

物聯網整合系統實務(一)

日間部四技資工三戊 101-1 學期期末考試 姓名:_____ 學號:_____

教師: 謝坤達

Q1. LED Flash

Thonny - MicroPython 設備 :: /LED_Flash.py @ 12:17
檔案 編輯 檢視 執行 工具 說明

檔案

- 本機
 - D:\mydoc\MicroPython\source
 - ch10-3-3a.py
 - ch10-3-3b.py
 - cnt.py
 - config.py
 - dht11try.py
 - dhtfun.py
 - dhtoled.py
- MicroPython 設備
 - boot.py
 - btndht.py
 - ch10-2-2.py
 - ch10-2-2a.py
 - ch10-3-3.py
 - ch10-3-3a.py
 - ch10-3-3b.py
 - cnt.py
 - config.py
 - dhtfun.py
 - dhtoled.py
 - i2cscan.py
 - iftttEmail.py
 - iftttemail1.py
 - iftttgoogle.py
 - iftttln.py
 - LED11.py
 - ledbtn.py
 - LED_Flash.py
 - readADC.py
 - ssd1306.py
 - ThingspeakDHT.py
 - trydht.py
 - urlencode.py
 - useFun.py
 - weatherrpt.py
 - xrequests.py
 - xtools.py

```
1 from machine import Pin
2 import utime
3
4 LED = None
5
6
7 LED = Pin(13, Pin.OUT)
8 while True:
9     LED.value(0)
10    utime.sleep(1)
11    LED.value(1)
12    utime.sleep(1)|
```

