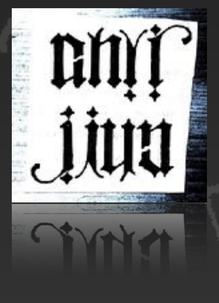
picoCountdowner

倒數計時器

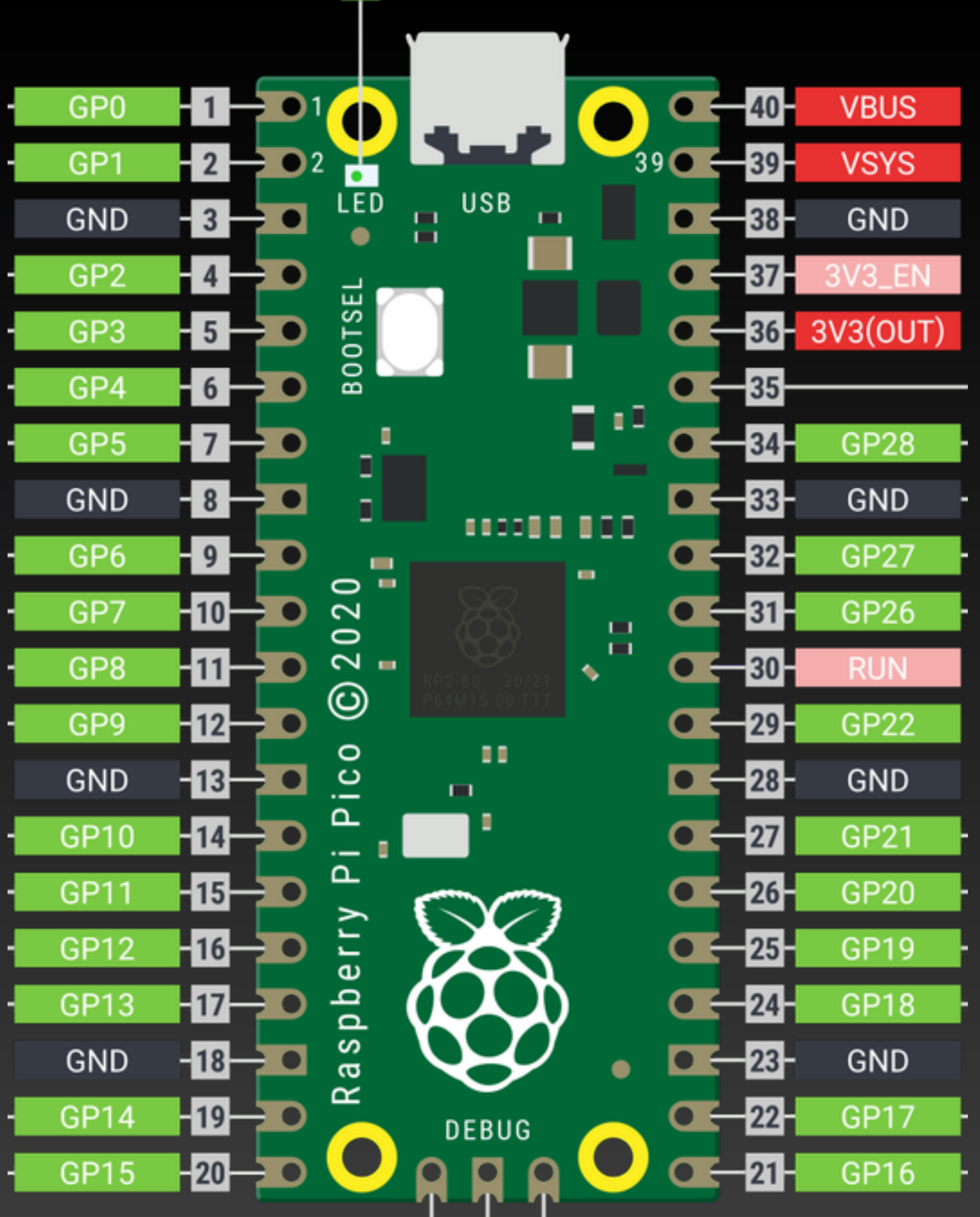
王棋俊
chyijiunn



What we use

Material

- Raspberry pico
- Thonny
- Sg90 motor
- Buzz
- LED

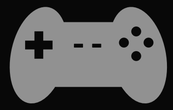


PythonLearningMap

LED
- for
- while

Buzz
- tone , Hz
- picoPinano

ssd1306
- function
- module
- picoRetroGamer



button
- if
- ttraffic light

servoMotor
- 16 bit
- thread
- picoPercussion

- picoCountdowner

gyro
- picoWatch

- picoDrone

