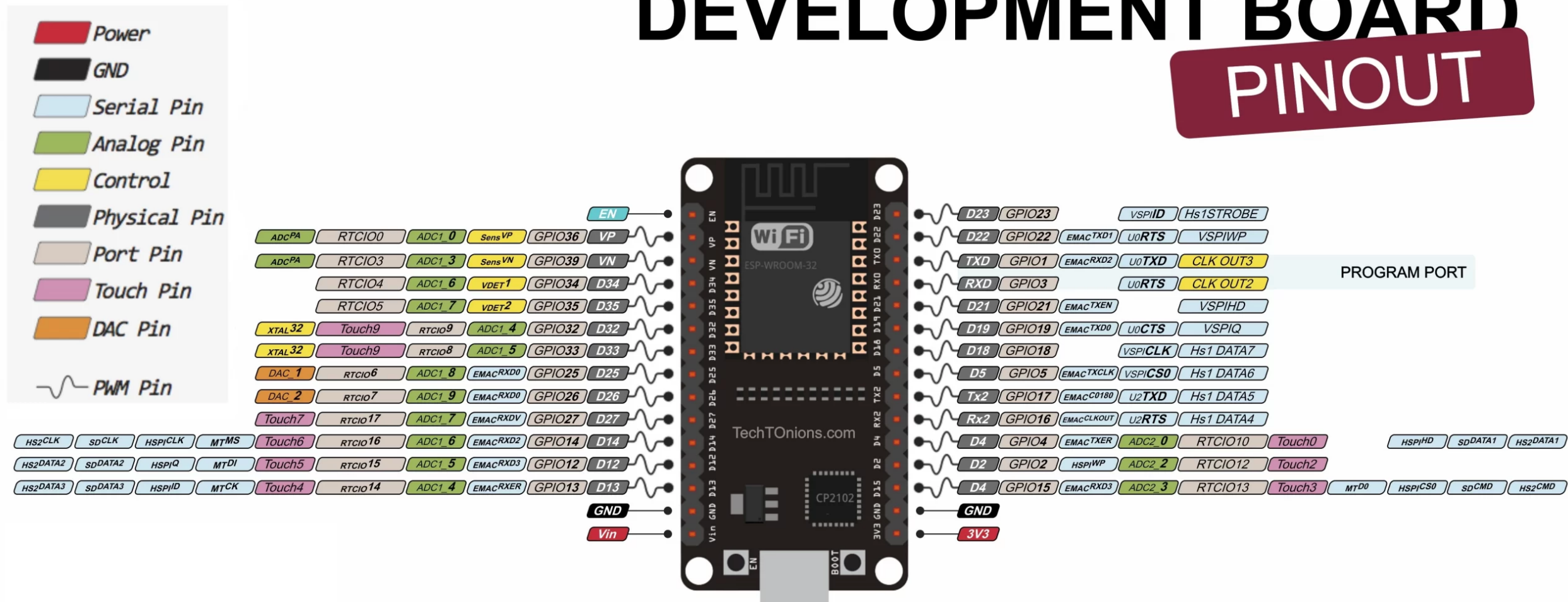
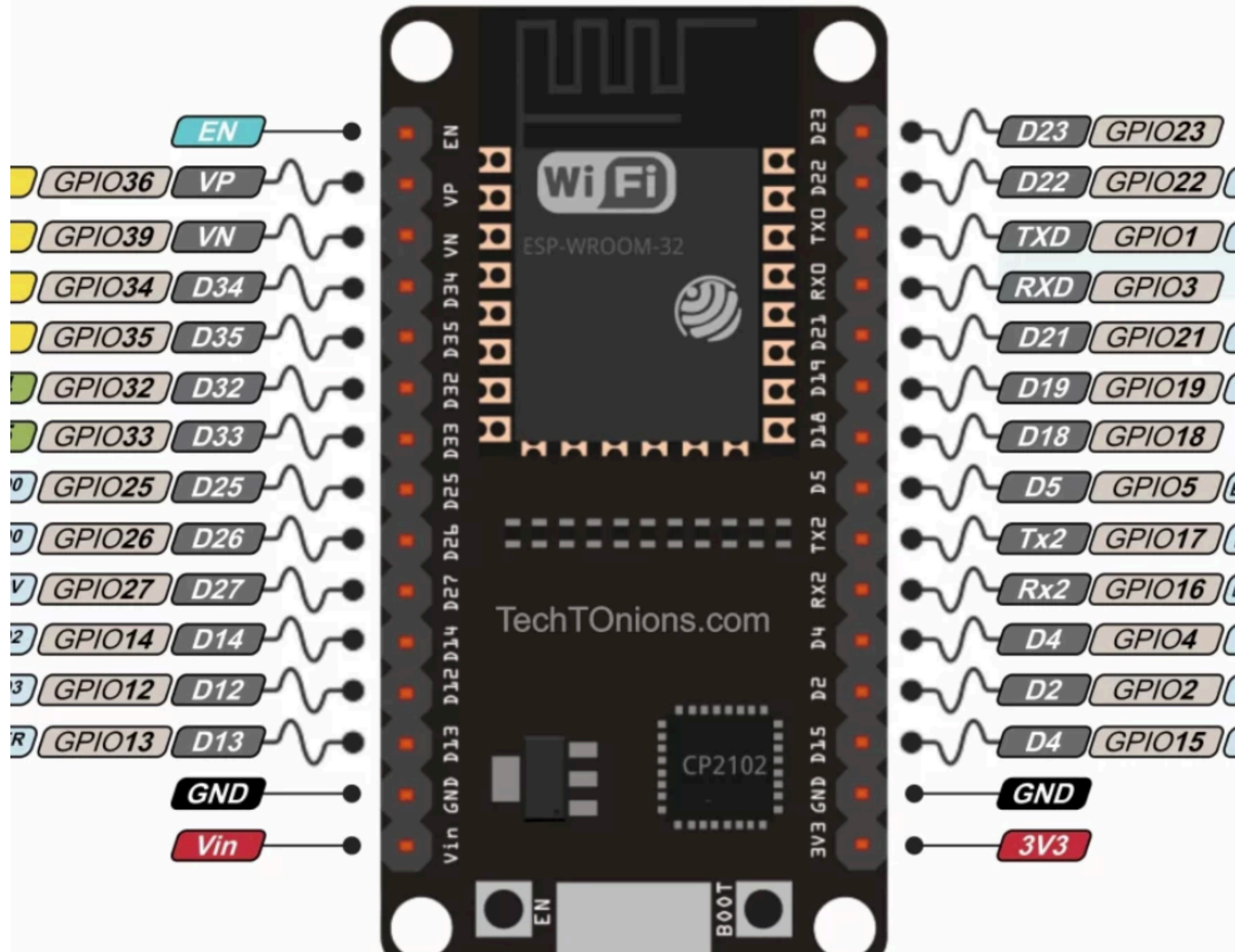


RFID Sensor

Micro-python - IoT

ESP32-WROOM-DA DEVELOPMENT BOARD PINOUT



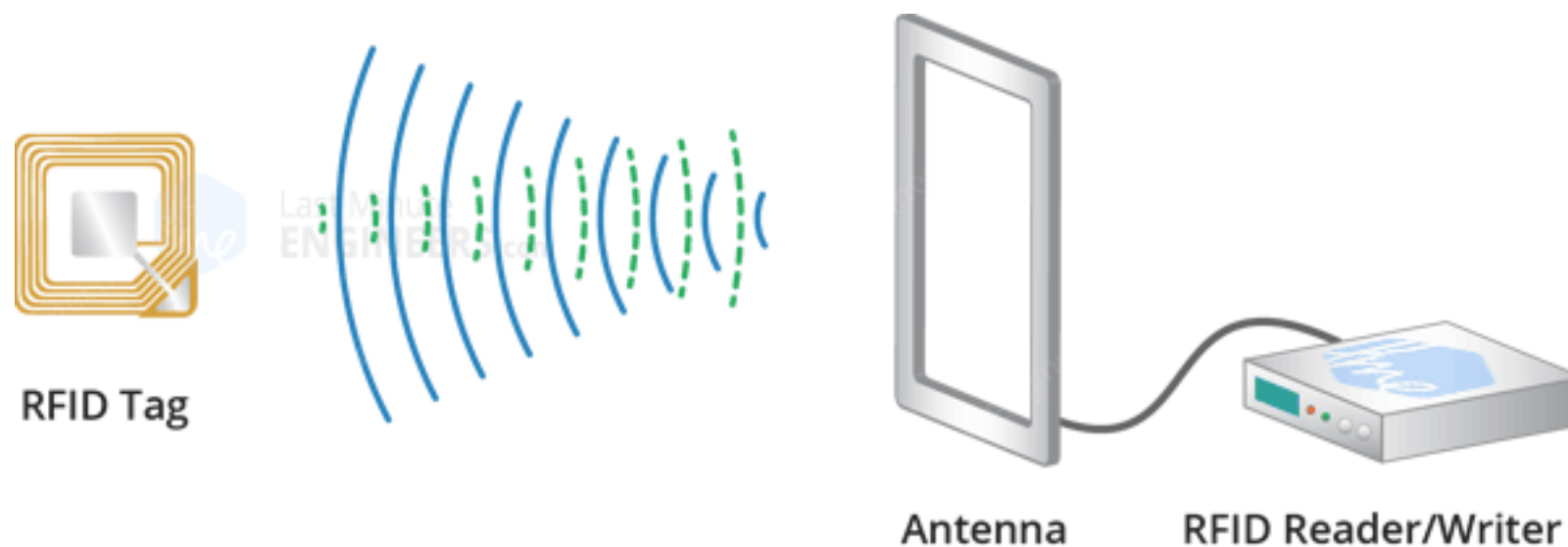


Radio Frequency Identification (RFID)

- An RFID system consists of two main components,
 - a tag attached to the object to be identified
 - It consists of a microchip that stores and processes information
 - A reader consists of a radio frequency module and an antenna that generates a high frequency electromagnetic field.

RFID

- When the tag is brought close to the reader, the reader generates an electromagnetic field. This causes electrons to move through the tag's antenna and subsequently powers the chip

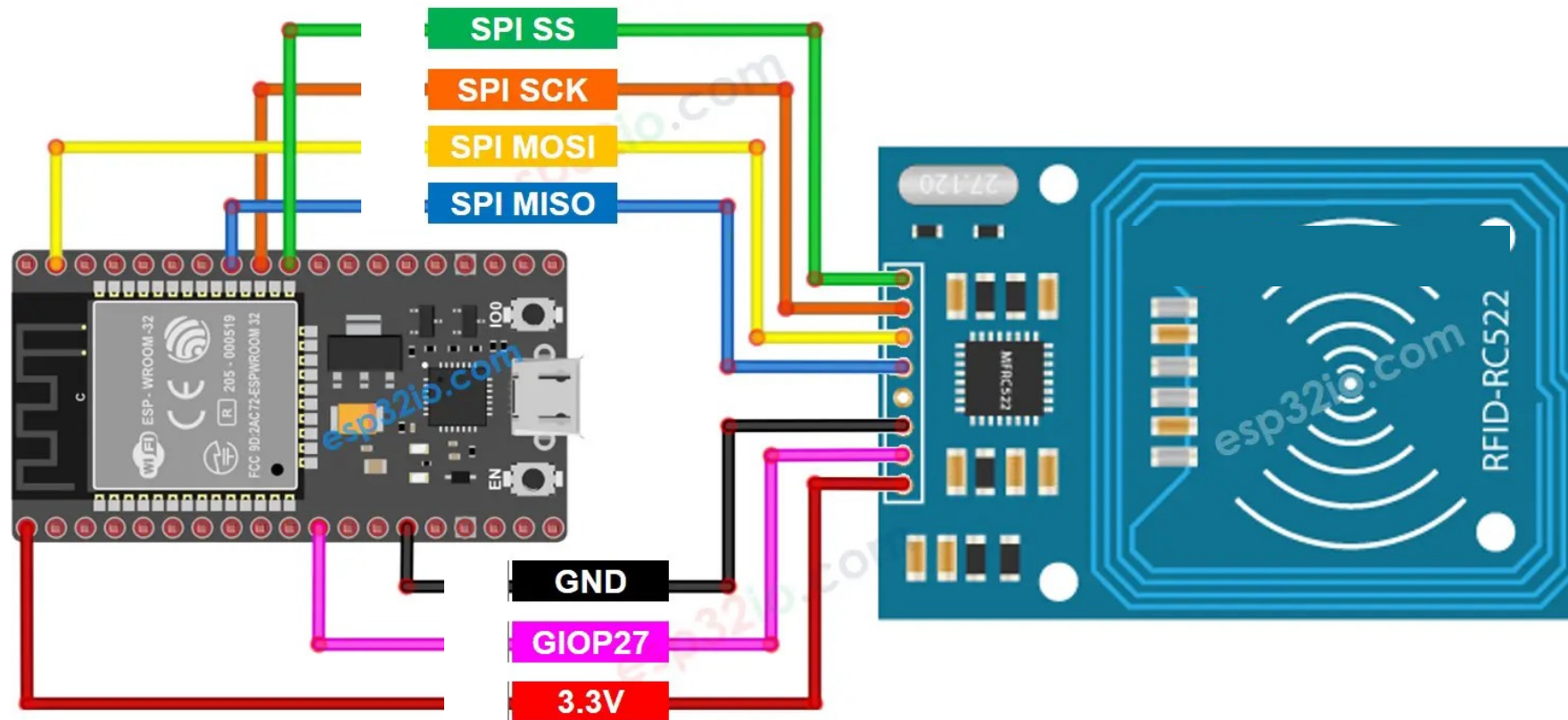


RFC522

- The RC522 RFID reader module is designed to create a 13.56MHz electromagnetic field and communicate with RFID tags



