CPE301 – SPRING 2019

Design Assignment 2C

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Primary Github address: https://github.com/cuicattack/cat1

Directory: https://github.com/cuicattack/cat/Cat1Assn5\_DA\_2C

Submit the following for all Labs:

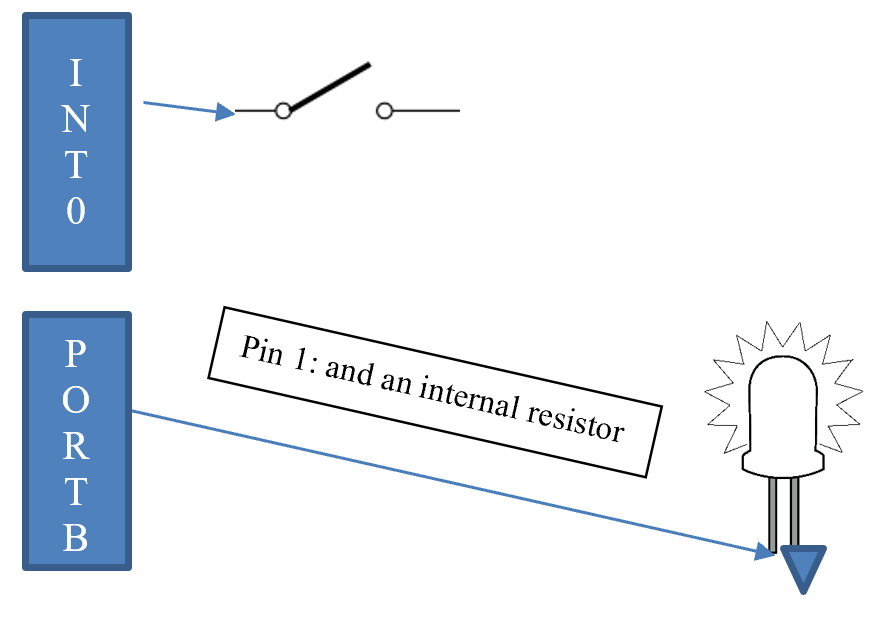
1. In the document, for each task submit the modified or included code (only) with highlights and justifications of the modifications. Also, include the comments.
2. Use the previously create a Github repository with a random name (no CPE/301, Lastname, Firstname). Place all labs under the root folder ESD301/DA, sub-folder named LABXX, with one document and one video link file for each lab, place modified asm/c files named as LabXX-TYY.asm/c.
3. If multiple asm/c files or other libraries are used, create a folder LabXX-TYY and place these files inside the folder.
4. The folder should have a) Word document (see template), b) source code file(s) and other include files, c) text file with youtube video links (see template).