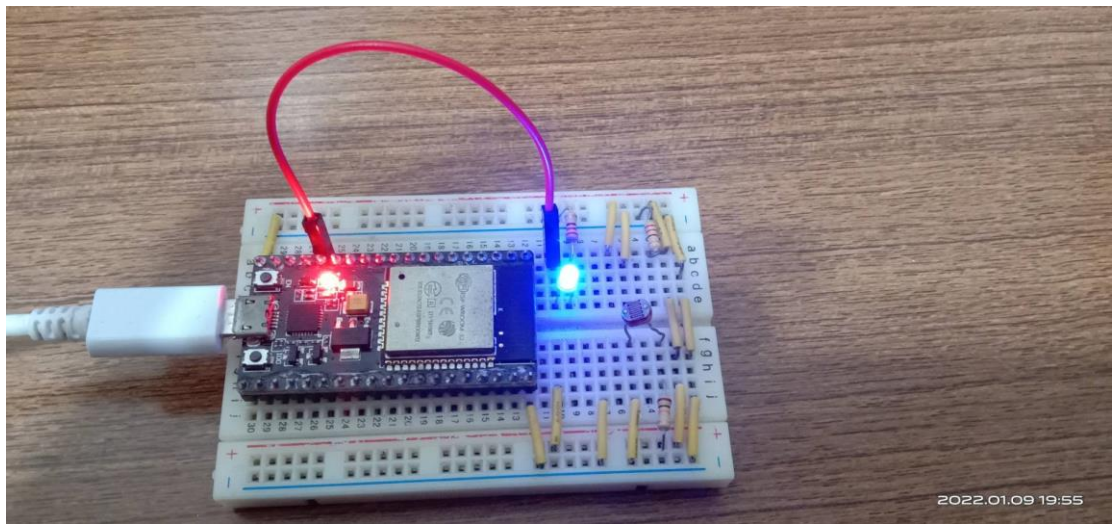
互動環境 (Shell)

```
network config: ('192.168.1.113', '255.255.255.0', '192.168.1.1', '192.168.1.1')
25.00 度, 49.00 %, # 1
送出 ThingSpeak!
https://api.thingspeak.com/update?api_key=OAI5GQNWWUZ2KNOD&field1=25&field2=49

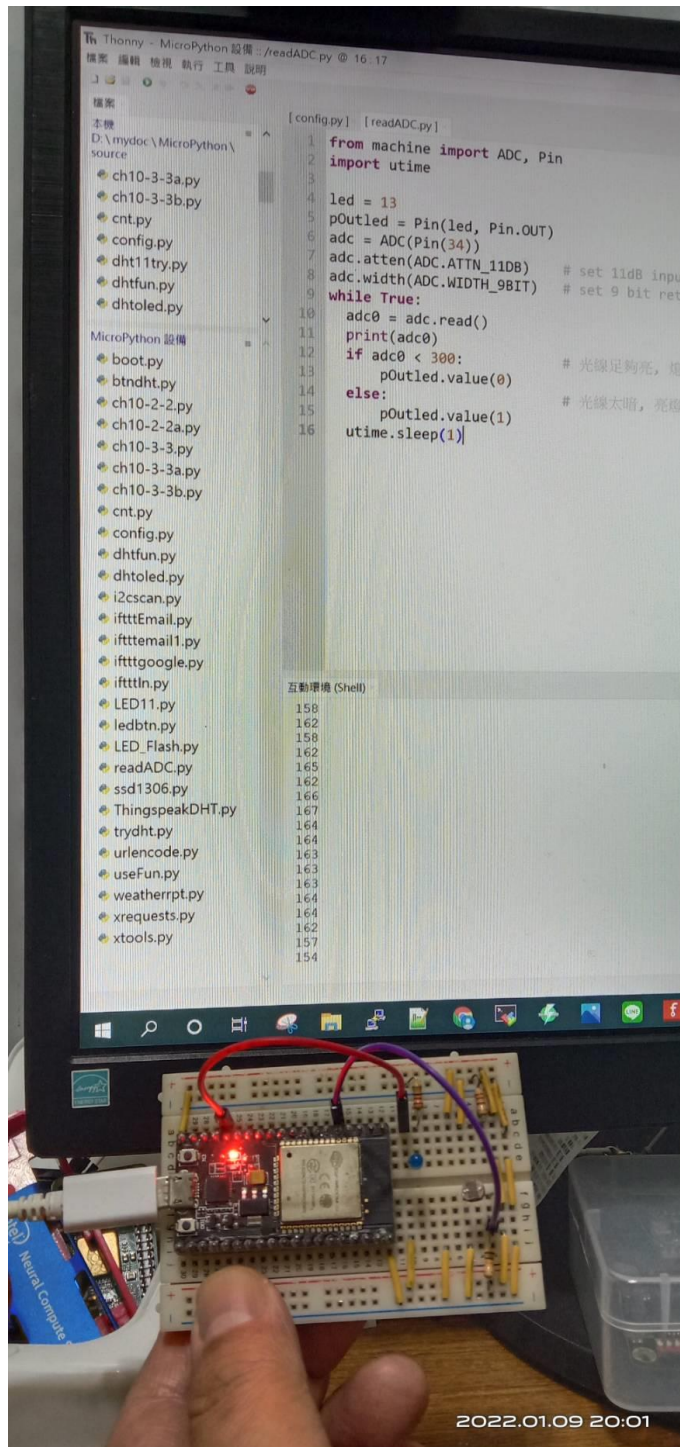
>>>
Backend terminated or disconnected. Use 'Stop/Restart' to restart.
```

