

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 =====
```