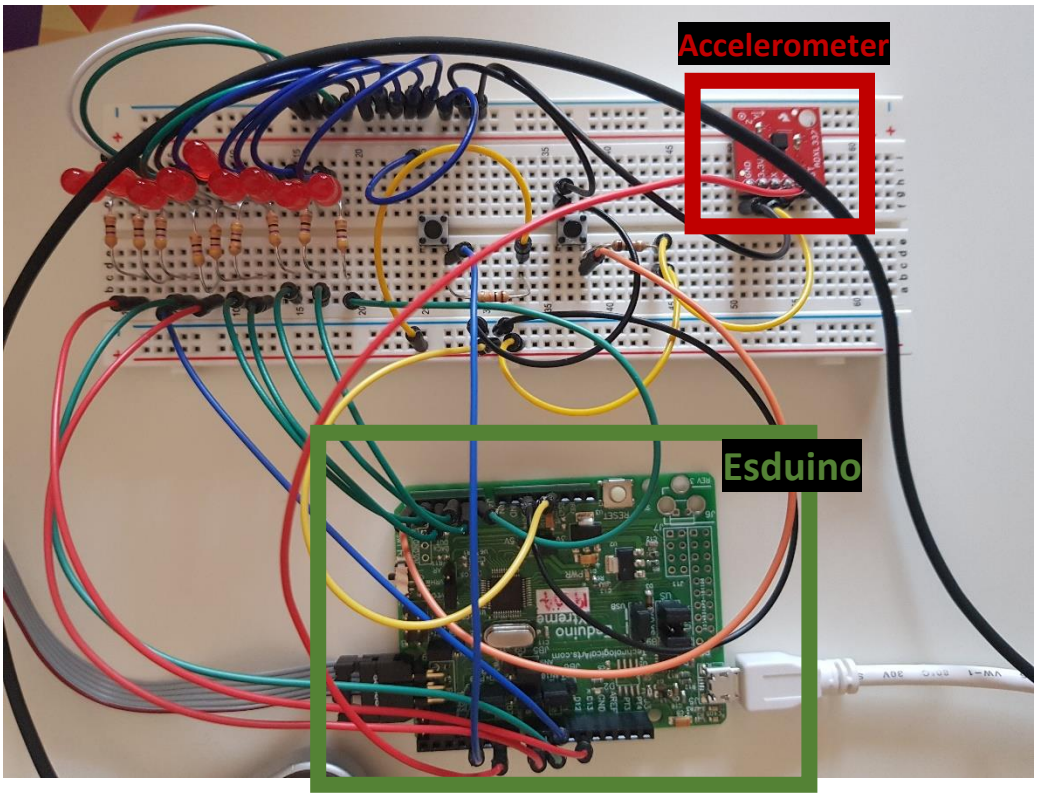
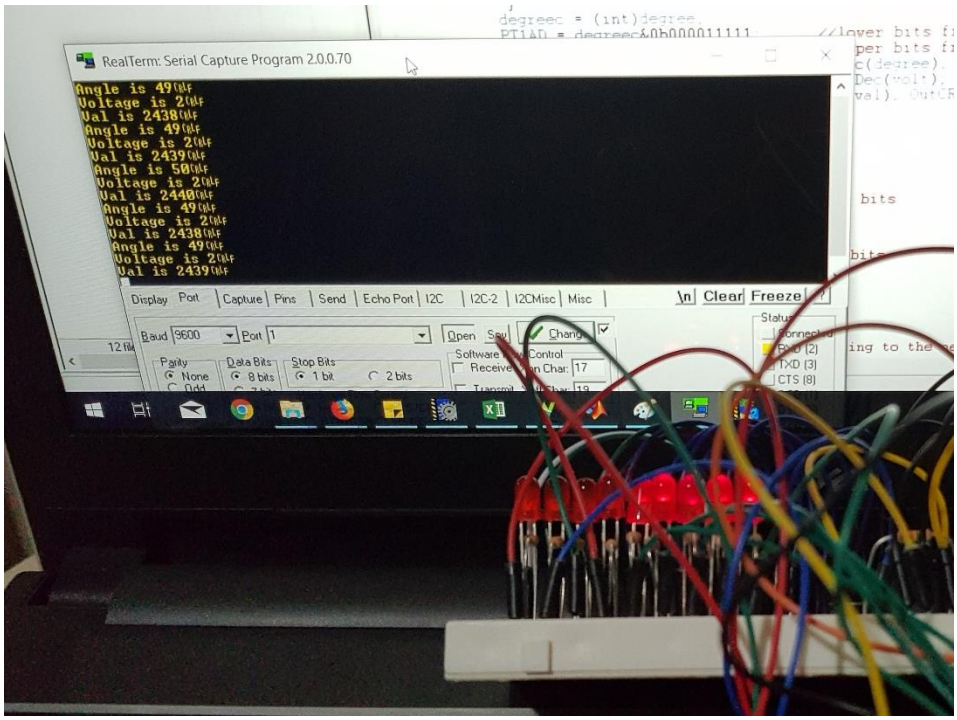
Data Acquisition System Utilizing Serial Communication

Utilized an Esduino microcontroller, which outputted the inclined angle of an accelerometer. The angle was displayed through 9 LEDs as a BCD (binary coded decimal) or an angle rounded to the nearest 10 degree. The angle value displayed through the LEDs was also serially communicated through RealTerm. The BCD angle was displayed when push button was pressed, while the bar angle display was initialized with another push button.



Picture 1: Esduino Xtreme, LEDs, and Accelerometer Wiring



Picture 2: Serial Communication of Angle of Inclination of the Accelerometer

Hardware Implemented:

- Esduino Xtreme
- ADXL337 Accelerometer
- 9 LEDs
- 2 Push Buttons
- Wires

Software Implemented:

- RealTerm
- CodeWarrior IDE