

## Day 8 coding Statement: Write a program to find roots of a quadratic equation

### Program:

```
import java.util.*;

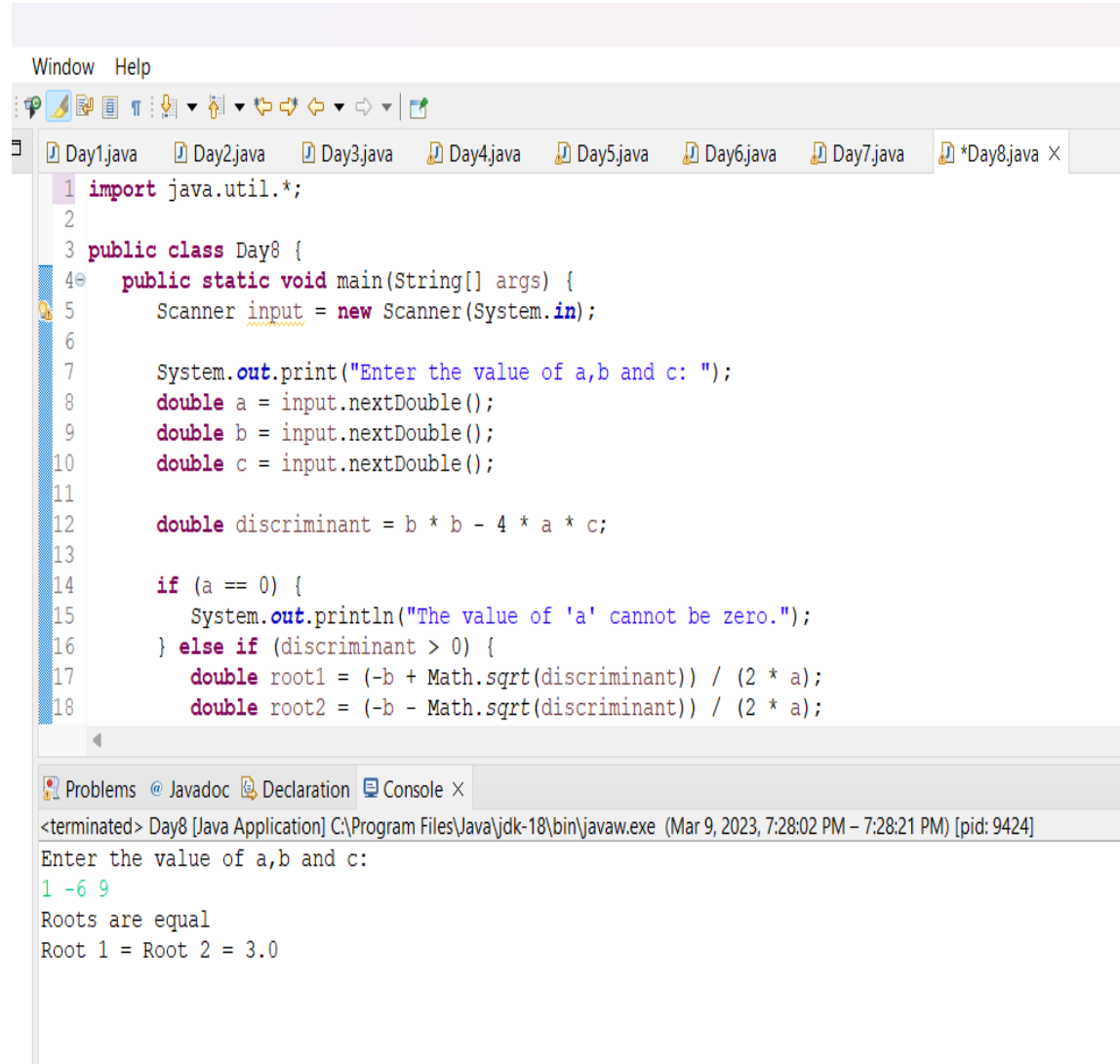
public class Day8 {
    public static void main(String[] args) {
        Scanner input = new Scanner(System.in);

        System.out.print("Enter the value of a,b and c: ");
        double a = input.nextDouble();
        double b = input.nextDouble();
        double c = input.nextDouble();

        double discriminant = b * b - 4 * a * c;

        if (a == 0) {
            System.out.println("The value of 'a' cannot be zero.");
        } else if (discriminant > 0) {
            double root1 = (-b + Math.sqrt(discriminant)) / (2 * a);
            double root2 = (-b - Math.sqrt(discriminant)) / (2 * a);
            System.out.println("The roots are " + root1 + " and " + root2);
        } else if (discriminant == 0) {
            double root = -b / (2 * a);
            System.out.println("Roots are equal");
            System.out.println("Root 1 = Root 2 = " + root);
        } else {
            System.out.println("The equation has no real roots.");
        }
    }
}
```

## Output:



The screenshot displays an IDE window with a menu bar (Window, Help) and a toolbar. The editor shows the code for Day8.java, which calculates the roots of a quadratic equation. The console output shows the program's execution, including the prompt "Enter the value of a,b and c:", the input "1 -6 9", and the resulting output "Roots are equal" and "Root 1 = Root 2 = 3.0".

```
1 import java.util.*;
2
3 public class Day8 {
4     public static void main(String[] args) {
5         Scanner input = new Scanner(System.in);
6
7         System.out.print("Enter the value of a,b and c: ");
8         double a = input.nextDouble();
9         double b = input.nextDouble();
10        double c = input.nextDouble();
11
12        double discriminant = b * b - 4 * a * c;
13
14        if (a == 0) {
15            System.out.println("The value of 'a' cannot be zero.");
16        } else if (discriminant > 0) {
17            double root1 = (-b + Math.sqrt(discriminant)) / (2 * a);
18            double root2 = (-b - Math.sqrt(discriminant)) / (2 * a);
19        }
20    }
21 }
```

Problems @ Javadoc Declaration Console ×

<terminated> Day8 [Java Application] C:\Program Files\Java\jdk-18\bin\javaw.exe (Mar 9, 2023, 7:28:02 PM – 7:28:21 PM) [pid: 9424]

Enter the value of a,b and c:

1 -6 9

Roots are equal

Root 1 = Root 2 = 3.0