

Program I – Pocket Calculator



In this lab, you will create a GUI implementation of a simple pocket calculator. The minimum requirements are as follows:

1. Number Buttons
2. Equal Button
3. Add Button
4. Subtract Button
5. Multiply Button
6. Divide Button
7. Clear Button

Of course, there are more possibilities than this. If, for instance, you were to add a memory function, square root button, or percent calculations I would give you extra credit. If you made something that modeled a real world scientific calculator, you will get even more extra credit!

As a general set of requirements, your submission must have the following:

1. Source Code
2. **Makefile** that will compile the program when I type ‘**make**’ in your directory

I would recommend designing this assignment thoroughly before trying to create it. The reason for this is that even a simple calculator is a bit more complex than it looks. What I did to generate this was as follows:

1. I created a class, **Calculator**, which models the behavior of the calculator. It has functions for each button press, and a function for retrieving the calculator’s display.
2. I made a test program that ran through keypresses and printed the screen to verify that the class works in text mode.
3. I then designed a GUI using fluid, and then I wrote callbacks which use my business logic class to do the math.
4. I wrote a separate **main.cpp** file which creates the main window and enters the event loop.

This three tiered approach: business, gui, and program, is the standard way to write this sort of application.

Good luck, and enjoy!