1. **COMPONENTS LIST AND CONNECTION BLOCK DIAGRAM w/ PINS**

List of Components used

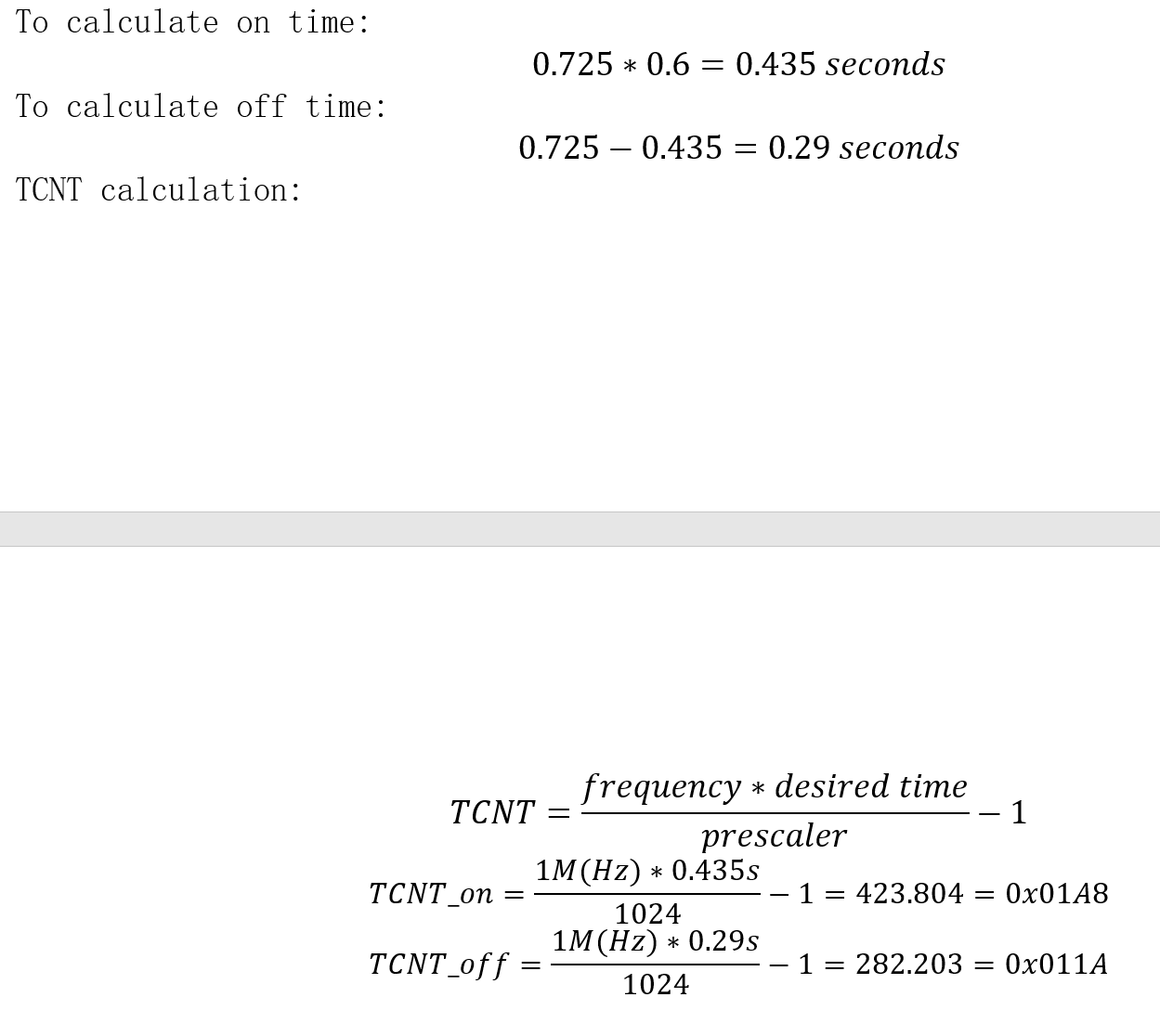
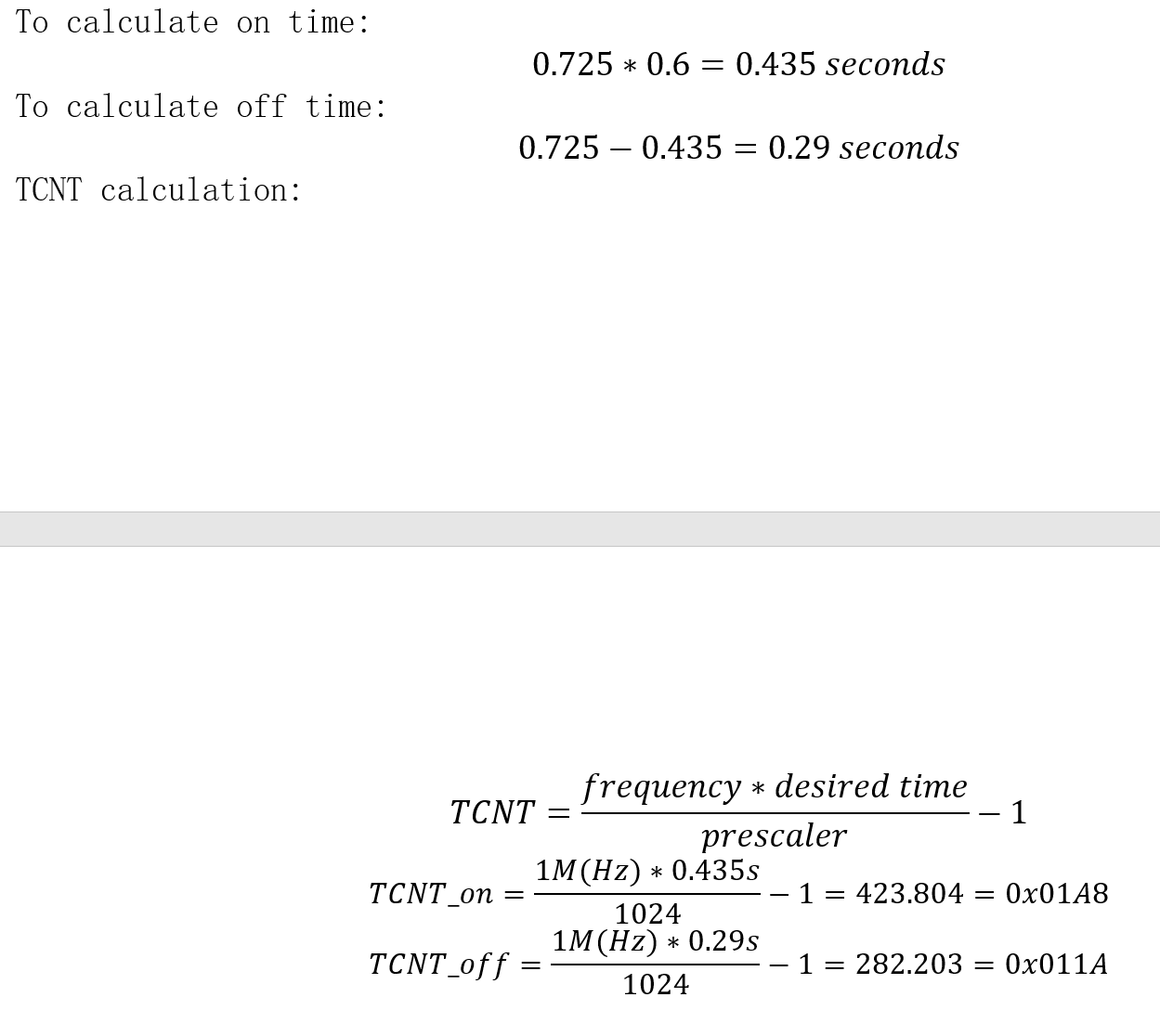
* LED
* Internal Resistor
* Push button

