S.No: 2	Exp. Name: ***Write a Java code to calculate the Roots of a Quadratic equation***	Date:2023-09-14

Aim:

Write code to calculate **roots** of a **quadratic equation**.

Write a class `QuadraticRoots` with `main` method. The method receives three arguments, write code to parse them into `double` type.

For example:

```
if the values 2, 5, 3 are passed as arguments, then the output should be First root is : -1.0 Second root is : -1.5
If the values 3, 2, 1 are passed then the output should be Roots are imaginary
Similarly, if the values 2, 4, 2 are passed then the output should be Roots are equal and value is : -1.0
```

Note: Make sure to use the **print()** and not the **println()** method.

Note: Please don't change the package name.

Source Code:

q10851/QuadraticRoots.java

```
package q10851;
public class QuadraticRoots{
   public static void main(String args[])
   {
      Double a=new Double(args[0]);
       Double b=new Double(args[1]);
      Double c=new Double(args[2]);
      double r1=0,r2=0;
      double d=(b*b)-(4*a*c);
      if(d>0)
      {
         r1=(-b+Math.sqrt(d))/(2*a);
         r2=(-b-Math.sqrt(d))/(2*a);
         System.out.println("First root is : "+r1+" Second root is : "+r2);
  }
      else if(d==0)
      {
         r1=r2=-b/(2*a);
         System.out.println("Roots are equal and value is : "+r1);
  }
      else
      {
         System.out.println("Roots are imaginary");
  }

 }
}
```

Execution Results - All test cases have succeeded!

Test Case - 1
User Output
First root is : -0.6047152924789525 Second root is : -1.3952847075210475

Test Case - 2
User Output
Roots are equal and value is : -1.0

Test Case - 3
User Output
Roots are imaginary