Java Program Quadratic Equation

Code:

```
public class quad {

   public static void main(String[] args) {

      double a = 2.3, b = 4, c = 5.6;
      double root1, root2;

      double determinant = b * b - 4 * a * c;

      // condition for real and different roots
      if(determinant > 0) {
         root1 = (-b + Math.sqrt(determinant)) / (2 * a);
         root2 = (-b - Math.sqrt(determinant)) / (2 * a);

         System.out.format("root1 = %.2f and root2 = %.2f", root1 , root2);
      }
      // condition for real and equal roots
      else if(determinant == 0) {
         root1 = root2 = -b / (2 * a);

         System.out.format("root1 = root2 = %.2f;", root1);
      }
      // if roots are not real
      else {
```

```
        double realPart = -b / (2 *a);
        double imaginaryPart = Math.sqrt(-determinant) / (2 * a);

        System.out.format("root1 = %.2f+%.2fi and root2 = %.2f-%.2fi", realPart, imaginaryPart,
realPart, imaginaryPart);
     }
   }
}
```

Output: