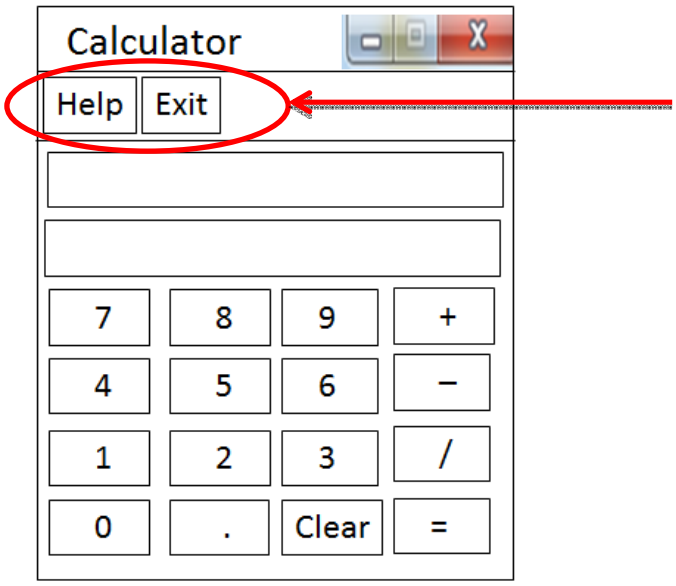
CST 338 – Spring 2017
Homework 5
Due: 04/07/2017 (11:55 PM)

1. (20 points) Create a simple Swing program called **Calculator.java** that provides "+", "–", and "/" operations. For the homework, you **must put every code in a single file called Calculator.java, including the main method.**

This is the main GUI for the program.

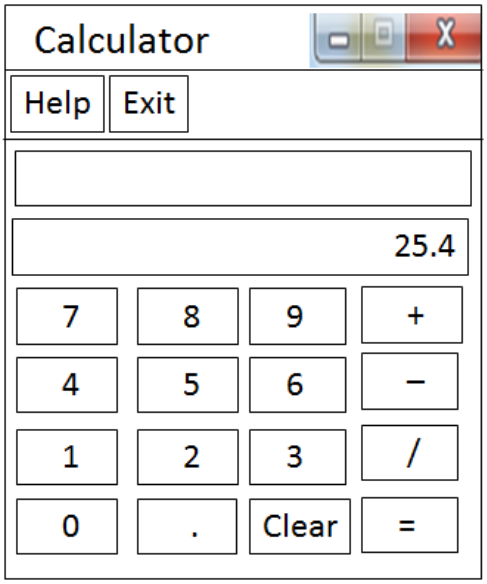


Note that **this is menus, not buttons.**
When a user clicks the "Exit" menu, the program should finish.
When a user clicks the "Help" menu, your program should create a separate window (or a dialog box) to display information about your program. It should include at least your name and version number such as version 1.0. When the user clicks "OK" button on the separate window (or dialog box), the window should disappear.

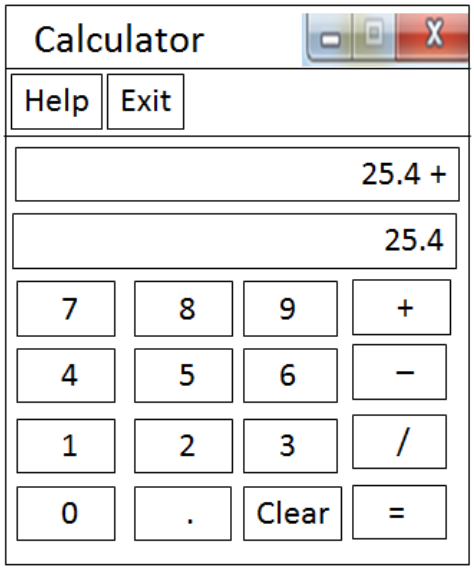
See the next pages for a few sample test cases for the homework.

