Authors:
NetIDs:
Date:
Project Name: Lab 6

Description
This lab is extra credit. Since this is the case, the code given to you is extremely minimal. You will work alone to interface with the adxl345 accelerometer using the SPI communication protocol. To show you have interfaced correctly, you will print the x, y, and z axis values to the monitor using Serial print statements.

Instructions
You will need to create a circuit using your breadboard, jumper wires and the accelerometer.

Requirements
Overall

1. The project must follow good coding practices and be well commented.
2. Arduino libraries are not allowed at all for this lab with the exception of debug/printing functionality using Serial.println.

In a file called spi.cpp (or in main.cpp)

1. All communication must be done over the SPI related pins.
2. It is suggested that you write the following functions:
    a. spi initialization or setup function.
    b. digitalwrite(pin, value) function.
    c. spi_write function (output from master)
    d. spi_read function (input from device).

    Note: If your code combines some of the functions described above, that is acceptable. The main goal is to demo the accelerometer working for all 3 axis using your code.

main.cpp

1. Should print out all 3 axis data points.
2. Data should print once every 1000 milliseconds.

timer.cpp 1. Implement a precise millisecond timer using timer 1.