Block diagram with pins used in the Atmega328P



1. **DEVELOPED C CODE OF TASK 1 – 1**

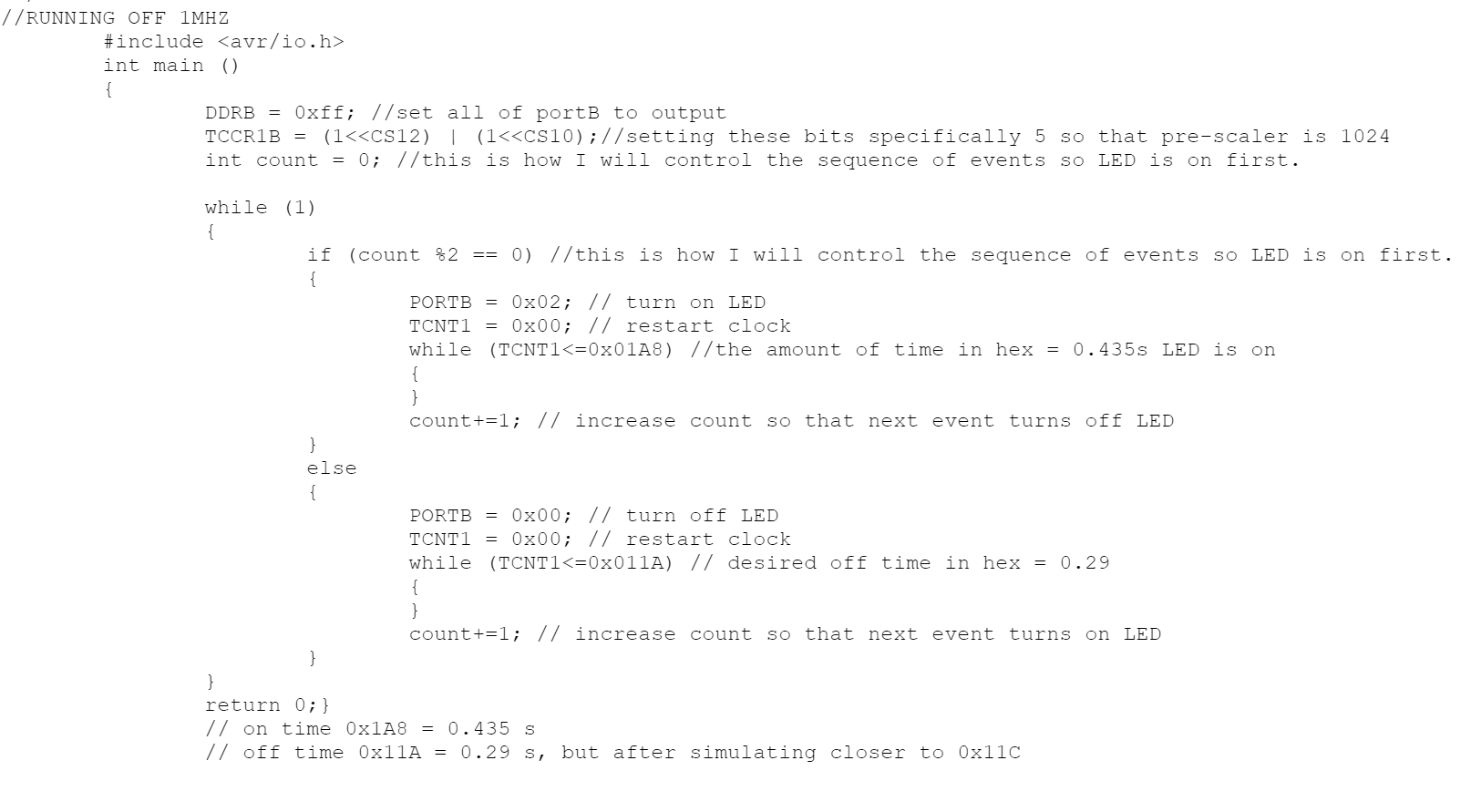
Light LED for duty cycle 60% for period .725 seconds using timer.