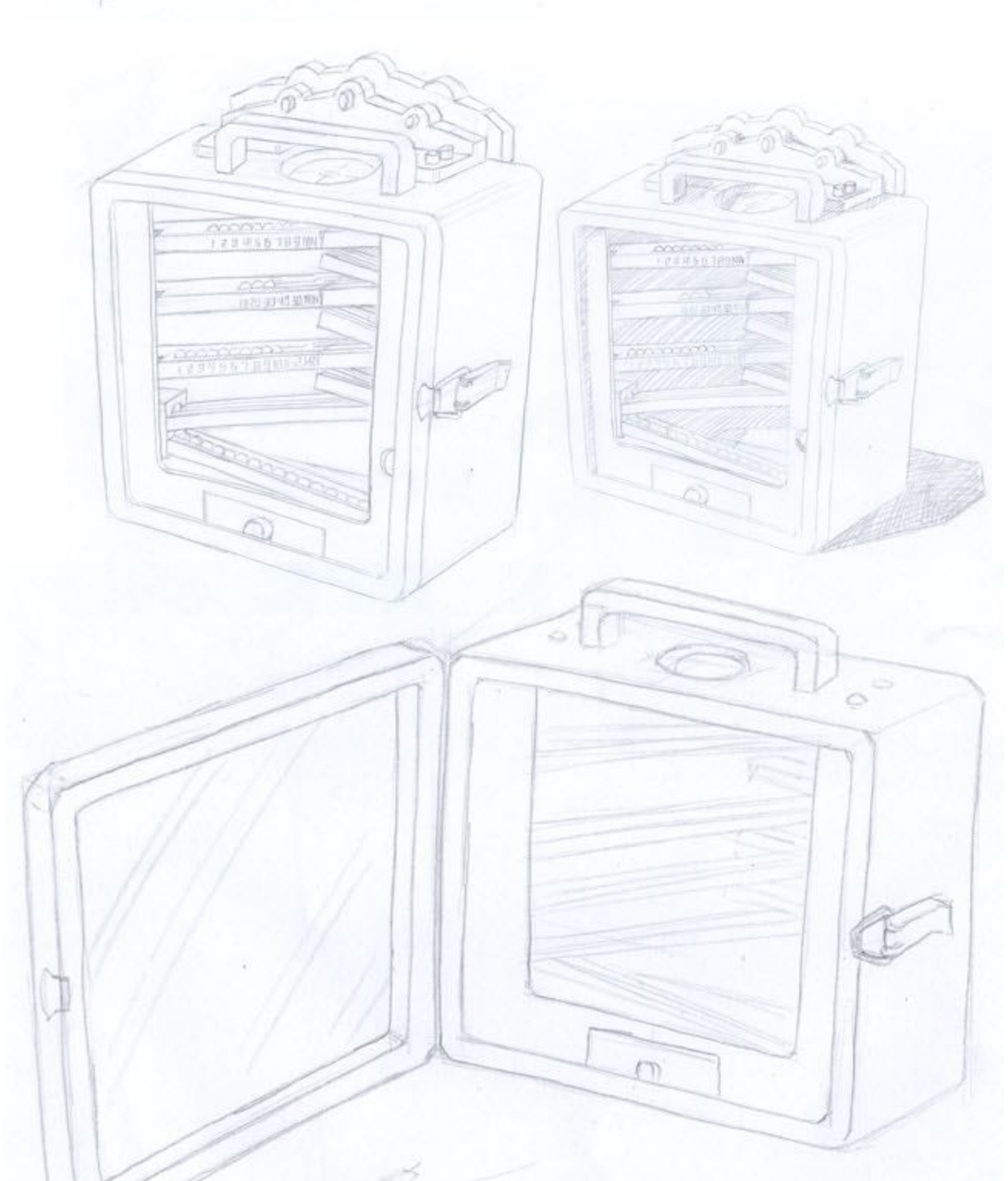
Kickstarter project example

TempoFlow LightClock Pomodoro

Specs

Steven LAM

https://www.tempo-flow.com/




12:50

Rewards

72 Hour Special

$159 ~~$299~~ 47% Off

x 1

5 Day Special

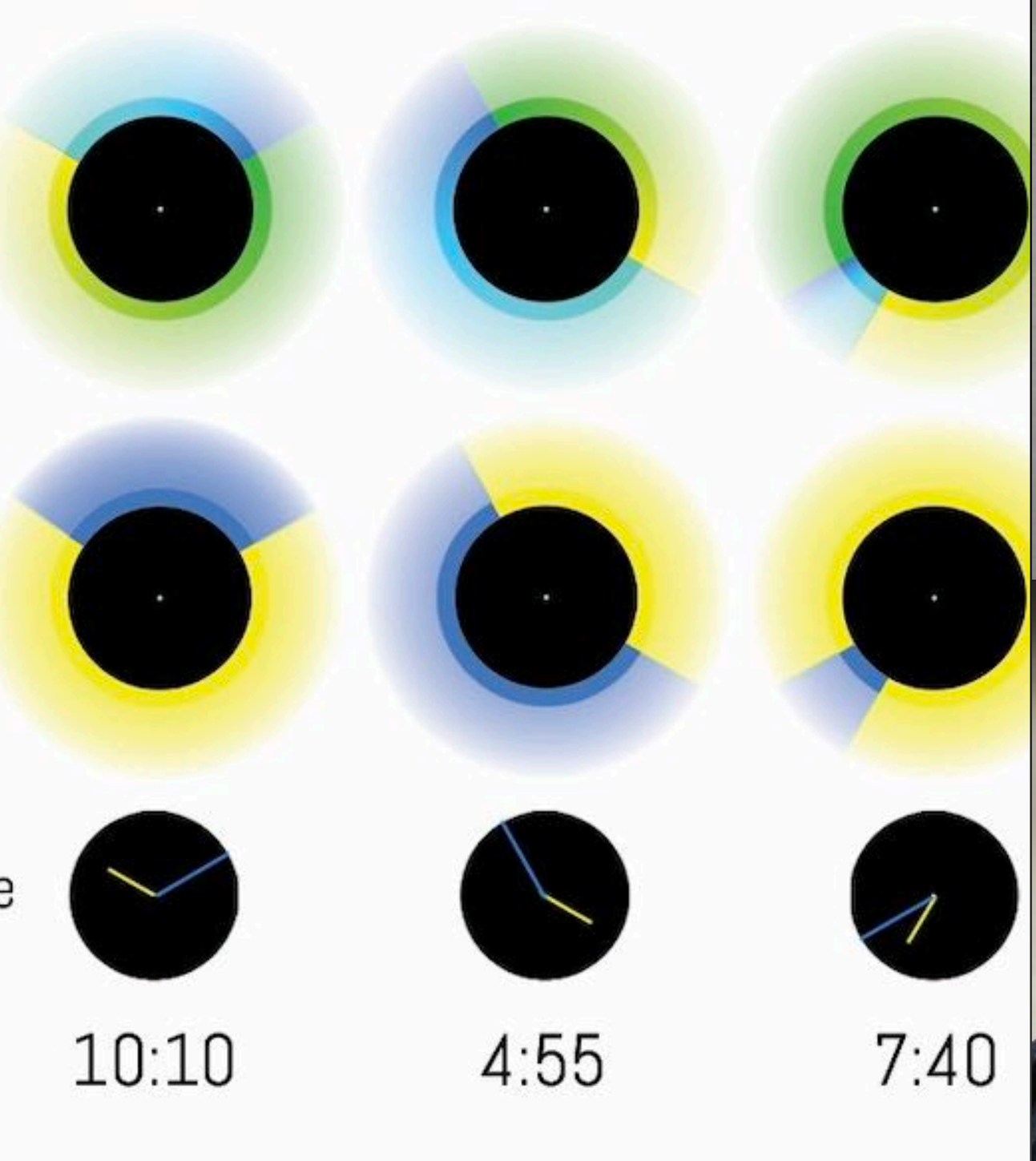
$169 ~~$299~~ 43% Off

x 1

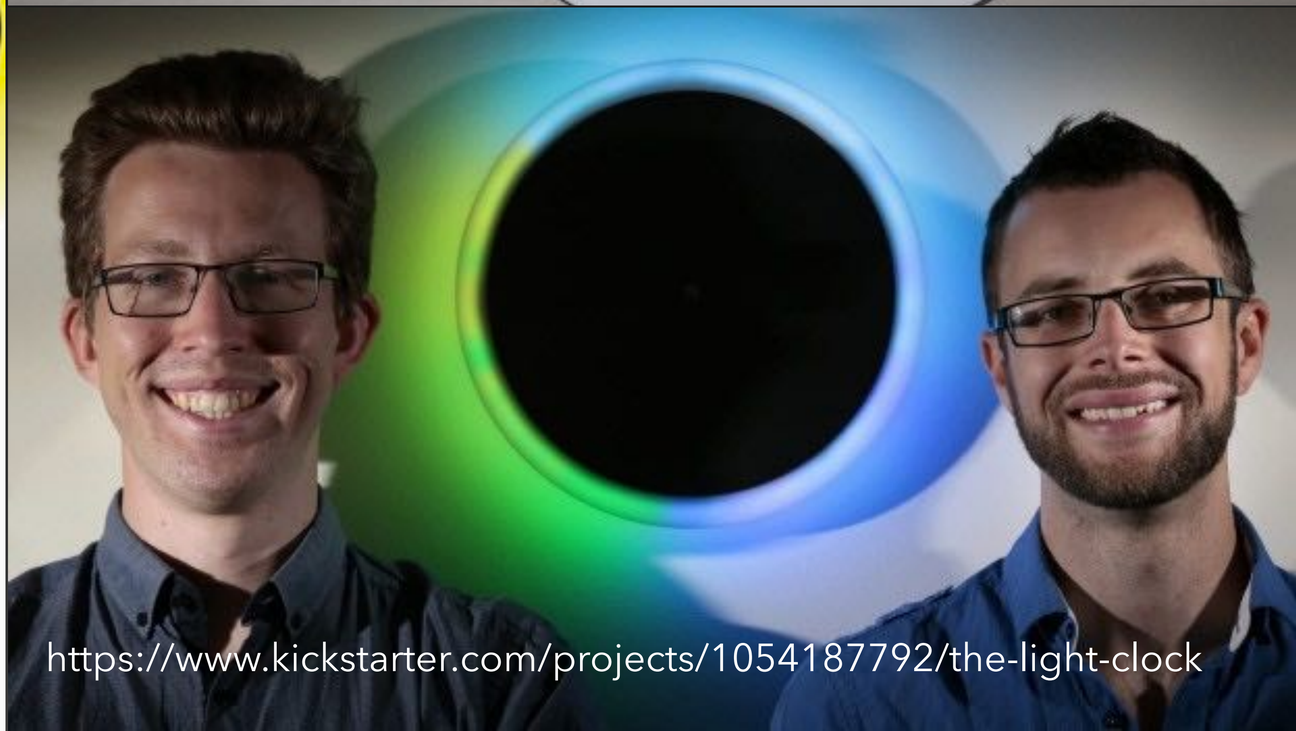
Super Early Bird

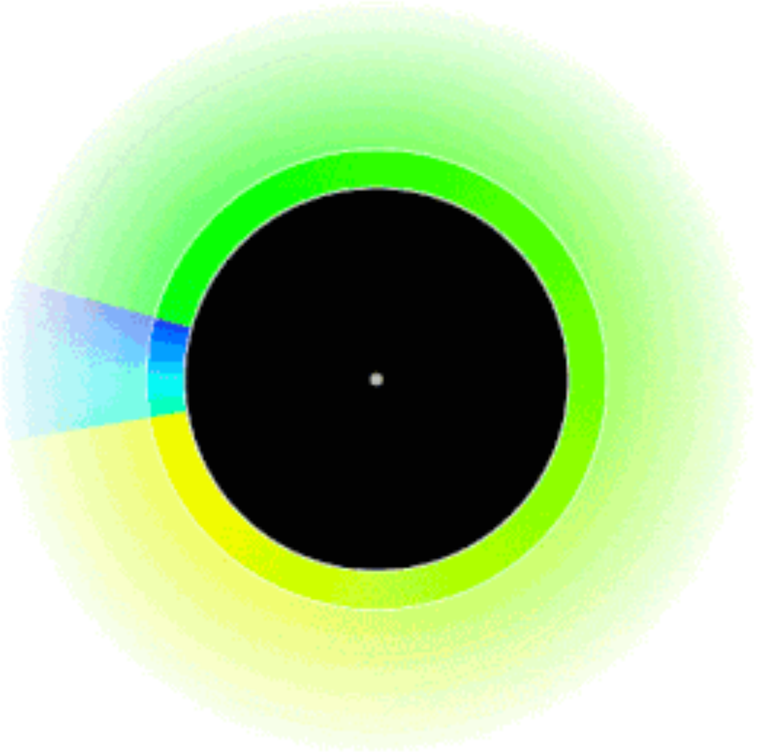
$179 ~~$299~~ 40% Off

x 1


10:10
4:55
7:40


AC/DC ADAPTER


