CPE301 – SPRING 2020

Design Assignment 2A

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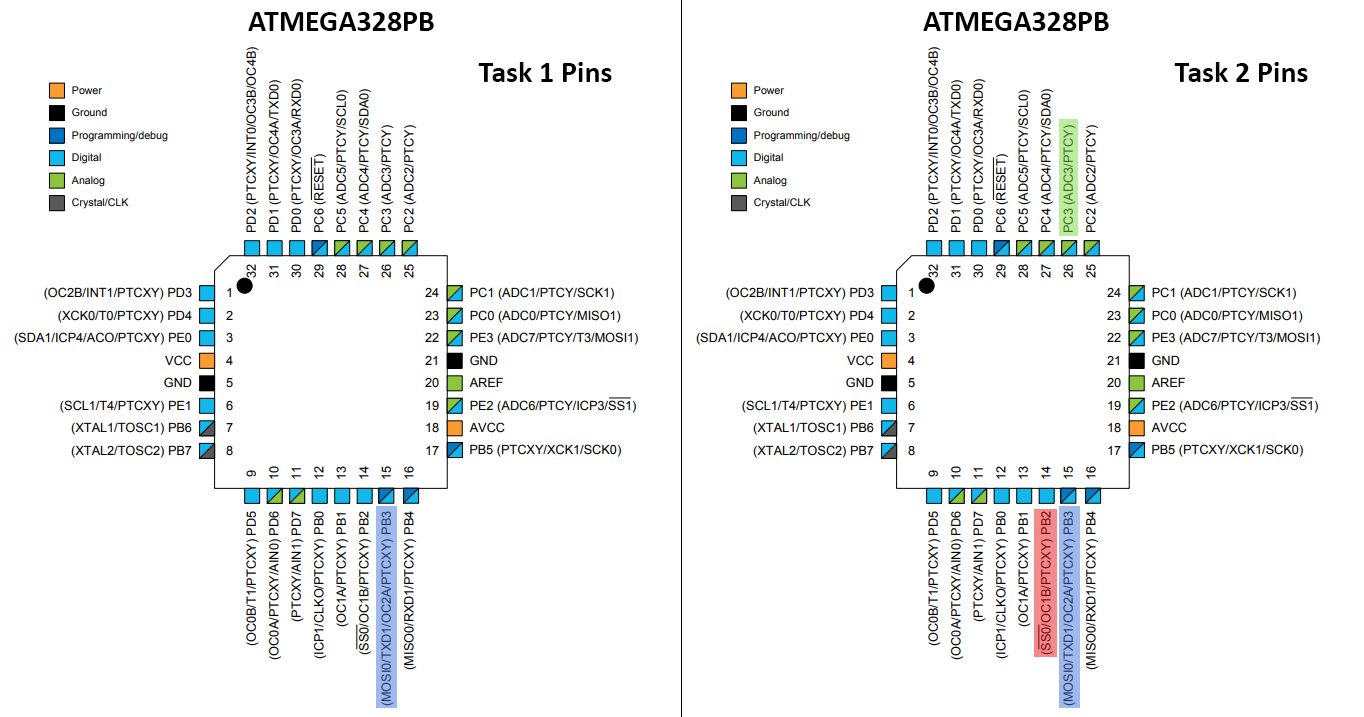
Student Email: Markom1@unlv.nevada.edu

Primary Github address: <https://github.com/mateom99/submission_da>

Directory: DesignAssignments/DA2A

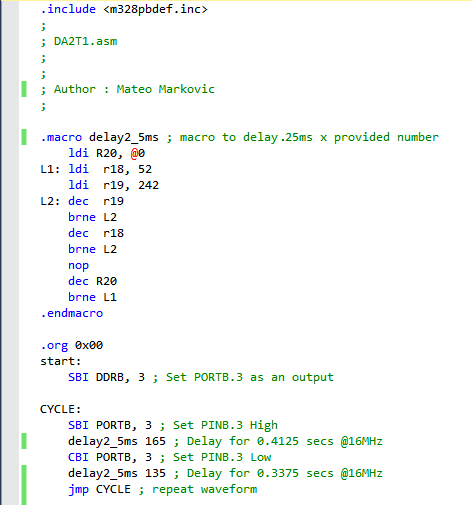
1. **COMPONENTS LIST AND CONNECTION BLOCK DIAGRAM w/ PINS**