Timer0 code

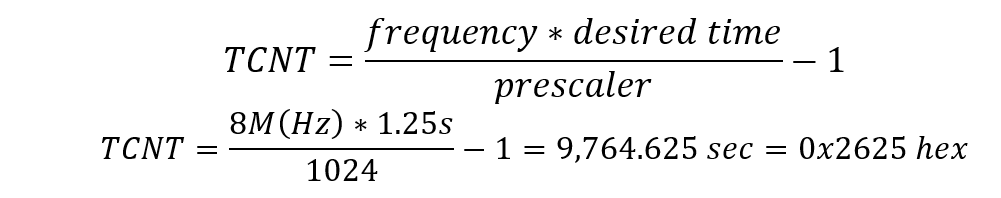


Timer1

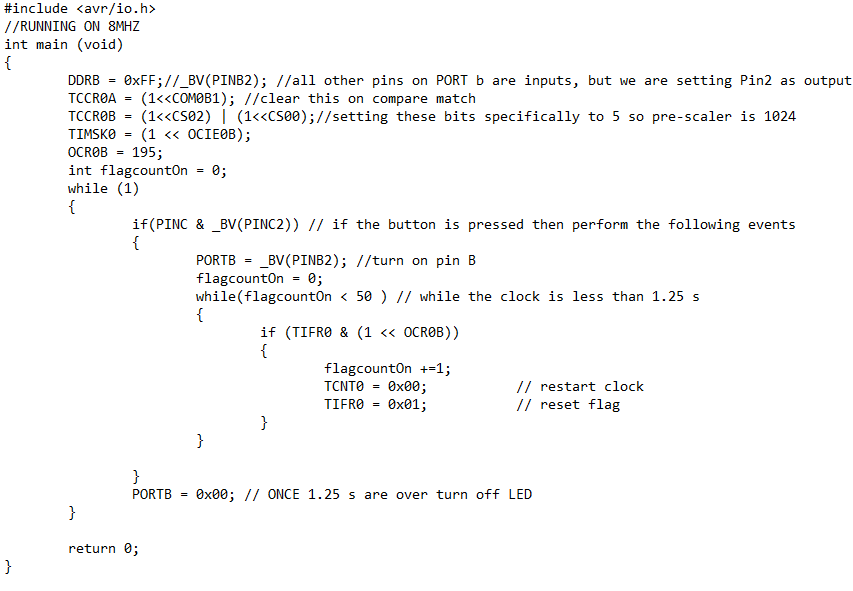


1. **DEVELOPED C CODE OF TASK 1 – 2**

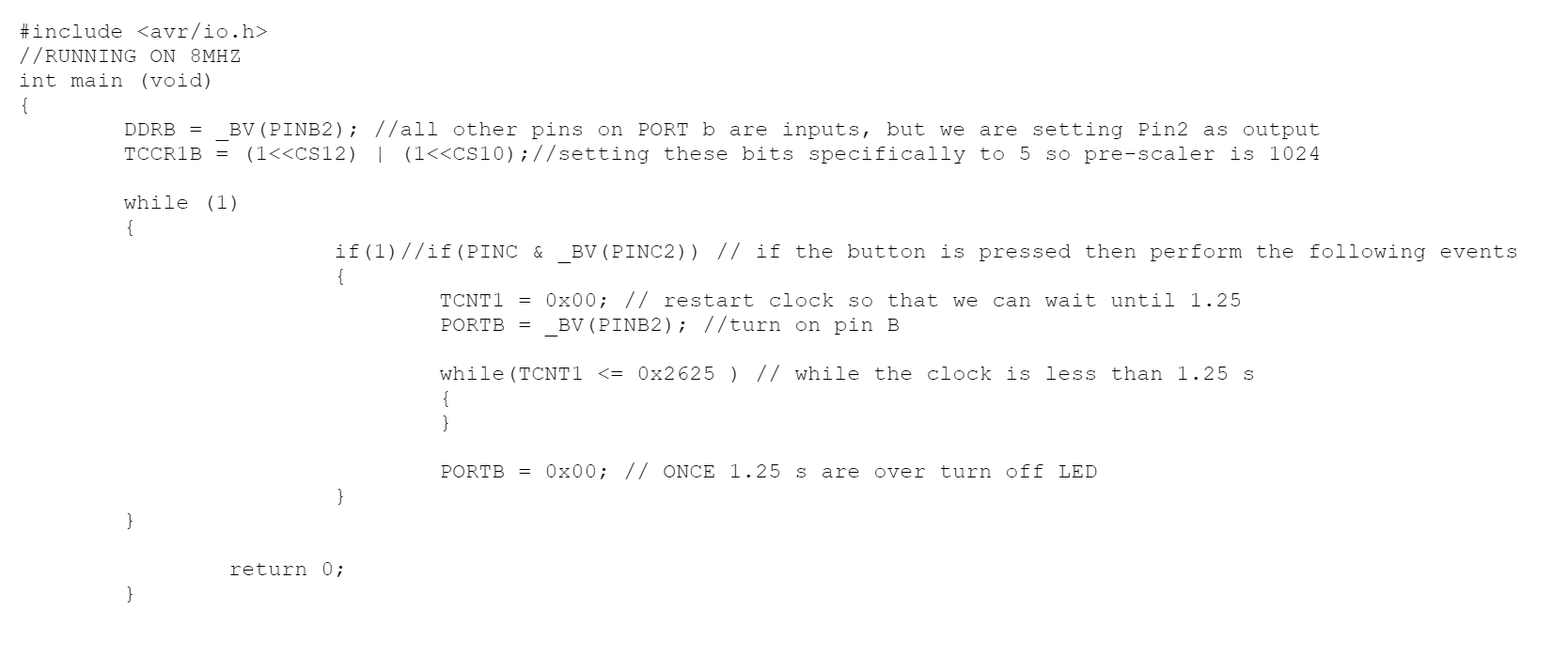
Push button and then light LED for 1.25 seconds using timer.