https://www.kickstarter.com/projects/1054187792/the-light-clock



Hour Colour

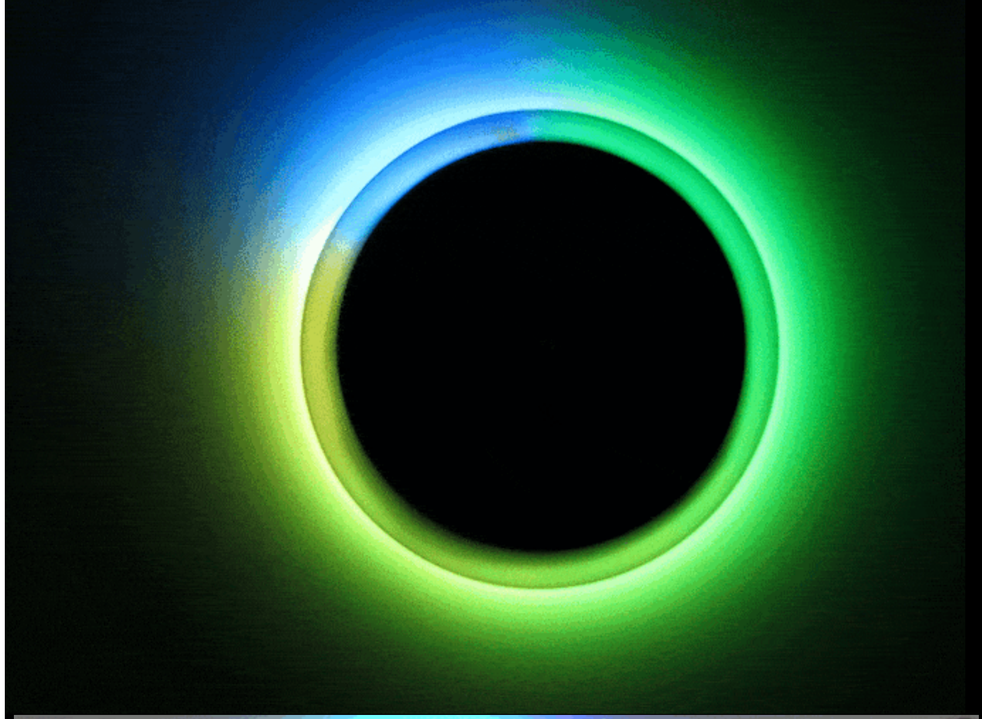
#FfffOO

Minute Colour

#0039ff

SETTINGS

UPDATE THE LIGHT CLOCK



Founder / PM
Rachel

Business Developer
Shaun

Product Manager
Doo

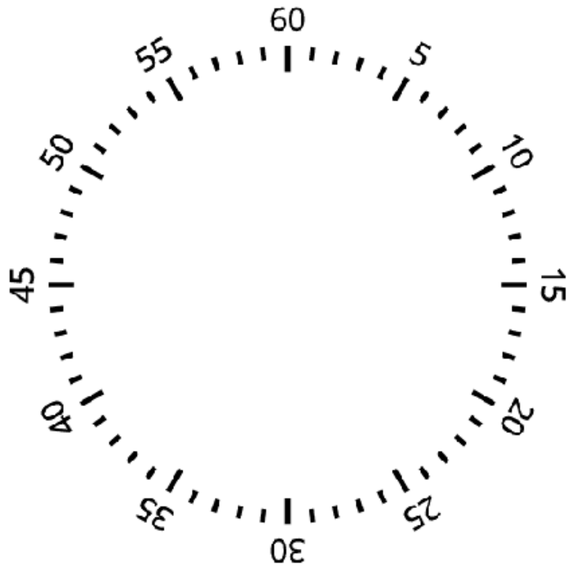
Hardware Engineer
Steve

UI/UX Designer
Mari

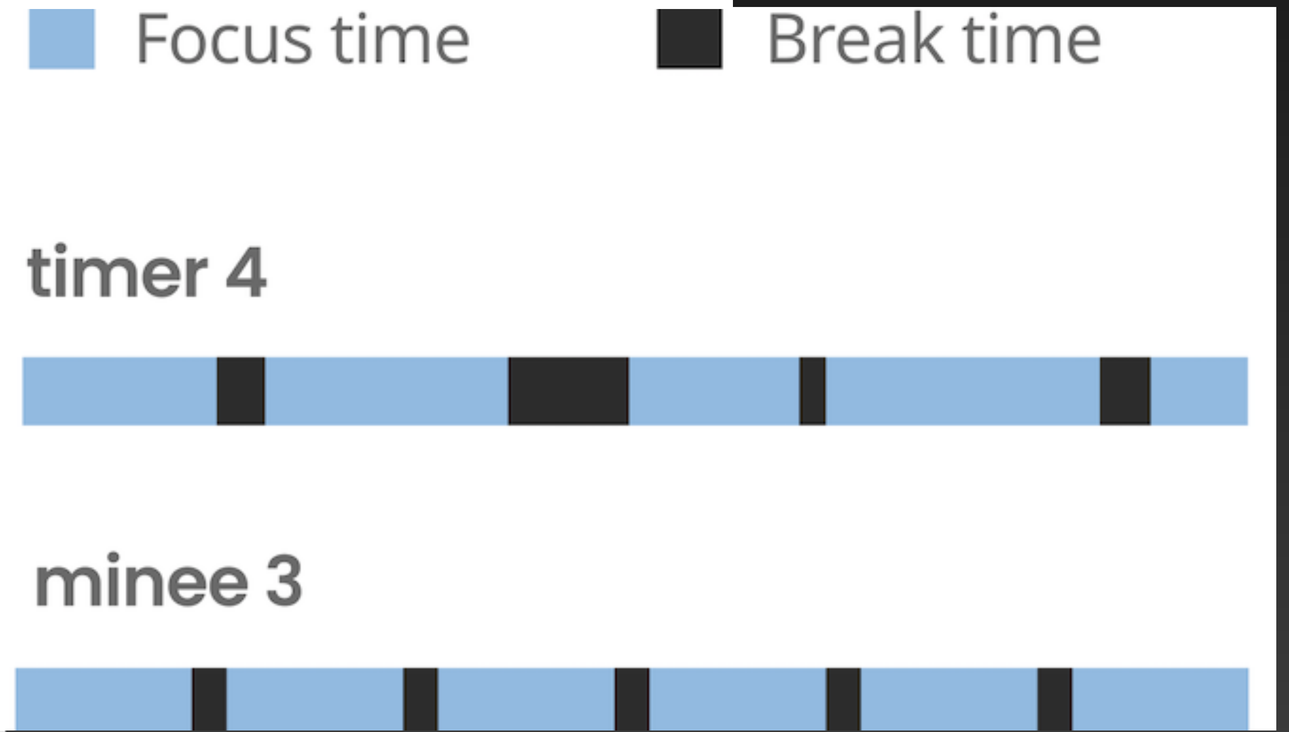
Software Engineer
SY Yun

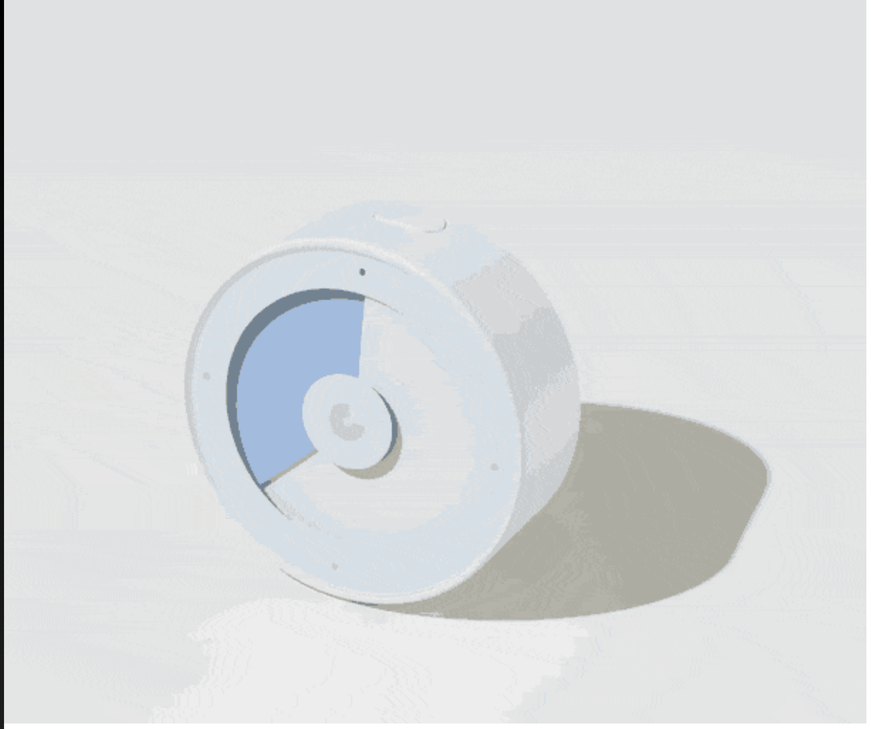
Marketer
Lennie

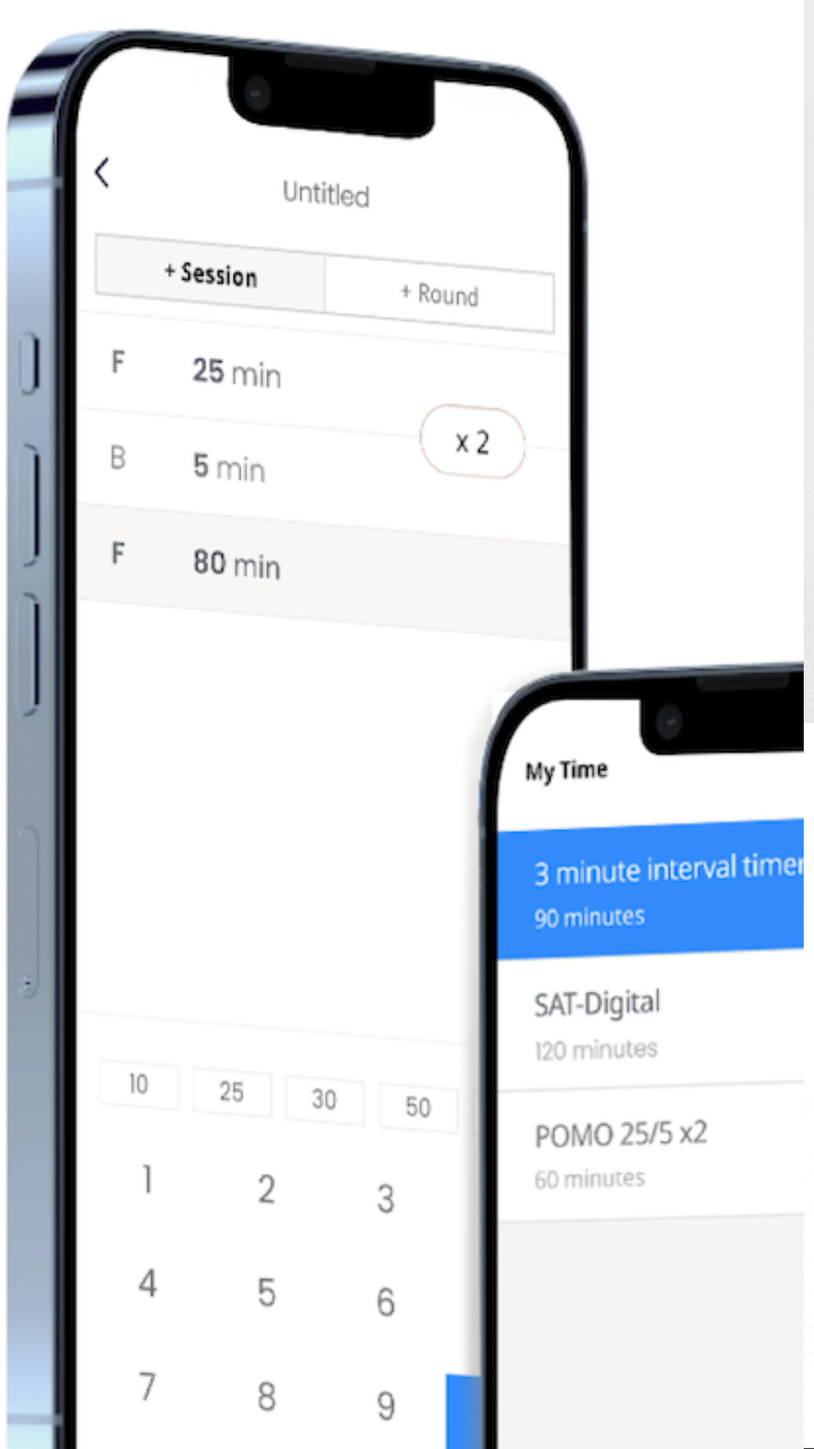
