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ECE 350-001 – FALL 2020

Lab 1 Report

Materials:

1) Raspberry Pi 3 Model B+
2) 2x red LED's
3) 2x 220Ω resistors
4) 3x female-to-male jumper cables

Board and Circuit:

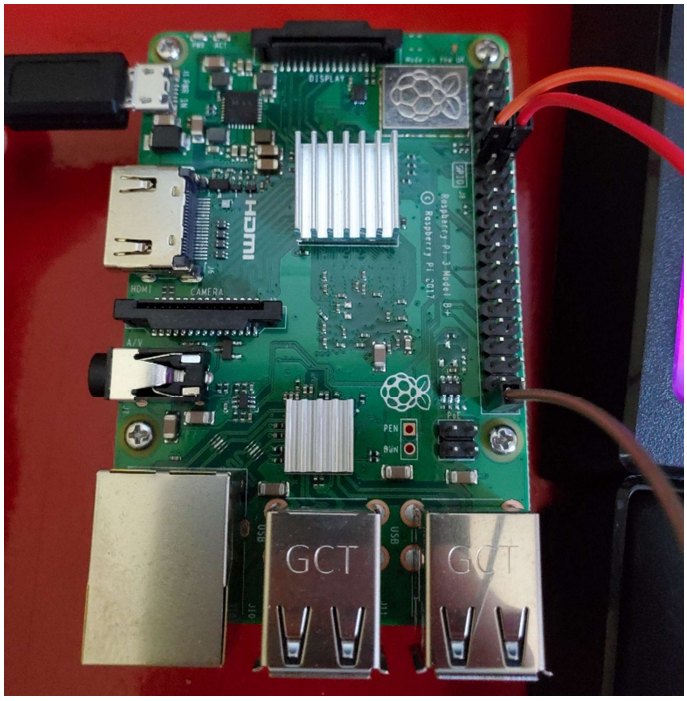

Fig. 1: Raspberry Pi w/ jumper cables. Orange connected to GPIO17, red connected to GPIO18, & brown connected to GND.

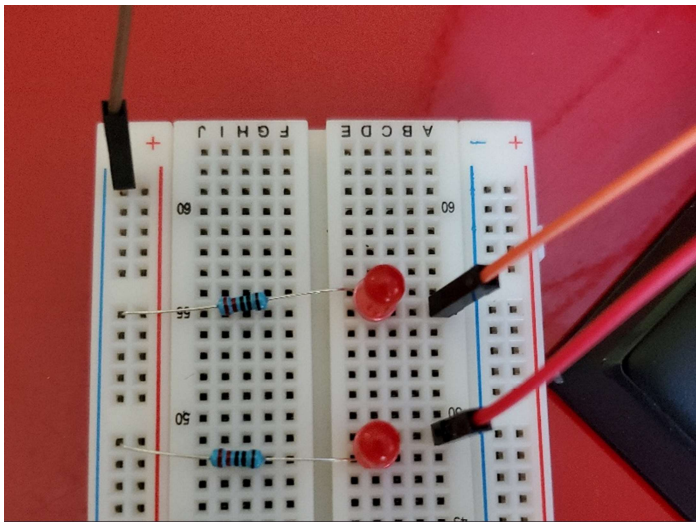

Fig. 2: Testing breadboard

Python Script:

```
import RPi.GPIO as GPIO
import time

# GPIO numbering
GPIO.setmode(GPIO.BCM)

# GPIO17 & GPIO18 will be outputs
GPIO.setup(17, GPIO.OUT)
GPIO.setup(18, GPIO.OUT)

# Initiate "railroad crossing lights"
try:
    while (True):
        GPIO.output(17, True)
        GPIO.output(18, False)
        time.sleep(0.5)
        GPIO.output(17, False)
        GPIO.output(18, True)
        time.sleep(0.5)

# Catch keyboard interrupt
except KeyboardInterrupt:
    print("Caught interrupt.")

# Clean GPIO pins on exit
finally:
    print("Cleaning pins and exiting program.")
    GPIO.cleanup()
```

Thonny Screen Capture: