12 Develop a java program that prints all real solutions to quadratic equation $ax^2+bx+c=0$. Read in a, b, c and use the quadratic formulas. If the discriminant b^2-4ac is negative, display a message stating that there are no real solutions

A
```
import java.util.Scanner;
public class Quadratic
{
  public static void main(String[] args)
{  double a,b,c,root1,root2;
   double d;
  Scanner sc=new Scanner(System.in);
  System.out.println("Enter value of b: ");
  b = sc.nextDouble();
  System.out.println("Enter the value of a: ");
  a=sc.nextDouble();
  System.out.println("Enter value of c: ");
  c=sc.nextDouble();
  d=(b*b)-(4*a*c);
  if(d>0)
  {   root1=(-b+Math.sqrt((b*b)-(4*a*c)))/(2*a);
      root2=(-b-Math.sqrt((b*b)-(4*a*c)))/(2*a);
  System.out.println("First root is:"+root1);
  System.out.println("Second root is:"+root2);
  }
  else if(d==0)
{  root1 = -b/(2*a);
  System.out.println("Both roots are same and equal to :"+root1);
} else if(d<0)
      { System.out.println("Real roots dont exist");
      }
    }
}
```

Quadratic - Notepad

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```
import java.util.Scanner;
public class Quadratic
{
public static void main(String[] args)
{
double a,b,c,root1,root2;
double d;
Scanner sc=new Scanner(System.in);
System.out.println("Enter the value of b:");
b=sc.nextDouble();
System.out.println("Enter the value of a:");
a=sc.nextDouble();
System.out.println("Enter the value of c:");
c=sc.nextDouble();
d=(b*b)-(4*a*c);
if(d>0)
{
root1=(-b+Math.sqrt((b*b)-(4*a*c)))/(2*a);
root2=(-b-Math.sqrt((b*b)-(4*a*c)))/(2*a);
System.out.println("First root is:"+root1);
System.out.println("Second root is:"+root2);
}
else if(d==0)
{
root1= -b/(2*a);
System.out.println("Both roots are same and are equal to:"+root1);}
else if(d<0)
{
System.out.println("Real roots dont exist");
}
```

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Quadratic - Notepad

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```
{
double a,b,c,root1,root2;
double d;
Scanner sc=new Scanner(System.in);
System.out.println("Enter the value of b:");
b=sc.nextDouble();
System.out.println("Enter the value of a:");
a=sc.nextDouble();
System.out.println("Enter the value of c:");
c=sc.nextDouble();
d=(b*b)-(4*a*c);
if(d>0)
{
root1=(-b+Math.sqrt((b*b)-(4*a*c)))/(2*a);
root2=(-b-Math.sqrt((b*b)-(4*a*c)))/(2*a);
System.out.println("First root is:"+root1);
System.out.println("Second root is:"+root2);
}
else if(d==0)
{
root1= -b/(2*a);
System.out.println("Both roots are same and are equal to:"+root1);}
else if(d<0)
{
System.out.println("Real roots dont exist");
}
}
}
```

Ln 9, Col 2 | 100% | Windows (CRLF) | UTF-8

Command Prompt

```
Microsoft Windows [Version 10.0.18363.1139]
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C:\Users\sohan>cd C:\Users\sohan\Desktop\Java Programs\Quadratic Eq

C:\Users\sohan\Desktop\Java Programs\Quadratic Eq>javac Quadratic.java

C:\Users\sohan\Desktop\Java Programs\Quadratic Eq>java Quadratic
Enter the value of b:
34
Enter the value of a:
-21
Enter the value of c:
4
First root is:-0.11015275789656984
Second root is:1.7292003769441888

C:\Users\sohan\Desktop\Java Programs\Quadratic Eq>
```