Lab 1 Report

# Objectives

The objective of this lab was to familiarize us with the Keil programming environment and the Stelaris LCD screen by creating a software module that has fixed point and graphical capabilities. This software module consisted of 2 primary files: fixed.c and fixed.h. The fixed.h file had the function definitions for 4 functions, and the fixed.c file had the implementation details for those functions. The functions include: convert an integer to decimal fixed point, covert an integer to binary fixed point, initialize the LCD display, and draw pixels defined by their (x, y) coordinates. Ideally, a user could only look at the .h file to see how to use the functions thus abstracting the actual implementation.

Another objective of this lab was to learn about engineering tradeoffs. The started code has a fputc method which calls the LCD function that outputs a character to the screen. The printf method calls fputc for every character in the input string, so the overridden function still works. The tradeoff here is how to output text to the screen. If you use printf for this task, the code can be greatly simplified at the cost of the overhead of the printf function. Alternatively, you could use fputc directly which would speed up the execution but make the code more complex.

# Analysis and Discussion

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