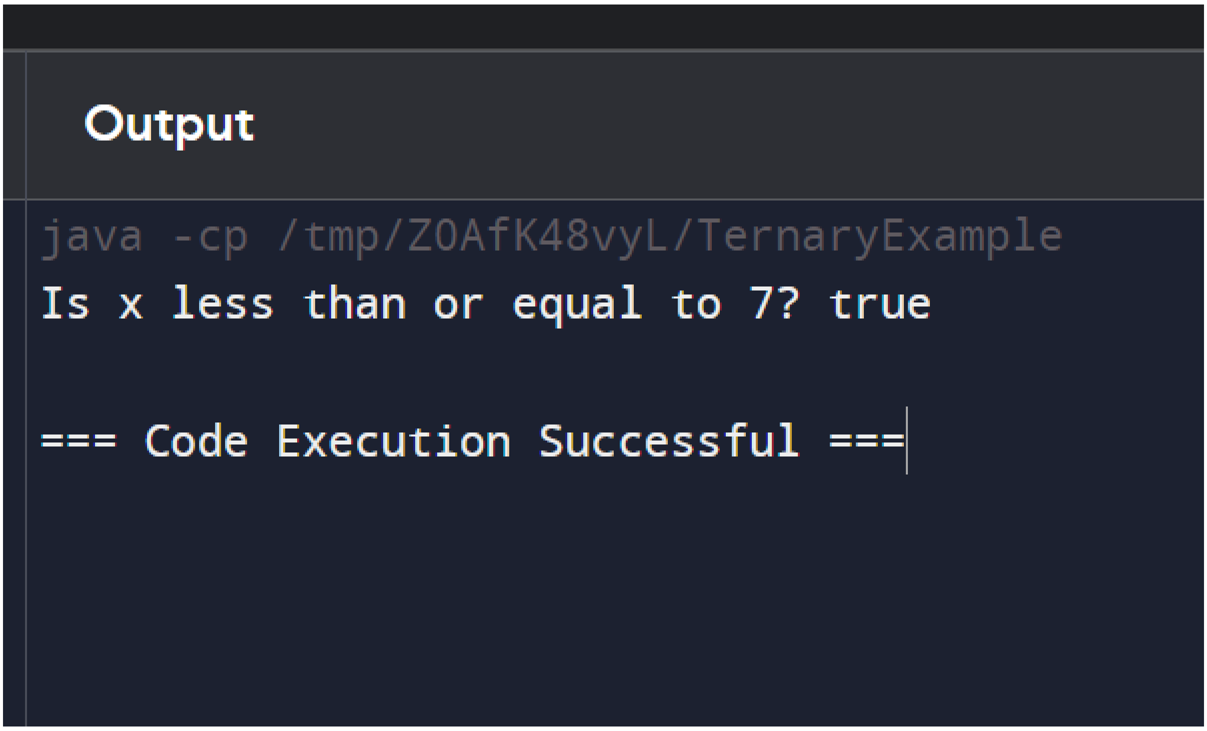


```
java -cp /tmp/Om2LKd1oNW/StringComparis
s1.compareTo(s2): -3
s2.equals(s3): false
s3 == s1: true
s2.compareTo(s3): 3
s3.equals(s1): true

=== Code Execution Successful ===
```

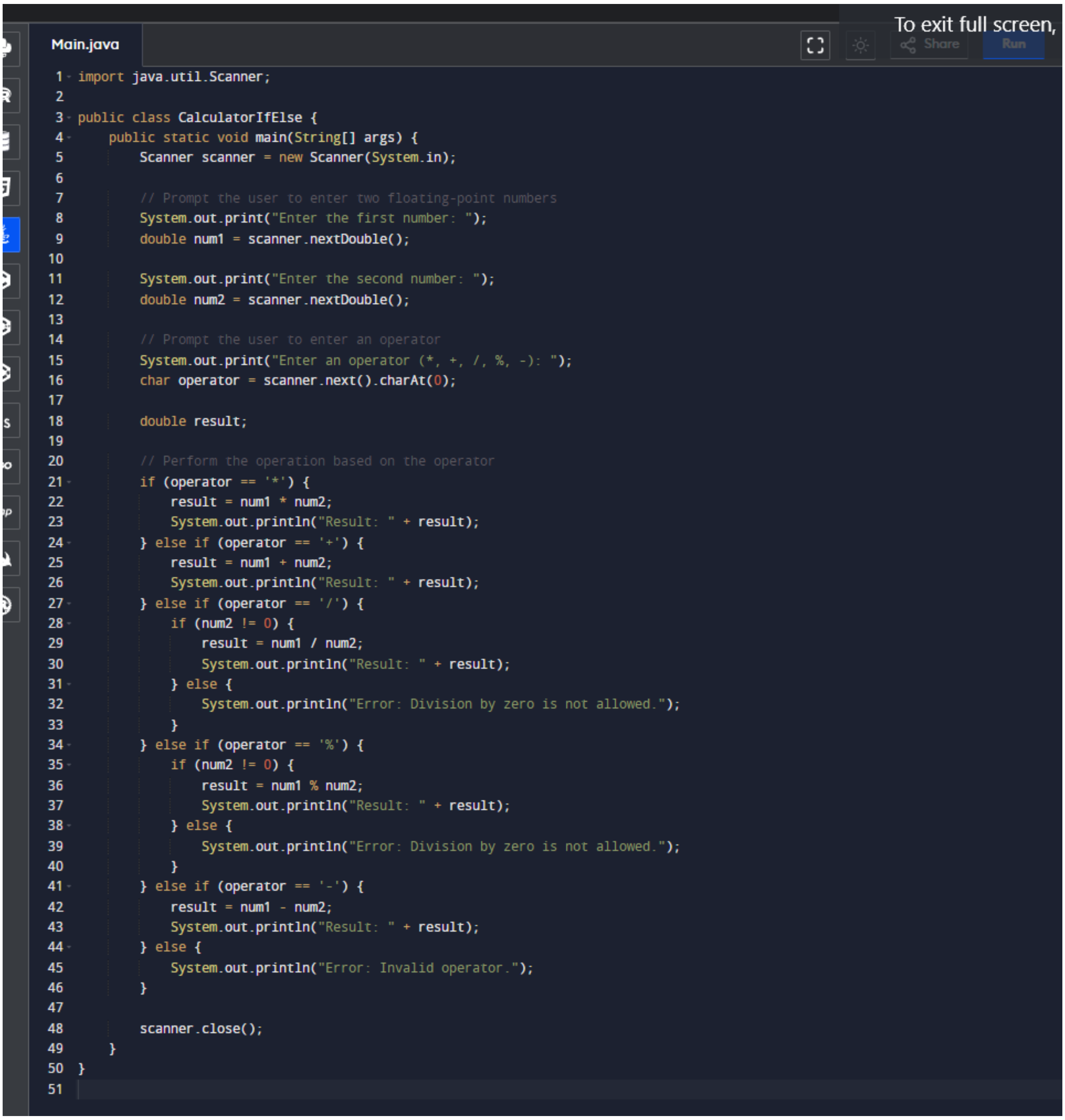
5.1



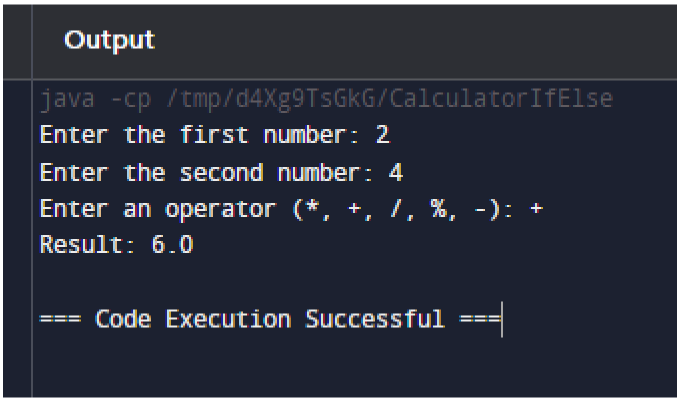
```java
public class TernaryExample {
    public static void main(String[] args) {
        int x = 5; // You can change this value to test different cases
        boolean result = (x <= 7) ? true : false;
        System.out.println("Is x less than or equal to 7? " + result);
    }
}
```



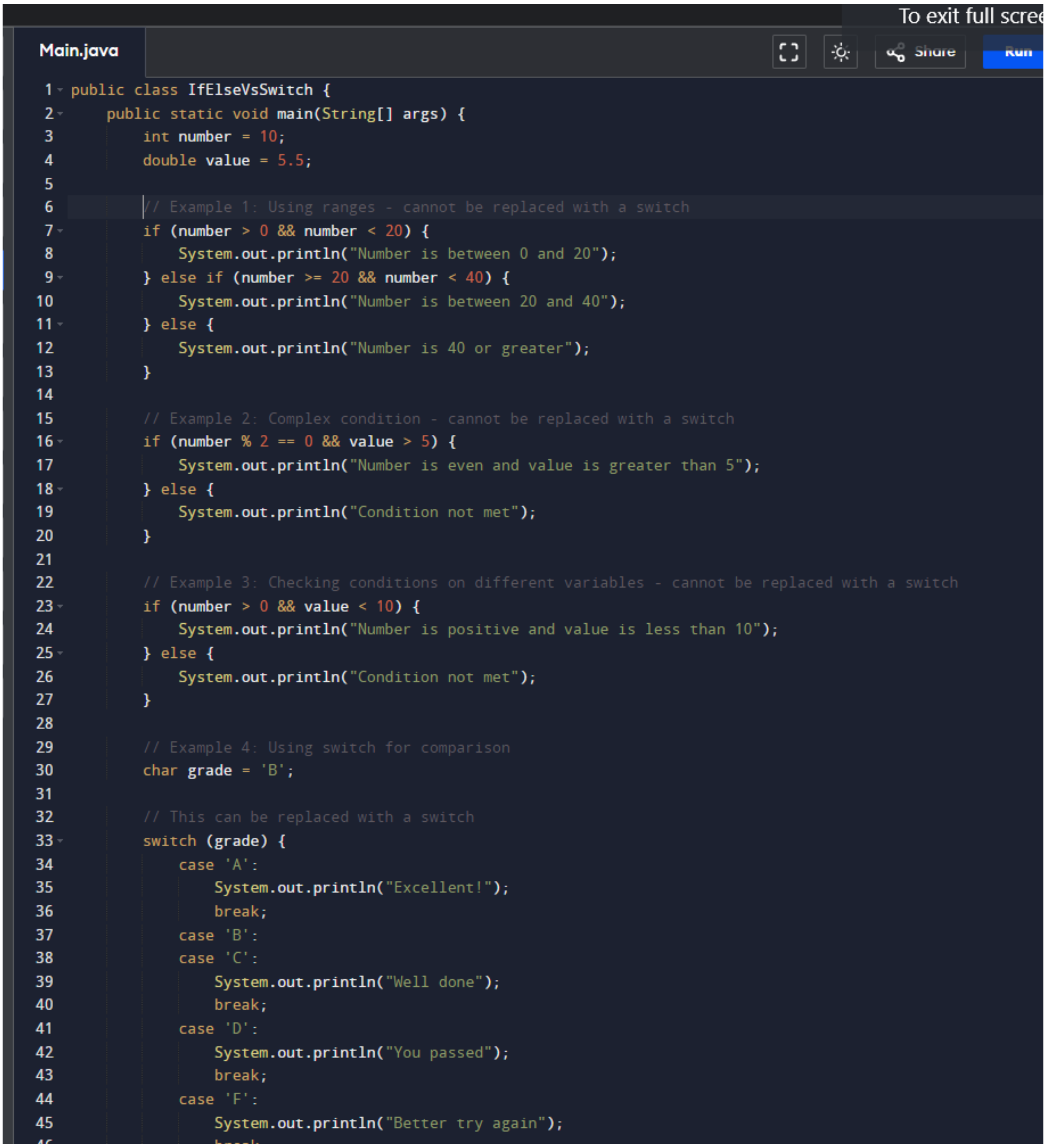
```
java -cp /tmp/ZOAfK48vyL/TernaryExample
Is x less than or equal to 7? true

=== Code Execution Successful ===
```



