

Develop a Java Program that prints all real solutions to quadratic equation $ax^2+bx+c=0$ Read in a, b, c. If the discriminant b^2-4ac is negative, display there are no real solutions

```
import java.util.Scanner;
class QuadraticEq1
{
    public static void main(String xxx[])
    {
        double a,b,c;
        double root1, root2;
        Scanner ss = new Scanner(System.in);
        System.out.print("Enter the values of a,b,c");
        a = ss.nextDouble();
        b = ss.nextDouble();
        c = ss.nextDouble();
        double discriminant = b*b - 4*a*c;
        if (a==0)
            System.out.print("It is not a quadratic Equation");
        else
        {
            if (discriminant >= 0)
            {
                root1 = (-b + Math.sqrt(discriminant)) / (2*a);
                root2 = (-b - Math.sqrt(discriminant)) / (2*a);
                System.out.print("The roots are distinct and real: " + root1 + " and " + root2);
            }
        }
    }
}
```

```
if (discriminant == 0)
{
    root1 = root2 = -b / (2*a);
    System.out.print("The roots are equal: " + root1);
}
else if (discriminant < 0)
{
    root1 = ((-b + Math.abs(Math.sqrt(discriminant))) / (2*a));
    root2 = ((-b - Math.abs(Math.sqrt(discriminant))) / (2*a));
    System.out.print("The roots are imaginary: " + root1 + " and " + root2);
}
}
```

```
Administrator: Command Prompt
C:\Users\Admin\Desktop\IB021CS011>javac QuadraticEq1.java
C:\Users\Admin\Desktop\IB021CS011>java QuadraticEq1
error: Class names, 'QuadraticEq1', are only accepted if annotation processing is explicitly requested
1 error
C:\Users\Admin\Desktop\IB021CS011>java QuadraticEq1
Error: Could not find or load main class QuadraticEq1
Caused by: java.lang.ClassNotFoundException: QuadraticEq1
C:\Users\Admin\Desktop\IB021CS011>javac QuadraticEq1.java
C:\Users\Admin\Desktop\IB021CS011>java QuadraticEq1
Enter the values of a,b,c 0 0 0
It is not a quadratic equation
C:\Users\Admin\Desktop\IB021CS011>1 1 1
'1' is not recognized as an internal or external command,
operable program or batch file.
C:\Users\Admin\Desktop\IB021CS011>111
'111' is not recognized as an internal or external command,
operable program or batch file.
C:\Users\Admin\Desktop\IB021CS011>1
'1' is not recognized as an internal or external command,
operable program or batch file.
C:\Users\Admin\Desktop\IB021CS011>java QuadraticEq1
Enter the values of a,b,c 1 1 1
the roots are imaginary: NaN NaN
C:\Users\Admin\Desktop\IB021CS011>java QuadraticEq1
Enter the values of a,b,c 1 4 3
The roots are distinct and real: -1.0 and -3.0
C:\Users\Admin\Desktop\IB021CS011>java QuadraticEq1
Enter the values of a,b,c 0 1 2
It is not a quadratic equation
C:\Users\Admin\Desktop\IB021CS011>java QuadraticEq1
Enter the values of a,b,c 1 1 1
the roots are imaginary: NaN NaN
C:\Users\Admin\Desktop\IB021CS011>java QuadraticEq1
Enter the values of a,b,c 4 -4 1
The roots are equal: 1.0
C:\Users\Admin\Desktop\IB021CS011>javac QuadraticEq1.java
C:\Users\Admin\Desktop\IB021CS011>java QuadraticEq1
Enter the values of a,b,c 0 2 3
It is not a quadratic equation
C:\Users\Admin\Desktop\IB021CS011>java QuadraticEq1
Enter the values of a,b,c 1 1 1
the roots are imaginary: 1.0368014617844386 i -1.368014617844386
C:\Users\Admin\Desktop\IB021CS011>java QuadraticEq1
Enter the values of a,b,c 4 -4 1
The roots are equal: 1.0
C:\Users\Admin\Desktop\IB021CS011>java QuadraticEq1
Enter the values of a,b,c 1 4 3
The roots are distinct and real: -1.0 and -3.0
C:\Users\Admin\Desktop\IB021CS011>
```

Activate Windows
Go to Settings to activate Windows.