

# The Education University of Hong Kong

## 2022-2023 Quality Education Fund Thematic Network - Tertiary Institutes

### STEM Project Team

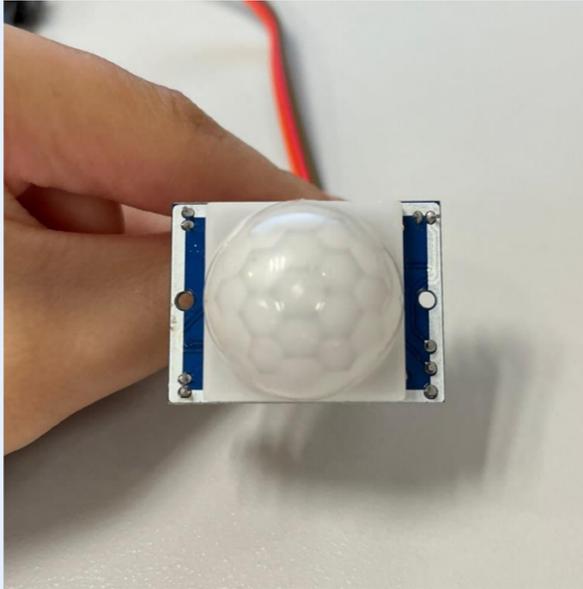
SCHOOL: LCPS 荔枝角天主教小學

TOPIC: Motion Sensor

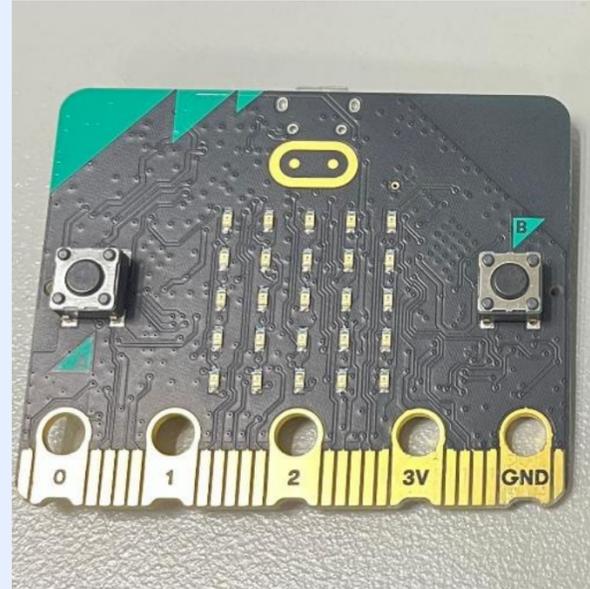
# Objective

- To detect motion using motion sensor with Micro:bit.