(1) Binary operation example: **25.4 + 37.5 =**

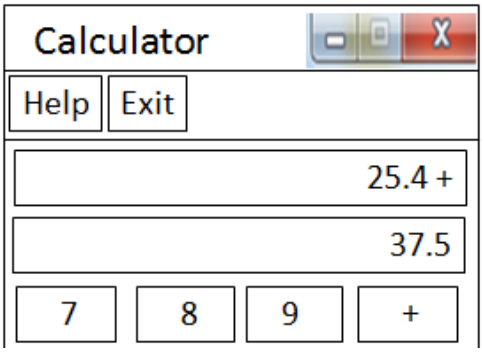
a) When a user clicks 2, 5, **.** (period symbol), and 4 for the number **25.4,** the GUI should be updated like below



b) After the user clicks **+ sign**, the GUI should be updated like below

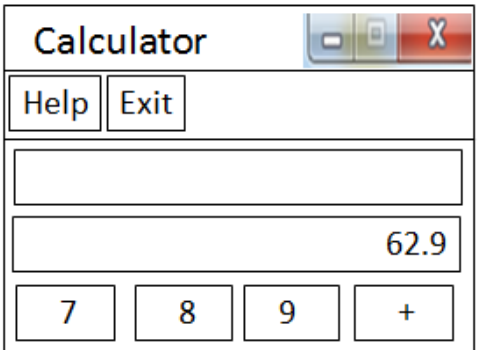


c) After the user clicks 3, 7, ., and 5, the GUI should be updated like below



…

d) After the user clicks **= sign**, the GUI should be updated like below



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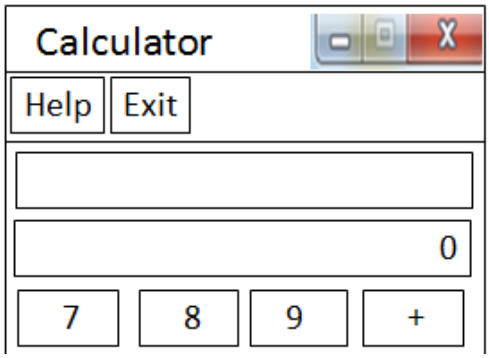
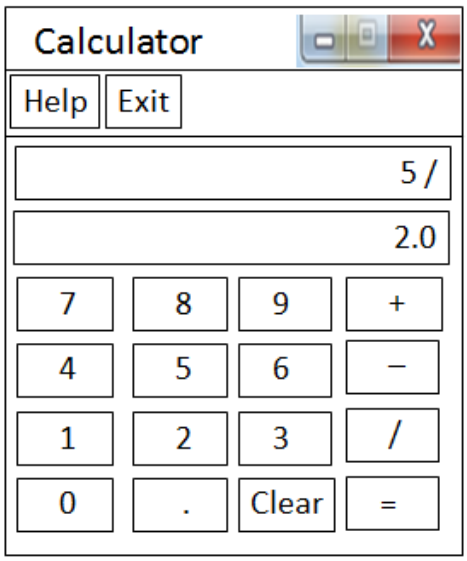
e) After the user clicks **Clear** button, the GUI should be updated like below



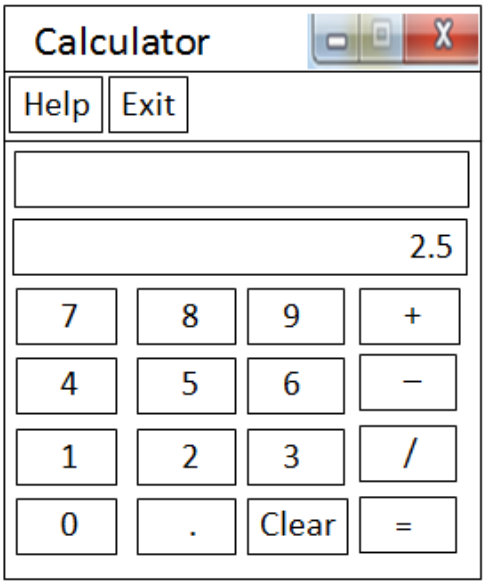
…

(2) Binary operation example: **5 / 2.0 =**

a) When a user types 5, /, 2, . , and 0, the GUI should be updated like below



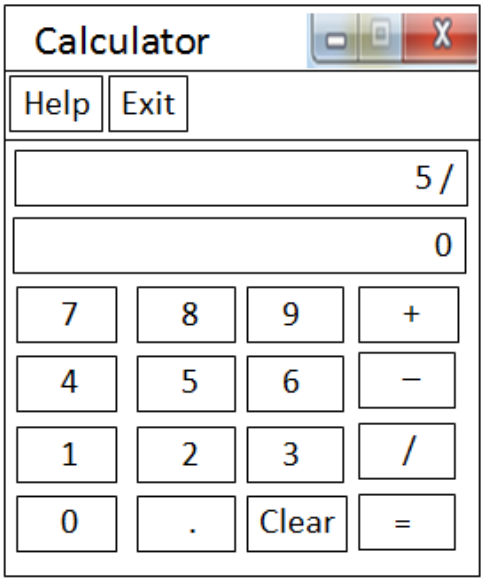
b) After the user types = sign, the GUI should be updated like below