Manufacturing QC
Zinna

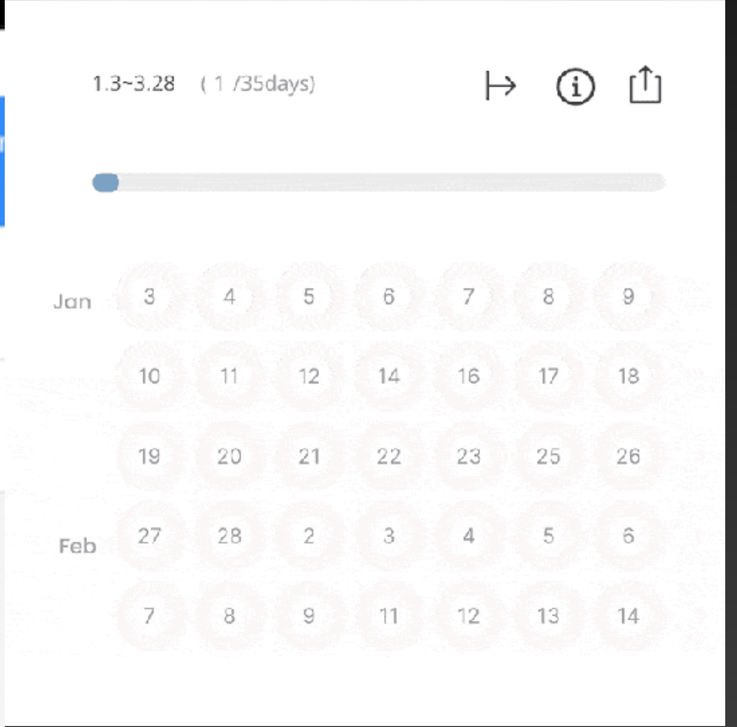


https://www.kickstarter.com/projects/minee/minee-habit-tracking-pomodoro-timer-kit-for-your-goal






Untitled
+ Session
+ Round
F 25 min
B 5 min
x 2
F 80 min
10
25
30
50
1 2 3
4 5 6
7 8 9
My Time
3 minute interval timer
90 minutes
SAT-Digital
120 minutes
POMO 25/5 x2
60 minutes


1.3~3.28 (1 /35days)
Jan 3 4 5 6 7 8 9
10 11 12 14 16 17 18
19 20 21 22 23 25 26
Feb 27 28 2 3 4 5 6
7 8 9 11 12 13 14

