

Program Code:

```
1 import java.util.Scanner;
2 import java.lang.Math;
3 class RealSolution
4 {
5     private int a,b,c;
6
7     void accept()
8     {
9         System.out.println("A Quadratic Equation is of the form ax^2 + bx + c = 0");
10        System.out.println("Enter values of a,b,c in order to find out the roots of the eqn");
11        Scanner sc = new Scanner(System.in);
12
13        System.out.print("Enter the value of a: ");
14        this.a = sc.nextInt();
15
16        System.out.print("Enter the value of b: ");
17        this.b = sc.nextInt();
18
19        System.out.print("Enter the value of c: ");
20        this.c = sc.nextInt();
21    }
22
23    double calculateD()
24    {
25        double D = (b*b) - (4*a*c);
26        if(D<0)
27            return -999;
28        else
29            return D;
30    }
31    void displayResult(double D)
32    {
33        double r1,r2;
34        if(D == -999)
35            System.out.print("Roots are complex");
36        else
37        {
38            r1 = (-b + Math.sqrt(D))/(2*a);
39            r2 = (-b - Math.sqrt(D))/(2*a);
40            System.out.println("Roots are:"+ r1 + " " + r2);
41        }
42    }
43    public static void main(String args[])
44    {
45        RealSolution rs = new RealSolution();
46        rs.accept();
47        double Discriminate = rs.calculateD();
48        rs.displayResult(Discriminate);
49    }
50 }
```

Input/Output

```
"C:\java\bin\java" -classpath "C:\Users\Madhusudhan\Desktop\JavaProgs" RealSolution
Process started (PID=3804) >>>
A Quadratic Equation is of the form  $ax^2 + bx + c = 0$ 
Enter values of a,b,c in order to find out the roots of the eqn
Enter the value of a: 1
Enter the value of b: 2
Enter the value of c: 1
Roots are:-1.0 -1.0
<<< Process finished (PID=3804). (Exit code 0)
===== READY =====
```