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SIE 370 – Embedded Computer Systems

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Lab 4

Lab Report

1. Task Prototyping (Tinkercad Simulation)

In the prototyping section of this lab, I used the code provided in the Autodesk Digital Light Theremin Project. I updated the ports to match with those specified in Theremin Data Logger Circuit of the lab manual as well as added a serial begin and serial print function to display the text output in the serial monitor and the graphical output in the serial plotter. The code ran as expected with not errors. The prototyping task Acceptance Task was passed.

2. Task Experiment (Physical Arduino)

To build the physical circuit for this lab, I connected the photoresistor, piezo buzzer, and 10k ohm resistor exactly the way they were connected in the Tinkercad prototype and uploaded the code form the prototype circuit to the Arduino UNO microcontroller. The code ran without errors and the resulting theremin functioned as expected. The serial monitor and plotter displayed the correct buzzer frequency values. The Physical Arduino Task Acceptance test was passed as well.