Lab Program:

Develop a Java program that prints all real solutions to the quadratic equation ax2+bx+c = 0. Read in a, b, c and use the quadratic formula. If the discriminate b2-4ac is negative, display a message stating that there are no real solutions.

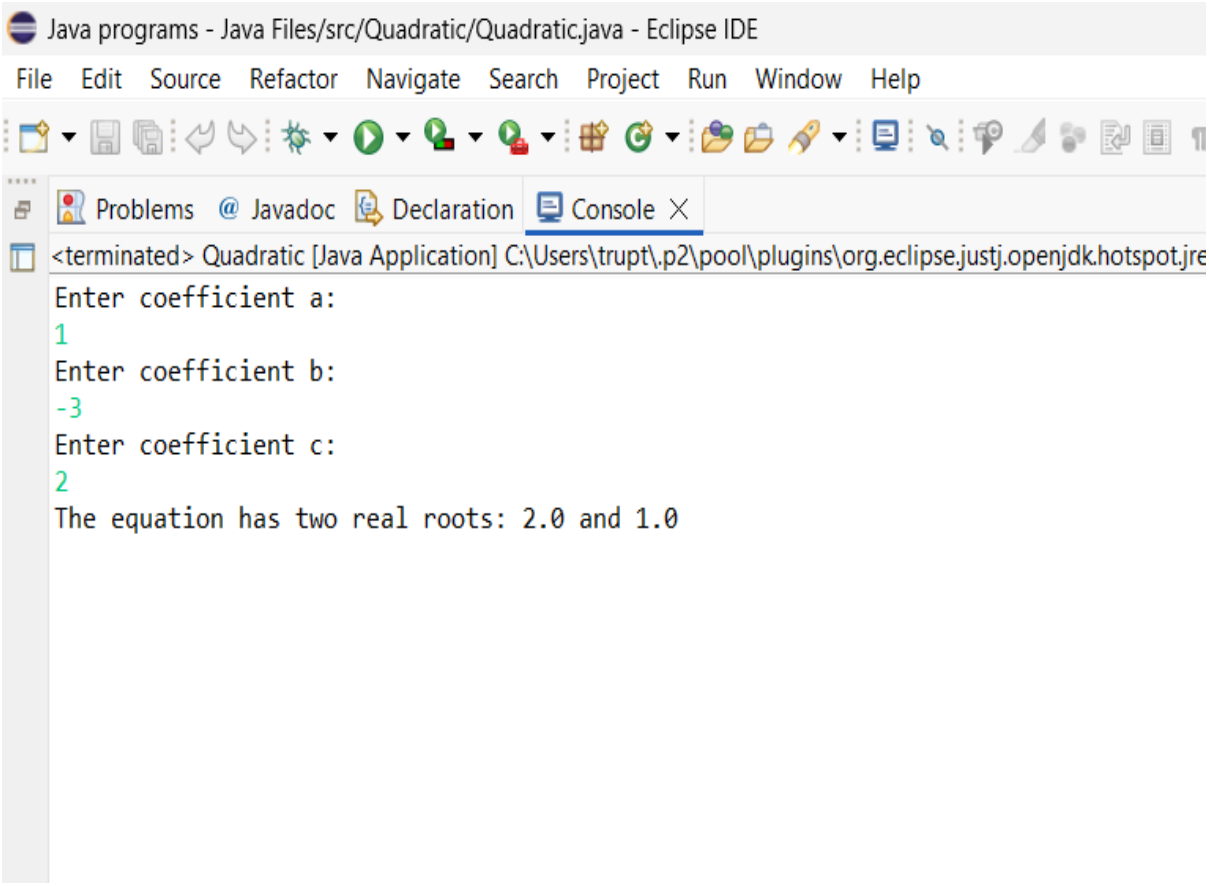
Quadratic.java

```java
package Quadratic;

import java.util.Scanner;
public class Quadratic {
    public static void main(String[] args) {
        Scanner input = new Scanner(System.in);
        System.out.println("Enter coefficient a:");
        double a = input.nextDouble();
        System.out.println("Enter coefficient b:");
        double b = input.nextDouble();
        System.out.println("Enter coefficient c:");
        double c = input.nextDouble();

        double discriminant = b * b - 4 * a * c;
        if (discriminant > 0) {
            double xoot1 = (-b + Math.sqrt(discriminant)) / (2 * a);
            double xoot2 = (-b - Math.sqrt(discriminant)) / (2 * a);
            System.out.println("The equation has two real roots: " + xoot1 + " and " + xoot2);
        }
        else if (discriminant == 0) {
            double xoot = -b / (2 * a);
            System.out.println("The equation has one real root: " + xoot);
        }
        else {
            System.out.println("No real solution exists since the discriminant is negative");
        }
        input.close();
    }
}

```


Java programs - Java Files/src/Quadratic/Quadratic.java - Eclipse IDE
File Edit Source Refactor Navigate Search Project Run Window Help
Problems Javadoc Declaration Console
<terminated> Quadratic [Java Application] C:\Users\trupt\.p2\pool\plugins\org.eclipse.justj.openjdk.hotspot.jre
Enter coefficient a:
1
Enter coefficient b:
-3
Enter coefficient c:
2
The equation has two real roots: 2.0 and 1.0