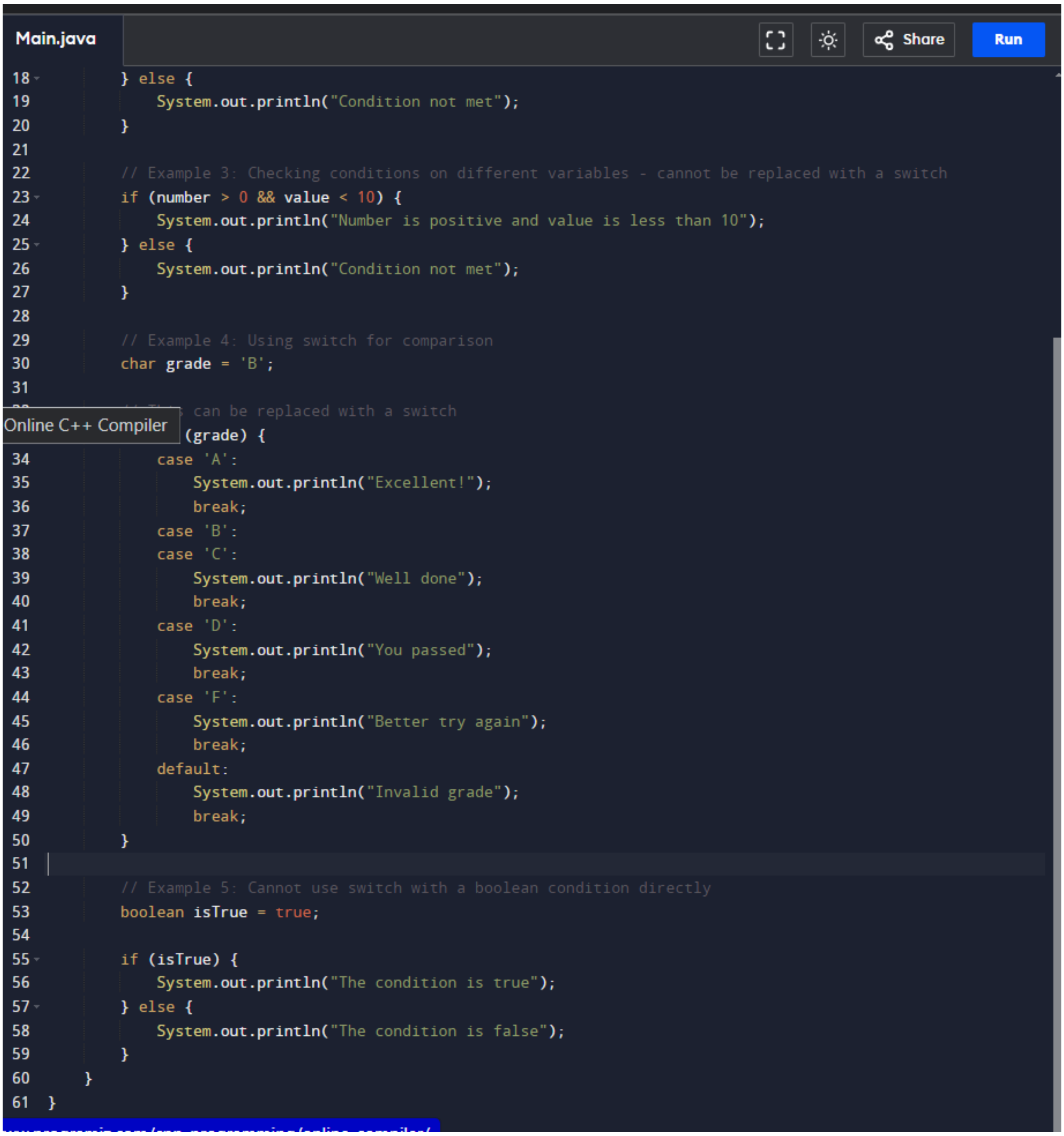
```java
import java.util.Scanner;

public class CalculatorIfElse {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);

        // Prompt the user to enter two floating-point numbers
        System.out.print("Enter the first number: ");
        double num1 = scanner.nextDouble();

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

        // Prompt the user to enter an operator
        System.out.print("Enter an operator (*, +, /, %, -): ");
        char operator = scanner.next().charAt(0);

        double result;

        // Perform the operation based on the operator
        if (operator == '*') {
            result = num1 * num2;
            System.out.println("Result: " + result);
        } else if (operator == '+') {
            result = num1 + num2;
            System.out.println("Result: " + result);
        } else if (operator == '/') {
            if (num2 != 0) {
                result = num1 / num2;
                System.out.println("Result: " + result);
            } else {
                System.out.println("Error: Division by zero is not allowed.");
            }
        } else if (operator == '%') {
            if (num2 != 0) {
                result = num1 % num2;
                System.out.println("Result: " + result);
            } else {
                System.out.println("Error: Division by zero is not allowed.");
            }
        } else if (operator == '-') {
            result = num1 - num2;
            System.out.println("Result: " + result);
        } else {
            System.out.println("Error: Invalid operator.");
        }

        scanner.close();
    }
}

```



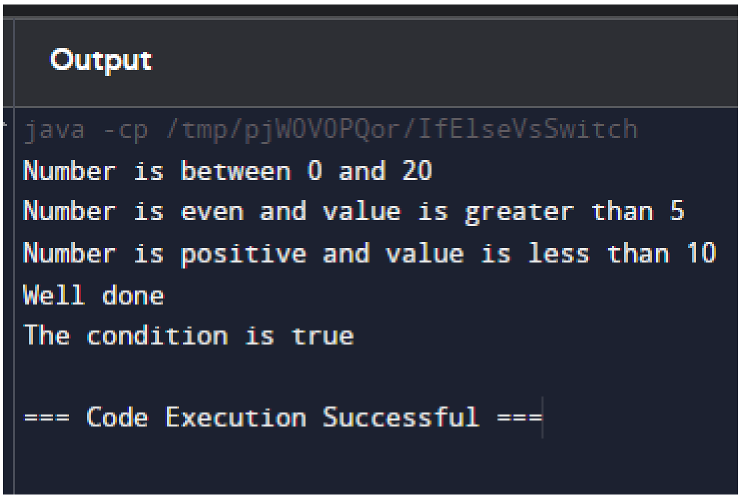
```
java -cp /tmp/d4Xg9TsGkG/CalculatorIfElse
Enter the first number: 2
Enter the second number: 4
Enter an operator (*, +, /, %, -): +
Result: 6.0

=== Code Execution Successful ===
```



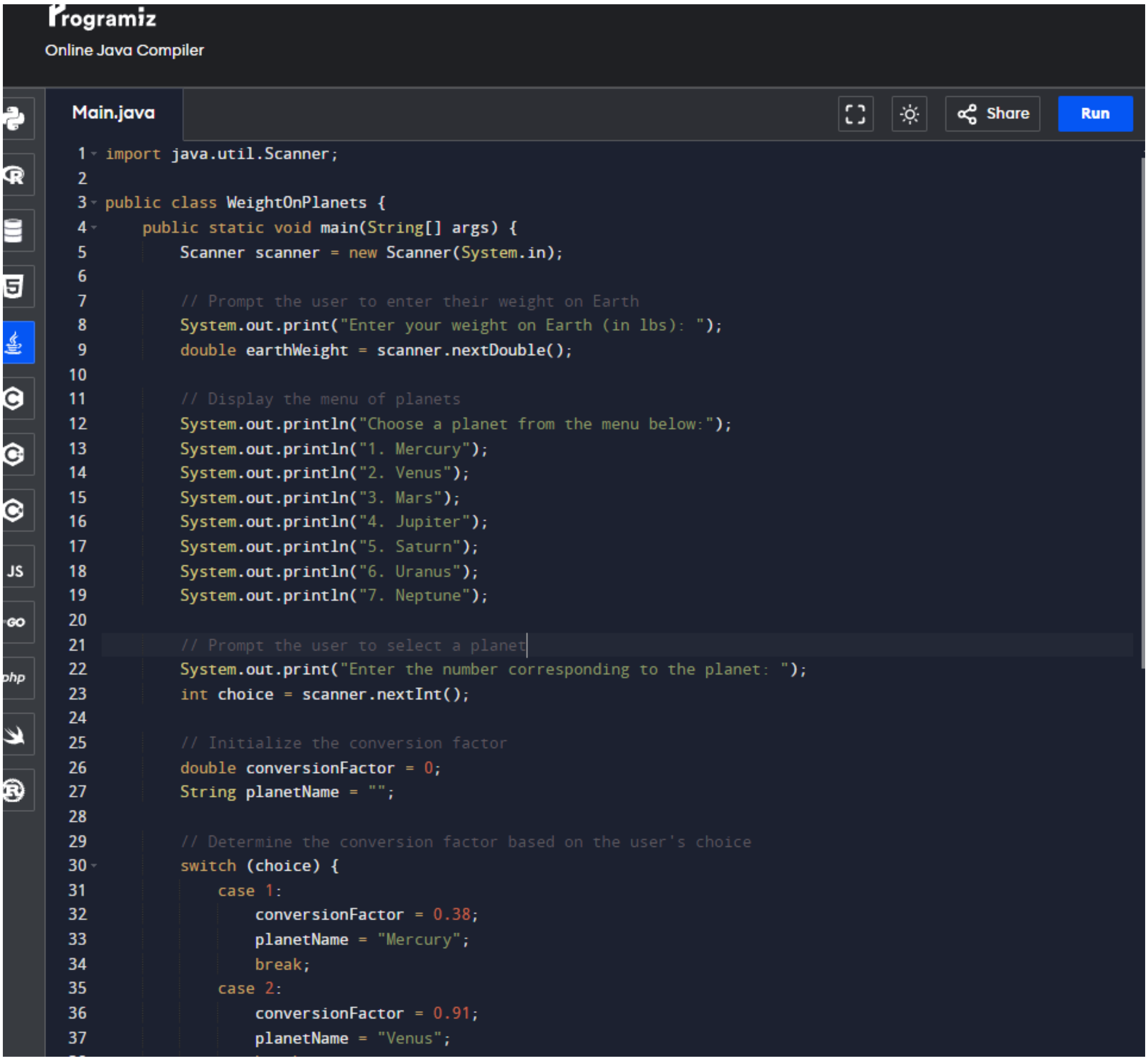
```java
public class IfElseVsSwitch {
    public static void main(String[] args) {
        int number = 10;
        double value = 5.5;

        // Example 1: Using ranges - cannot be replaced with a switch
        if (number > 0 && number < 20) {
            System.out.println("Number is between 0 and 20");
        } else if (number >= 20 && number < 40) {
            System.out.println("Number is between 20 and 40");
        } else {
            System.out.println("Number is 40 or greater");
        }

        // Example 2: Complex condition - cannot be replaced with a switch
        if (number % 2 == 0 && value > 5) {
            System.out.println("Number is even and value is greater than 5");
        } else {
            System.out.println("Condition not met");
        }

        // Example 3: Checking conditions on different variables - cannot be replaced with a switch
        if (number > 0 && value < 10) {
            System.out.println("Number is positive and value is less than 10");
        } else {
            System.out.println("Condition not met");
        }

        // Example 4: Using switch for comparison
        char grade = 'B';

        // This can be replaced with a switch
        switch (grade) {
            case 'A':
                System.out.println("Excellent!");
                break;
            case 'B':
            case 'C':
                System.out.println("Well done");
                break;
            case 'D':
                System.out.println("You passed");
                break;
            case 'F':
                System.out.println("Better try again");
                break;
```