* Atmega328PB-Xmini w/ Atmel Studio 7.0
* Multifunction shield (Push Button, LEDs)
* Generic Logic Analyzer

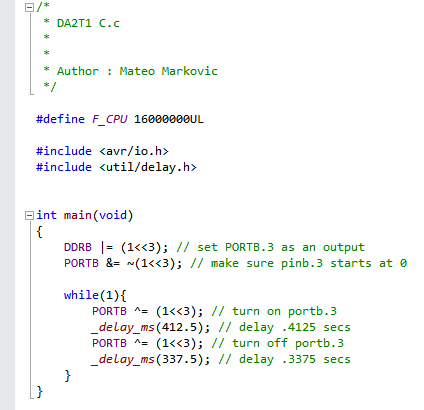


1. **INITIAL/MODIFIED/DEVELOPED CODE OF TASK 1/A**

**AVR Assembly Code Task 1**

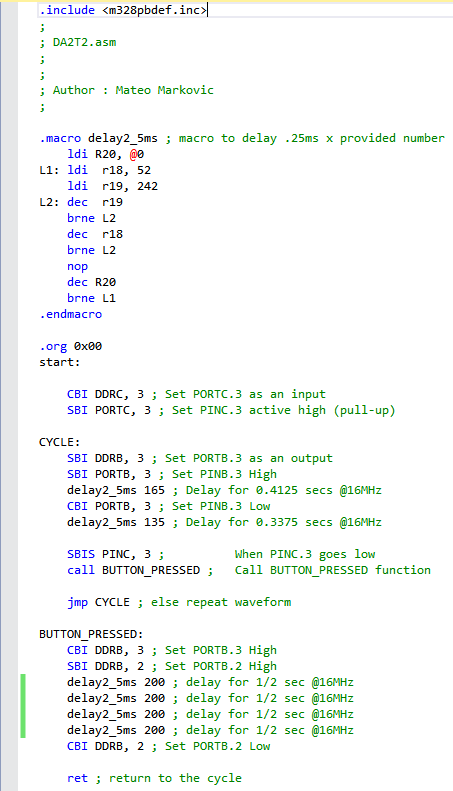
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**AVR C Code Task 1**

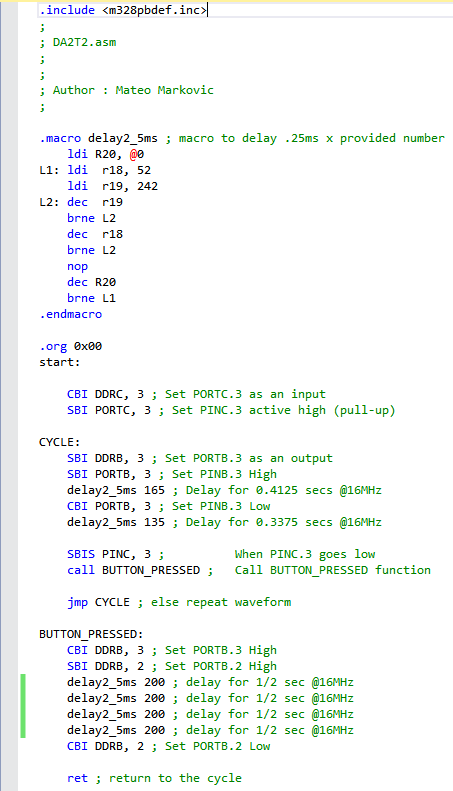
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1. **DEVELOPED MODIFIED CODE OF TASK 2/A from TASK 1/A**

