CpE301 - Design Assignment 3 DUE: See Website

The goal of the assignment is to modify the above codes to do the following:

1. Write a C AVR program that will monitor the Analog pins (PC4 and PC5) connected to the Joystick Module. Assuming PC4 is connected to X-axis and PC5 connected to Y-axis motion translations.
2. Use the embedded debugger interface or serial interface to display the raw values in the terminal.
3. Using the ADC values of PC4 and PC5, use timers to adjust the brightness of two LEDs (PD5 and PD3). Do not operate the timers in PWM mode. When the Joystick is in the center positions the LEDs should blink at 30 Hz (50% duty cycle). Adjusting the X-axis should change the frequency from extreme left, 0 Hz to extreme right 60 Hz. Adjusting the Y-axis should change the duty cycle from extreme top, 0% to extreme bottom 100%.

Submission:
The following are required for successful completion of the design assignment:

a. AVR C code that has been compiled and working submitted to the github repository.
b. A word/pdf document that contains the C/assembly code well documented along with the kiCAD schematics with components used connected to the ATmega328P/PB.
c. In the word/pdf provide the screenshots of 1) successful compilation, 2) snapshot of the demo circuit, 3) screenshot of demo outputs, and 4) video links for each task.
d. Provide a text file in your github with links to youtube for all tasks.

Evaluation Rubrics:
See class website for the DA evaluation rubrics.