

# //\* Quadratic Equation \*/

```
import java.util.Scanner;  
import java.lang.*;  
import java.io.*;  
class quad  
{
```

```
    public static void main (String args[])  
    {
```

```
        double x1, x2, a, b, c, d, d1;
```

```
        Scanner sc = new Scanner (System.in);
```

```
        System.out.println ("Enter the value of a");  
a a = sc.nextDouble ();
```

```
        System.out.println ("Enter the value of b");  
        b = sc.nextDouble ();
```

```
        System.out.println ("Enter the value of c");
```

```
        c = sc.nextDouble ();
```

```
        d1 = (b*b) - 4*a*c;
```

```
        d = Math.sqrt ((b*b) - 4*a*c);
```

```
        if (d1 < 0) {
```

```
            System.out.println ("NO real roots solutions");
```

```
        }  
        if (d1 == 0)
```

```
        {  
            x1 = (-b+d)/(2*a);
```

```
            System.out.println ("Roots are equal: " + x1);
```

```
        }
```

```
        if (d1 > 0)
```

```
        {
```

```
            System.out.println ("Roots are distinct");
```

```
            x1 = (-b+d)/(2*a);
```

$$x_2 = (-b-d)/(2*a);$$

System.out.println("Root 1: "+x1);

System.out.println("Root 2: "+x2);

}

}

}

