

C:\Users\HARSHITHA RM\Desktop\ooj\lab2.java - EditPlus

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```
1 import java.util.Scanner;
2 import java.lang.Math;
3
4 class Quadratic
5 {
6     public static void main(String[] args)
7     {
8         int a,b,c;
9         double d,r1,r2;
10        Scanner sc=new Scanner(System.in);
11        System.out.println("Enter a,b,c:");
12        a=sc.nextInt();
13        b=sc.nextInt();
14        c=sc.nextInt();
15
16        d=b*b-4*a*c;
17        if(d>0)
18        {
19            System.out.println("Roots are real and unequal");
20            r1=(-1*b+Math.sqrt(d))/(2*a);
21            r2=(-1*b-Math.sqrt(d))/(2*a);
22            System.out.printf("root 1 =%.2f root 2=%.2f ",r1,r2);
23        }
24
25        else if(d==0)
26        {
27            System.out.println("Roots are real and equal");
28            r1=(-1*b)/(2*a);
29            r2=r1;
30            System.out.printf("root 1 =%.2f root 2=%.2f ",r1,r2);
31        }
32
33        else
34        {
35            System.out.println("Roots are imaginary as d("+d+") "+ "is negative therefore no real solution");
36        }
37    }
38 }
39
40
41
42
43
```

Command Prompt

```
C:\Users\HARSHITHA RM\Desktop\ooj>java Quadratic
```

```
Enter a,b,c:
```

```
78 56 34
```

```
Roots are imaginary as  $d(-7472.0)$  is negative therefore no real solution
```

```
C:\Users\HARSHITHA RM\Desktop\ooj>java Quadratic
```

```
Enter a,b,c:
```

```
23 48 76
```

```
Roots are imaginary as  $d(-4688.0)$  is negative therefore no real solution
```

```
C:\Users\HARSHITHA RM\Desktop\ooj>java Quadratic
```

```
Enter a,b,c:
```

```
34 56 11
```

```
Roots are real and unequal
```

```
root 1 = -0.23 root 2 = -1.42
```

```
C:\Users\HARSHITHA RM\Desktop\ooj>java Quadratic
```

```
Enter a,b,c:
```

```
1 2 1
```

```
Roots are real and equal
```

```
root 1 = -1.00 root 2 = -1.00
```

```
C:\Users\HARSHITHA RM\Desktop\ooj>
```