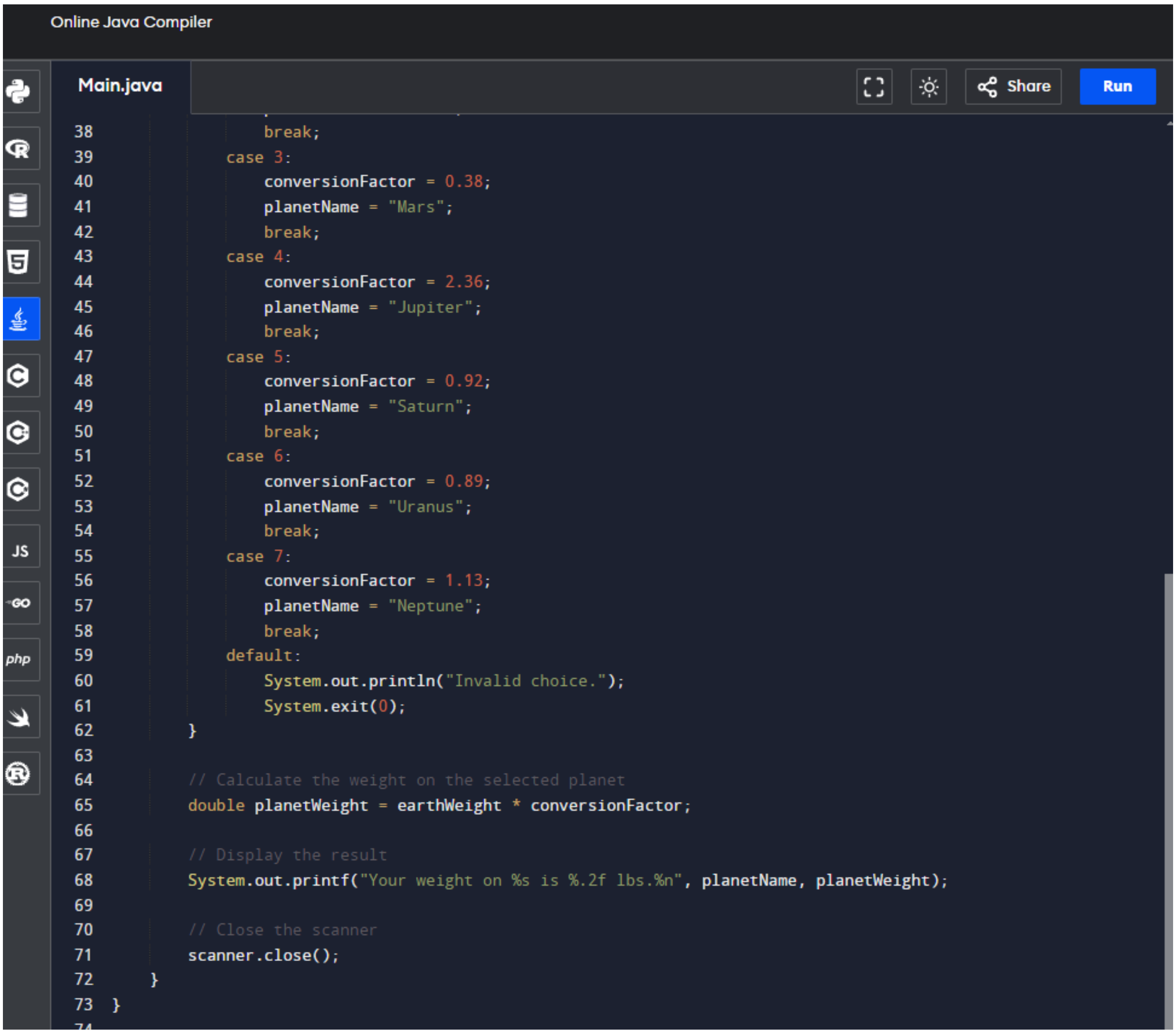
```java
        } else {
            System.out.println("Condition not met");
        }

        // Example 3: Checking conditions on different variables - cannot be replaced with a switch
        if (number > 0 && value < 10) {
            System.out.println("Number is positive and value is less than 10");
        } else {
            System.out.println("Condition not met");
        }

        // Example 4: Using switch for comparison
        char grade = 'B';

        // This can be replaced with a switch
        switch (grade) {
            case 'A':
                System.out.println("Excellent!");
                break;
            case 'B':
            case 'C':
                System.out.println("Well done");
                break;
            case 'D':
                System.out.println("You passed");
                break;
            case 'F':
                System.out.println("Better try again");
                break;
            default:
                System.out.println("Invalid grade");
                break;
        }

        // Example 5: Cannot use switch with a boolean condition directly
        boolean isTrue = true;

        if (isTrue) {
            System.out.println("The condition is true");
        } else {
            System.out.println("The condition is false");
        }
    }
}
```



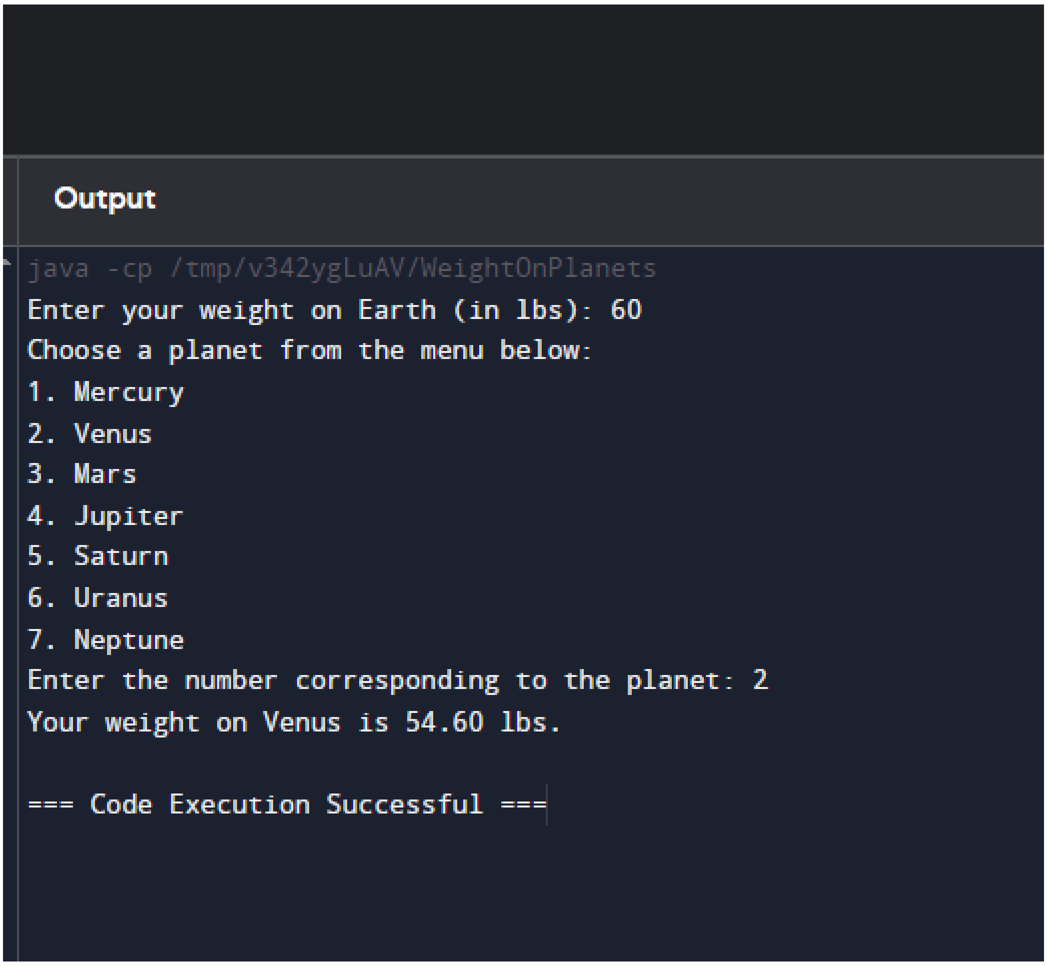
```
java -cp /tmp/pjWOVOPQor/IfElseVsSwitch
Number is between 0 and 20
Number is even and value is greater than 5
Number is positive and value is less than 10
Well done
The condition is true

=== Code Execution Successful ===
```



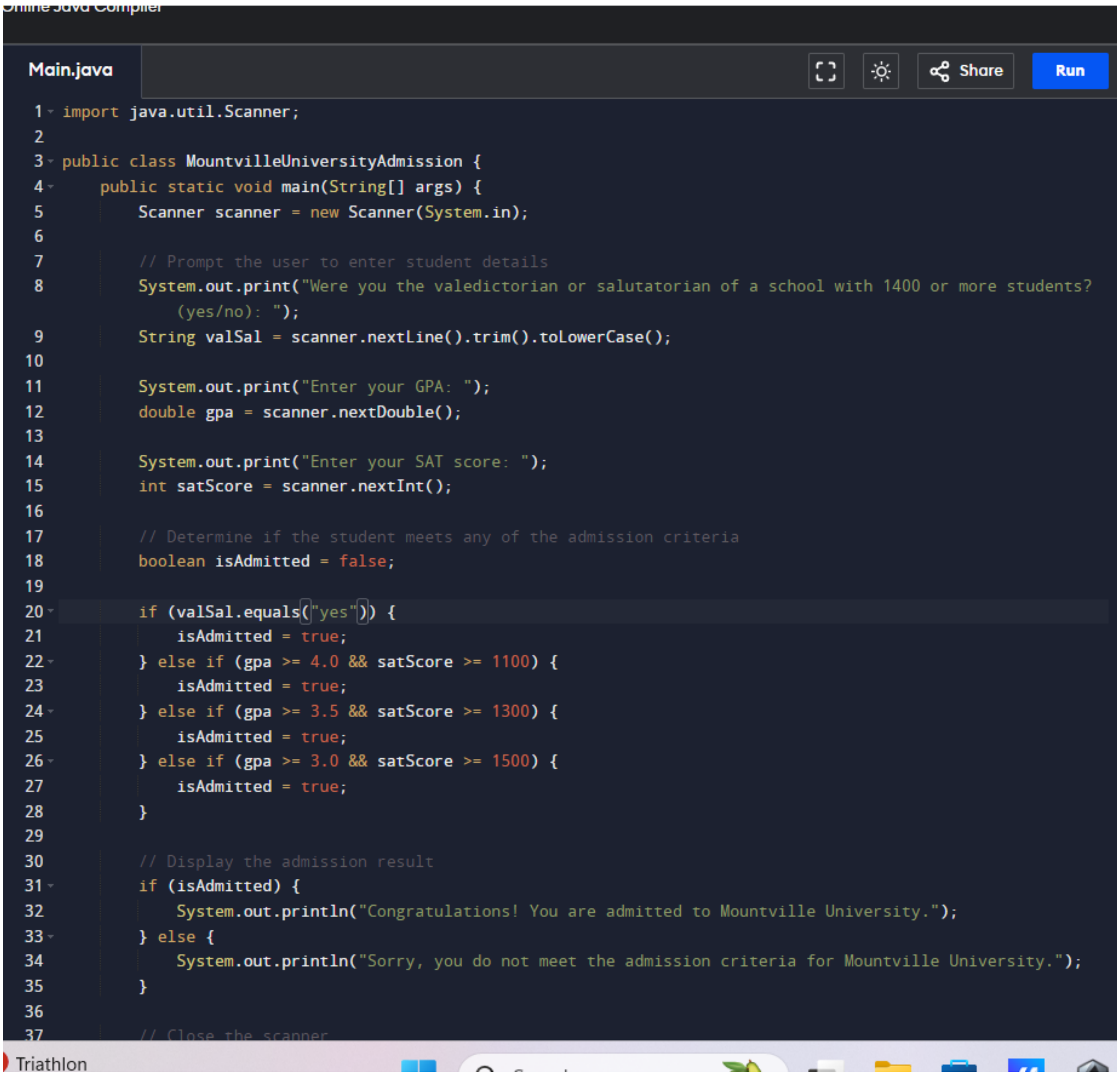
```java
import java.util.Scanner;

public class WeightOnPlanets {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);

        // Prompt the user to enter their weight on Earth
        System.out.print("Enter your weight on Earth (in lbs): ");
        double earthWeight = scanner.nextDouble();

        // Display the menu of planets
        System.out.println("Choose a planet from the menu below:");
        System.out.println("1. Mercury");
        System.out.println("2. Venus");
        System.out.println("3. Mars");
        System.out.println("4. Jupiter");
        System.out.println("5. Saturn");
        System.out.println("6. Uranus");
        System.out.println("7. Neptune");

        // Prompt the user to select a planet
        System.out.print("Enter the number corresponding to the planet: ");
        int choice = scanner.nextInt();

        // Initialize the conversion factor
        double conversionFactor = 0;
        String planetName = "";

        // Determine the conversion factor based on the user's choice
        switch (choice) {
            case 1:
                conversionFactor = 0.38;
                planetName = "Mercury";
                break;
            case 2:
                conversionFactor = 0.91;
                planetName = "Venus";
```