Timer0



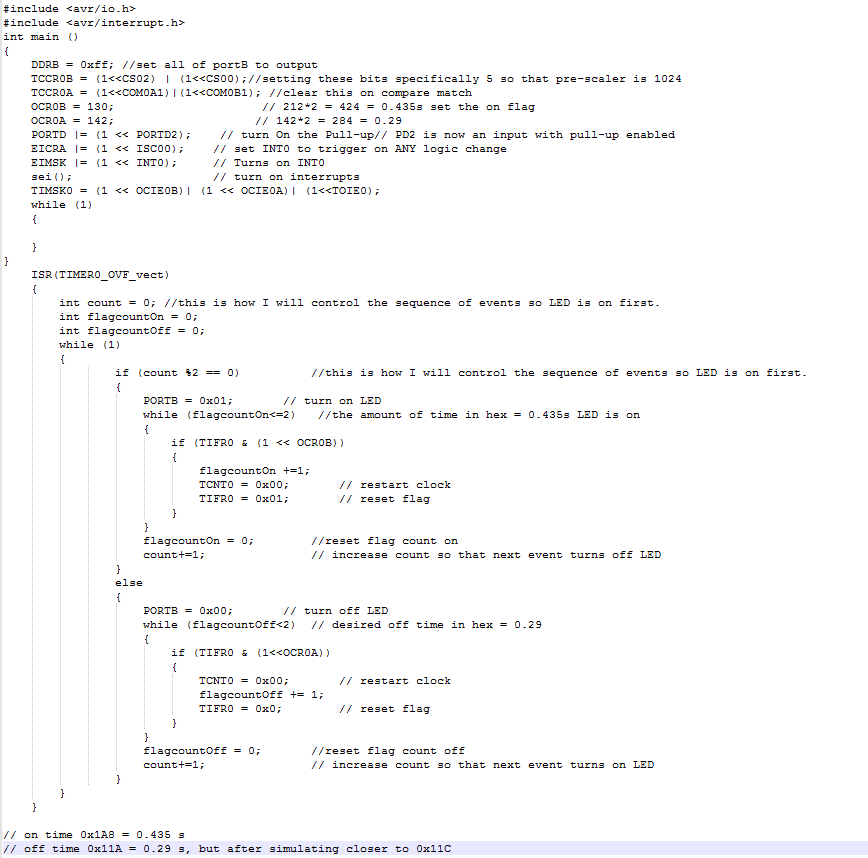
Timer1



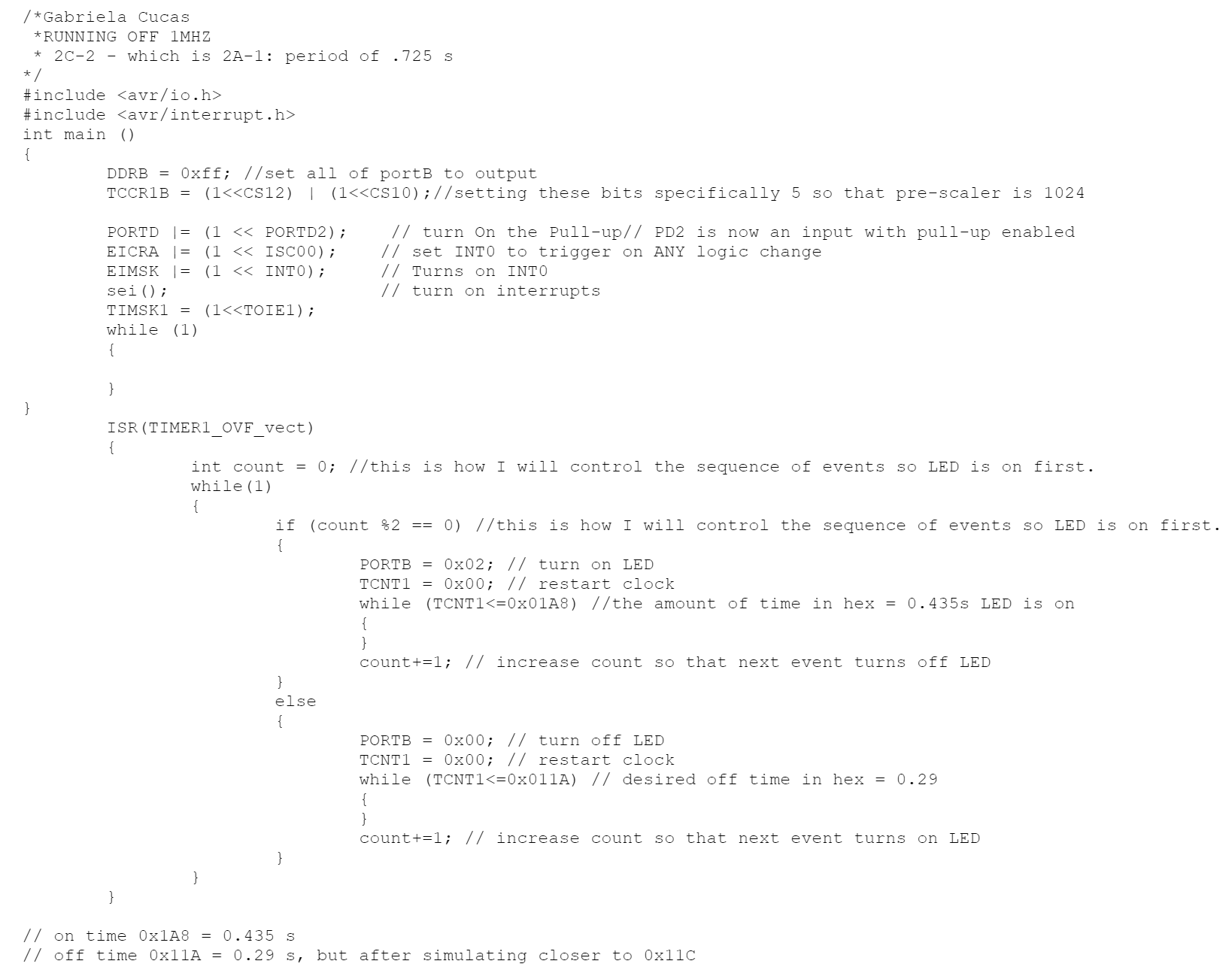
1. **DEVELOPED C CODE OF TASK 2 – 1**

Light LED for duty cycle 60% for period .725 seconds using timer and interrupt.

