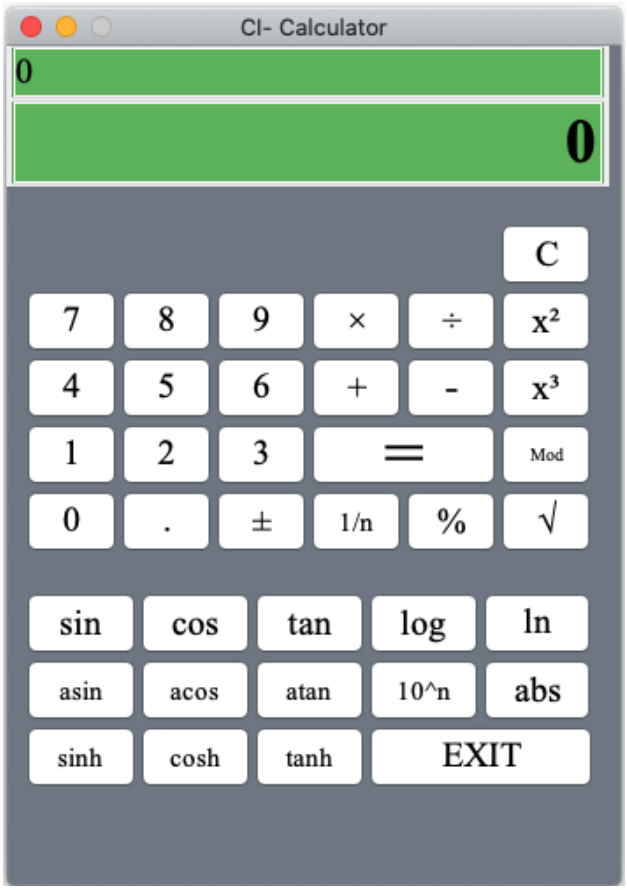
COMP167 Major Programming Assignment3

FALL 2021

1 Introduction

This assignment requires you to create a Java application that implements a scientific calculator.



2 Basic Functionalities

Students will develop following basic functionalities as part of this step:

1. Layout Design
2. Input text field
3. Output text field
4. Numbers from 0 to 9
5. Buttons (+,-,*,/,%,=)

3 Event Listeners for Basic Functionalities

As part of this step, students should work on implementing action listeners for the buttons created in step 2. Input text field should show the input provided by the user and output text field should show the result.

4 Data Buttons and Functionalities

Students will develop following buttons and their event listeners as part of this step:

1. Power Buttons (x^2, x^3)
2. Modulus Button (Mod)
3. Data Manipulation Buttons (1/n, $\sqrt{x}$)
4. Log Buttons (log, ln)

5 Trigonometry Buttons and Functionalities

Students will develop following buttons and their event listeners as part of this step:

1. Sin
2. Cos
3. Tan
4. asin
5. acos
6. atan
7. sinh
8. cosh
9. tanh

6 Clear Button and Functionality

Students will develop following buttons and their event listeners as part of this step:

1. Clear (C)

7 Exit Button and Functionality

Students will develop following buttons and their event listeners as part of this step:

2. Exit

8 Grading

If your project does not compile, it receives a grade of zero. If you do not document your program according to the documentation guidelines, the graders have been instructed to deduct **up to 25%.**

Step 2 (15%): Implement all the basic functionalities

Step 3 (15%): Event Listeners for all basic functionalities

Step 4 (30%): Implement data buttons and functionalities
Step 5 (30%): Implement Trigonometry buttons and functionalities
Step 6 (5%): Implement the clear button and its functionality
Step 7 (5%): Implement the exit button and its functionality