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 discriminate b2-4ac is negative, display a message stating that there are no real solutions.

```
import java.lang.Math;
import java.util.Scanner;
class jack{
public static void main(String arg[]){
Scanner s = new Scanner(System.in);
double a,b,c;
double r1,r2,d;
System.out.println("enter the coefficients");
a =s.nextDouble();
b= s.nextDouble();
c = s.nextDouble();
d = (b*b)-(4*a*c);
if(d>0){
```

```
System.out.println("roots are real and distinct");
r1 = (-b+(Math.sqrt(d)))/(2*a);
r2 = (-b-(Math.sqrt(d)))/(2*a);
System.out.println("roots are " +r1);
System.out.println(+r2);
}
else if(d==0){
System.out.println("roots are real and equal");
r1=-b/(2*a);
System.out.println("roots are "+r1);
}
else{
System.out.println("roots are complex");
r1 = -b/(2*a);
System.out.println("r1= "+r1+"+i" +Math.sqrt(-d)/(2*a));
System.out.println("r2= "+r1+"-i" +Math.sqrt(-d)/(2*a));
}
}
}
```

OUTPUT:

```
Microsoft Windows [Version 10.0.19045.2486]
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C:\Users\user>cd Desktop

C:\Users\user\Desktop>javac jack.java

C:\Users\user\Desktop>java jack
enter the coefficients
2
3
6
roots are complex
r1= -0.75+i1.5612494995995996
r2= -0.75-i1.5612494995995996

C:\Users\user\Desktop>java jack
enter the coefficients
1
1
1
roots are complex
r1= -0.5+i0.8660254037844386
r2= -0.5-i0.8660254037844386

C:\Users\user\Desktop>java jack
enter the coefficients
1

4
3
roots are real and distinct
roots are -1.0
-3.0

C:\Users\user\Desktop>
```