課程素材

GitHub: picoCountdowner

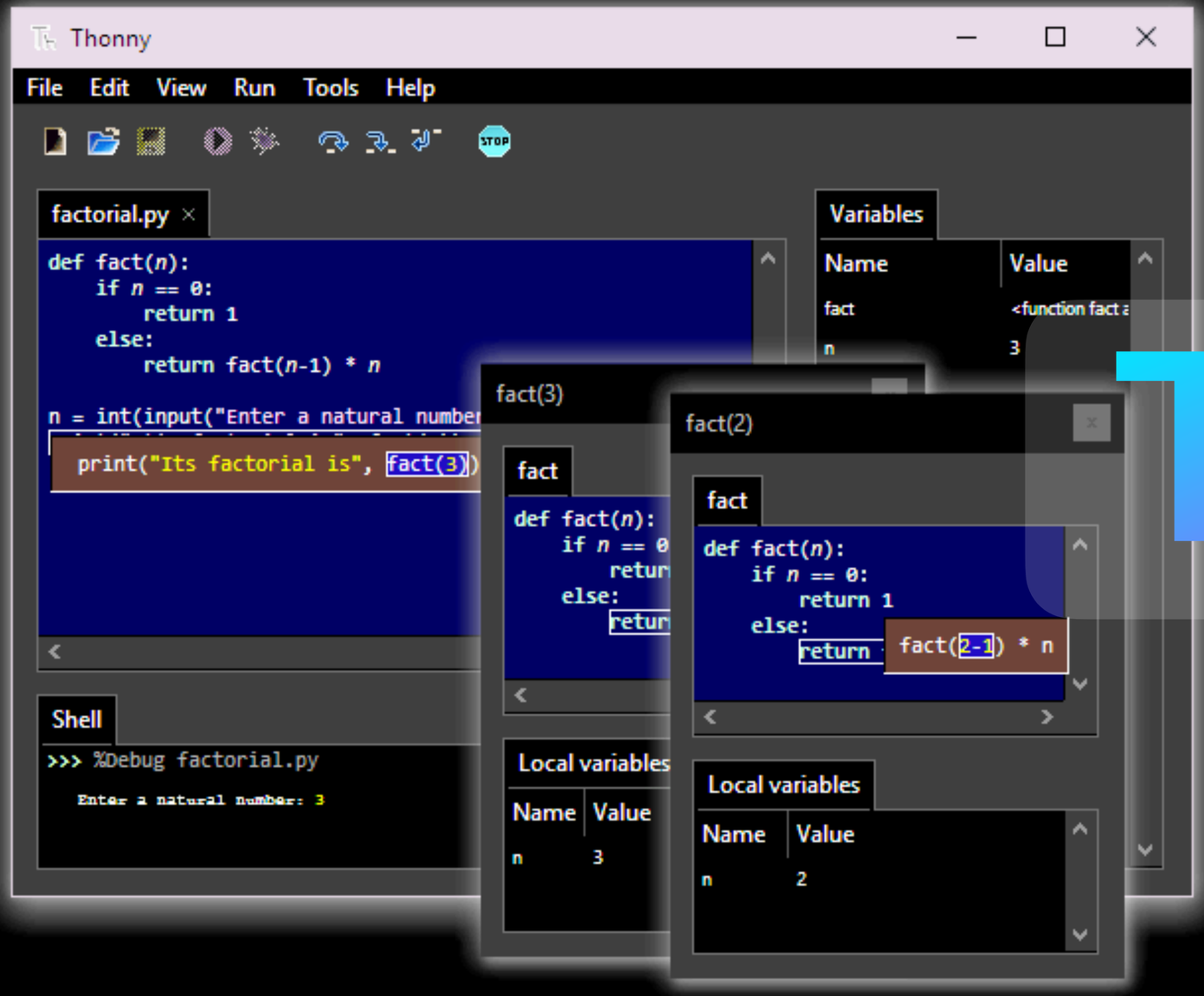
github.com/chyijiunn/picoCountdowner

Start

Thonny

Python IDE for beginners

Download version 4.1.7 for Windows • Mac • Linux



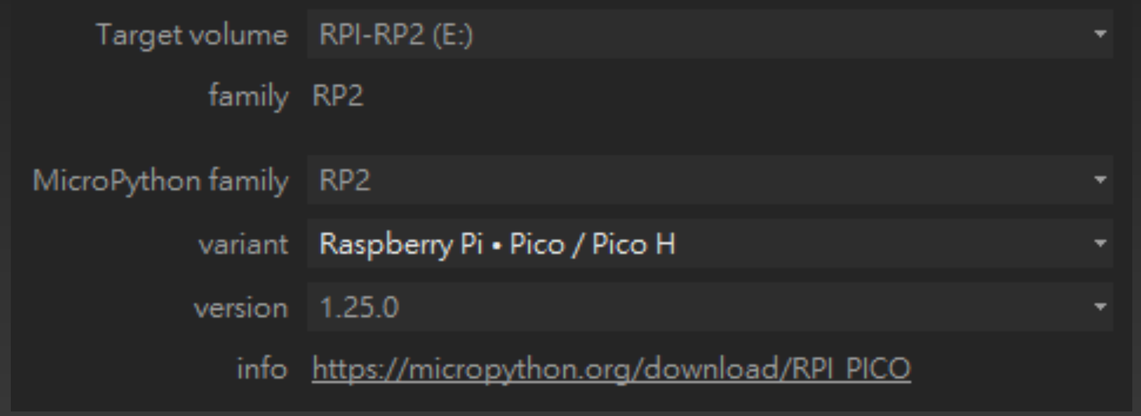
Thonny

介面使用
韌體操作
寫三行

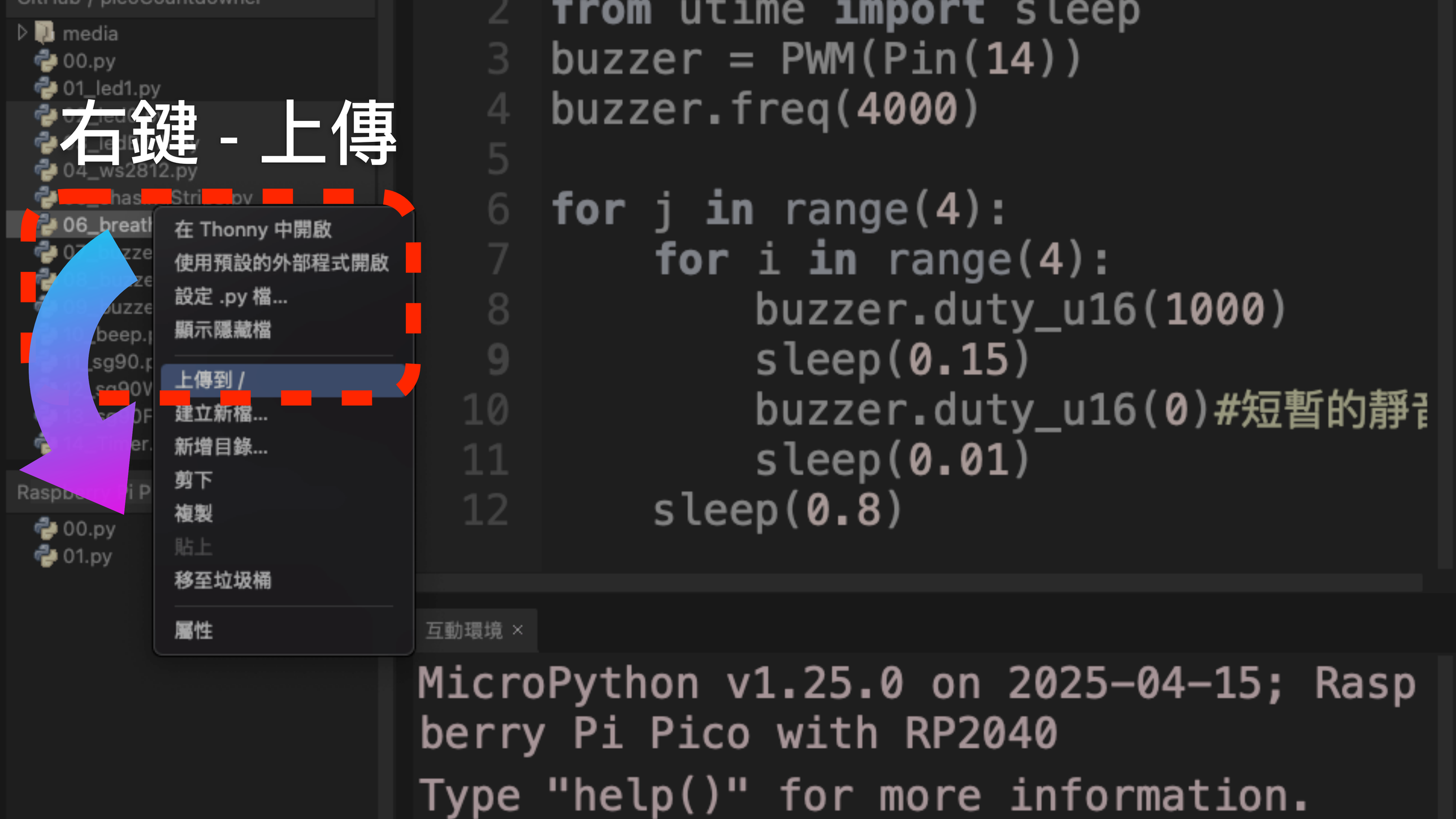
韌體 按住BOOT SEL - 插入USB - 讀取如隨身碟

- 推薦使用
  - 下載韌體
  - 拖拉韌體進入
  - 隨身碟顯示退出

- 工具 - 選項 - 直譯器
  - 選 PICO
  - 安裝或更新MICROPYTHON

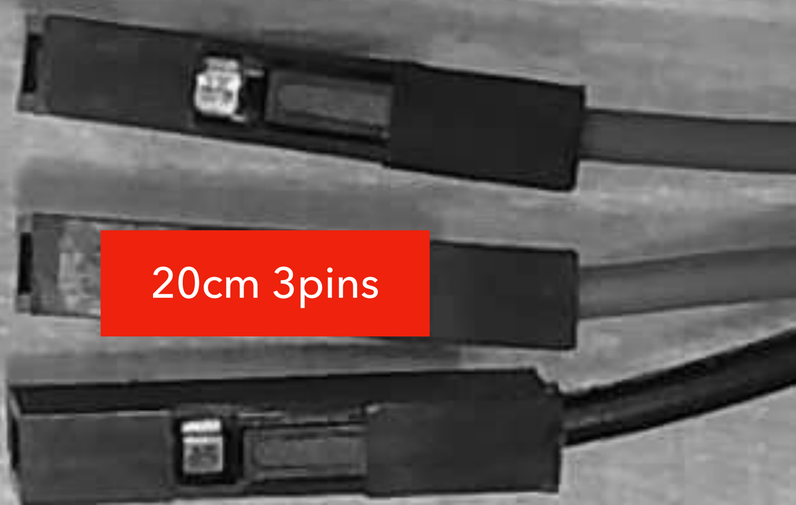



本機
/ Users / trunking / Documents /
GitHub / picoCountdowner
media
00.py
01_led1.py
02_led0.py
03_ledBlink.py
04_ws2812.py
05_chasingStripe.py
06_breathStripe.py
07_buzzerScale.py
08_buzzerScaleFor.py
09_buzzerFre.py
10_beep.py
11_sg90.py
12_sg90While.py
13_sg90For.py
14_Timer.py
15_period.py
16_beepMotor.py
17_final_LED.py
18_finalA.py
19_finalB.py
20_thread.py
from machine import Pin, PWM
from utime import sleep
buzzer = PWM(Pin(14))
buzzer.freq(4000)
for j in range(4):
for i in range(4):
buzzer.duty_u16(1000)
sleep(0.15)
buzzer.duty_u16(0)#短暫的靜音
sleep(0.01)
sleep(0.8)
互動環境
MicroPython v1.25.0 on 2025-04-15; Raspberry Pi Pico with RP2040
Type "help()" for more information.
>>>
檢視- 檔案
Raspberry Pi Pico
00.py
01.py
MicroPython v1.25.0 on 2025-04-15; Raspberry Pi Pico with RP2040
Type "help()" for more information.
>>>
選 pico
MicroPython (Raspberry Pi Pico) · Board in FS mode @ /dev/cu.usbmodem14601


media
00.py
01_led1.py
04_ws2812.py
06_breatl
在 Thonny 中開啟
使用預設的外部程式開啟
設定 .py 檔...
顯示隱藏檔
上傳到 /
建立新檔...
新增目錄...
剪下
複製
貼上
移至垃圾桶
屬性
00.py
01.py
右鍵 - 上傳
from utime import sleep
buzzer = PWM(Pin(14))
buzzer.freq(4000)
for j in range(4):
for i in range(4):
buzzer.duty_u16(1000)
sleep(0.15)
buzzer.duty_u16(0)#短暫的靜音
sleep(0.01)
sleep(0.8)
互動環境
MicroPython v1.25.0 on 2025-04-15; Raspberry Pi Pico with RP2040
Type "help()" for more information.

