Welcome to COEN 20 Lab for the Fall 2022 Quarter!

Lab Guidelines

Santa Clara University
School of Engineering

- 1 Lab assignment per week
- **Labs are due at the end of the week**
  - Working ahead is encouraged
- **Attendance is taken and counts for 10%**
- **Everyone must demo** their working solution for each assignment (otherwise **0%**)
- **Late submission**: **-50%** first day **-100%** second day
- Lowest grade lab will be dropped
- Everyone must submit source code (.c and .s files) to Camino
  - Do not submit code you were given (ex: Lab2A-Main.c)
- Collaboration is encouraged, but everyone must submit their own work
- Email TA ahead of time if you have any concerns considering demos/submitting assignments on time

Grading Policies

- Does not compile/execute: **0%**
- No demo: **0%**
- No commenting: **-10%**
- Bad indentation/style: **-10%**

Good

```
        .syntax     unified
        .cpu        cortex-m4
        .text
        .thumb_func
        .align      2

// uint32_t  Add1(uint32_t x) ;

        .global     Add1
Add1:   ADD         R0,R0,1  // add 1 to R0
        SUB         R1,R1,4
L1:     CBZ         R1,L2    // branch to L2 if 0
        ADD         R0, R1, 5
L2:     LDRD        R3,R12,[R0]
        BX          LR

        .end
```

Bad (**-20%**)

```
        .syntax     unified
    .cpu        cortex-m4
        .text
            .thumb_func
        .align      2


        .global     Add1
    Add1: ADD         R0,R0,1
        SUB         R1,R1,4
    L1:     CBZ         R1,L2


        ADD  R0,    R1, 5
L2:     LDRD        R3,R12,[R0]
    BX          LR


                .end
```

Grading Policies

Santa Clara University
School of Engineering

Final grading (No curve)

A	= 93-100
A-	= 90- 92
B+	= 87- 89
B	= 83- 86
B-	= 80- 82
C+	= 77- 79
C	= 73- 76
C-	= 70- 72
D+	= 67- 69
D	= 63- 66
D-	= 60- 62
F	= 0- 59

Lab 1: Setup

Santa Clara University
School of Engineering

- Follow instructions from “How to use the GNU Toolchain to Build a Program” on the textbook website
  - Don’t worry about the debugging section until Week 3
- Missing instruction:
  - If you have Windows, also download GNU grep for Windows (link located below GNU make for Windows on textbook website) and install “Complete package, except sources” using default settings
- Follow the instructions for Lab 1A: 16-Bit Calculator on your personal machines, or the instructions written on the whiteboard for the lab computers, and demo to me