# Writing Assignment – Lab Notebook

**Enter full schematics of the combined circuit.**

SCAN THIS INTO THE COMPUTER AND PRINT

**In the lab notebook describe what had to be changed to allow the code to be merged.**

We had to switch around variable names and adjust the timer. But given that the three of us were in a group prior to Lab 4, the code was much more consistent in terms of code for the main and helper functions.

**Include a discussion of how the code meets the required timing of the sensors.**

We used interrupts to space out when the car sends pings to prevent the SMBus from overloading.

**Make comments about the car performance with both high and low gains.**

**Determine a usable set of gains for your car.**

**Show the calculations used to determine the resistor values.**

**Show the calculation of the expected divide ratio, Vout/Vin based on the ideal resistor values.**

**List the multimeter reading of the battery voltage and the divider voltage, and calculate the actual divide ratio based on the actual resistor values.**

**Calculate the percentage disagreement between the calculations and the actual experiment.**

**Comment on if the actual divide ratio is consistent with calculated when the resistor tolerance is taken into account.**

**Calculate a conversion factor for taking the A/D 8 bit result (Vout) and the equation to find the battery voltage (Vin) from the measured Vout.**