注意燈條DIN方向

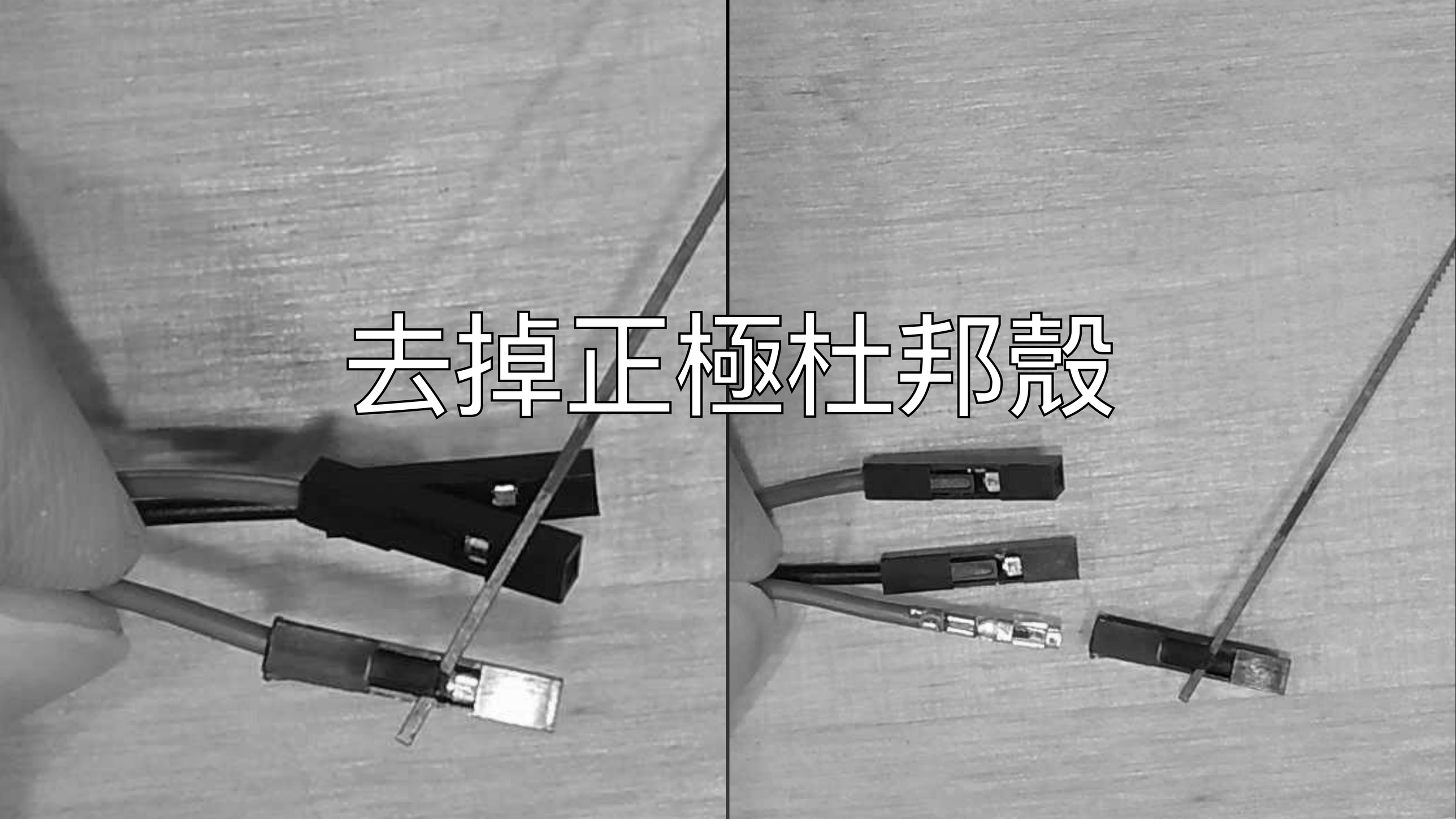

+5V Din GND
+5V C1 Do GND
+5V Din GND
+5V C1 Do GND
+5V Din GND


20cm 3pins


剪掉杜邦頭

上助焊劑再錫接

上助焊劑再錫接


去掉正極杜邦殼

有記號為外側


折線都朝外
為山折線

長尾夾輔助固定


剪掉sg90側翅
並去掉信號線杜邦殼


開口盒舌

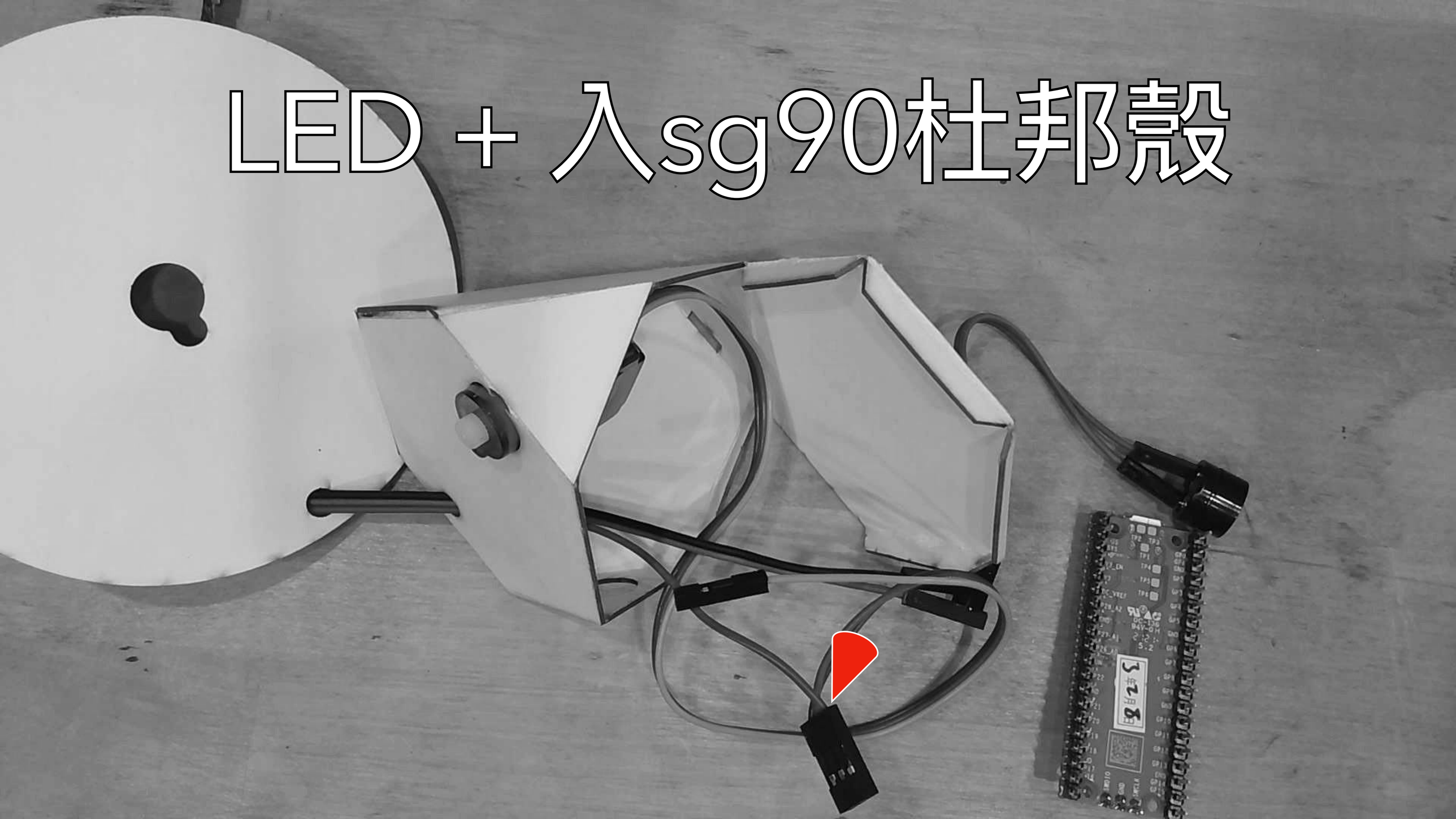
置入sg90


圓紙片貼合
對齊小圓孔

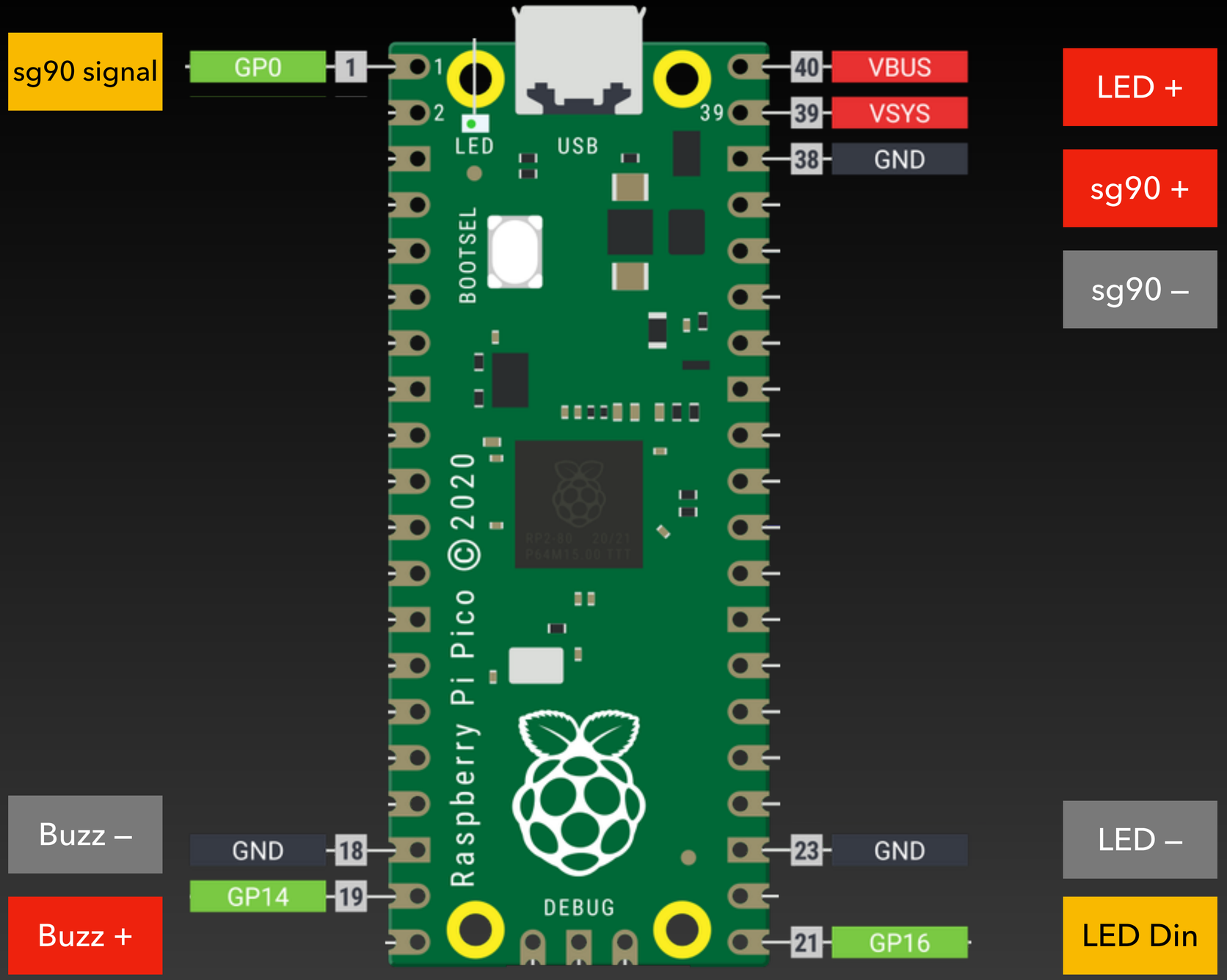

小圓孔穿過LED線

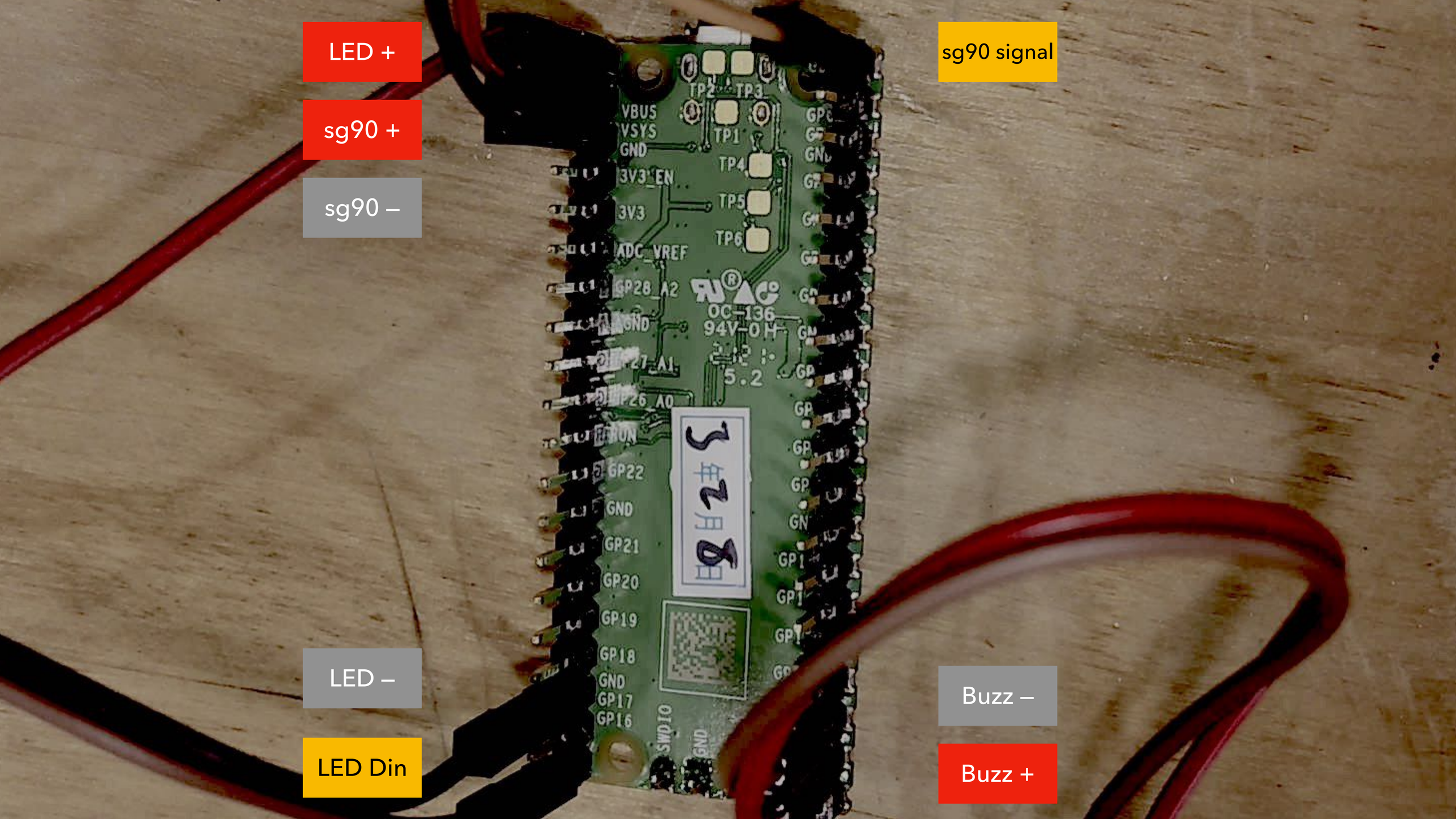
LED＋入sg90杜邦殼

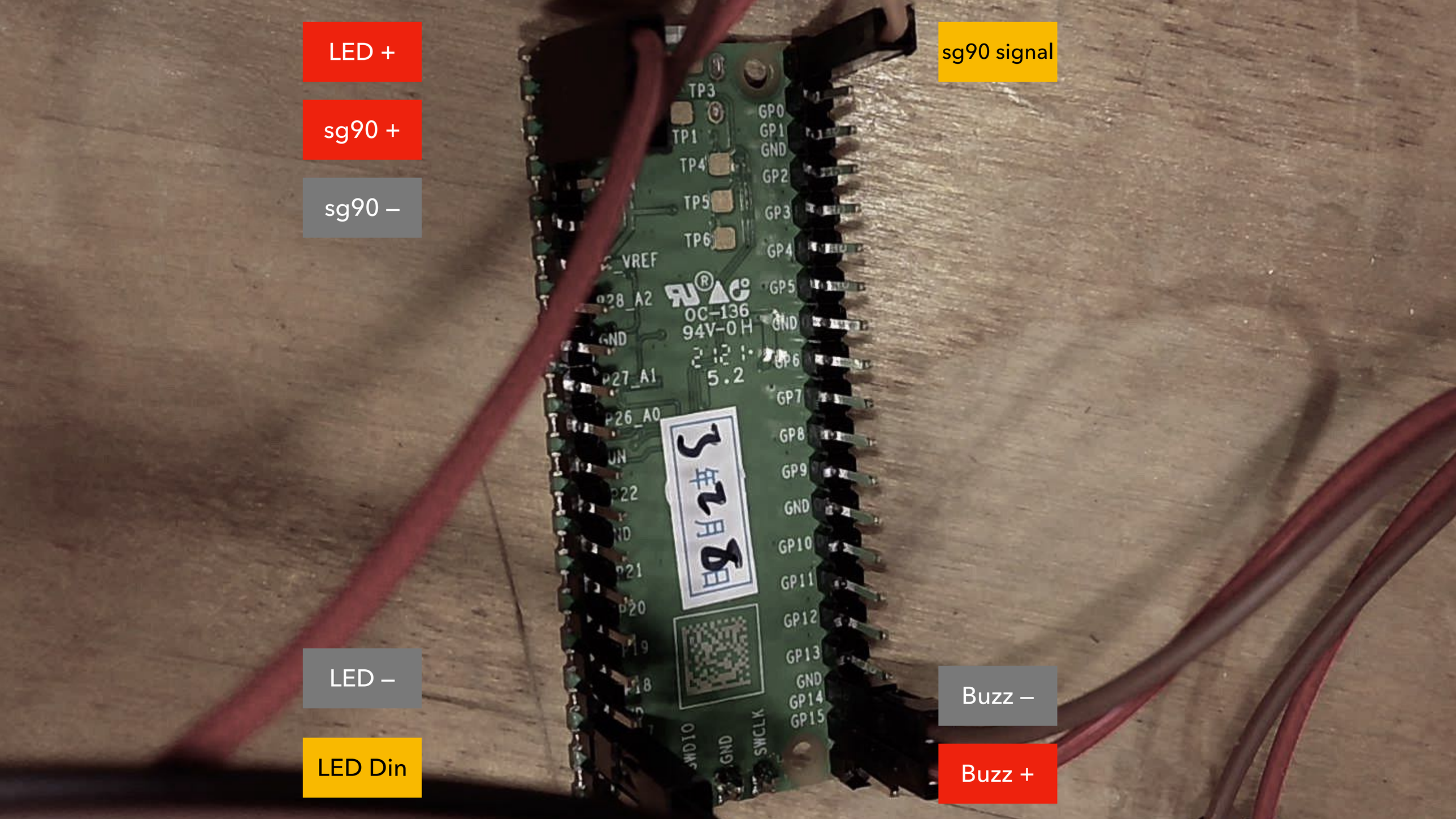
LED＋入sg90杜邦殼




接線


sg90 signal
GP0
1
2
LED
USB
39
40
VBUS
39
VSYS
38
GND
LED +
sg90 +
sg90 –
BOOTSEL
Raspberry Pi Pico ©2020
Buzz –
Buzz +
GND
18
GP14
19