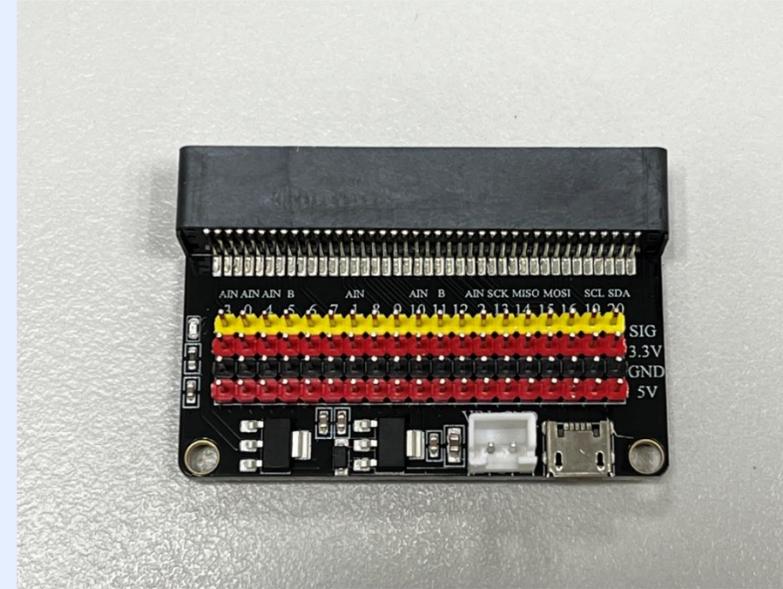
# Materials



Motion sensor



Micro:bit



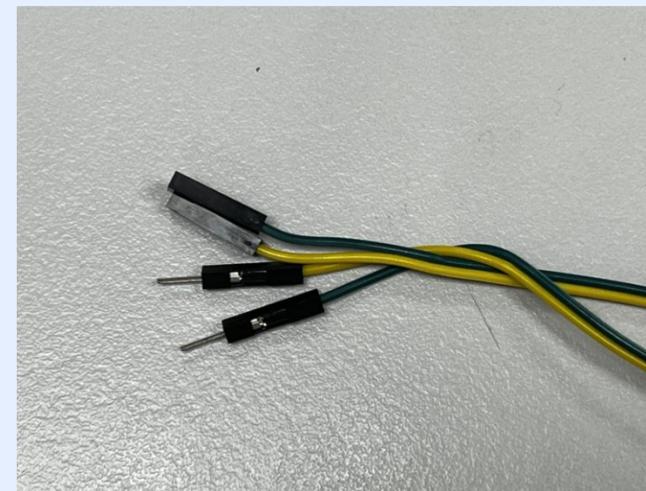
Expansion board



LED light

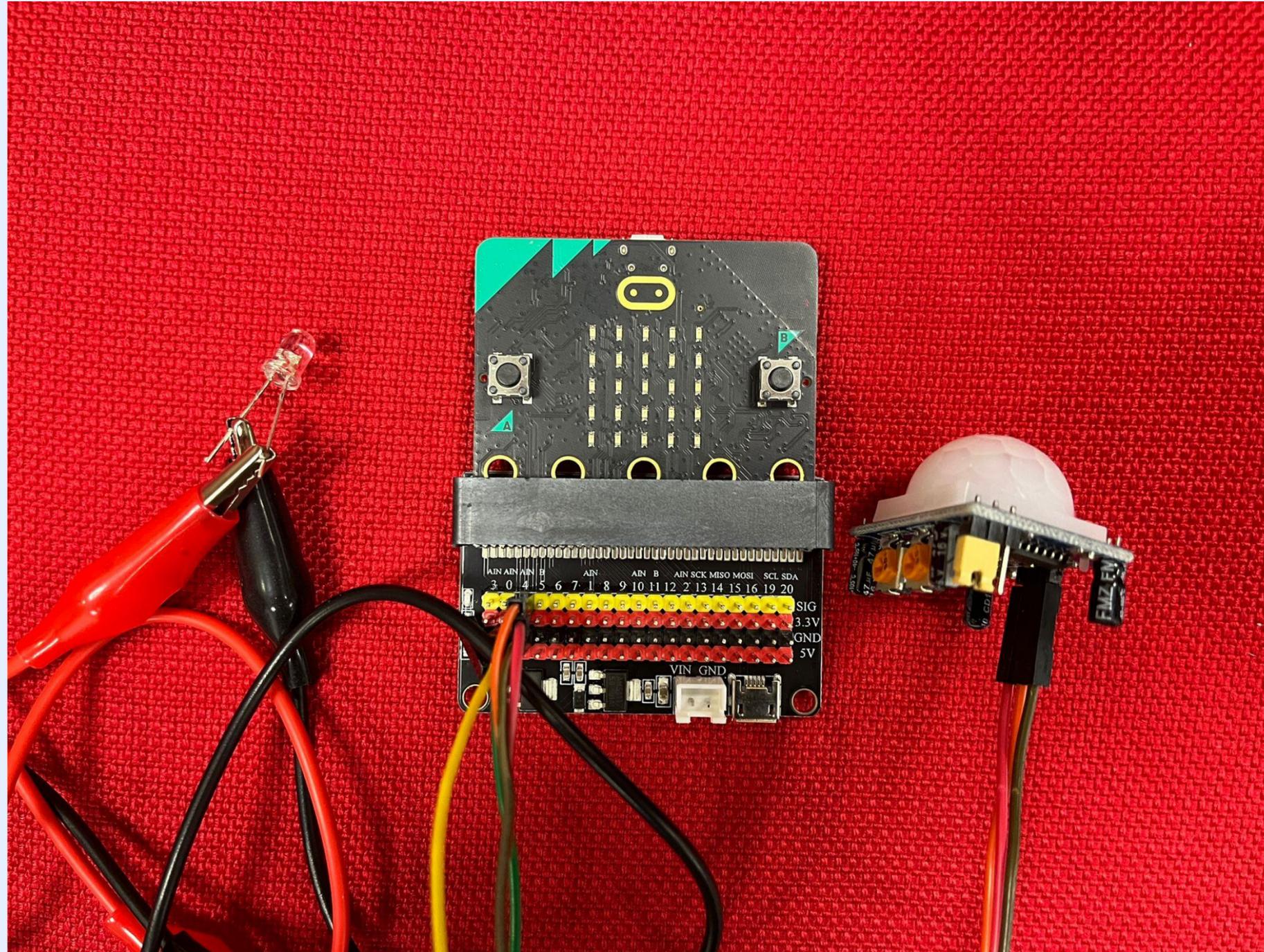


Alligator clips

