

## CpE301 - Design Assignment 2C

DUE: See Website

## Design Assignment 2B:

The goal of the assignment is use GPIO and delays using Timers and Interrupts:

1. Implement Design Assignment 2A using Timer 0 - normal mode. Count OVF occurrence if needed. Do not use interrupts.
2. Implement Design Assignment 2A using TIMER0\_OVF\_vect interrupt mechanism in normal mode.
3. Implement Design Assignment 2A using TIMER0\_OVF\_vect interrupt mechanism in CTC mode.

## Submission:

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

- a. AVR ASM code that has been compiled and working for all four tasks. Verify the period and duty cycle of the waveforms in simulation and emulation.
- b. AVR C code that has been compiled and working for all four tasks. Verify the period and duty cycle of the waveforms in simulation and emulation.
- c. The C code should be well documented with explanation of every instruction.
- d. A word document that contains the code with comments, complete schematics, that includes the AVR, components connected on the breadboard and LED should be included. Follow the template provided.
- e. A snapshot of the board with connected components and a video of the complete LED bar blink sequence should be recorded and uploaded to Youtube and the line to be provided for each task.
- f. The git directory should have DA2\DA2T1, DA2\DA2T2, ... folders, with one doc file and video link file.

## Points:

Task 1~3: 100%. (Code=60%, Documentation=20%, Verification/Snapshots=20%)

## Evaluation Rubrics:

See class website for the DA evaluation rubrics.