Develop a Java program that prints all real solutions to the quadratic equation ax2+bx+c = 0. Read in a, b, c and use the quadratic formula. If the discriminant b2 -4ac is negative, display a message stating that there are no real solutions.

quadratic - Notepad

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```
import java.util.Scanner;
public class quadratic
{
public static void main(String args[])
{
Scanner input=new Scanner(System.in);
System.out.print("enter the value of a:");
double a=input.nextDouble();
System.out.print("enter the value of b:");
double b=input.nextDouble();
System.out.print("enter the value of c:");
double c=input.nextDouble();
double d=b*b-4*a*c;
if(d>0)
{
double r1=(-b+Math.pow(d,0.5))/(2.0*a);
double r2=(-b-Math.pow(d,0.5))/(2.0*a);
System.out.println("the roots are real and distinct r1="+r1+"and r2="+r2);
}
else if(d==0.0)
{
double r1=-b/(2.0*a);
System.out.println("the roots are real and equal r1=r2="+r1);
}
else
{
double r1=-b/(2*a);
double r2=Math.sqrt(-d) / (2 * a);
System.out.println("roots are not real");
System.out.println("r1="+r1+"+i"+r2+" and r2="+r1+"-i"+r2);
}
}
}
```

```
Command Prompt
Microsoft Windows [Version 10.0.19045.2251]
(c) Microsoft Corporation. All rights reserved.

C:\Users\Admin>cd C:\Users\Admin\Desktop\ooj

C:\Users\Admin\Desktop\ooj>set path="C:\Program Files\Java\jdk-19\bin"

C:\Users\Admin\Desktop\ooj>javac quadratic.java

C:\Users\Admin\Desktop\ooj>java quadratic
enter the value of a:1
enter the value of b:-1
enter the value of c:-6
the roots are real and distinct r1=3.0and r2=-2.0

C:\Users\Admin\Desktop\ooj>java quadratic
enter the value of a:1
enter the value of b:2
enter the value of c:1
the roots are real and equal r1=r2=-1.0

C:\Users\Admin\Desktop\ooj>java quadratic
enter the value of a:1
enter the value of b:2
enter the value of c:3
roots are not real
r1=-1.0+i1.4142135623730951 and r2=-1.0-i1.4142135623730951

C:\Users\Admin\Desktop\ooj>
```

classmate
Date
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OOJ lab

```
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public class quadratic
{
 public static void main(String args[])
 {
 Scanner input = new Scanner(System.in);
 System.out.print("enter the value of a: ");
 double a = input.nextDouble();
 System.out.print("enter the value of b:");
 double b = input.nextDouble();
 System.out.print("enter the value of c:");
 double c = input.nextDouble();
 double d = b*b - 4*a*c;
 if (d>0)
{
 double r1 = (-b+Math.pow(d,0.5))/(2.0*a);
 double r2 = (-b-Math.pow(d,0.5))/(2.0*a);
 System.out.println("the roots are "+r1+"and"+r2);
}
 else if (d==0.0)
{
 double r1 = -b/(2.0*a);
 System.out.println("the root is "+r1);
}
 else
{  r1 = -b/(2*a);  r2 = (Math.sqrt(-d))/(2*a);
 System.out.println("roots are not real");
 System.out.println("r1 ="+r1+"+i"+r2+"and r2 ="+r1+
                    "-i"+r2);
}
}
}
```