Timer0



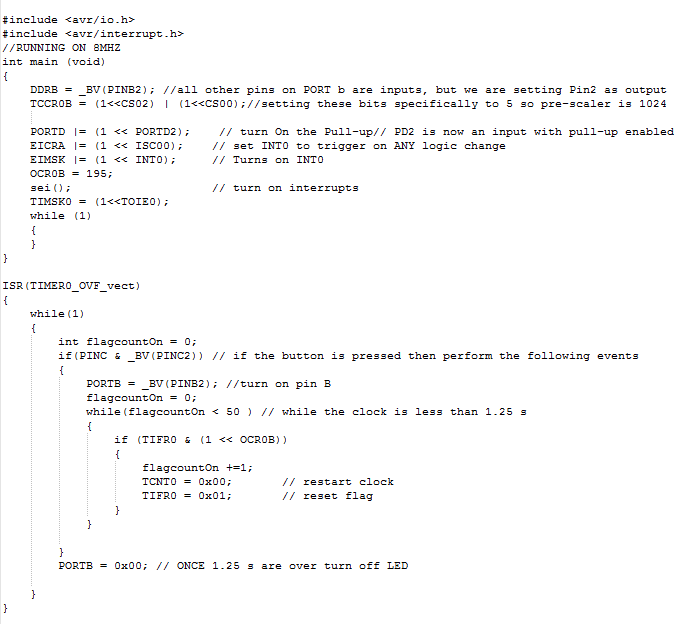
Timer1

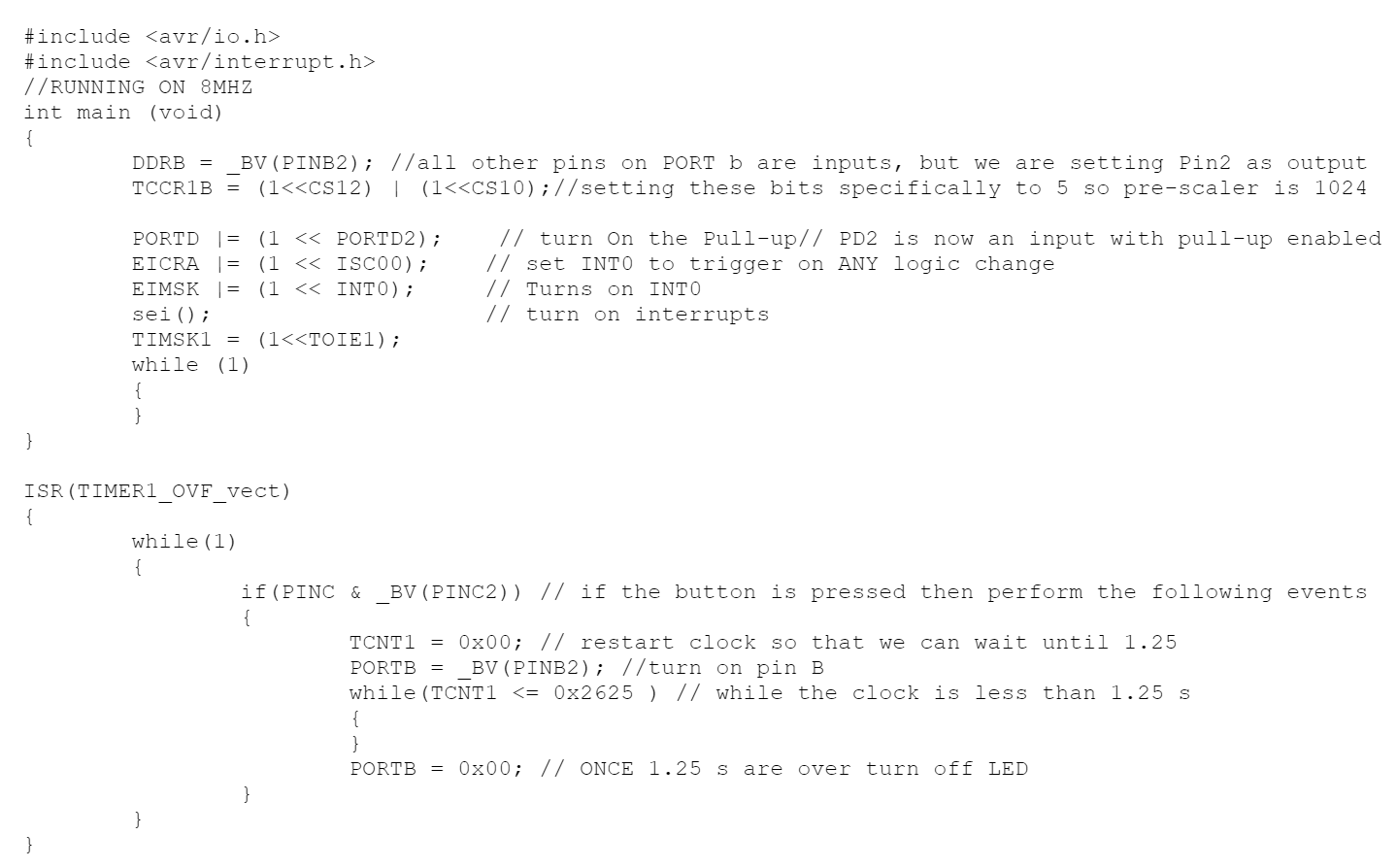


1. **DEVELOPED C CODE OF TASK 2 – 2**

Push button and then light LED for 1.25 seconds using timer and interrupt.

Timer0

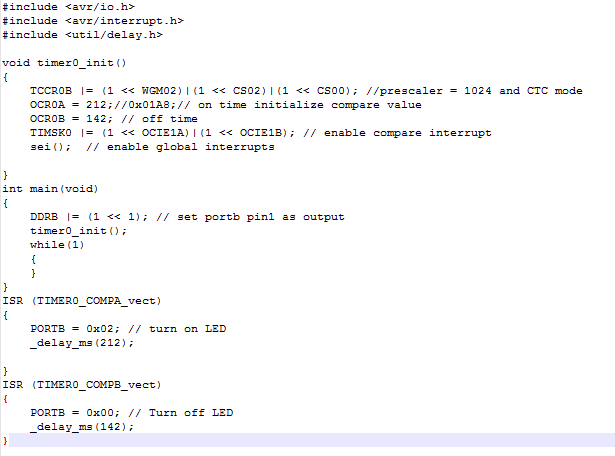


Timer1

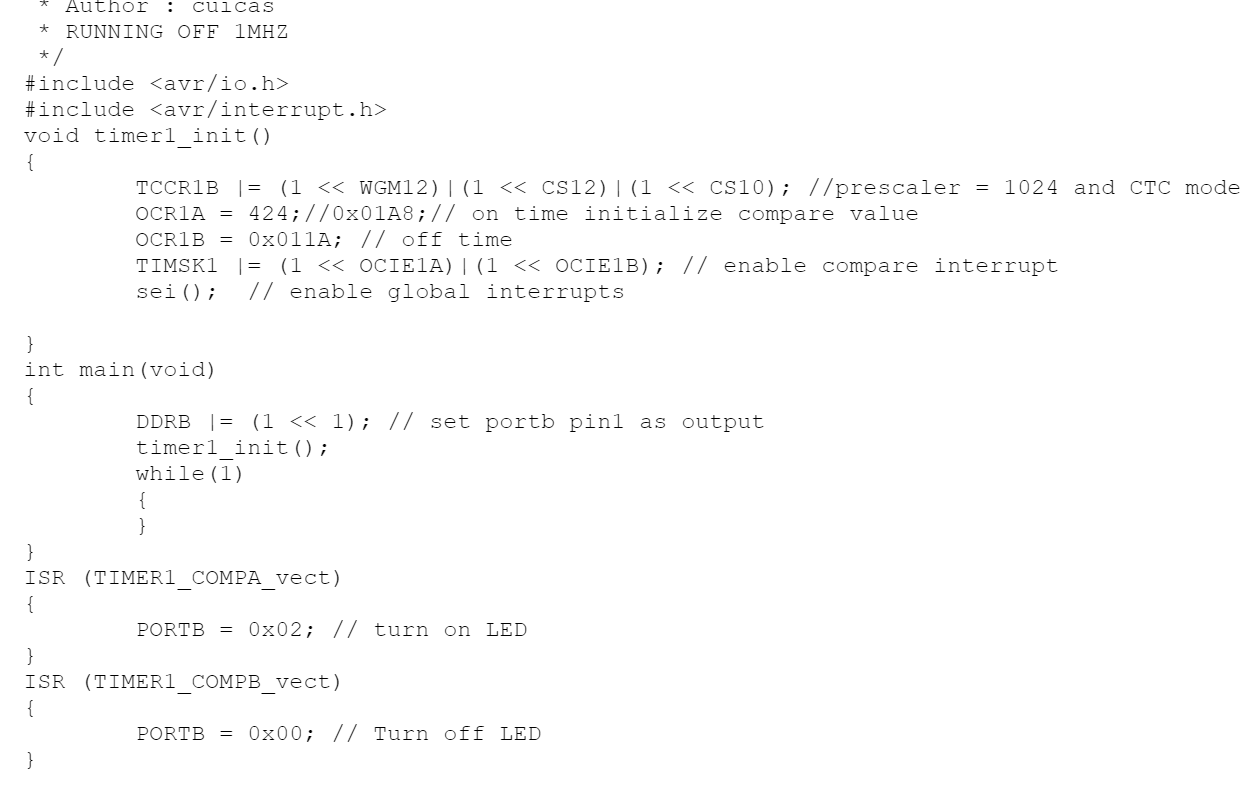
1. **DEVELOPED C CODE OF TASK 3 – 1**

Light LED for duty cycle 60% for period .725 seconds using timer in CTC mode and interrupt.

