**Lesson\_7\_Notes\_and\_Journal**

**2024.05.03**

* Look at Code
* Look at Circuit
* Draw Circuit
* Build Circuit
  + Code works, but LED is weirdly behaving:
    - Starts Off
    - Push 1 – On dim
    - Push 2 – brighter
    - Push 3 – Brighter
      * Push 4 – Off 1
      * Push 5 – Off 2
      * Push 6 – On dim
      * Push 7 – brighter
      * Push 8 – Brighter
      * Repeat 4 - 8
* Start Lesson

**Code**

* Glance at Code

import machine

import time

# Initialize button on GPIO 15

button = machine.Pin(1, machine.Pin.IN, machine.Pin.PULL\_UP)

# Initialize LED on GPIO 14 as a PWM pin

led = machine.PWM(machine.Pin(0))

# Predefined brightness levels (0-65535)

brightness\_levels = [0, 8192, 16384, 32768, 65535]

current\_level = 0

# Function to set the next brightness level

def set\_next\_brightness():

global current\_level

current\_level = (current\_level + 1) % len(brightness\_levels)

led.duty\_u16(brightness\_levels[current\_level])

# Main Loop

while True:

if button.value() == 1: # Button pressed

set\_next\_brightness()

time.sleep(0.2) # Debounce button

time.sleep(0.01)

**Circuit**

* Theirs

A circuit board with wires and wires

Description automatically generated

* Mine

A computer screen shot of a circuit board

Description automatically generated

A diagram of a circuit

Description automatically generated

* As built