

Week - 3

- 1) Java program that prints all real solutions to quadratic equation $ax^2 + bx + c = 0$. If discriminant $b^2 - 4ac$ is negative, display a message saying there are no real solutions.

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⇒ import java.util.Scanner;
public class RootsOfQE {
    public static void main(String args[]) {
        double Root1 = 0, Root2 = 0;
        Scanner SC = new Scanner(System.in);
        System.out.println("Consider a quadratic equation");
        System.out.println("Enter the value of a:");
        double a = SC.nextDouble();
        System.out.println("Enter the value of b:");
        double b = SC.nextDouble();
        System.out.println("Enter the value of c:");
        double c = SC.nextDouble();
        double determinant = (b*b) - (4*a*c);
        double Sqrt = Math.sqrt(determinant);

        if (determinant >= 0) {
            Root1 = (-b + Sqrt) / (2*a);
            Root2 = (-b - Sqrt) / (2*a);
            System.out.println("Roots are " + Root1 + " and " + Root2);
        }
        else {
            System.out.println("There are no real solution");
        }
    }
}
```