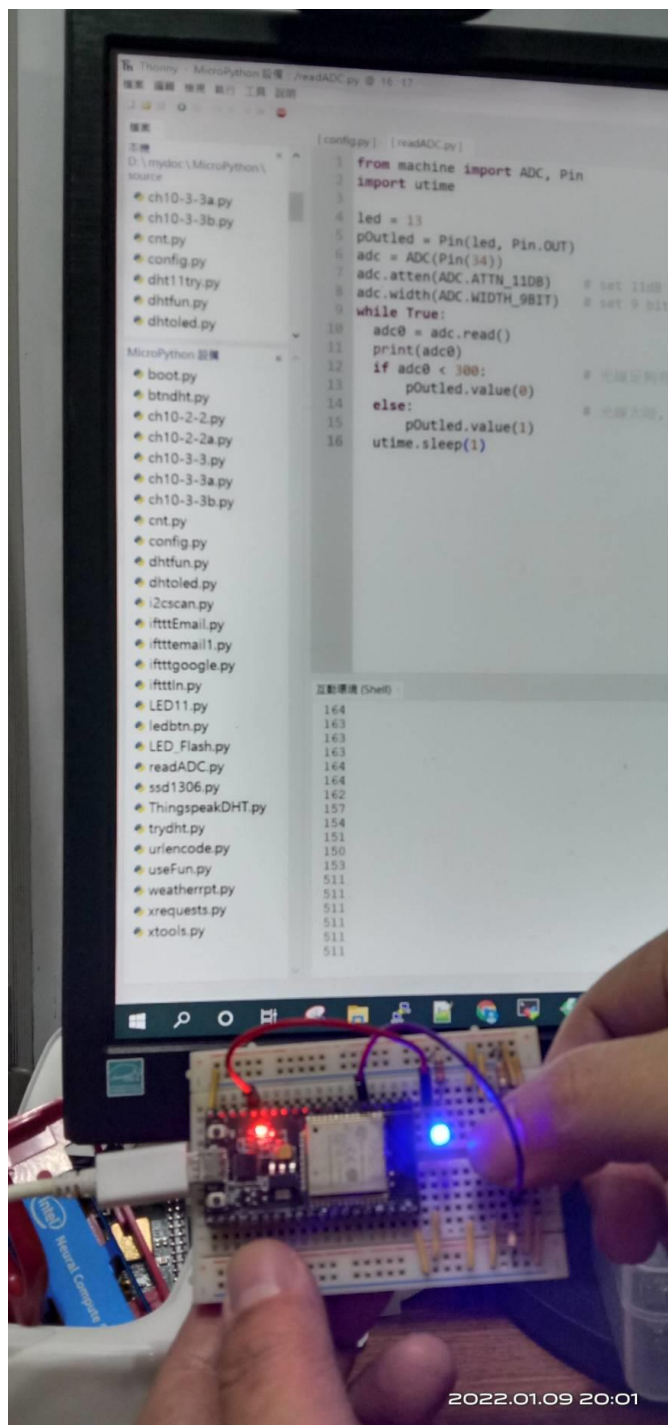
```
MicroPython v1.14 on 2021-02-02; ESP32 module with ESP32
Type "help()" for more information.
>>> %Run -c $EDITOR_CONTENT
```

```
MicroPython v1.14 on 2021-02-02; ESP32 module with ESP32
Type "help()" for more information.
>>>
```



Q2.Lab3 photoresistor





Q3. Lab7 IFTTT – Google Sheets

Thonny - MicroPython 設備 :: /iftttgoogle.py @ 34 : 1

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MicroPython 設備

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- urlencode.py
- useFun.py
- weatherrpt.py
- xrequests.py
- xtools.py

[config.py] [iftttgoogle.py]

```
1 import machine, dht
2 import utime, urequests
3 from urlencode import urlencode
4 import xtools
5 import config
6
7 def getTemp(pin=15):
8     d11=dht.DHT11(machine.Pin(pin))
9     d11.measure() # start to measure
10    utime.sleep(1)
11    t=d11.temperature() # return the temperature
12    h=d11.humidity() # return the humidity
13    return [t,h]
14
15 xtools.connect_wifi_led()
16 APIKEY = config.APIKEY
17 WEBHOOK_URL="https://maker.ifttt.com/trigger/3c0603/with/key/"
18 WEBHOOK_URL+=APIKEY + "?"
19
20
21
22 [T,H] = getTemp()
23 print("{0:4.2f} 度, {1:4.2f} %, #{2:2d}".format(T,H,1))
24 params = { "value1": T,
25            "value2": H,
26            "value3": 1}
27 WEBHOOK_SEND = WEBHOOK_URL + urlencode(params)
28 print("送出Google Document!")
29 print(WEBHOOK_SEND)
30 input("請按下按鍵開關來送出Data ")
```

互動環境 (Shell)

請按下按鍵開關來送出Data...

```
>>> %Run -c $EDITOR_CONTENT
network config: ('192.168.1.113', '255.255.255.0', '192.168.1.1', '192.168.1.1')
25.00 度, 50.00 %, # 1
送出Google Document!
https://maker.ifttt.com/trigger/3c0603/with/key/cBvp_iFaovrfRFXjy8P4rn?value3=1&value1=25&value2=50
請按下按鍵開關來送出Data...
>>> %Run -c $EDITOR_CONTENT
network config: ('192.168.1.113', '255.255.255.0', '192.168.1.1', '192.168.1.1')
24.00 度, 50.00 %, # 1
送出Google Document!
https://maker.ifttt.com/trigger/3c0603/with/key/cBvp_iFaovrfRFXjy8P4rn?value3=1&value1=24&value2=50
請按下按鍵開關來送出Data...
>>> |
```

