

## Program 1

```
import java.util.*;
class quadratic
{
    public static void main(String args[])
    {
        Scanner in =new Scanner(System.in);
        double a, b, c;
        double R1, R2;
        double D;
        System.out.println("Enter the value of a");
        a=in.nextInt();
        System.out.println("Enter the value of b");
        b=in.nextInt();
        System.out.println("Enter the value of c");
        c=in.nextInt();
        D=b*b-(4*a*c);
        if(D>0)
        {
            System.out.println("Roots are Real and Unequal");
            R1=(-b+Math.pow(D, 0.5))/(2*a);
            R2=(-b-Math.pow(D, 0.5))/(2*a);
            System.out.println("Roots are =" +R1+" "+R2);
        }
        else if (D==0)
        {
            System.out.println("Roots are Real and Equal");
            R1=-b/(2*a);
            R2=R1;
            System.out.println("Root is="+R1);
        }
        else
        {
            System.out.println("The Equation has no real roots");
        }
    }
}
```

```
1  \Java\quadratic.java - Sublime Text (UNREGISTERED)
2  File Edit Selection Find View Goto Tools Project Preferences Help
3  1 quadratic.java
4  2 import java.util.*;
5  3 class quadratic
6  4 {
7  5 public static void main(String args[])
8  6 {
9  7 Scanner in = new Scanner(System.in);
10 8 double a, b, c;
11 9 double R1, R2;
12 10 double D;
13 11 System.out.println("Enter the value of a");
14 12 a=in.nextInt();
15 13 System.out.println("Enter the value of b");
16 14 b=in.nextInt();
17 15 System.out.println("Enter the value of c");
18 16 c=in.nextInt();
19 17 D=b*b-(4*a*c);
20 18 if(D<0)
21 19 {
22 20 System.out.println("Roots are Real and Unequal");
23 21 R1=(-b+Math.pow(D,0.5))/(2*a);
24 22 R2=(-b-Math.pow(D,0.5))/(2*a);
25 23 System.out.println("Roots are "+R1+","+R2);
26 24 }
27 25 else if (D==0)
28 26 {
29 27 System.out.println("Roots are Real and Equal");
30 28 R1=-b/(2*a);
31 29 R2=R1;
32 30 System.out.println("Root is="+R1);
33 31 }
34 32 else
35 33 {
36 34 System.out.println("The Equation has no real roots");
37 35 }
38 36 }
```

```
1  C:\Java\quadratic
2  Enter the value of a
3  1
4  Enter the value of b
5  22
6  Enter the value of c
7  9
8  Roots are Real and Unequal
9  Roots are -0.1875118811817, -26.4624445188183
10  C:\Java\quadratic
11  Enter the value of a
12  1
13  Enter the value of b
14  6
15  Enter the value of c
16  9
17  Roots are Real and Equal
18  Root is=-3.0
19  C:\Java\quadratic
20  Enter the value of a
21  1
22  Enter the value of b
23  2
24  Enter the value of c
25  9
26  The Equation has no real roots
27  C:\Java\
```