

CpE301 - Design Assignment 2A

DUE: See Website

Design Assignment 2A:

The goal of the assignment is use GPIO and delays:

1. Design a delay subroutine to generate a waveform on PORTB.3 with 40% DC and 0.625 sec period.
2. Connect a switch to PORTC.3 (active high - turn on the pull up transistor) to poll for an event to turn on the led at PORTB.2 for 1.333 sec after the event.

Submission:

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

- a. AVR ASM code that has been compiled and working for all 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 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 1~2: 100%. (Code=60%, Documentation=20%, Verification/Snapshots=20%)

Evaluation Rubrics:

See class website for the DA evaluation rubrics.