



## Part 2

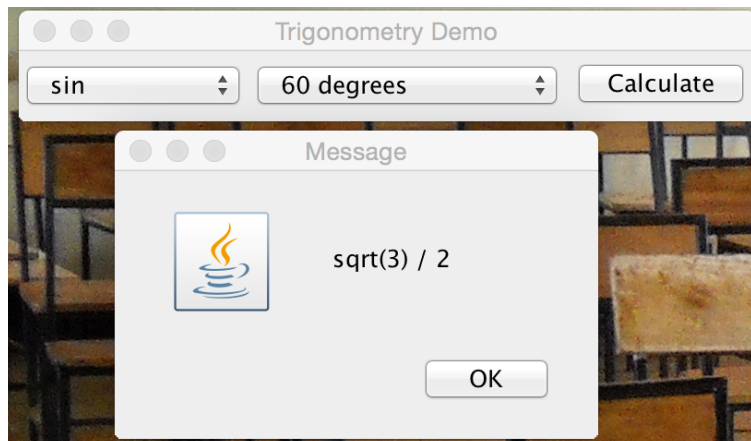
For this assignment you are to implement a class in Java. You must document the classes using Javadoc and turn in the source files, in the appropriate folder structure, as a zip file. You will be evaluated based upon correctness (adhering to the problem description, passing test cases), object-oriented design (e.g. appropriate usage of inheritance, member access control, etc.), and source code documentation (via Javadoc).

### 1 Assignment Overview

This assignment is the second building block to your final project and involves implementing a simple GUI. This GUI, with small changes, will serve you well for your `ClassificationGUI` class.

### 2 Your Task

You must implement a single class (`MainGUI`) that allows the user to match options from two lists: (i) trigonometric functions and (ii) angle values. The options in the first list should be `sin`, `cos`, and `tan`. The options in the second list should be `0 degrees`, `30 degrees`, `45 degrees`, `60 degrees`, and `90 degrees`. The user then clicks a button to see a well-formatted answer (meaning either `0`, `1`, `1/2`, `1 / sqrt(2)`, `sqrt(3) / 2`, `1 / sqrt(3)`, `sqrt(3)`, or `Not defined`). See an example run below:



In addition to adhering to these requirements, you are going to be evaluated on your object-oriented design. Thus, here is a recommended program structure:

- Your combo boxes should be populated with objects, one set designed for trigonometric functions, the other for angular values.
- Upon clicking the run button, you should identify the selected objects, apply the function to the angle input, and then have a strategy in place for producing the well-formatted response.