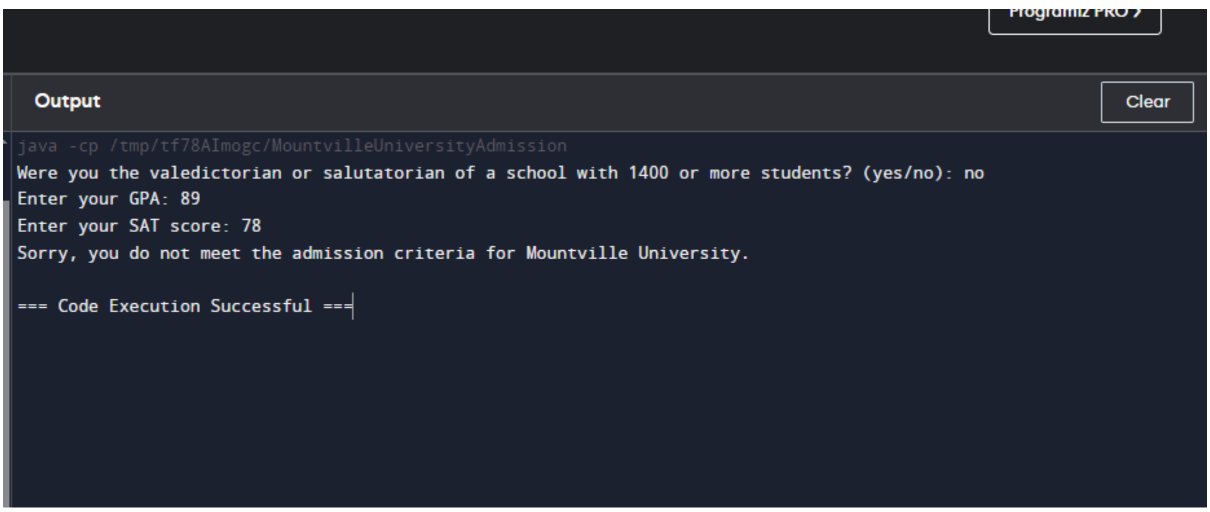
```
                break;
            case 3:
                conversionFactor = 0.38;
                planetName = "Mars";
                break;
            case 4:
                conversionFactor = 2.36;
                planetName = "Jupiter";
                break;
            case 5:
                conversionFactor = 0.92;
                planetName = "Saturn";
                break;
            case 6:
                conversionFactor = 0.89;
                planetName = "Uranus";
                break;
            case 7:
                conversionFactor = 1.13;
                planetName = "Neptune";
                break;
            default:
                System.out.println("Invalid choice.");
                System.exit(0);
        }

        // Calculate the weight on the selected planet
        double planetWeight = earthWeight * conversionFactor;

        // Display the result
        System.out.printf("Your weight on %s is %.2f lbs.%n", planetName, planetWeight);

        // Close the scanner
        scanner.close();
    }
}
```



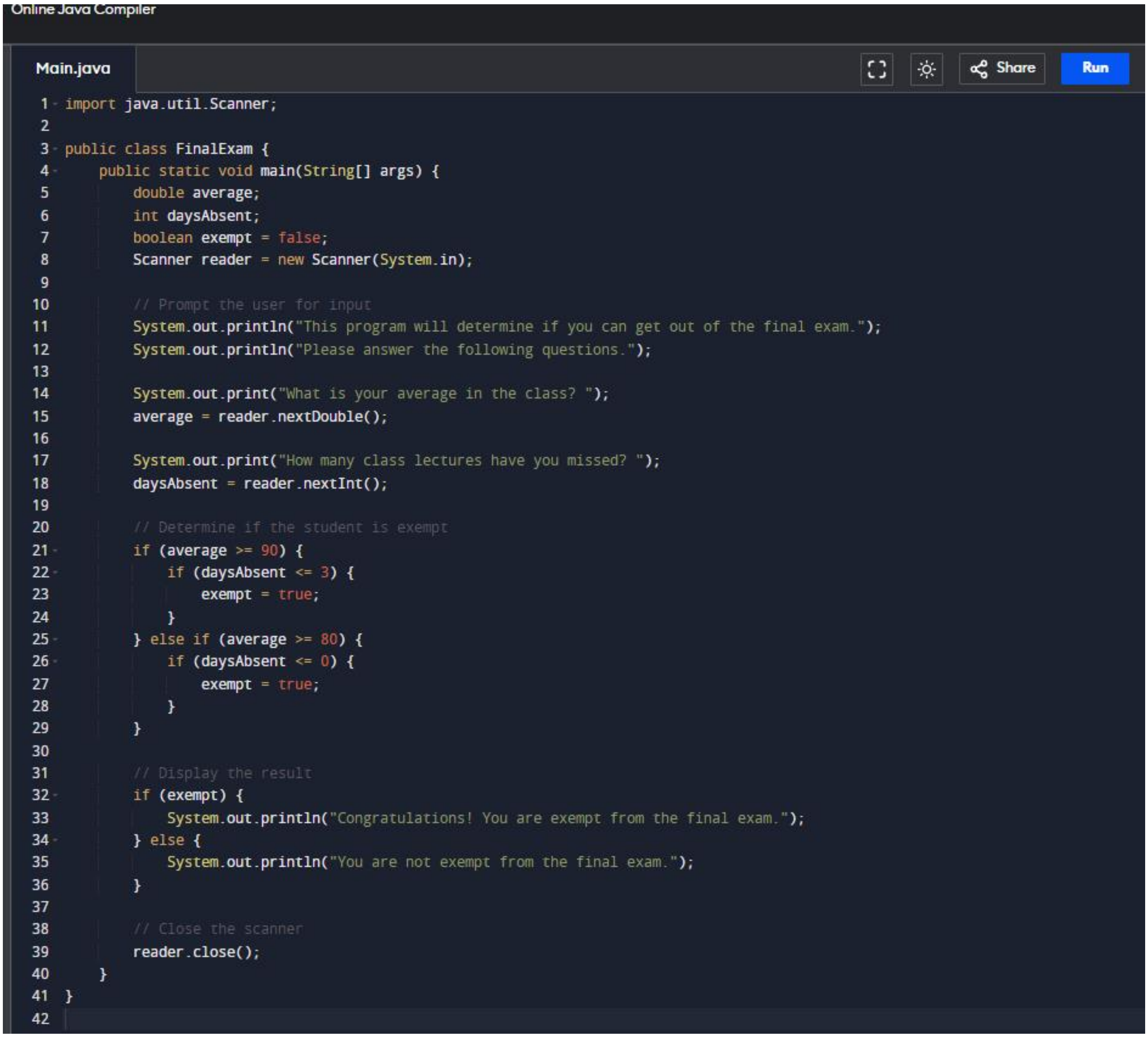
```
java -cp /tmp/v342ygLuAV/WeightOnPlanets
Enter your weight on Earth (in lbs): 60
Choose a planet from the menu below:
1. Mercury
2. Venus
3. Mars
4. Jupiter
5. Saturn
6. Uranus
7. Neptune
Enter the number corresponding to the planet: 2
Your weight on Venus is 54.60 lbs.

=== Code Execution Successful ===
```



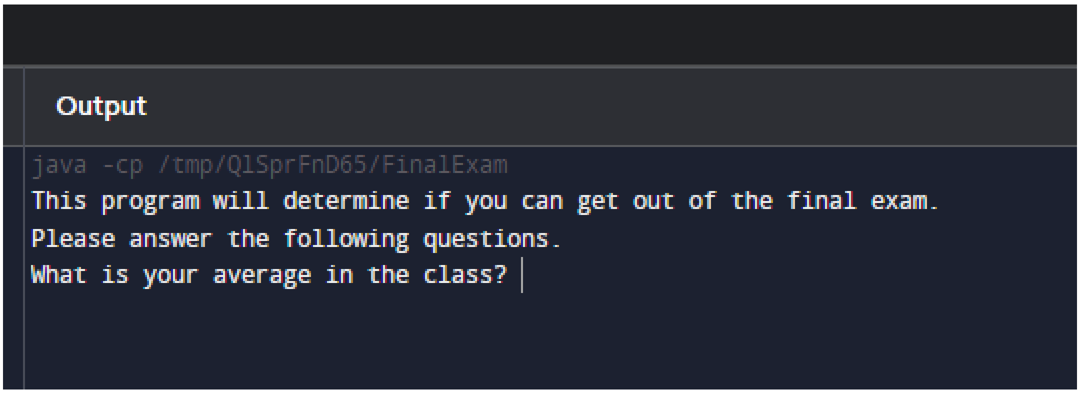
```java
import java.util.Scanner;

public class MountvilleUniversityAdmission {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);

        // Prompt the user to enter student details
        System.out.print("Were you the valedictorian or salutatorian of a school with 1400 or more students?
            (yes/no): ");
        String valSal = scanner.nextLine().trim().toLowerCase();

        System.out.print("Enter your GPA: ");
        double gpa = scanner.nextDouble();

        System.out.print("Enter your SAT score: ");
        int satScore = scanner.nextInt();

        // Determine if the student meets any of the admission criteria
        boolean isAdmitted = false;

        if (valSal.equals("yes")) {
            isAdmitted = true;
        } else if (gpa >= 4.0 && satScore >= 1100) {
            isAdmitted = true;
        } else if (gpa >= 3.5 && satScore >= 1300) {
            isAdmitted = true;
        } else if (gpa >= 3.0 && satScore >= 1500) {
            isAdmitted = true;
        }

        // Display the admission result
        if (isAdmitted) {
            System.out.println("Congratulations! You are admitted to Mountville University.");
        } else {
            System.out.println("Sorry, you do not meet the admission criteria for Mountville University.");
        }

        // Close the scanner
```



