# Introduction

This lab was designed to help us learn to connect the M5StickC to the internet and record information using ThingSpeak. I created a program that sets up the M5StickC’s Wi-Fi module and connects to a ThingSpeak channel using my Wi-Fi credentials. Then, it writes a number to ThingSpeak. Finally, it prints whether or not we successfully wrote data to ThingSpeak. By doing so, we learned to write data to ThingSpeak and use the M5StickC’s Wi-Fi module.

# Implementation

## Bill of Materials

* M5StickC: <https://www.electromaker.io/shop/product/m5stickc-development-kit-with-hat>. This is the device we are controlling.
* Wristband (This was included with the M5StickC).

## Video

<https://youtu.be/JP5VFhH-tl0>

<https://youtu.be/lq1ox2zOvv4>

## Pictures

An orange device with a white cord on a piece of paper

Description automatically generated

## Source Code





## Explanation

My program was divided into two areas: the setup and the loop. In the setup, I passed the Wi-Fi client to ThingSpeak so the M5StickC could connect to the internet. Then, the loop checked if the device was connected. If it was not connected, it tried connecting to Wi-Fi using the Wi-Fi credentials. Then, the program wrote a number to the ThingSpeak channel and reported whether or not the write was successful. Finally, we increased the number by 1 and waited for 30 seconds.

## Calculations

* We calculated the squares of each axis’ acceleration. Then, we found the sum of these squares. Finally, we used this information to calculate the acceleration’s magnitude.
* In our for loop, we incremented a variable by 1 on each iteration of the loop.