1BM19CS216

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LAB

8) 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 discriminante b^2-4ac is negative, display a message stating that there are no real solution.

```
import java.util.Scanner;
import java.lang.Math;
class Quadratic
{
    public static void main(String args[])
    {
        double r1, r2;
        Scanner scan = new Scanner(System.in);
        System.out.println("Enter the coefficients a, b, c: ");
        double a = scan.nextFloat();
        double b = scan.nextFloat();
        double c = scan.nextFloat();
        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("Root1 = "+r1+" and root2="+r2);
        }
        else if (d==0)
        {
            r1 = r2 = -b/(2*a);
```

```
        System.out.println("Root1 = Root2 = " +r1);
    }
    else
    {
        System.out.println("There are no real solutions");
        double r = -b / (2*a);
        double i = math.sqrt(-d) / (2*a);
        System.out.printf("Root1 = %.2f + %.2fi and
            Root2 = %.2f - %.2fi", r, i, r, i);
    }
}
}
}
```