Lab 1 - program

Q) Develop a java program that prints all real solutions to the quadratic equation $ax^2 + bx + c = 0$. Read in a, b, c and use the quadratic formula. If the discriminate is $(b^2 - 4ac)$ is negative palse, display a messagge stating that there are no real solutions.

```
class quadratic
{
    public static void main (String[]args)
    {
        double a, b, c, r1 = 0, r2 = 0;
        System.out.print("Enter coefficients
            a, b and c of quadratic equation");
        Scanner in = new Scanner(System.in);
        a = in.nextFloat();
        b = in.nextFloat();
        c = in.nextFloat();
        double d = (b*b) - (4*a*c);
        if(d == 0)
        {
            System.out.println("Two equal real roots");
```

```java
        r1 = -b/2 * a
        r2 = r1;
    }
    else if (d > 0)
    {
        System.out.println("Two distinct real
                            roots");
        r1 = -b + Math.sqrt(d)/2 * a
        r2 = -b + Math.sqrt(d)/2 * a
    }
    else
    {
        System.out.println("No real roots");
        system.exit(0);
    }
    System.out.println("Roots of quadratic
                       equation are r1 = "+r1+"
                       and r2 = "+r2");
    }
}
```