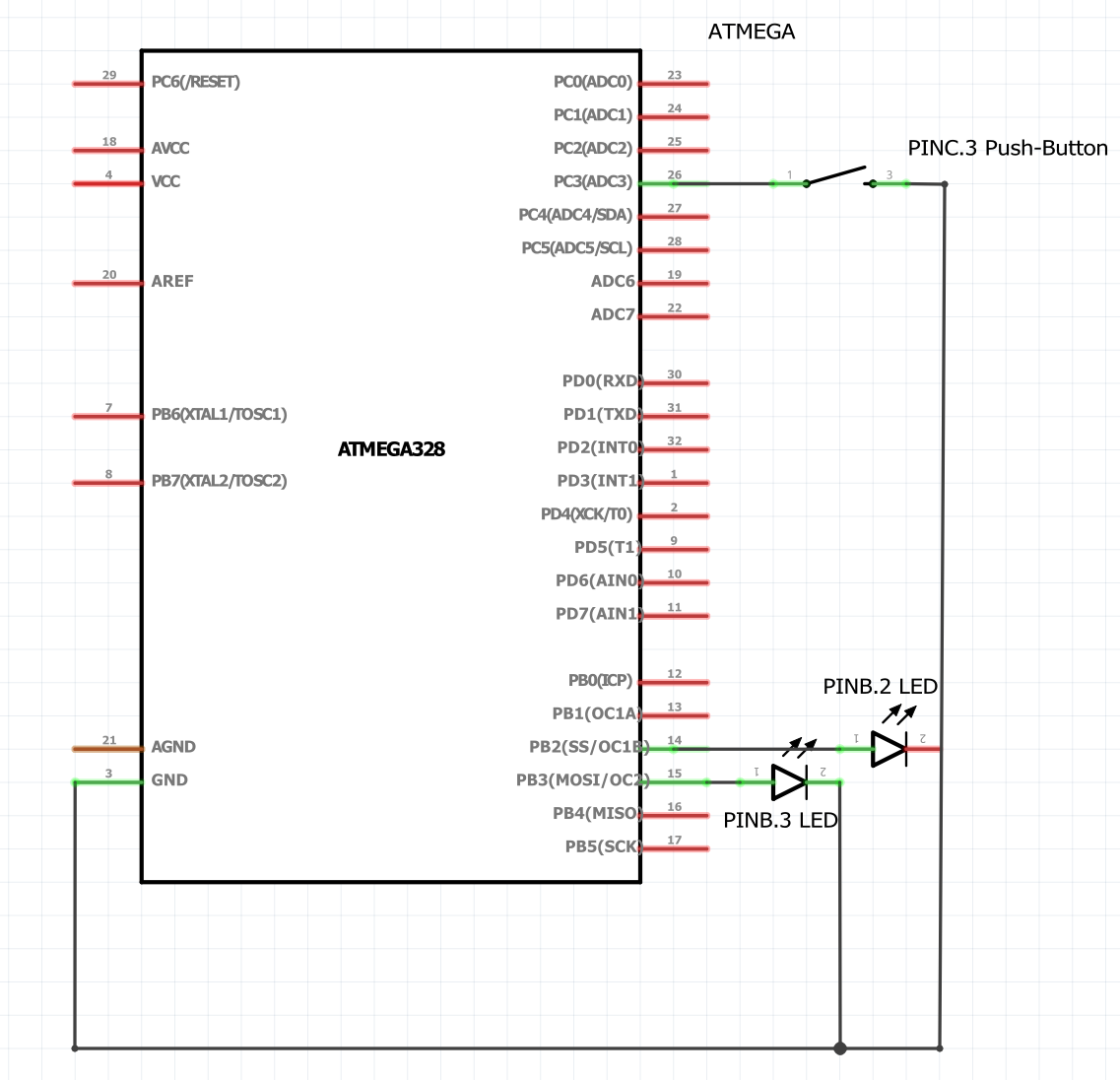
**AVR Assembly Code Task 2**

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**AVR C Code Task 2**

