

```

1 import java.util.Scanner;
2 class equation
3 {
4     public static void main(String args[]){
5         double r1,r2;
6         Scanner num = new Scanner(System.in);
7         System.out.println("Let the quadratic equation be of the form ax^2+bx+c=0\n");
8         System.out.println("Enter value of a");
9         double a = num.nextDouble();
10        System.out.println("Enter value of b");
11        double b = num.nextDouble();
12        System.out.println("Enter value of c");
13        double c = num.nextDouble();
14        double det = ((b*b)-(4*a*c));
15        double sqrt = Math.sqrt(det);
16        if(det>0){
17            r1 = (-b + sqrt)/(2*a);
18            r2 = (-b - sqrt)/(2*a);
19            String s1 = String.format("%.2f", r1);
20            String s2 = String.format("%.2f", r2);
21            System.out.println("Roots are real and distinct");
22            System.out.println("Roots are" + " " + s1 + " " + "and" + " " + s2);
23        }
24        else if(det == 0){
25            System.out.println("Roots are Real and equal");
26            r1 = (-b + sqrt)/(2*a);
27            System.out.println("Roots is");
28            String s3 = String.format("%.2f", r1);
29            System.out.println(s3);
30        }
31        else{
32            System.out.println("No real roots\n");
33        }
34    }
35 }

```

```
((base) jathinsmacbookpro@Jathins-MacBook-Pro java % java equation  
Let the quadratic equation be of the form  $ax^2+bx+c=0$ 
```

```
Enter value of a
```

```
1
```

```
Enter value of b
```

```
2
```

```
Enter value of c
```

```
3
```

```
No real roots
```

```
((base) jathinsmacbookpro@Jathins-MacBook-Pro java % java equation  
Let the quadratic equation be of the form  $ax^2+bx+c=0$ 
```

```
Enter value of a
```

```
1
```

```
Enter value of b
```

```
-2
```

```
Enter value of c
```

```
1
```

```
Roots are Real and equal
```

```
Roots is
```

```
1.00
```

```
((base) jathinsmacbookpro@Jathins-MacBook-Pro java % java equation  
Let the quadratic equation be of the form  $ax^2+bx+c=0$ 
```

```
Enter value of a
```

```
1
```

```
Enter value of b
```

```
4
```

```
Enter value of c
```

```
2
```

```
Roots are real and distinct
```

```
Roots are -0.59 and -3.41
```

```
((base) jathinsmacbookpro@Jathins-MacBook-Pro java %
```