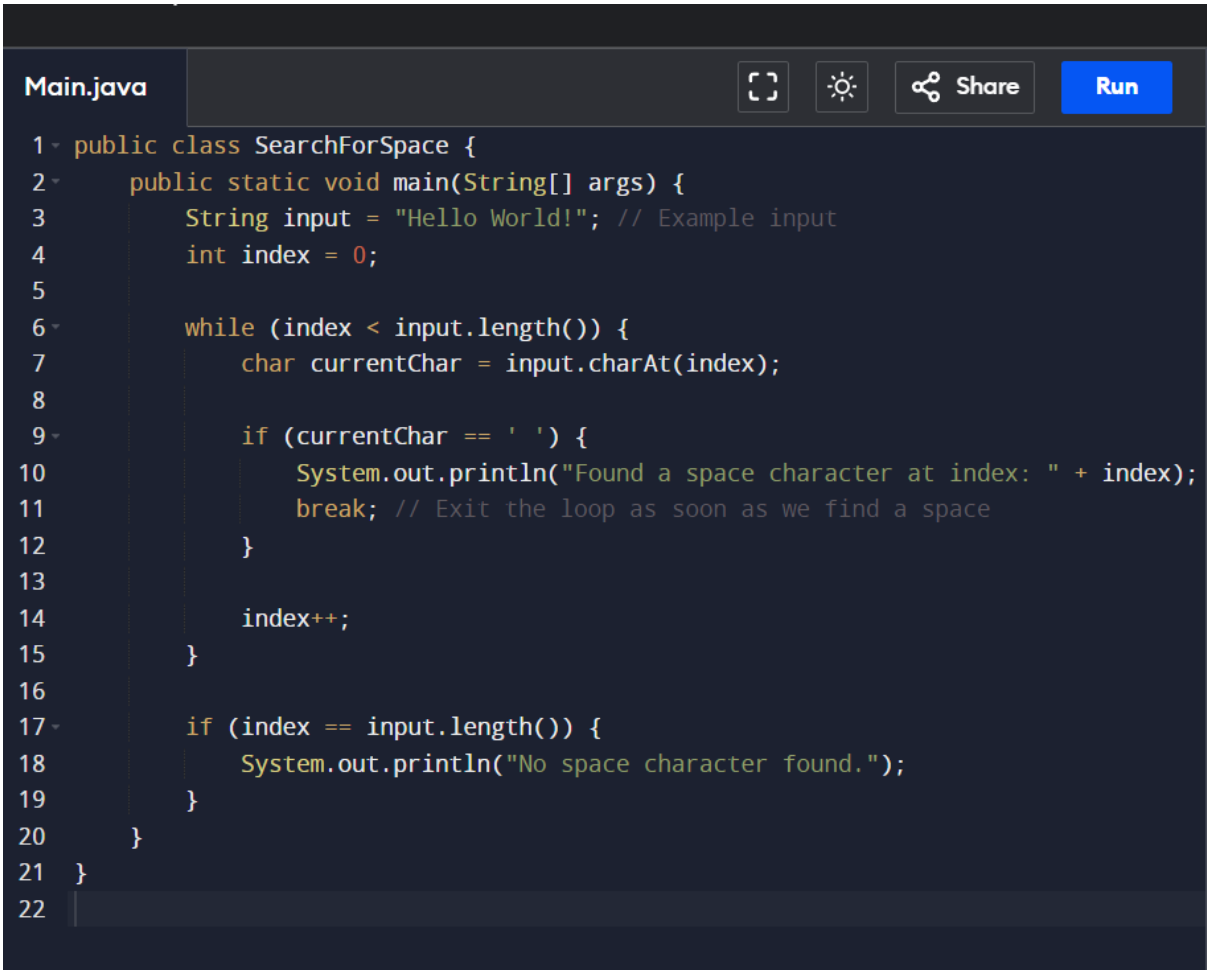
```
java -cp /tmp/tf78AImogc/MountvilleUniversityAdmission
Were you the valedictorian or salutatorian of a school with 1400 or more students? (yes/no): no
Enter your GPA: 89
Enter your SAT score: 78
Sorry, you do not meet the admission criteria for Mountville University.

=== Code Execution Successful ===
```



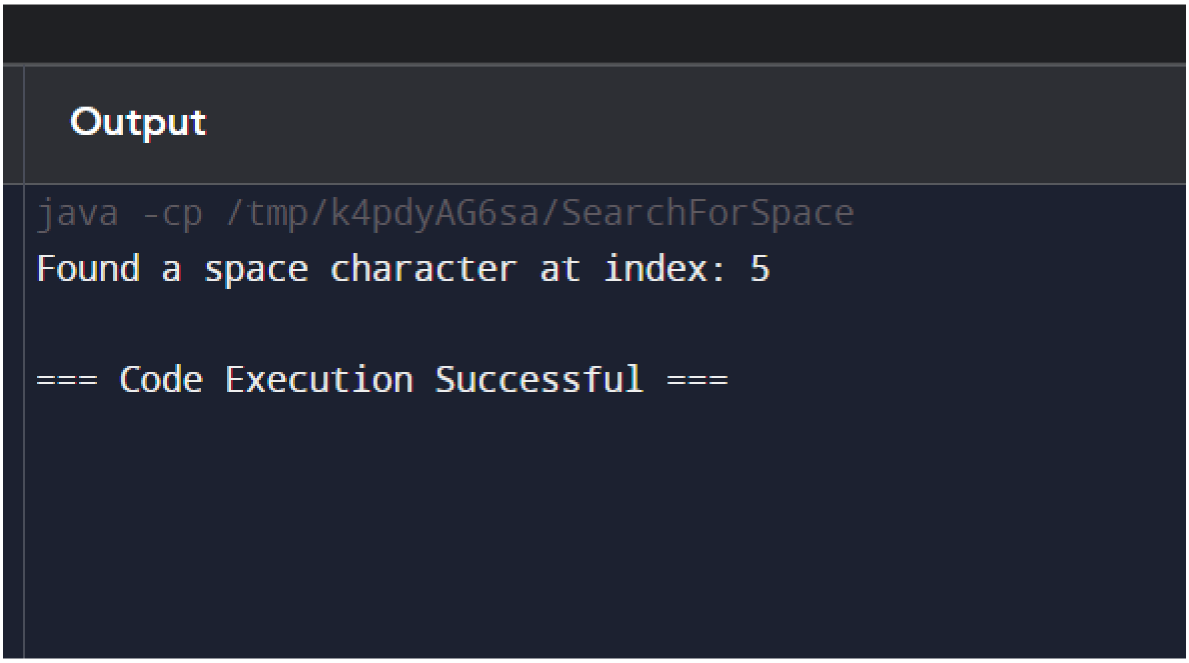
```java
import java.util.Scanner;

public class FinalExam {
    public static void main(String[] args) {
        double average;
        int daysAbsent;
        boolean exempt = false;
        Scanner reader = new Scanner(System.in);

        // Prompt the user for input
        System.out.println("This program will determine if you can get out of the final exam.");
        System.out.println("Please answer the following questions.");

        System.out.print("What is your average in the class? ");
        average = reader.nextDouble();

        System.out.print("How many class lectures have you missed? ");
        daysAbsent = reader.nextInt();

        // Determine if the student is exempt
        if (average >= 90) {
            if (daysAbsent <= 3) {
                exempt = true;
            }
        } else if (average >= 80) {
            if (daysAbsent <= 0) {
                exempt = true;
            }
        }

        // Display the result
        if (exempt) {
            System.out.println("Congratulations! You are exempt from the final exam.");
        } else {
            System.out.println("You are not exempt from the final exam.");
        }

        // Close the scanner
        reader.close();
    }
}
```



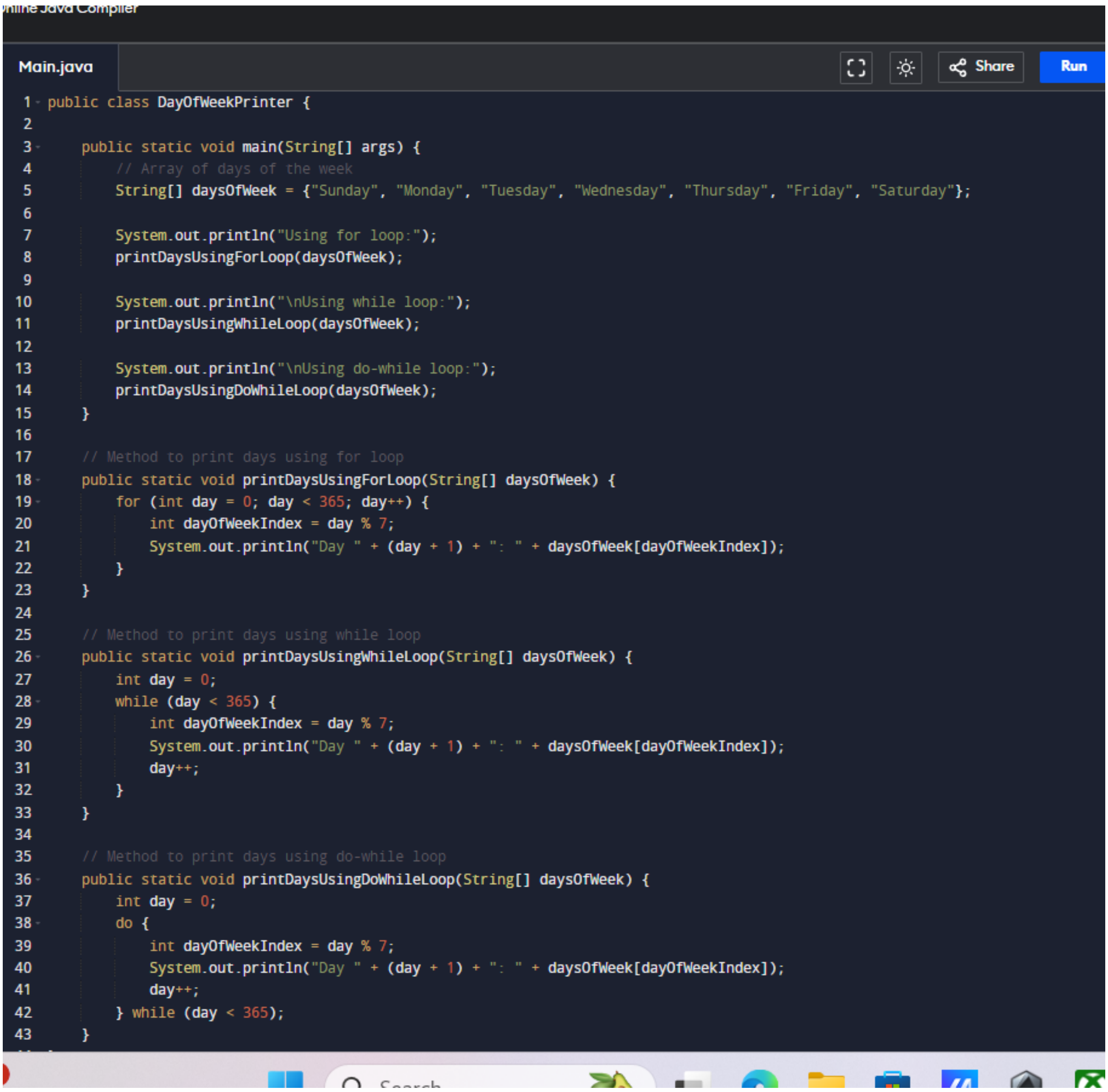
```
java -cp /tmp/QlSprFnD65/FinalExam
This program will determine if you can get out of the final exam.
Please answer the following questions.
What is your average in the class? 
```



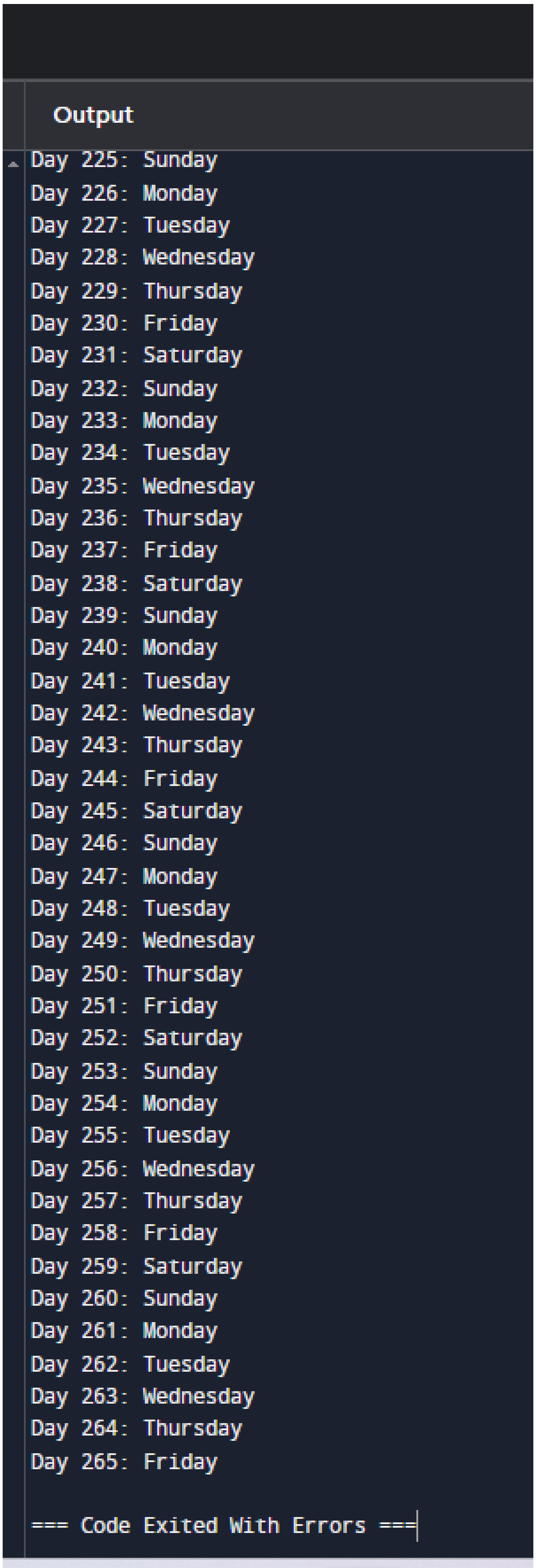
```java
public class SearchForSpace {
    public static void main(String[] args) {
        String input = "Hello World!"; // Example input
        int index = 0;

        while (index < input.length()) {
            char currentChar = input.charAt(index);

            if (currentChar == ' ') {
                System.out.println("Found a space character at index: " + index);
                break; // Exit the loop as soon as we find a space
            }

            index++;
        }

        if (index == input.length()) {
            System.out.println("No space character found.");
        }
    }
}
```



