```java
import java.util.*;
import java.lang.*;

public class Main
{
    public static void main(String args [])
    {
        System.out.println("Enter a, b, c of the quadratic equation: ");
        Scanner scan = new Scanner (System.in);
        double a = scan.nextDouble();
        double b = scan.nextDouble();
        double c = scan.nextDouble();
        double d = (b*b)-(4*a*c);
        System.out.println("D = "+d);
        if(d == 0)
        {
            double r1 = -b/(2*a);
            System.out.println("The roots are real and equal.");
            System.out.println(r1);
        }
        else if(d>0)
        {
            double r1 = (-b+ Math.sqrt (d))/(2*a);
            double r2 = (-b- Math.sqrt (d))/(2*a);
            System.out.println("The roots are real and distinct.");
            System.out.println (r1+" and "+r2);
        }
        else
```

Main.java

```
17              double r1 = -b/(2*a);
18              System.out.println("The roots are real and equal.");
19              System.out.println(r1);
20          }
21          else if(d>0)
22          {
23              double r1 = (-b+ Math.sqrt (d))/(2*a);
24              double r2 = (-b- Math.sqrt (d))/(2*a);
25              System.out.println("The roots are real and distinct.");
26              System.out.println (r1+" and "+r2);
27          }
28          else
29          {
30              System.out.println("There are no real roots.");
31          }
32      }
33  }
34
```

input

```
Enter a, b, c of the quadratic equation:
4 -4 1
D = 0.0
The roots are real and equal.
0.5


...Program finished with exit code 0
Press ENTER to exit console.
```

```
Enter a, b, c of the quadratic equation:
2 5 5
D = -15.0
There are no real roots.


...Program finished with exit code 0
Press ENTER to exit console.
```

```
Enter a, b, c of the quadratic equation:
2 1 -1
D = 9.0
The roots are real and distinct.
0.5 and -1.0


...Program finished with exit code 0
Press ENTER to exit console.
```