

COMP 1600 Fall 2025

Lab 3: Quadratic Acrobatics

Due by the end of class

This assignment is similar to the previous lab. You must implement a simple program that asks the user for three values, a , b , and c , which you should store as `double` values. Using these numbers, you compute the value of the two solutions to the quadratic equation, assuming that the equation is of the form:

$$ax^2 + bx + c = 0$$

To compute the two solutions, or roots, of the equation, use the following well-known formula:

$$\frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

Output the two solutions, nicely formatted.

Don't be afraid to ask for help.

Note: Images stolen from [Wikipedia](https://en.wikipedia.org/wiki/Quadratic_formula)

Specification

Create a project called `Lab3`. Add a class called `Quadratic`. Complete the description of the program given above so that your output looks as close to the following sample output as possible. In this sample, the user entered `2.0`, `-5.0`, and `2.0`, respectively. User input is shown in `green`.

```
Welcome to the quadratic equation solver!
For an equation of the form ax^2 + bx + c,
Enter a: 2.0
Enter b: -5.0
Enter c: 2.0
The answers are x = 2.0 and x = 0.5
```

The quadratic formula is given above. You will have to compute the $+$ and $-$ parts separately, since Java does not contain a \pm operator.

You will need to use the `Math.sqrt()` method.

Turn In

Turn in your code by uploading `Quadratic.java` from the `Lab3\src` folder wherever you created your project to [Brightspace](#). **Do not** upload the entire project. I only want the `Quadratic.java` file.

All work must be done individually. Never look at someone else's code. Please refer to the course policies if you have any questions about academic integrity. If you have trouble with the assignment, I am always available for assistance.