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"3c0603", then Add
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by 1101404110

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1



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at
1101404110@nkus
t.edu.tw

by 1101404110

Connected

1



<div> <div>classroom</div> <div>☆</div> <div>📁</div> <div>🔗</div> </div> <div>檔案 編輯 查看 插入 格式 資料 工具 擴充功能 說明</div> <div>上次編輯是在數秒前</div>					
<div> <div>↶ ↷ 🖨 📄</div> <div>100% NT\$ % 0.00 123</div> <div>預設 (Arial) 10 B I</div> </div>					
A1	January 9, 2022 at 07:38PM				
	A	B	C	D	E
1	January 9, 2022 at 07:38PM	3c0603	25	51	
2	January 9, 2022 at 07:38PM	3c0603	25	50	
3	January 9, 2022 at 07:38PM	3c0603	24	50	
4					

Q4. Lab8 Thing Speak

Thonny - MicroPython 設備 :: /ThingspeakDHT.py @ 33:1

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ThingspeakDHT.py

trydht.py

urlencode.py

useFun.py

weatherppt.py

xrequests.py

xtools.py

[config.py] [ThingspeakDHT.py]

1 import machine, dht

2 import utime, urequests

3 from urlencode import urlencode

4 import xtools

5 import config

6

7 def getTemp(pin=15):

8 d11=dht.DHT11(machine.Pin(pin))

9 d11.measure() # start to measure

10 utime.sleep(1)

11 t=d11.temperature() # return the temperature

12 h=d11.humidity() # return the humidity

13 return [t,h]

14

15 xtools.connect_wifi_led()

16 APIKEY = config.TAPIKEY

17 WEBHOOK_URL="https://api.thingspeak.com/update?api_key="

18 WEBHOOK_URL+=APIKEY + "&field1="

19

20 #input("請按下按鍵開關來送出Data...")

21

22 [T,H] = getTemp()

23 print("{0:4.2f} 度, {1:4.2f} %, #{2:2d}".format(T,H,1))

24 params = { "value1": T,

25 "value2": H,

26 "value3": 1}

27 WEBHOOK_SEND = WEBHOOK_URL + str(T) + "&field2=" + str(H)

28 print("送出 ThingSpeak!")

互動環境 (Shell)

>>> %Run -c \$EDITOR_CONTENT

network config: ('192.168.1.113', '255.255.255.0', '192.168.1.1', '192.168.1.1')

24.00 度, 50.00 %, # 1

送出 ThingSpeak!

https://api.thingspeak.com/update?api_key=OAI5GQNWWUZ2KNOD&field1=24&field2=50

>>> %Run -c \$EDITOR_CONTENT

network config: ('192.168.1.113', '255.255.255.0', '192.168.1.1', '192.168.1.1')

25.00 度, 49.00 %, # 1

送出 ThingSpeak!

https://api.thingspeak.com/update?api_key=OAI5GQNWWUZ2KNOD&field1=25&field2=49

>>> %Run -c \$EDITOR_CONTENT

network config: ('192.168.1.113', '255.255.255.0', '192.168.1.1', '192.168.1.1')

25.00 度, 49.00 %, # 1

送出 ThingSpeak!

https://api.thingspeak.com/update?api_key=OAI5GQNWWUZ2KNOD&field1=25&field2=49

>>>

Access: Private

Data Import / Export

MATLAB Visualization

Channel 3 of 3 < >

Entries: 4



A1	:	X	✓	f _x	created_at			
	A	B	C	D	E	F	G	H
1	created_at	entry_id	field1	field2	latitude	longitude	elevation	status
2	2022-01-09T14:26:03+08:00	1	22	58				
3	2022-01-09T14:26:51+08:00	2	22	56				
4	2022-01-09T14:27:08+08:00	3	22	58				
5	2022-01-09T19:41:50+08:00	4	24	50				
6								