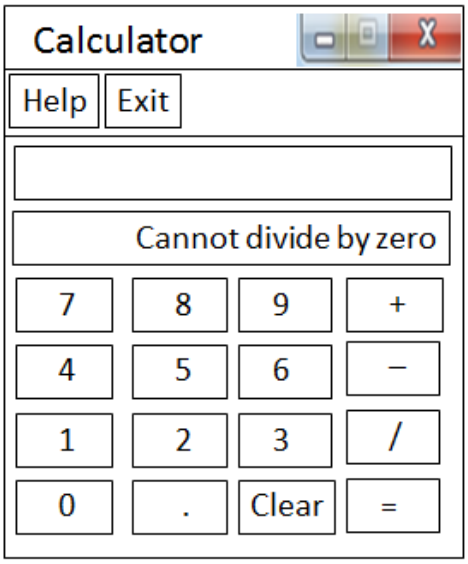
c) After the user clicks Clear button, the program should display 0 as the above example.

(3) Divide by zero example: 5 / 0 =

a) When a user types 5, /, and 0, the GUI should be updated like below



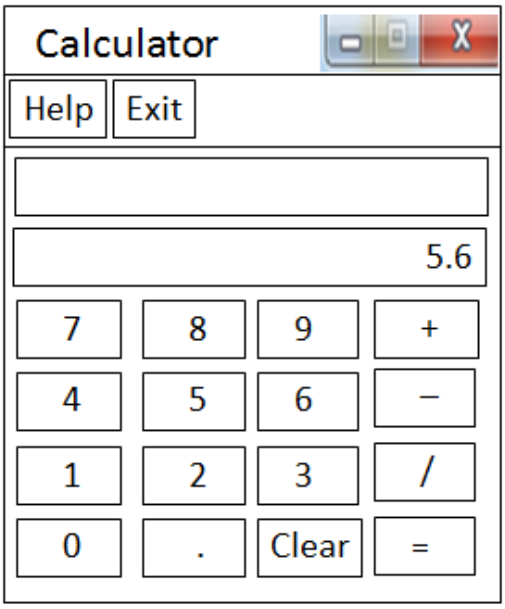
b) After the user types = sign, the GUI should display an error message like below



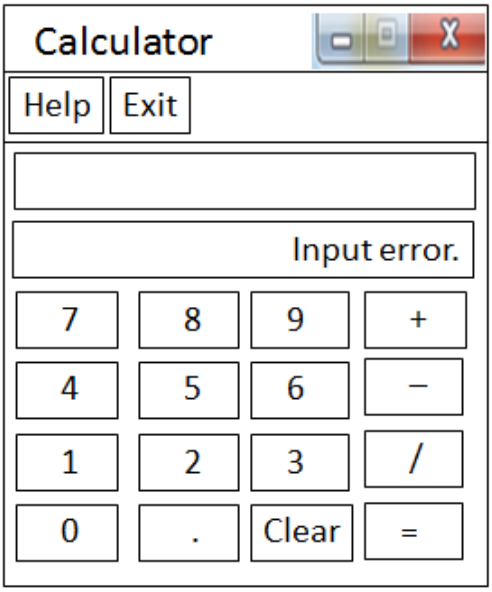
c) After the user clicks Clear button, the program should display 0 as the first example.

(4) Incorrect number type example: **5.6.** (Note that there's another period symbol after the digit 6)

a) When a user types 5, ., and 6, the GUI should be updated like below



b) When a user types . (period symbol), the program should display an error message like below



(5) Exit and Help menu: When a user clicks the “Exit” menu, the program should finish. When a user clicks the “Help” menu, your program should create a separate window (or a dialog box) to display information about your program. It should include at least your name and version number such as version 1.0. When the user clicks “OK” button on the separate window (or dialog box), the window should disappear.

How to turn in?

Submit your source program (**Calculator.java**) on the **iLearn**.