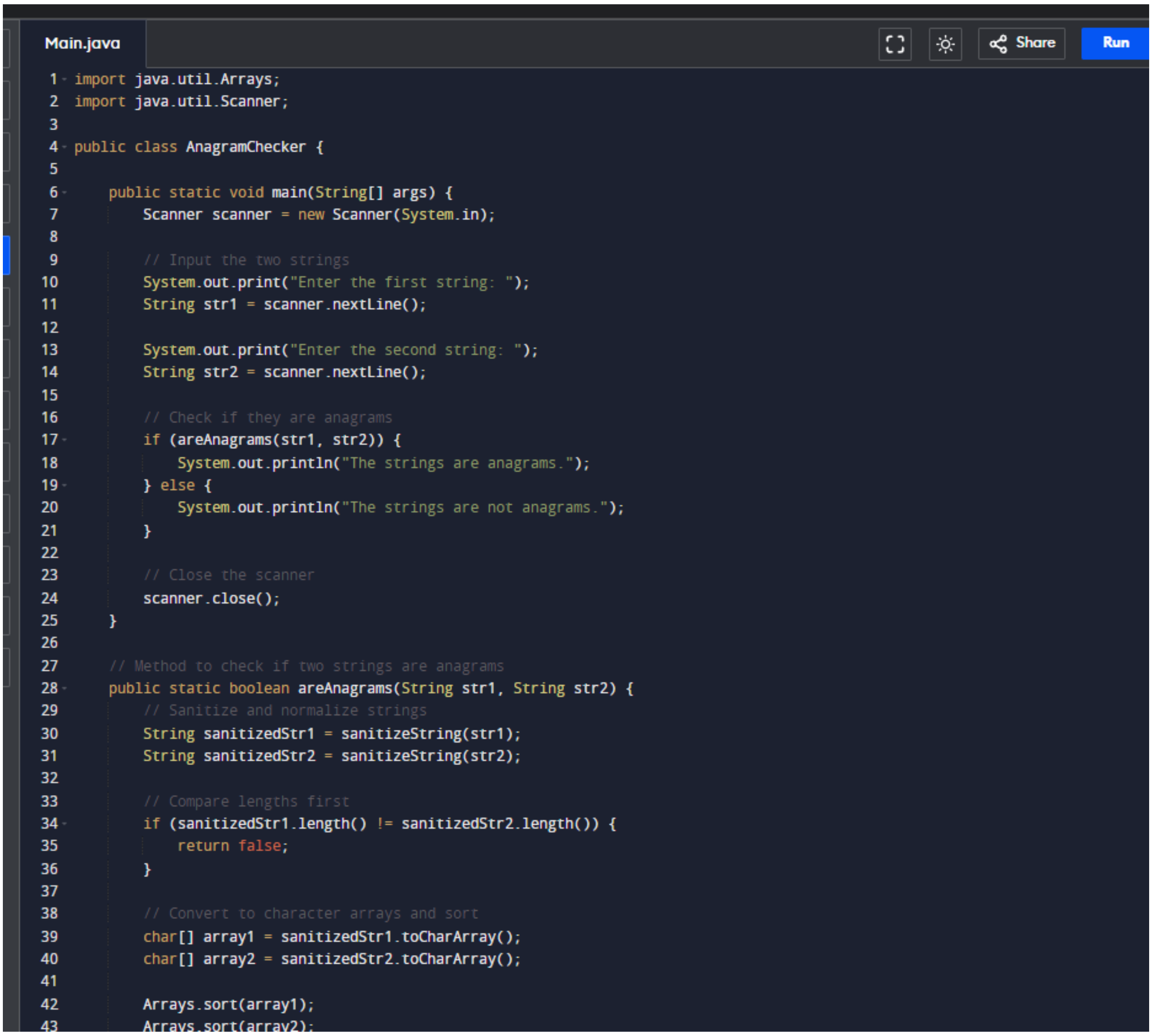
```
java -cp /tmp/k4pdyAG6sa/SearchForSpace
Found a space character at index: 5


=== Code Execution Successful ===
```



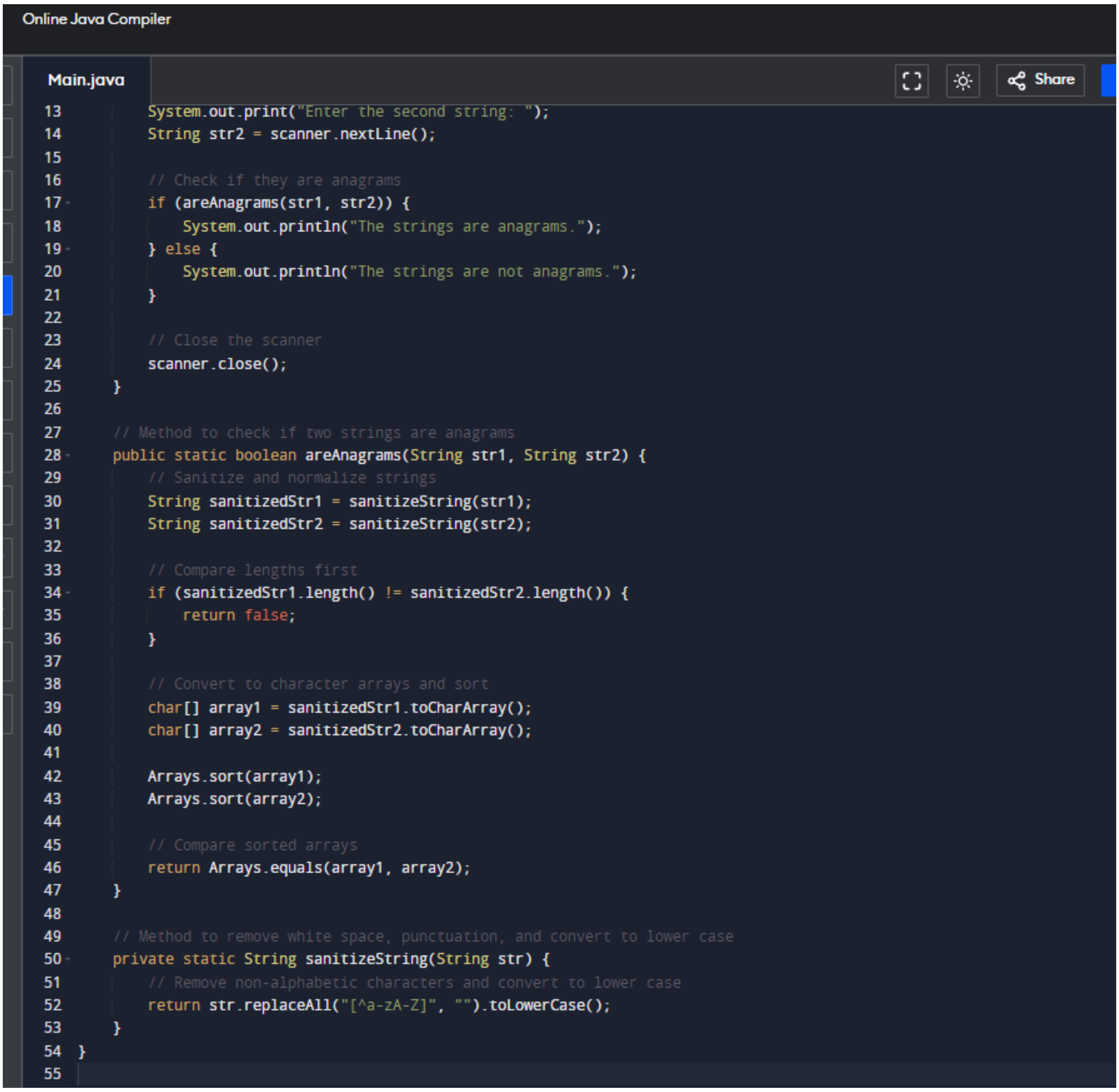
```java
public class DayOfWeekPrinter {

    public static void main(String[] args) {
        // Array of days of the week
        String[] daysOfWeek = {"Sunday", "Monday", "Tuesday", "Wednesday", "Thursday", "Friday", "Saturday"};

        System.out.println("Using for loop:");
        printDaysUsingForLoop(daysOfWeek);

        System.out.println("\nUsing while loop:");
        printDaysUsingWhileLoop(daysOfWeek);

        System.out.println("\nUsing do-while loop:");
        printDaysUsingDoWhileLoop(daysOfWeek);
    }

    // Method to print days using for loop
    public static void printDaysUsingForLoop(String[] daysOfWeek) {
        for (int day = 0; day < 365; day++) {
            int dayOfWeekIndex = day % 7;
            System.out.println("Day " + (day + 1) + ": " + daysOfWeek[dayOfWeekIndex]);
        }
    }

    // Method to print days using while loop
    public static void printDaysUsingWhileLoop(String[] daysOfWeek) {
        int day = 0;
        while (day < 365) {
            int dayOfWeekIndex = day % 7;
            System.out.println("Day " + (day + 1) + ": " + daysOfWeek[dayOfWeekIndex]);
            day++;
        }
    }

    // Method to print days using do-while loop
    public static void printDaysUsingDoWhileLoop(String[] daysOfWeek) {
        int day = 0;
        do {
            int dayOfWeekIndex = day % 7;
            System.out.println("Day " + (day + 1) + ": " + daysOfWeek[dayOfWeekIndex]);
            day++;
        } while (day < 365);
    }
```



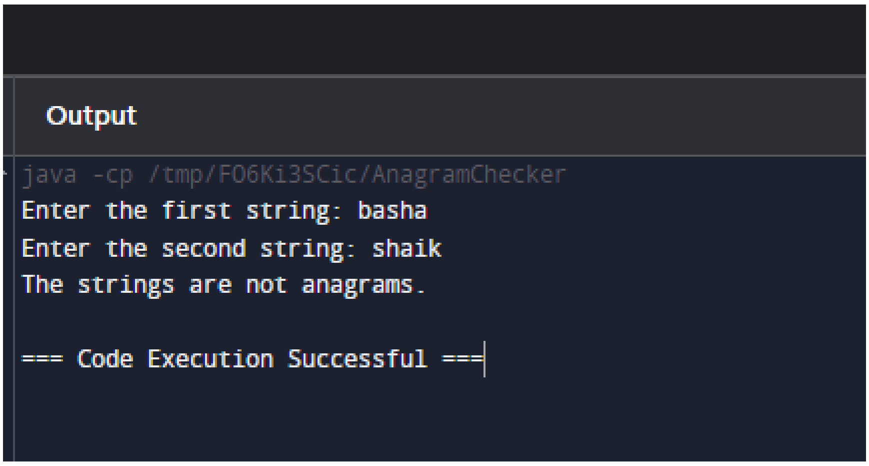
```
Day 225: Sunday
Day 226: Monday
Day 227: Tuesday
Day 228: Wednesday
Day 229: Thursday
Day 230: Friday
Day 231: Saturday
Day 232: Sunday
Day 233: Monday
Day 234: Tuesday
Day 235: Wednesday
Day 236: Thursday
Day 237: Friday
Day 238: Saturday
Day 239: Sunday
Day 240: Monday
Day 241: Tuesday
Day 242: Wednesday
Day 243: Thursday
Day 244: Friday
Day 245: Saturday
Day 246: Sunday
Day 247: Monday
Day 248: Tuesday
Day 249: Wednesday
Day 250: Thursday
Day 251: Friday
Day 252: Saturday
Day 253: Sunday
Day 254: Monday
Day 255: Tuesday
Day 256: Wednesday
Day 257: Thursday
Day 258: Friday
Day 259: Saturday
Day 260: Sunday
Day 261: Monday
Day 262: Tuesday
Day 263: Wednesday
Day 264: Thursday
Day 265: Friday

=== Code Exited With Errors ===
```



