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EECS 303
Lab 1 Report

Assignment Statement
LED lights sequencing on the Raspberry Pi

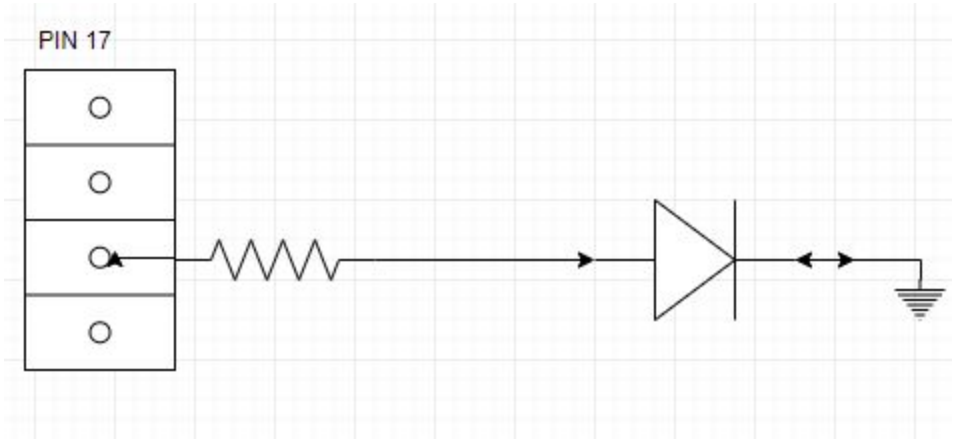
Objective
The goal of this lab is to get familiar with the Raspberry Pi. The best way to do this is to get into the hardware and start messing with the GPIO pins. The main objective is to demonstrate control over the GPIO pins using multiple languages and libraries by toggling LED's.

To show an understanding for how the GPIO pins are interacted with we used both python and c to toggle the GPIO pins for the LED. For python we utilized the RPi.GPIO library and for c we utilized wiringPi.

Approach
Python: Getting the sample code to run in python involved correctly assigning the pin number, setting the pin to out, and looking through the library documentation to correctly handle the program ending.

C: Using the sample code as a base, we wrote a small file that initializes the a pin on the Pi to output mode with the wiringPi library and toggles that pin on and off. As with the python file approach, we had to look through the Pi documentation to get the proper pinouts to make sure we were connected to the right output pin.

Circuit Diagram



Results
We were able to toggle the LED successfully using both a python script and a c binary. By utilizing our knowledge of the GPIO pins, we could implement the RPi.GPIO or wiringPi libraries to control more complex outputs such as manual bit banging the GPIO pins for sensors.