DEBUG
23
GND
21
GP16
LED –
LED Din


LED +
sg90 +
sg90 –
LED –
LED Din
sg90 signal
Buzz –
Buzz +
TP2
TP3
TP1
TP4
TP5
TP6
VBUS
VSYS
GND
3V3_EN
3V3
ADC_VREF
GP28_A2
GND
GP27_A1
GP26_A0
RUN
GP22
GND
GP21
GP20
GP19
GP18
GND
GP17
GP16
SWDIO
GND
OC-136
94V-0
5.2


LED +
sg90 +
sg90 –
LED –
LED Din
sg90 signal
Buzz –
Buzz +
TP3
TP1
TP4
TP5
TP6
VREF
GND
GP0
GP1
GND
GP2
GP3
GP4
GP5
GND
GP6
GP7
GP8
GP9
GND
GP10
GP11
GP12
GP13
GND
GP14
GP15
SWDIO
GND
SWCLK
OC-136
94V-0 H
2121
5.2

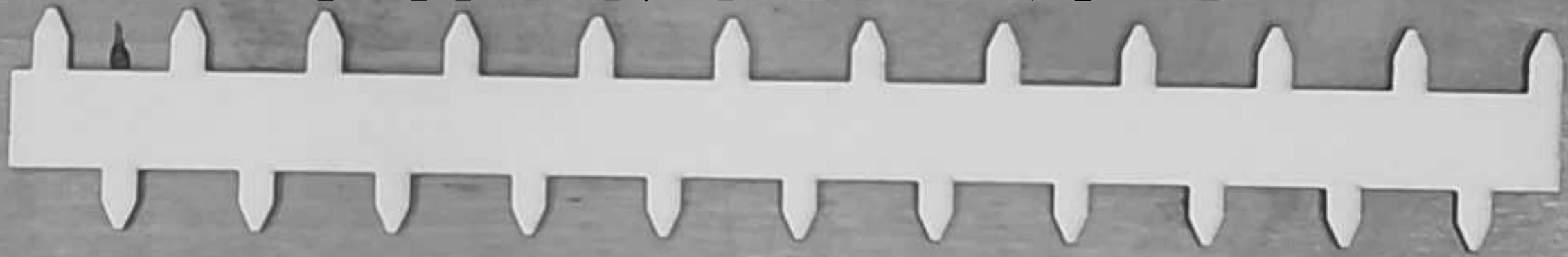

整線
USB孔朝後下


Buzz 入洞


USB孔對齊


準備固定燈條

齒條朝同向折彎




折彎


點膠貼合
置中對齊下緣


燈條置中貼齊齒條

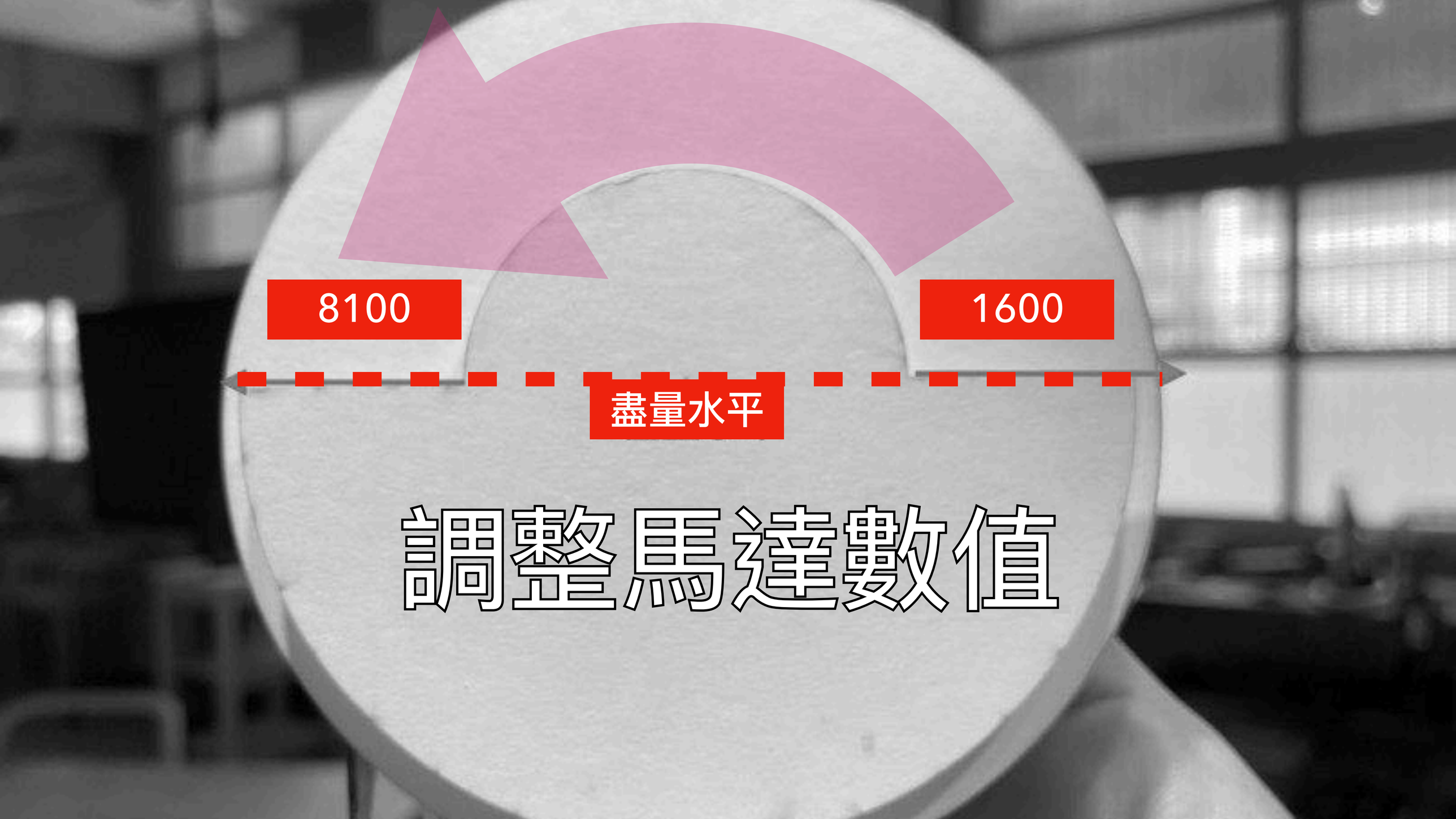

燈條置中貼齊齒條

整線

sg90配件水平貼於中央

黑點置中定位


輕輕扣上


8100
1600
盡量水平
調整馬達數值


確認角度後用力扣上

貼上護蓋

完成


GitHub / picoCountdowner
media
00.py
01_led1.py
02_led0.py
03_ledBlink.py
04_ws2812.py
05_chasingStripe.py
06_breathStripe.py
07_buzzerScale.py
08_buzzerScaleFor.py
09_buzzerFre.py
10_beep.py
11_sg90.py
Raspberry Pi Pico
00.py
from utime import sleep
buzzer = PWM(Pin(14))
buzzer.freq(4000)
存檔位置？
本機
Raspberry Pi Pico
另存新檔
RASPBERRY PI PICO
MicroPython v1.25.0 on 2025-04-15; Rasp
berry Pi Pico with RP2040
Type "help()" for more information.

另存 main.py

通電即執行