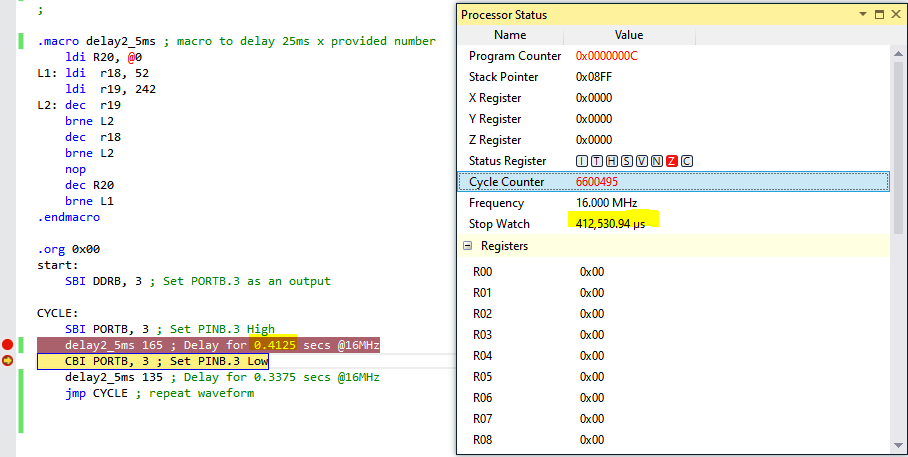
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1. **SCHEMATICS**