Timer0



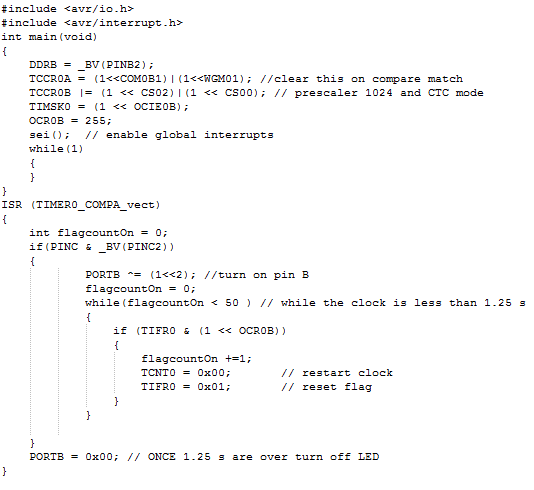
Timer1



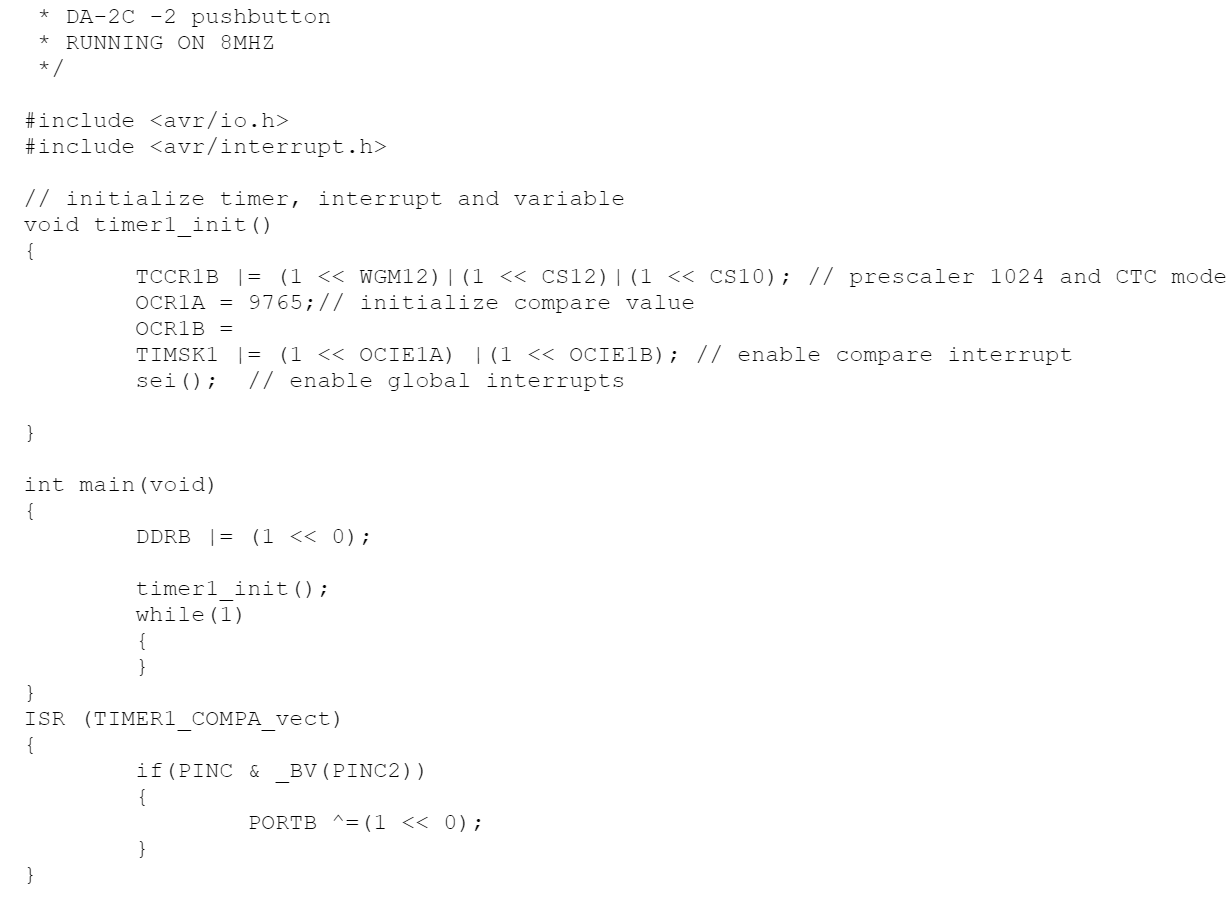
1. **DEVELOPED C CODE OF TASK 3 – 2**

Push button and then light LED for 1.25 seconds using timer in CTC mode and interrupt.

