Lab 3 Report

LAB # 3

SECTION # 1

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SUBMISSION DATE: 2.9.2020

DATE

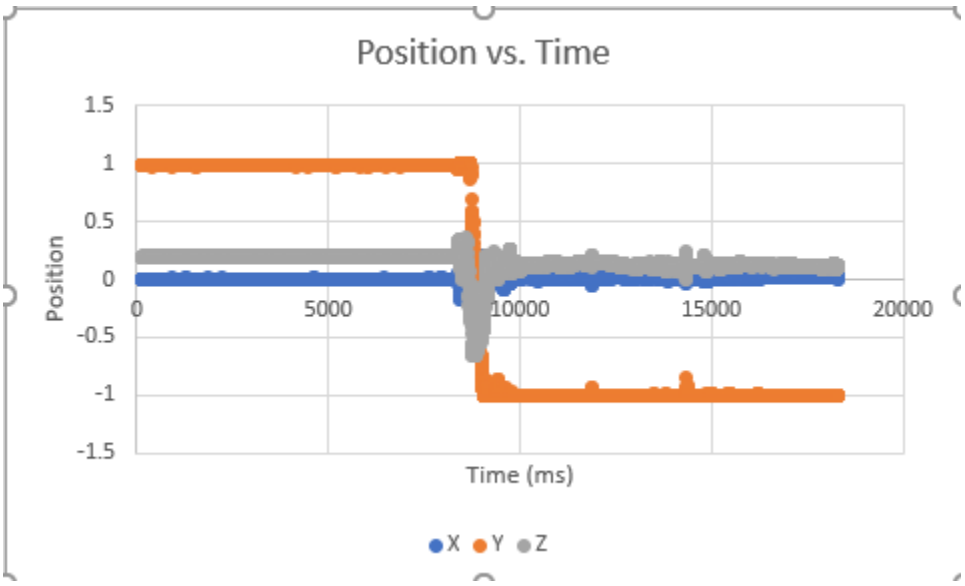
2.9.2020

Problem

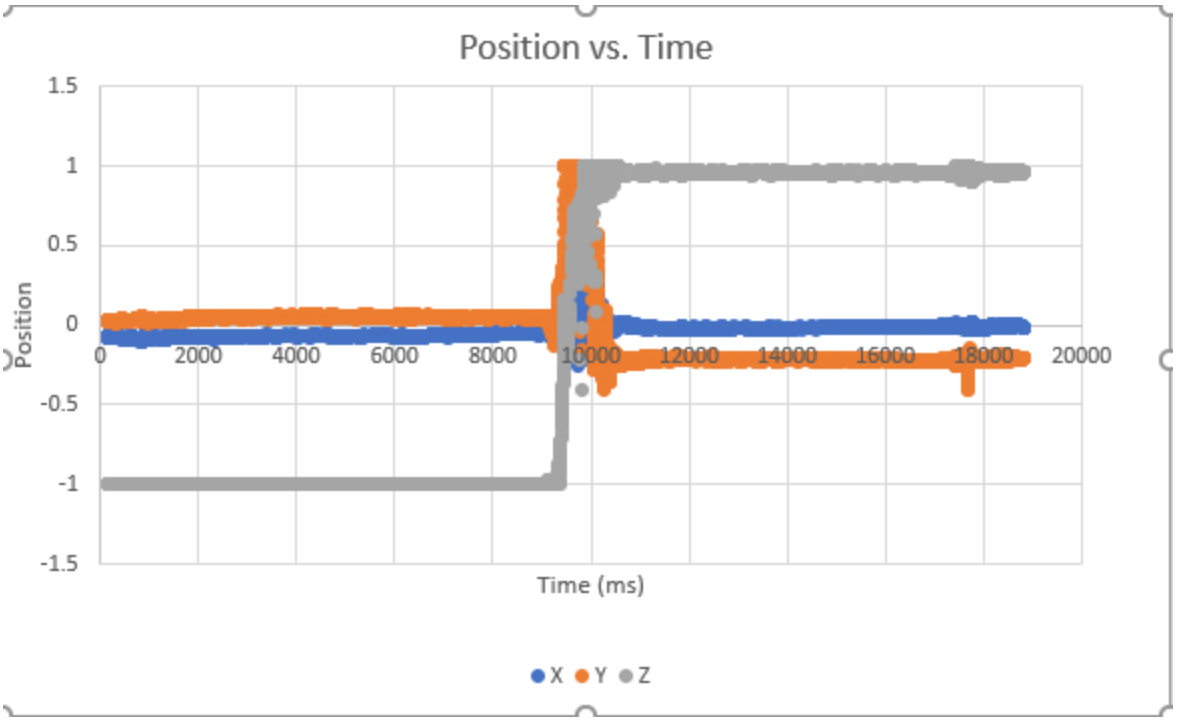
Problem 1: DualShock 4 Data Collection