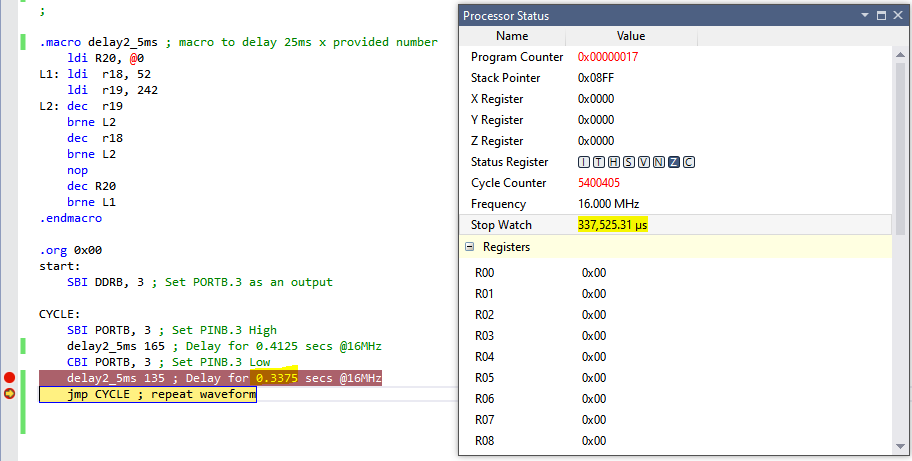


1. **SCREENSHOTS OF EACH TASK OUTPUT (ATMEL STUDIO OUTPUT)**

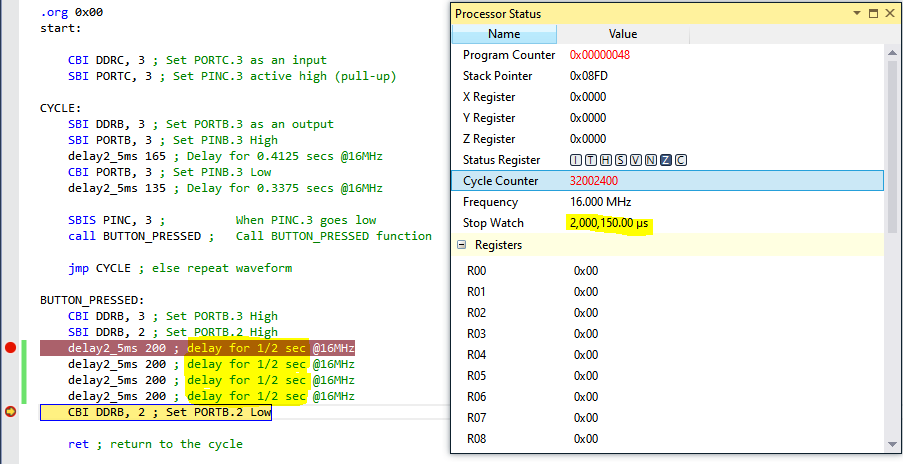
**Delay Proof Via Simulation**

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0.4125 Second Delay Proof via Sim

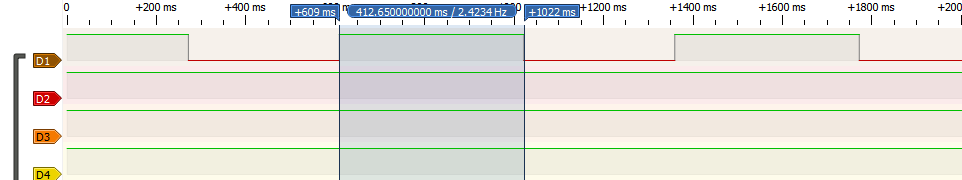


0.3375 Second Delay Proof via Sim

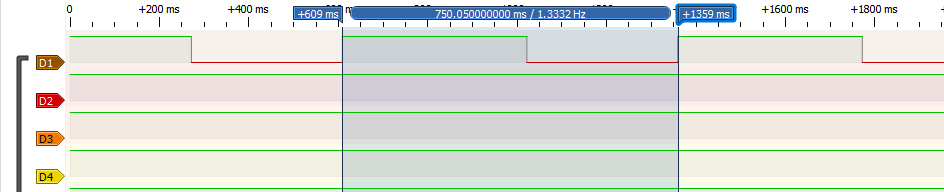


2.000 Second Delay Proof via Sim

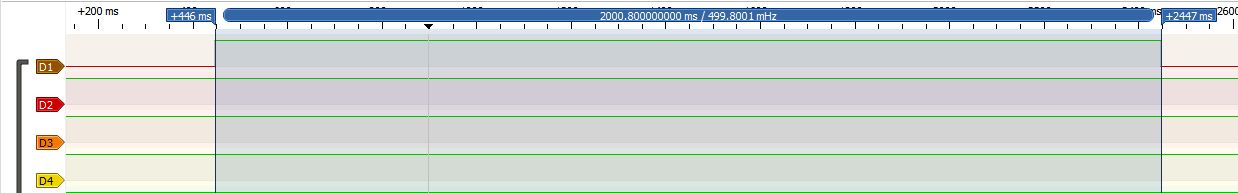
**Delay Proof Via Logic Analyzer**

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0.4125 Second Delay Proof via LA (55% Duty Cycle)

