**CompE3150**

**Project 1**

Team B

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**Summary:**

This project was the first time we had actually implemented code onto hardware for 3 of us. Starting the project was the hardest since we had to figure out how the code should be formatted, how the Simon board would accept it, and also how Flash Magic worked with our board. After the initial hiccups we were able to get the increment working in no time after fixing a lot of syntax errors with the code. Decrement was just as easy to implement and when this was finished we gave out this code to everyone as out base code. The following are reports of each individual group member giving their explanation of their idea and any future work:

**Kyle –** Added a negative indicator to the board which meant that most of the functions had to be tweaked to handle Inc/Dec while either positive or negative. The biggest problems was rolling over to reset to zero (instead of -0) and adding exceptions to our previously written logic to handle 0 to -1 and -1 to 0.

**Andrew –** What I did was initially make sound come out from our simon board, albeit at first I couldn’t control what frequency it would come out at, it started to make sense and I had help from the other people in our team to refine our code so that it would do so. My initial error was that I didn’t make use of our TH0 and TL0 and only made it complement our port for the buzzer. What I would like to do differently in the future is to meet up more, and by that find a consistent time to meet.

**Zachary –** Added a small “rollover” sound each time the board would rollover from 15 to zero or from -15 to zero.

**John –** Designed the code sequence used to produce sound in all instances, implemented code for a double beep indicator when crossing over from positive to negative values. Primary issue encountered was having too short of a loop to play the sound even if the sound generation code was ‘sound.’ Extension of the ‘play time’ allowed for the sound to be heard.

**Work Effort Distribution:**

Kyle – Worked on implementing the decrement function since his negative implementation would work very close with this code. Set up Git repository so that we could easily upload and download changes and files.

Zachary – Implemented the base code for incrementing and generally debugging other’s code. Also wrote most of this report and set it up for everyone to finish up their own thoughts.

John – Implemented the code ‘algorithm’ to produce sounds and found an online calculator used to determine certain frequencies to be played with said algorithm. Used familiarity with Keil output and FlashMagic to help with loading data and code to the Simon board.

Andrew – Assisted with implementation of sound indicators on increment and decrement operations