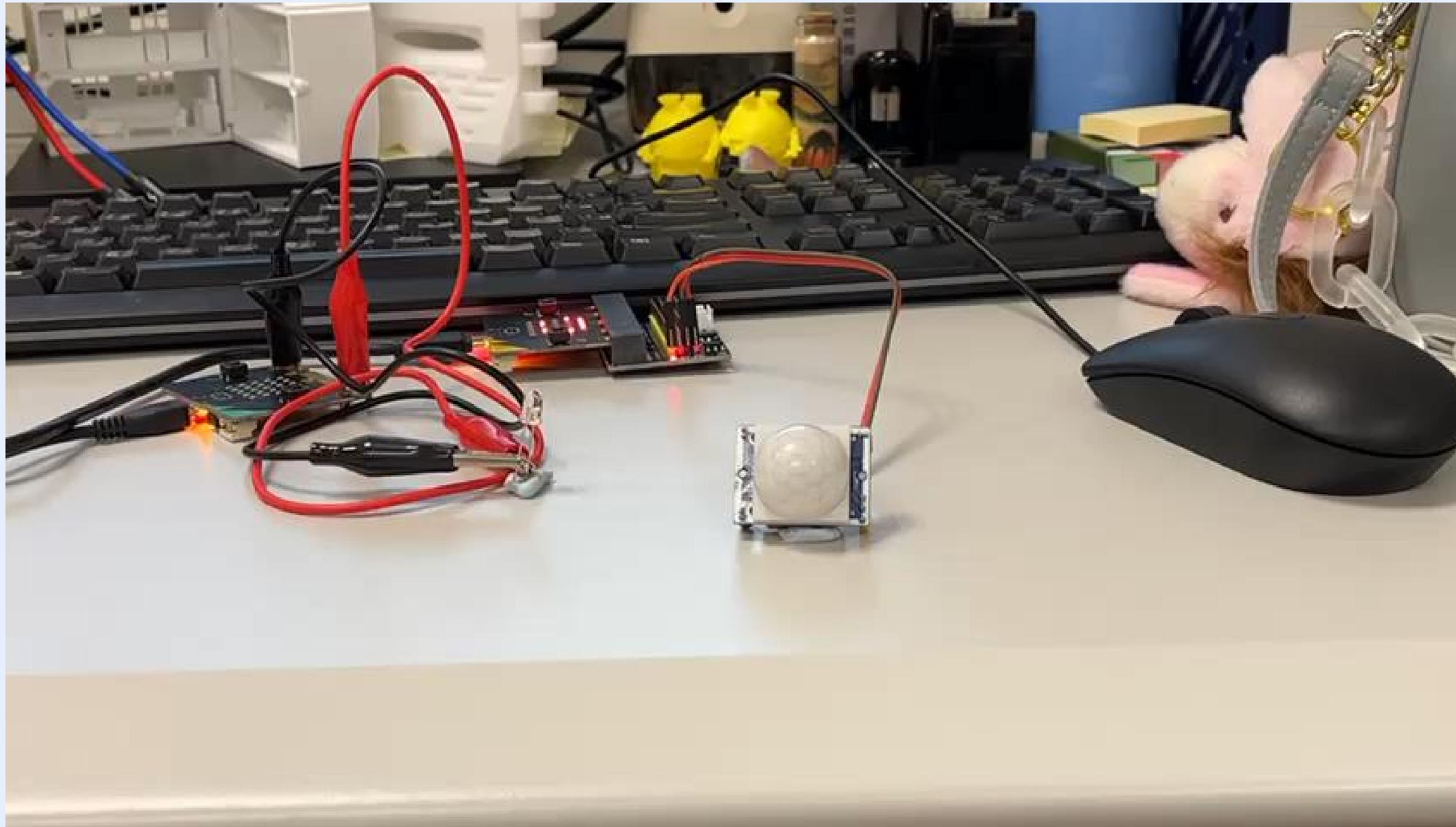


Dupont Jumper Cables

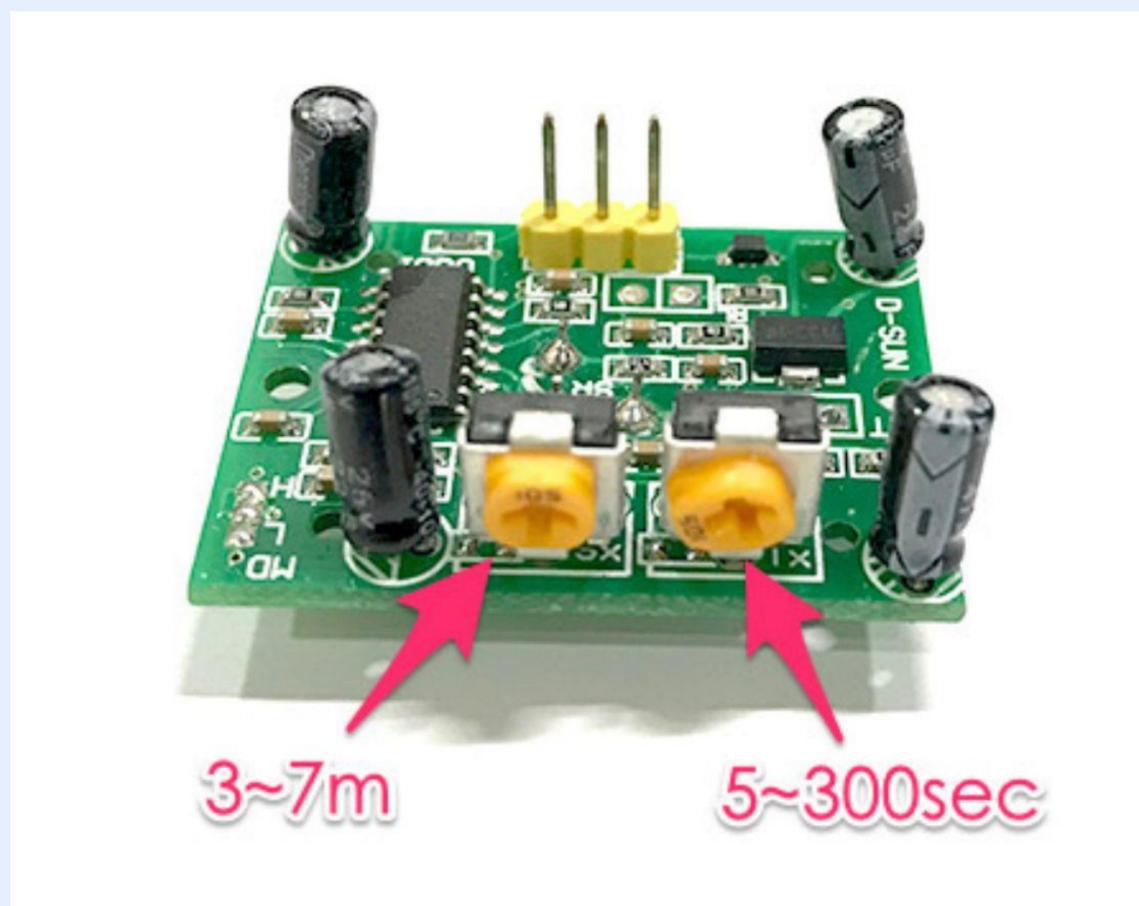
# Set-up



# Video

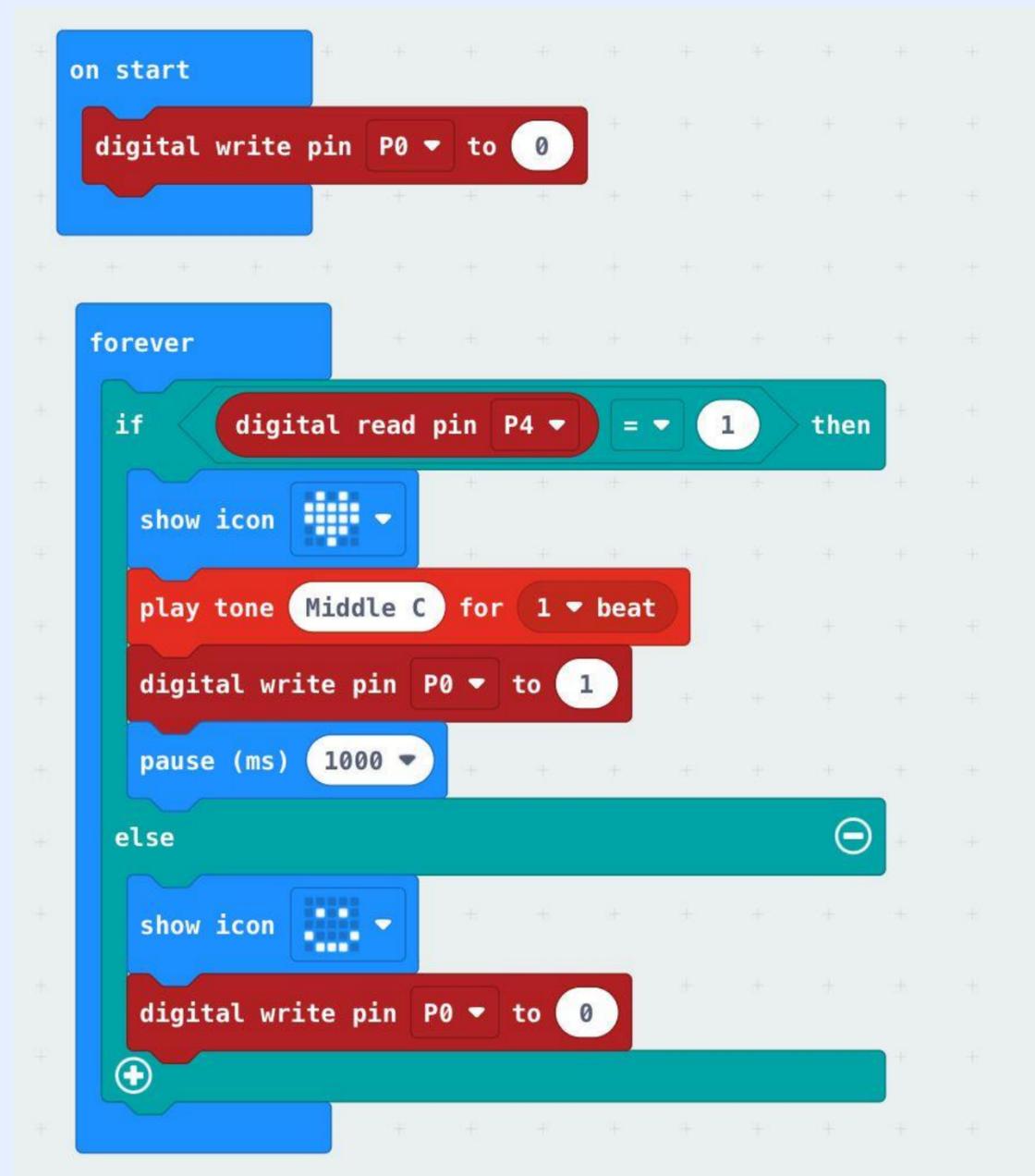


# Motion Sensor



- 標示 SX ( Sensitivity ) 的旋鈕是偵測的靈敏度，靈敏度以偵測距離 ( high ) 計算，範圍 3~7 公尺，順時針旋轉靈敏度越高
- 標示 TX ( Time Delay ) 的旋鈕是偵測到訊號之後，下一次再繼續偵測的延遲時間，時間範圍是 5~300 秒，順時針旋轉延遲時間越長。

# Micro:bit Code



```
on start
  digital write pin P0 to 0

forever
  if digital read pin P4 = 1 then
    show icon [Lightbulb]
    play tone Middle C for 1 beat
    digital write pin P0 to 1
    pause (ms) 1000
  else
    show icon [Lightbulb]
    digital write pin P0 to 0
```

Motion sensor with light bulb