This problem was to plot the position of the controllers while holding them flat, upright, and moving in a repeatable pattern. The chosen pattern was sitting flat on the table, rocking forward to rest on the joysticks, and rocking back.

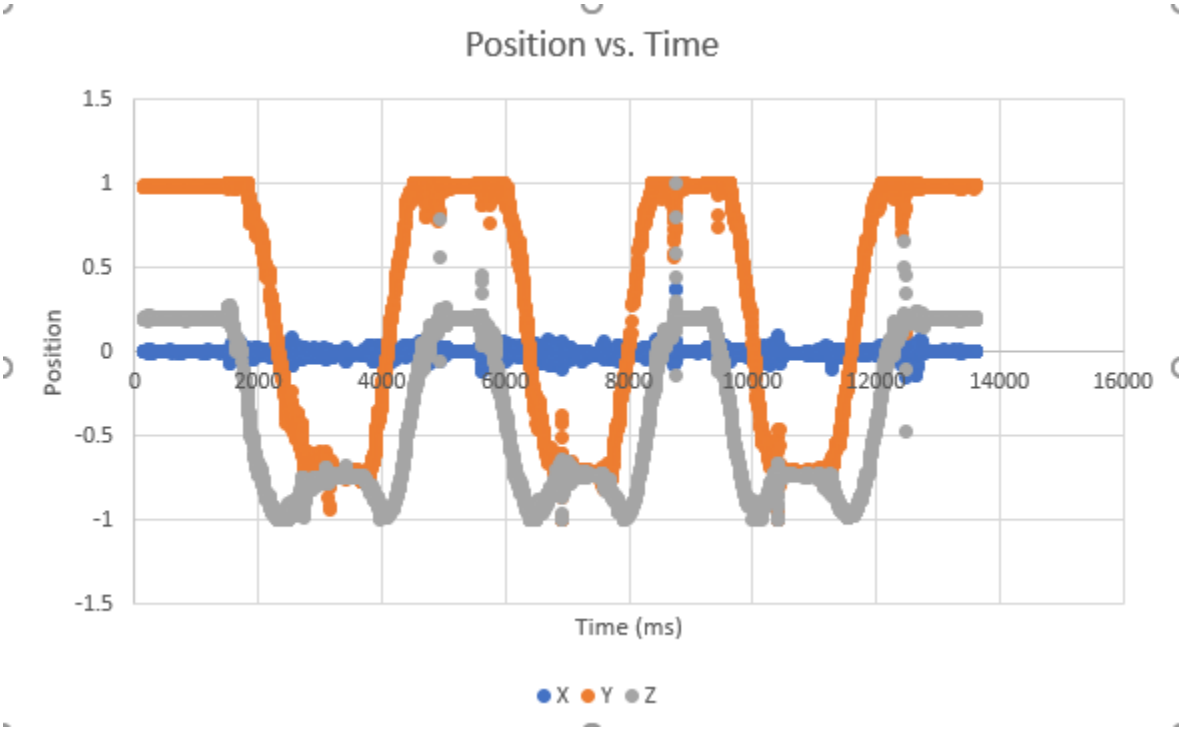
Flat:



Front:

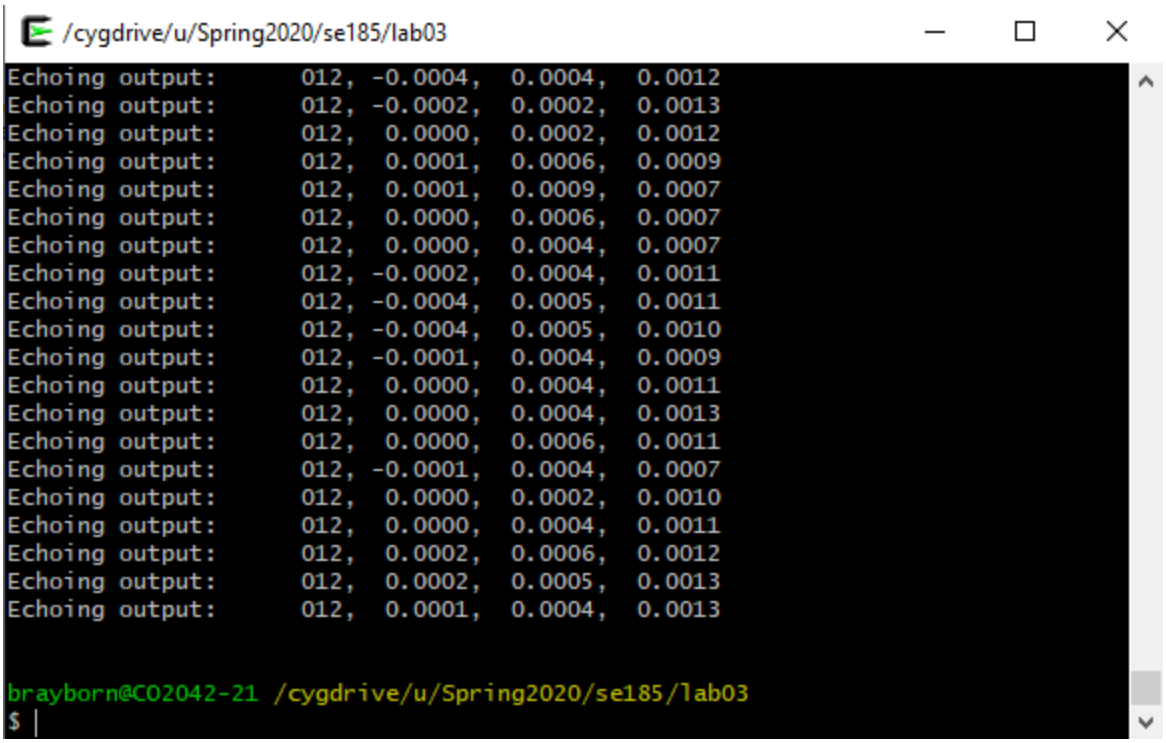


Custom:

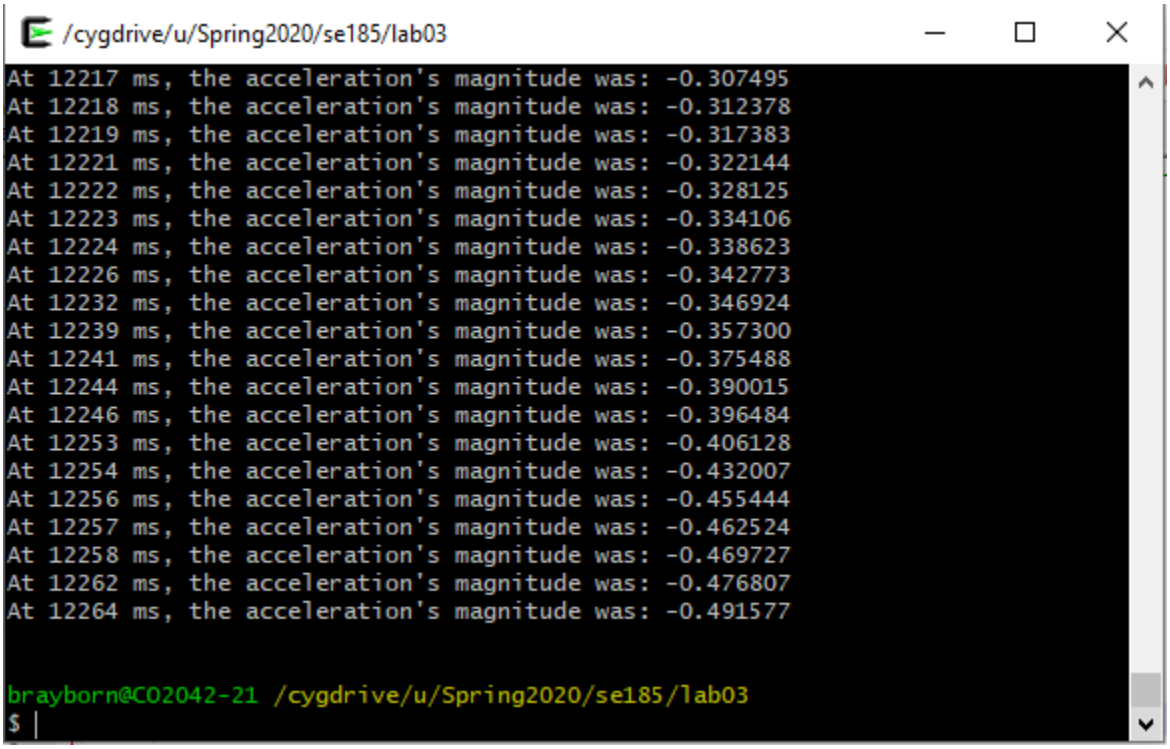


Problem 2: Introduction to Functions and the DualShock 4

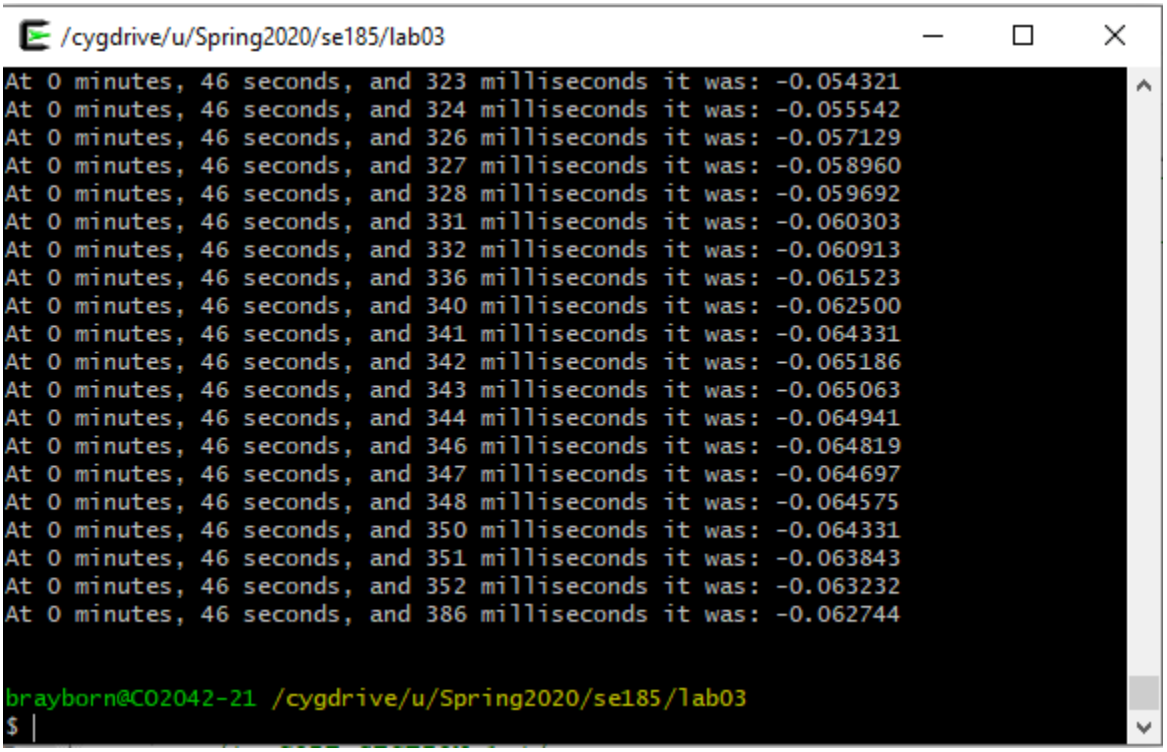
Part one had convert the time to seconds and print it out in a uniform format.