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

public class AnagramChecker {

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

        // Input the two strings
        System.out.print("Enter the first string: ");
        String str1 = scanner.nextLine();

        System.out.print("Enter the second string: ");
        String str2 = scanner.nextLine();

        // Check if they are anagrams
        if (areAnagrams(str1, str2)) {
            System.out.println("The strings are anagrams.");
        } else {
            System.out.println("The strings are not anagrams.");
        }

        // Close the scanner
        scanner.close();
    }

    // Method to check if two strings are anagrams
    public static boolean areAnagrams(String str1, String str2) {
        // Sanitize and normalize strings
        String sanitizedStr1 = sanitizeString(str1);
        String sanitizedStr2 = sanitizeString(str2);

        // Compare lengths first
        if (sanitizedStr1.length() != sanitizedStr2.length()) {
            return false;
        }

        // Convert to character arrays and sort
        char[] array1 = sanitizedStr1.toCharArray();
        char[] array2 = sanitizedStr2.toCharArray();

        Arrays.sort(array1);
        Arrays.sort(array2);
```

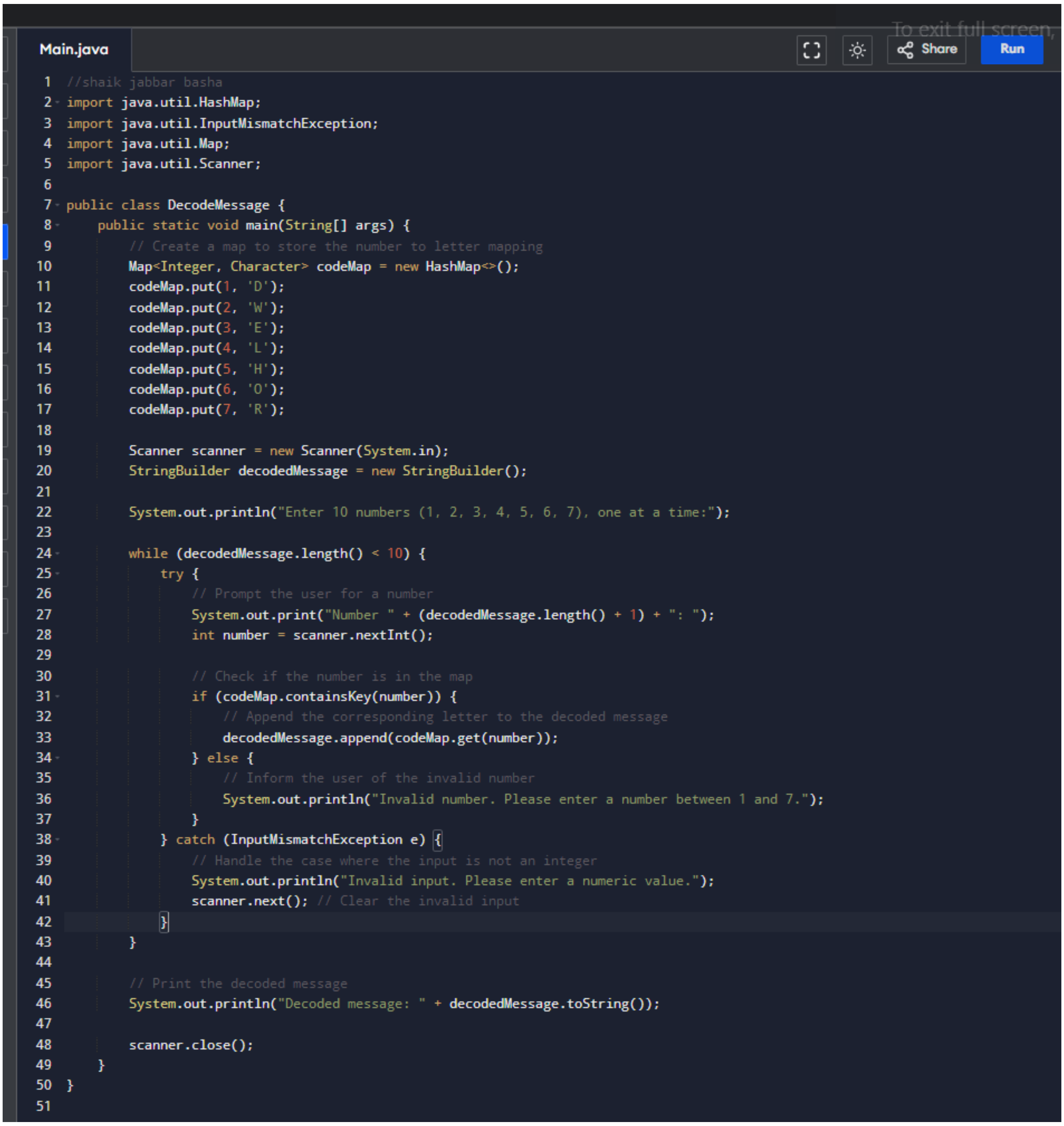


```java
        System.out.print("Enter the second string: ");
        String str2 = scanner.nextLine();

        // Check if they are anagrams
        if (areAnagrams(str1, str2)) {
            System.out.println("The strings are anagrams.");
        } else {
            System.out.println("The strings are not anagrams.");
        }

        // Close the scanner
        scanner.close();
    }

    // Method to check if two strings are anagrams
    public static boolean areAnagrams(String str1, String str2) {
        // Sanitize and normalize strings
        String sanitizedStr1 = sanitizeString(str1);
        String sanitizedStr2 = sanitizeString(str2);

        // Compare lengths first
        if (sanitizedStr1.length() != sanitizedStr2.length()) {
            return false;
        }

        // Convert to character arrays and sort
        char[] array1 = sanitizedStr1.toCharArray();
        char[] array2 = sanitizedStr2.toCharArray();

        Arrays.sort(array1);
        Arrays.sort(array2);

        // Compare sorted arrays
        return Arrays.equals(array1, array2);
    }

    // Method to remove white space, punctuation, and convert to lower case
    private static String sanitizeString(String str) {
        // Remove non-alphabetic characters and convert to lower case
        return str.replaceAll("[^a-zA-Z]", "").toLowerCase();
    }
}
```

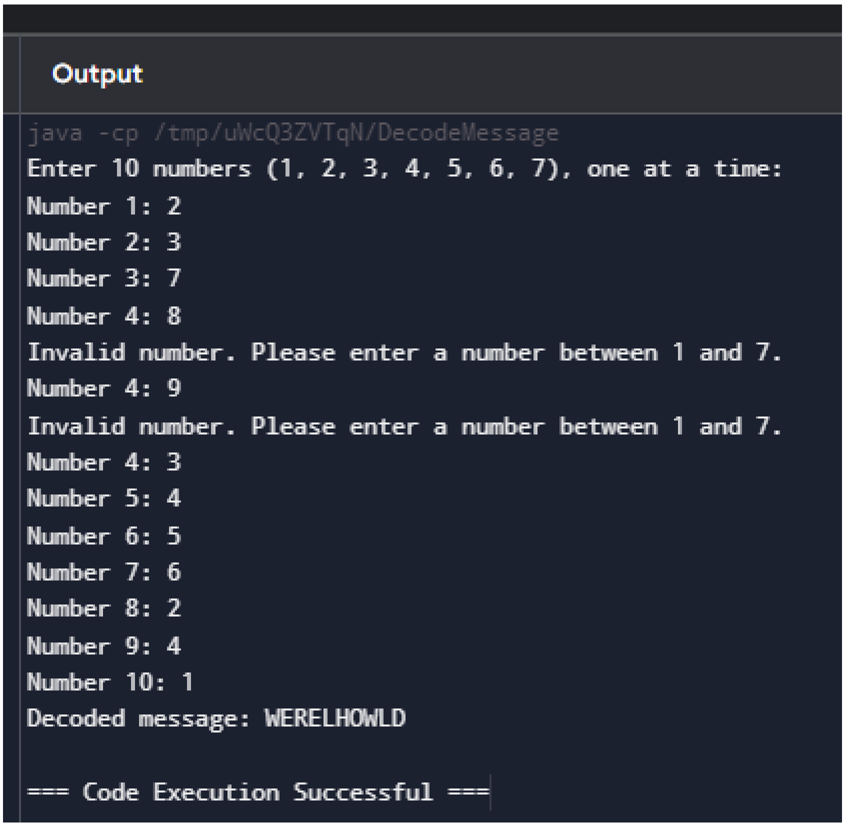


```
java -cp /tmp/FO6Ki3SCic/AnagramChecker
Enter the first string: basha
Enter the second string: shaik
The strings are not anagrams.