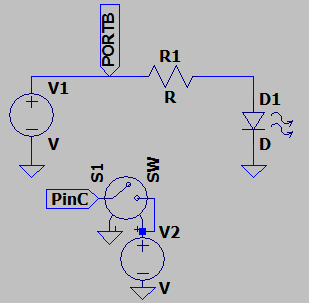
Timer0



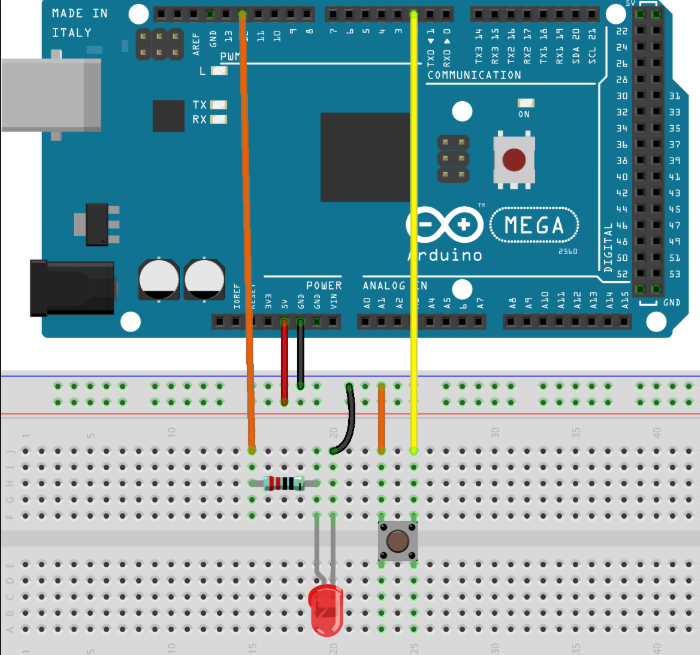
Timer1



1. **SCHEMATICS**

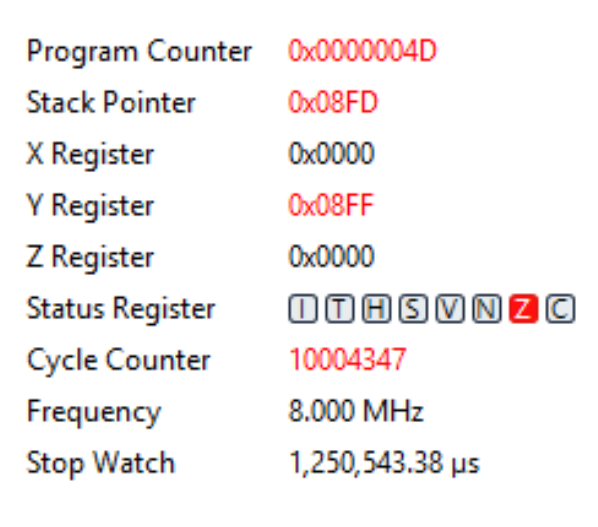


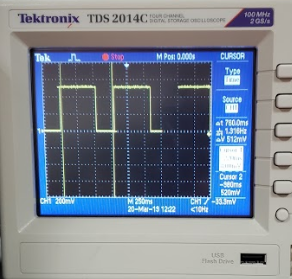
INT0

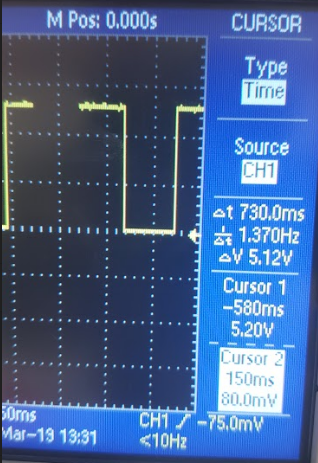


1. **SCREENSHOTS OF EACH TASK OUTPUT (ATMEL STUDIO OUTPUT)**

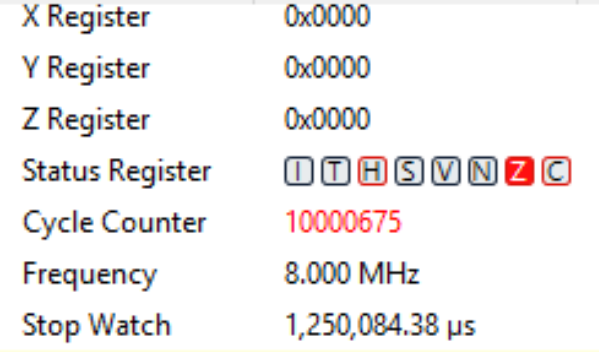
Screenshot of time delay for the C-code







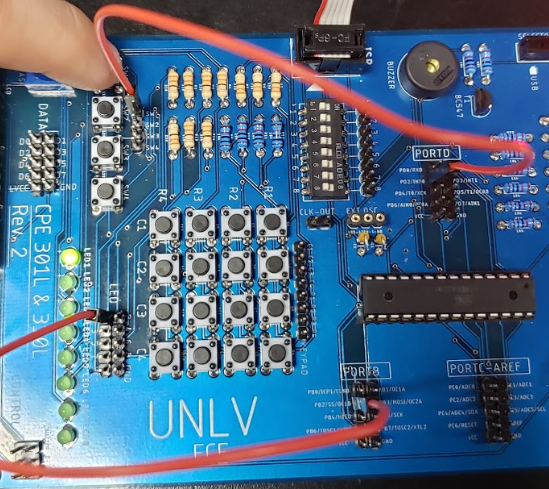
Screenshot of time delay for the c code with push button



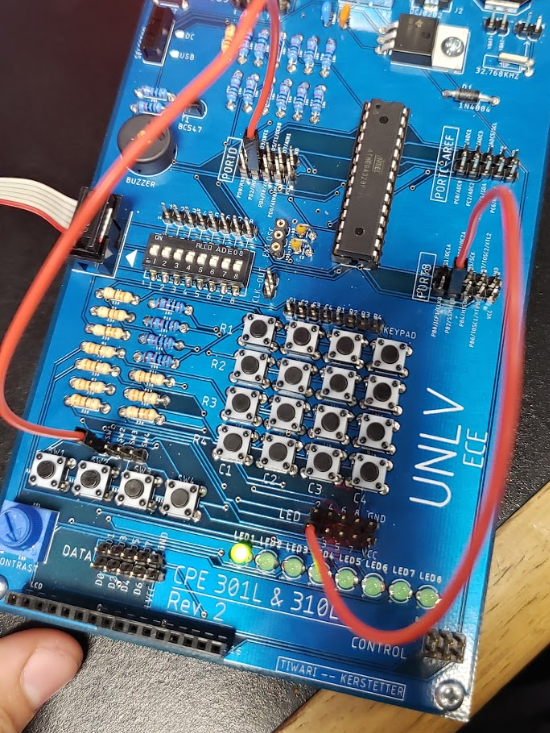


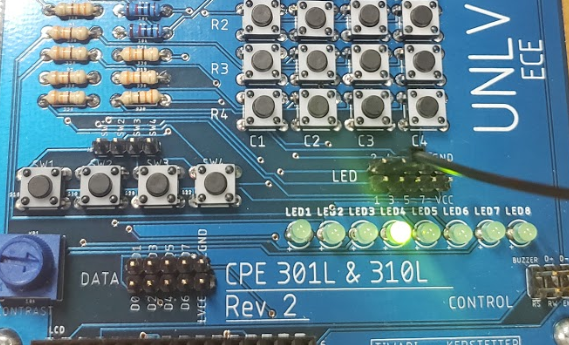
1. **SCREENSHOT OF EACH DEMO (BOARD SETUP)**

Push button:



Duty cycle





1. **VIDEO LINKS OF EACH DEMO**

<https://www.youtube.com/watch?v=OuBXcr-y9QI&index=3&list=PL5KkHOalGXZ71iIBIr32ij3e1gJDyAUsu>

1. **GITHUB LINK OF THIS DA**

https://github.com/cuicattack/cat/Cat1Assn5\_DA\_2C

**Student Academic Misconduct Policy**

<http://studentconduct.unlv.edu/misconduct/policy.html>

“This assignment submission is my own, original work”.

NAME OF THE STUDENT