Homework #2 ECE 461 / 661

PLC, Timers, Counters - Due Wednesday, September 9th

Write a ladder-logic program for a stoplight with two functions:

- IN0: Normal Operation: Green for 5 seconds, yellow for 2 seconds, red for 5 seconds, and repeats.
- IN1: Flashing Yellow: Toggle the yellow light on and off, every one second, and
- IN2: Flashing Red: Toggle the red light on and off every one second

1) Write a ladder logic program for a stop-light, which cycles green / yellow / red as
   - Green (5 seconds)
   - Yellow (2 seconds)
   - Red (5 seconds)

2) Write a ladder logic program which flashes the yellow light on and off every one seconds.

3) Write a ladder logic program which turns on the red light (pretty easy).

4) Combine the above three operations.
   - When IN0 is pressed, the PLC goes into normal mode (problem 1)
   - When IN1 in pressed, the PLC goes into flashing yellow mode (problem 2)
   - When IN2 is pressed, the PLC goes into flashing red mode (problem 3)

Lab (Friday)

5-6) Input your programs into Code Coposer (screen dump for homework)

7-8) Compile and download your program. Demo to the instructor or take a video of your working PLC and show the video to the instructor. (Youtube works)

BONUS! The Citizen's United ruling by the Supreme Court stated that companies are people and are protected by the 1st amendment to the constitution (freedom of speech). Assume that companies are in fact people and protected by all 27 amendments to the constitution.

Explain what the implications are for applying one of the other 26 ammendments to companies, treating companies as people.