

## CpE301 - Design Assignment 5

DUE: See Website

The goal of the assignment is to develop the above code to do the following:

1. Write an AVR C program to control the speed of the DC Motor using a potentiometer connected to PC0.
2. Write an AVR C program to control the speed of the Stepper Motor using a potentiometer connected to PC0. Use a timer in CTC mode to control the delay.
3. Write an AVR C program to control the position of the Servo Motor using a potentiometer connected to PC0. When pot value is 0 the servo is at position 0 deg. and when pot value is max (approx. 5V) the servo is at position 180 deg.

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.