IECE 553/453 Cyber-Physical Systems
Fall 2023

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Lab Assignment 3 - Due Sep 21
Total Points - 30

1. **(10 points)** Write a C program to get a hexadecimal color value from the user and display the corresponding color using three different PWM signals for the three LEDs. You may check your code with the hexadecimal code from `https://htmlcolorcodes.com`. Modify the code provided in the lab to implement this, where the value of the RANGE macro (an input to the `softPwmCreate()`), should NOT be changed.
2. **(10 points)** A user wants to control the brightness of an LED using a switch in `N` discrete steps, where each button press will increase the brightness of the LED by each step. Write a C program that takes in `N` as a command line input and changes the brightness of the LED with each button press from `0` to `N`. Use hardware PWM for this implementation.
3. **(10 points)**
   Setup your code running in lab on Sep 22. You need to show both the software and hardware running together to get the full credit.

Submission Instructions:
Name your files using the following convention: `yourLastName_labN_problemM.extension`. Upload a single tar or zip file in blackboard.