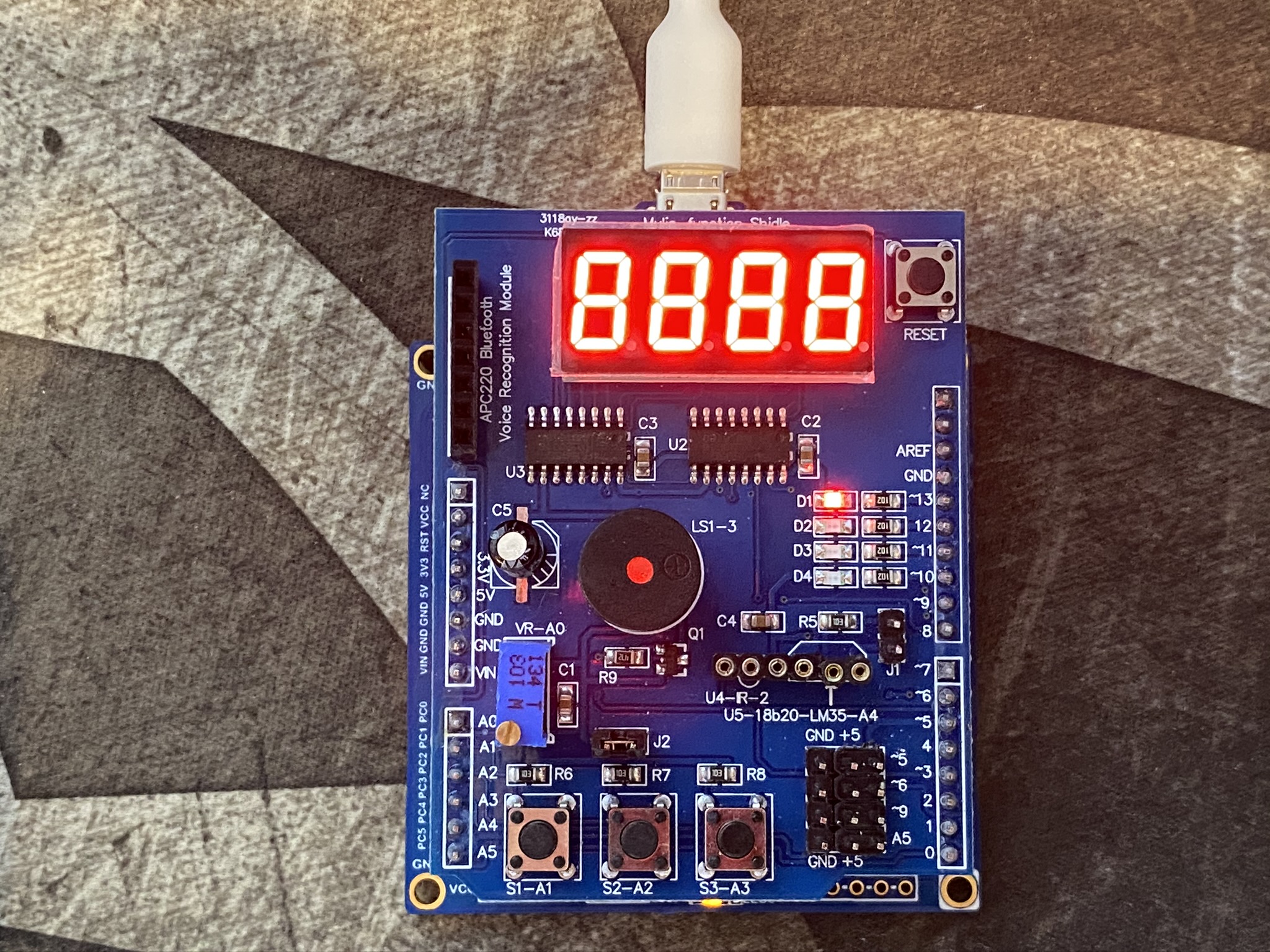
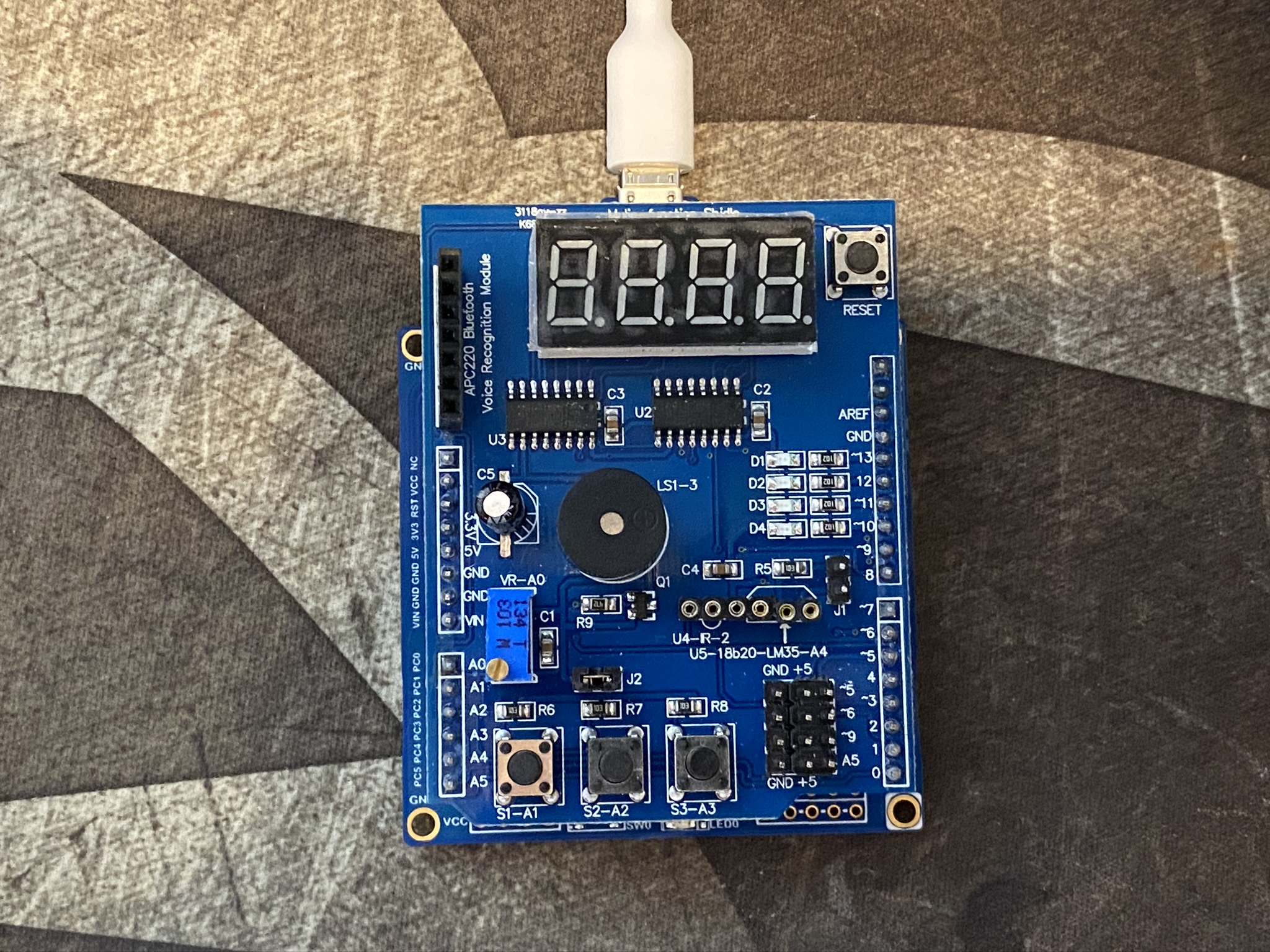
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0.75 Second Period Proof via LA

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2.0 Second Delay Proof via LA

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



Board with multifunction shield (Off and On)

1. **VIDEO LINKS OF EACH DEMO**

AVR Assembly Code Demonstration: <https://youtu.be/U8HJF87sWAY>

AVR C Code Demonstration: <https://youtu.be/a4UYtJtO2MI>

1. **GITHUB LINK OF THIS DA**

<https://github.com/mateom99/submission_da/tree/master/DesignAssignments/DA2A>

**Student Academic Misconduct Policy**

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

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

Mateo Markovic