TO: Profs. J. Hung

FROM: “Blue” Jacob Howard

SECTION: Tuesday 1:00

DATE: 1/19/21

SUBJECT: Lab 1: Project creation and debugging

The objective of this lab was to become familiar with creating, executing, and debugging embedded system design projects on the ST Microelectronics Nucleo board using the Keil Microcomputer Development kit. Also, we are practicing our engineering skills by communicating through our “notebook” lab reports and memos to the professor.

Before the lab, we were to study the Nucleo board user manual and get familiar with the hardware and the pins. Once we were in the lab, we were to familiarize ourselves with the Digilent Analog Discovery Studio and the detachable Breadboard. Our Lab projects will use uVision software to create, build, debug, download to the microcontroller, and test each project.

Our Lab started with creating a new project in uVision and downloading code to our board. We were then required to wire up the board correctly to the Breadboard and test if the code was working correctly on the board. We opened the WaveForms software to test if the button was wired up correctly and working properly. The objective was to hold the button for a certain period and then an LED would start blinking. Once we hold the button again, the LED would stop. The reason for a hold instead of a button press is because of a *delay()* in the code. At the end of the lab, we had a challenge to modify the code to perform a different task. I did not get to finish the challenge for this lab, so I cannot provide data for this. This was the end of this Lab project.