

8) Java Program to Solve Quadratic Equation

```
package quadratic_equation;
import java.util.Scanner;
/**
 *
 * @author MARTIN ABRAHAM
 */
public class Quadratic_equation {

    /**
     * @param args the command line arguments
     */
    public static void main(String[] args) {
        // TODO code application logic here
        Scanner input = new Scanner(System.in);
        System.out.print("Enter the value of a: ");
        double a = input.nextDouble();
        System.out.print("Enter the value of b: ");
        double b = input.nextDouble();
        System.out.print("Enter the value of c: ");
        double c = input.nextDouble();
        double d = b * b - 4.0 * a * c;
        if (d > 0.0)
        {
            double r1 = (-b + Math.pow(d, 0.5)) / (2.0 * a);
            double r2 = (-b - Math.pow(d, 0.5)) / (2.0 * a);
            System.out.println("The roots are " + r1 + " and " + r2);
        }
        else if (d == 0.0)
        {
            double r1 = -b / (2.0 * a);
            System.out.println("The root is " + r1);
        }
        else
        {
            System.out.println("Roots are not real.");
        }
    }
}
```

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        }
    }
}

Output - quadratic_equation (run) X

run:
Enter the value of a: 1
Enter the value of b: 5
Enter the value of c: 2
The roots are -0.4384471871911697 and -4.561552812808831
BUILD SUCCESSFUL (total time: 13 seconds)
```