Lab 5 grading sheet, Spring 2021 Circle professor

1) Name Last_____ First_____ EID_____JV, VT, AC, RY

2) Name Last_____ First_____ EID_____JV, VT, AC, RY

Use same spelling as listed on Blackboard

1. Deliverables 20%: ☐

Combine your SysTick.c and your main C file into one text file called Lab5.c, and upload this Lab5.c file to Canvas. Combine the following components into one pdf file and upload this file also to Canvas. Have the pdf file and Keil open on the computer during demonstration

0) Your names, professors, and EIDs
1) Circuit diagram hand-drawn or electronic
2) Logic analyzer screenshot while in simulation mode, when cars are present on both roads
3) Drawing of the finite state machine

2. Performance 35%: ☐
Does it handle correctly all situations as specified?

3. Adhere to coding standard 5% ☐
Good Names have meaning
Variables have units in comments
Consistent indentation
Consistent use of braces
C99 style

1) ☐ 2) ☐

4. Demonstration 40%:
During checkout, you will be asked to show both the simulated and actual TM4C123 systems to the TA. The TAs will expect you to know how the **`SysTick_Wait`** function works, and know how to add more input signals and/or output signals. An interesting question that may be asked during checkout is how you could experimentally prove your system works. In other words, what data should be collected and how would you collect it? If there were a lawsuit, could you theoretically prove to the judge and jury that your software implements the FSM? What type of FSM do you have? What other types are there? How many states does it have? In general, how many next-state arrows are there? Explain how the linked data structure is used to implement the FSM. Explain the mathematical equation used to calculate the address of the next state, depending on the current state and the input (if this were assembly). Explain the assembly code created by the compiler for the main loop implementing the FSM, how are the data in the struct accessed? List some general qualities that would characterize a good FSM. If an LED does not activate, how could you tell if the mistake is the electrical circuit or software?

1) ☐ 2) ☐

Total: ☐ ☐