=== Code Execution Successful ===
```

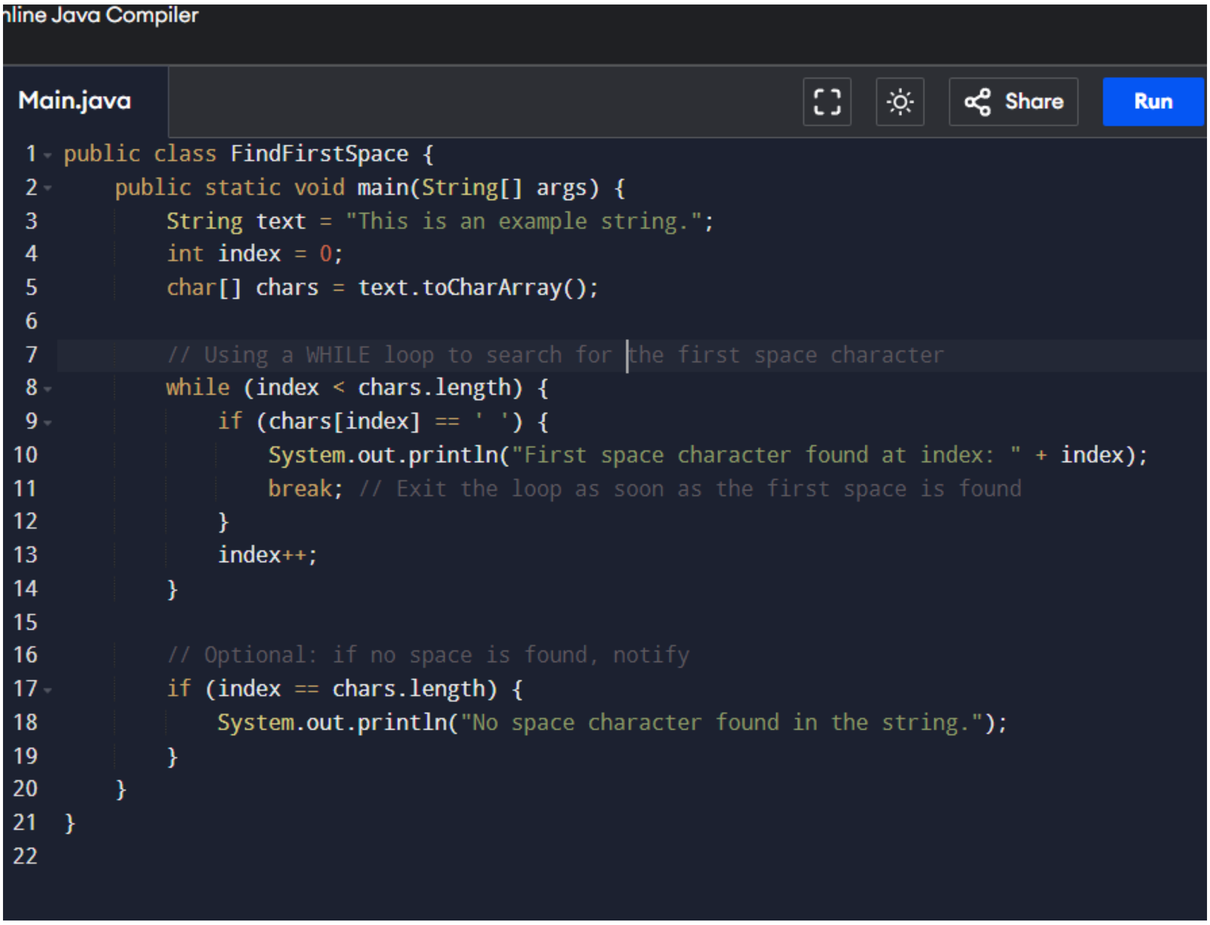
5.2-1



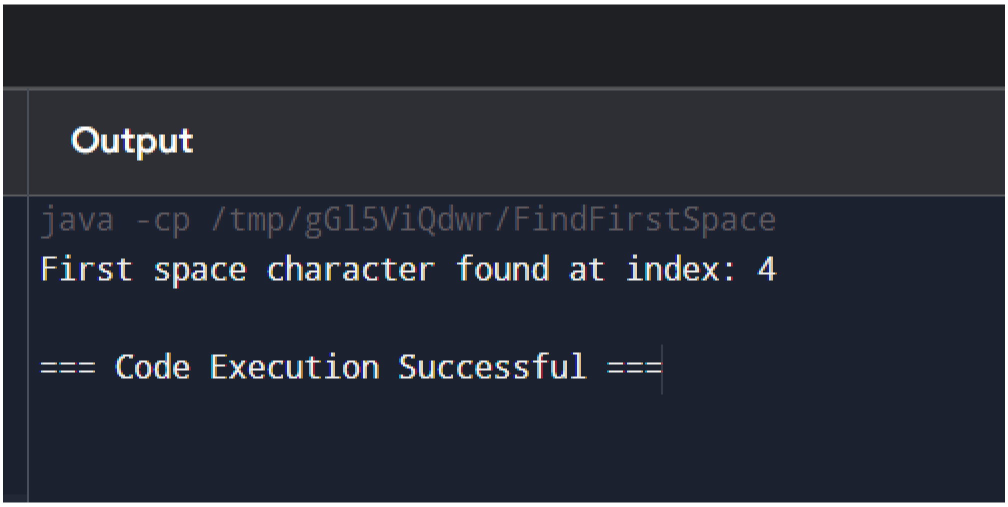
```java
//shaik jabbar basha
import java.util.HashMap;
import java.util.InputMismatchException;
import java.util.Map;
import java.util.Scanner;

public class DecodeMessage {
    public static void main(String[] args) {
        // Create a map to store the number to letter mapping
        Map<Integer, Character> codeMap = new HashMap<>();
        codeMap.put(1, 'D');
        codeMap.put(2, 'W');
        codeMap.put(3, 'E');
        codeMap.put(4, 'L');
        codeMap.put(5, 'H');
        codeMap.put(6, 'O');
        codeMap.put(7, 'R');

        Scanner scanner = new Scanner(System.in);
        StringBuilder decodedMessage = new StringBuilder();

        System.out.println("Enter 10 numbers (1, 2, 3, 4, 5, 6, 7), one at a time:");

        while (decodedMessage.length() < 10) {
            try {
                // Prompt the user for a number
                System.out.print("Number " + (decodedMessage.length() + 1) + ": ");
                int number = scanner.nextInt();

                // Check if the number is in the map
                if (codeMap.containsKey(number)) {
                    // Append the corresponding letter to the decoded message
                    decodedMessage.append(codeMap.get(number));
                } else {
                    // Inform the user of the invalid number
                    System.out.println("Invalid number. Please enter a number between 1 and 7.");
                }
            } catch (InputMismatchException e) {
                // Handle the case where the input is not an integer
                System.out.println("Invalid input. Please enter a numeric value.");
                scanner.next(); // Clear the invalid input
            }
        }

        // Print the decoded message
        System.out.println("Decoded message: " + decodedMessage.toString());

        scanner.close();
    }
}
```



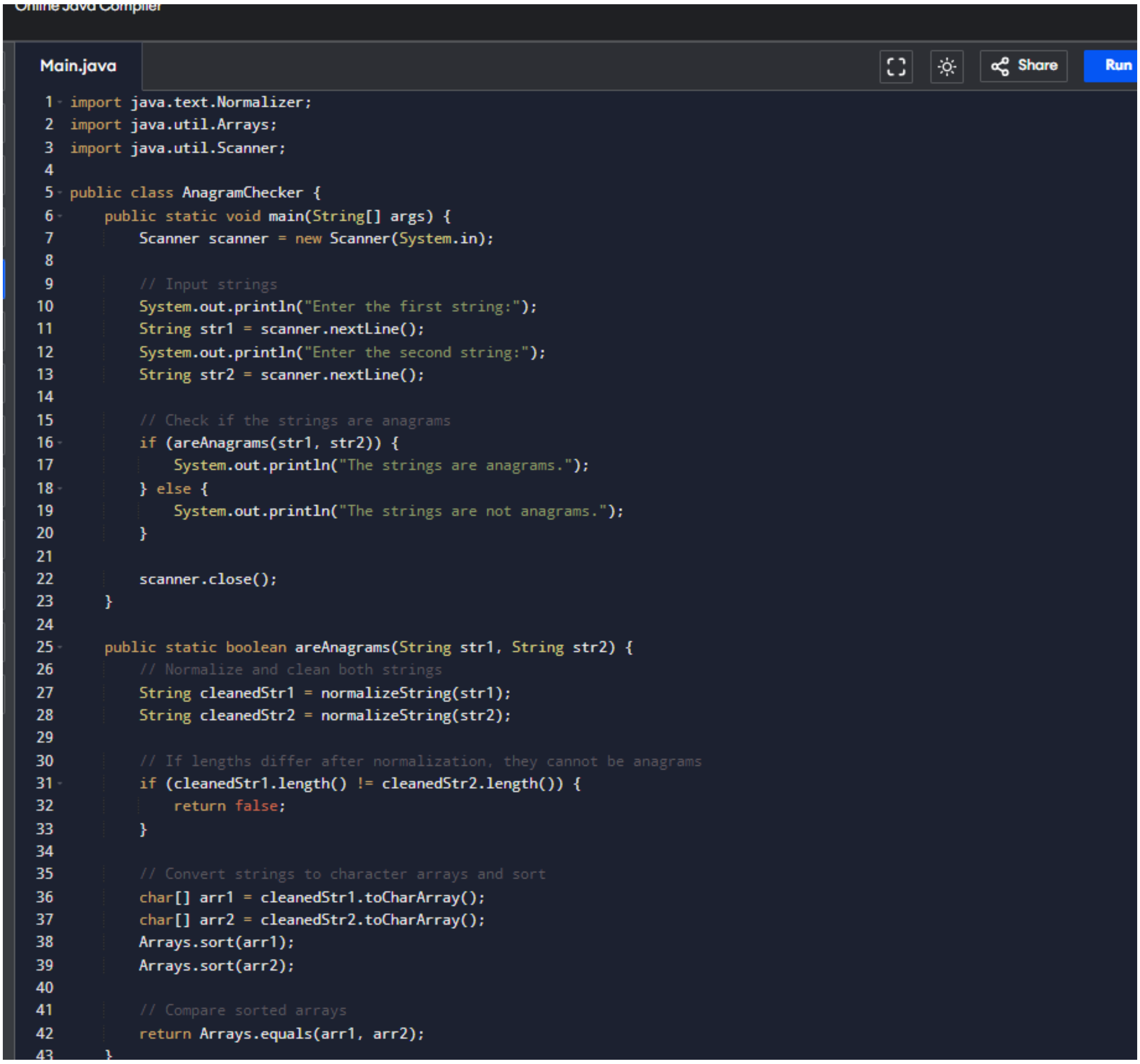
```
java -cp /tmp/uWcQ3ZVTqN/DecodeMessage
Enter 10 numbers (1, 2, 3, 4, 5, 6, 7), one at a time:
Number 1: 2
Number 2: 3
Number 3: 7
Number 4: 8
Invalid number. Please enter a number between 1 and 7.
Number 4: 9
Invalid number. Please enter a number between 1 and 7.
Number 4: 3
Number 5: 4
Number 6: 5
Number 7: 6
Number 8: 2
Number 9: 4
Number 10: 1
Decoded message: WERELHOWLD

=== Code Execution Successful ===
```



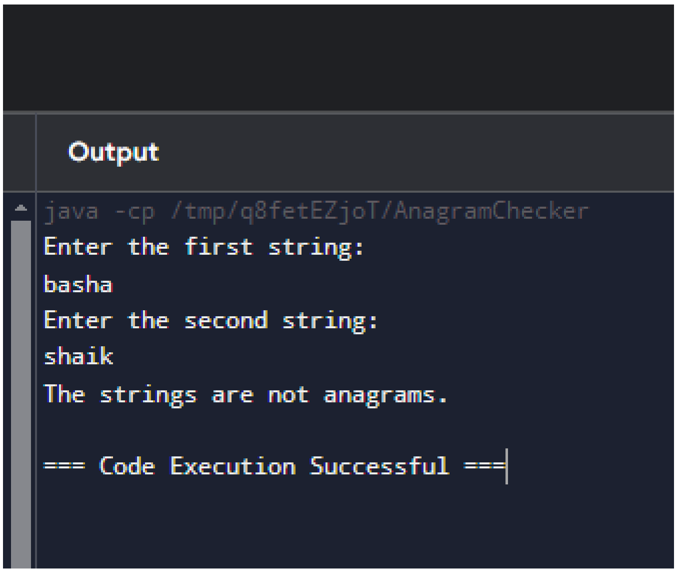
```java
public class FindFirstSpace {
    public static void main(String[] args) {
        String text = "This is an example string.";
        int index = 0;
        char[] chars = text.toCharArray();

        // Using a WHILE loop to search for the first space character
        while (index < chars.length) {
            if (chars[index] == ' ') {
                System.out.println("First space character found at index: " + index);
                break; // Exit the loop as soon as the first space is found
            }
            index++;
        }

        // Optional: if no space is found, notify
        if (index == chars.length) {
            System.out.println("No space character found in the string.");
        }
    }
}

```



```
java -cp /tmp/gGl5ViQdwr/FindFirstSpace
First space character found at index: 4

=== Code Execution Successful ===
```



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

public class AnagramChecker {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);

        // Input strings
        System.out.println("Enter the first string:");
        String str1 = scanner.nextLine();
        System.out.println("Enter the second string:");
        String str2 = scanner.nextLine();

        // Check if the strings are anagrams
        if (areAnagrams(str1, str2)) {
            System.out.println("The strings are anagrams.");
        } else {
            System.out.println("The strings are not anagrams.");
        }

        scanner.close();
    }

    public static boolean areAnagrams(String str1, String str2) {
        // Normalize and clean both strings
        String cleanedStr1 = normalizeString(str1);
        String cleanedStr2 = normalizeString(str2);

        // If lengths differ after normalization, they cannot be anagrams
        if (cleanedStr1.length() != cleanedStr2.length()) {
            return false;
        }

        // Convert strings to character arrays and sort
        char[] arr1 = cleanedStr1.toCharArray();
        char[] arr2 = cleanedStr2.toCharArray();
        Arrays.sort(arr1);
        Arrays.sort(arr2);

        // Compare sorted arrays
        return Arrays.equals(arr1, arr2);
    }
```



```
java -cp /tmp/q8fetEZjoT/AnagramChecker
Enter the first string:
basha
Enter the second string:
shaik
The strings are not anagrams.

=== Code Execution Successful ===
```