Part two had us calculate the magnitude of acceleration from the accelerations on each axis.

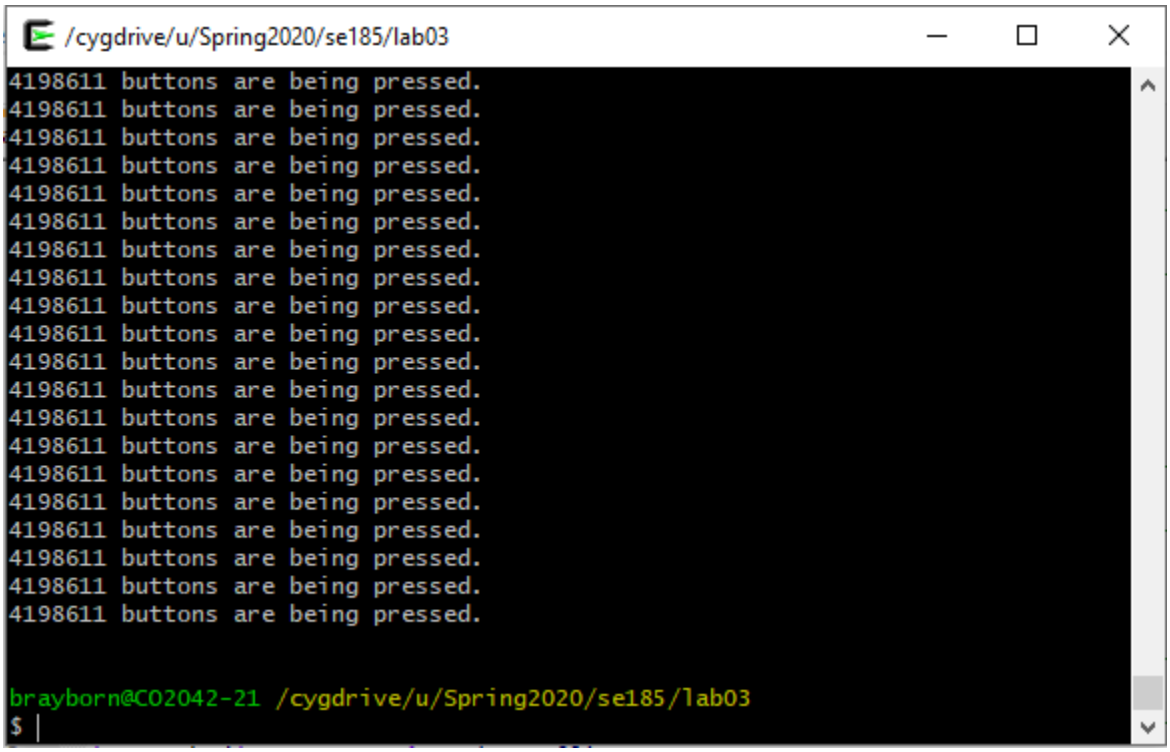


Part three had us give the magnitude at a more readable time. Milliseconds was broken into minutes, seconds, and milliseconds.



Problem 3: Counting Buttons

This had us give the total number of buttons pressed on the controller.



Analysis

The overall goal of this lab was making data useful. Problem one collected data over time and gave a graph to show the movement of the controller. Problem two printed the output in a more useful way and condensed from three axes to one

Design

This had us design the programs using prototypes. This prevents everything from being buried in the main method, making it easier to read.

Testing

Testing resulted initially in some syntax errors where variables weren't specified as an int, as well as logic errors where the time would increment the minutes and seconds correctly, but it would not reset the value when the larger time unit was incremented. The last problem was demonstrated to function correctly, but it was all in the main method rather than prototyped. When I went to copy the files and finish it out, I ended up deleting everything and I am not sure what I'm doing now that it isn't giving the correct answer.

Comments

A previous lab was counted off for not showing code running. Is this supposed to be the screen shots of Cygwin, or copy and paste from the .c files?

Screen Shots

Inline screen shots