Wiring Diagram



The wiring table between RFID/NFC RC522 Module and ESP32

RFID/NFC RC522 Module

ESP32

SS pin	→ (29) GIOP5
SCK pin	→ (30) GIOP18
MOSI pin	→ (37) GIOP23
MISO pin	→ (31) GIOP19
IRQ pin(not connected)	
GND pin	→ GND
RST pin	→ (11) GIOP27
VCC pin	→ 3.3V

Code

- URL: <https://shorturl.at/pqRTW>
- Download rfid.py , mfrc522.py
 - mfrc522.py : open source github community
 - rfid.py
- Upload / save copy to ESP32 for those 2 files
 - We need to import into our main program

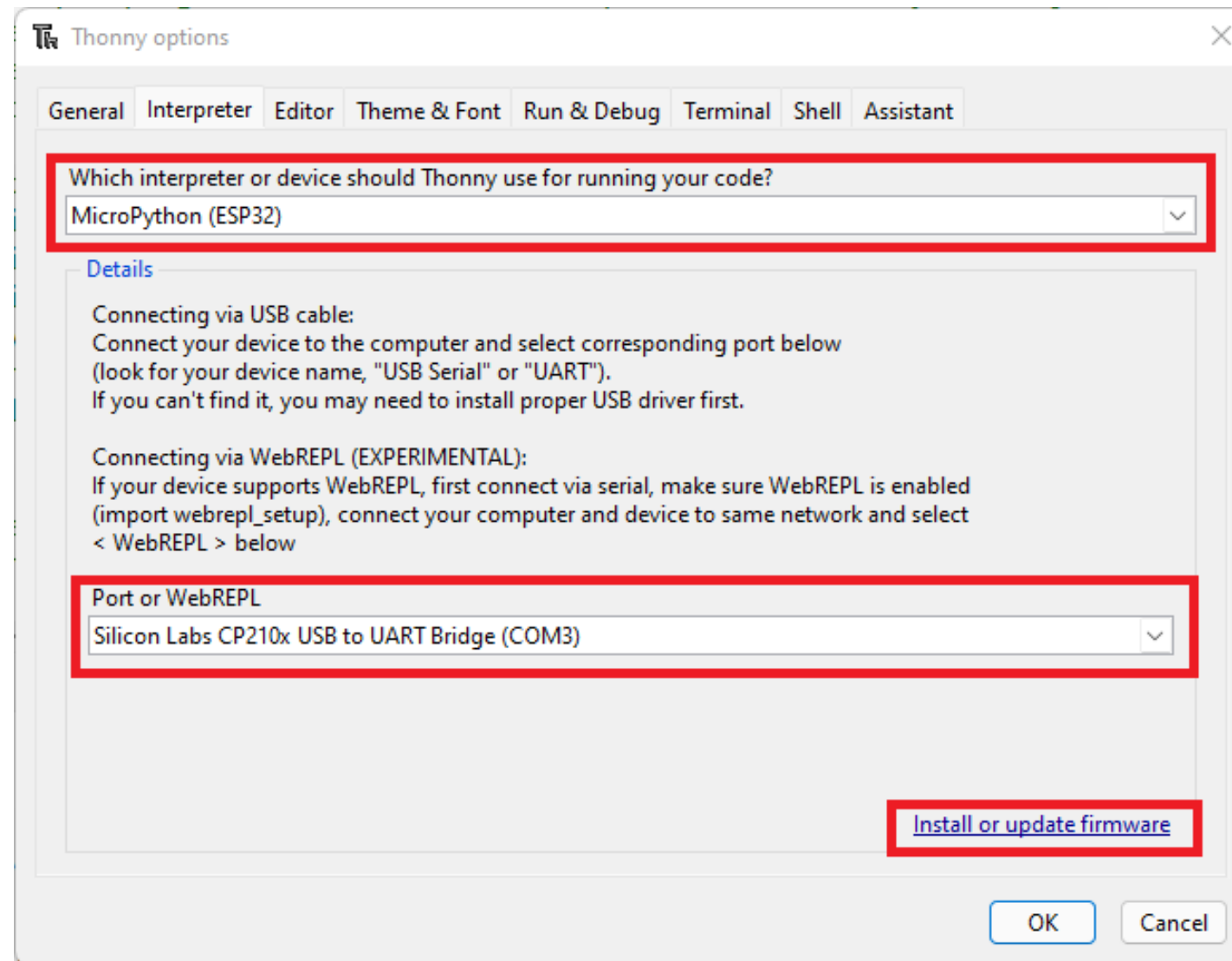
Code

```
from time import sleep
from rfid import read

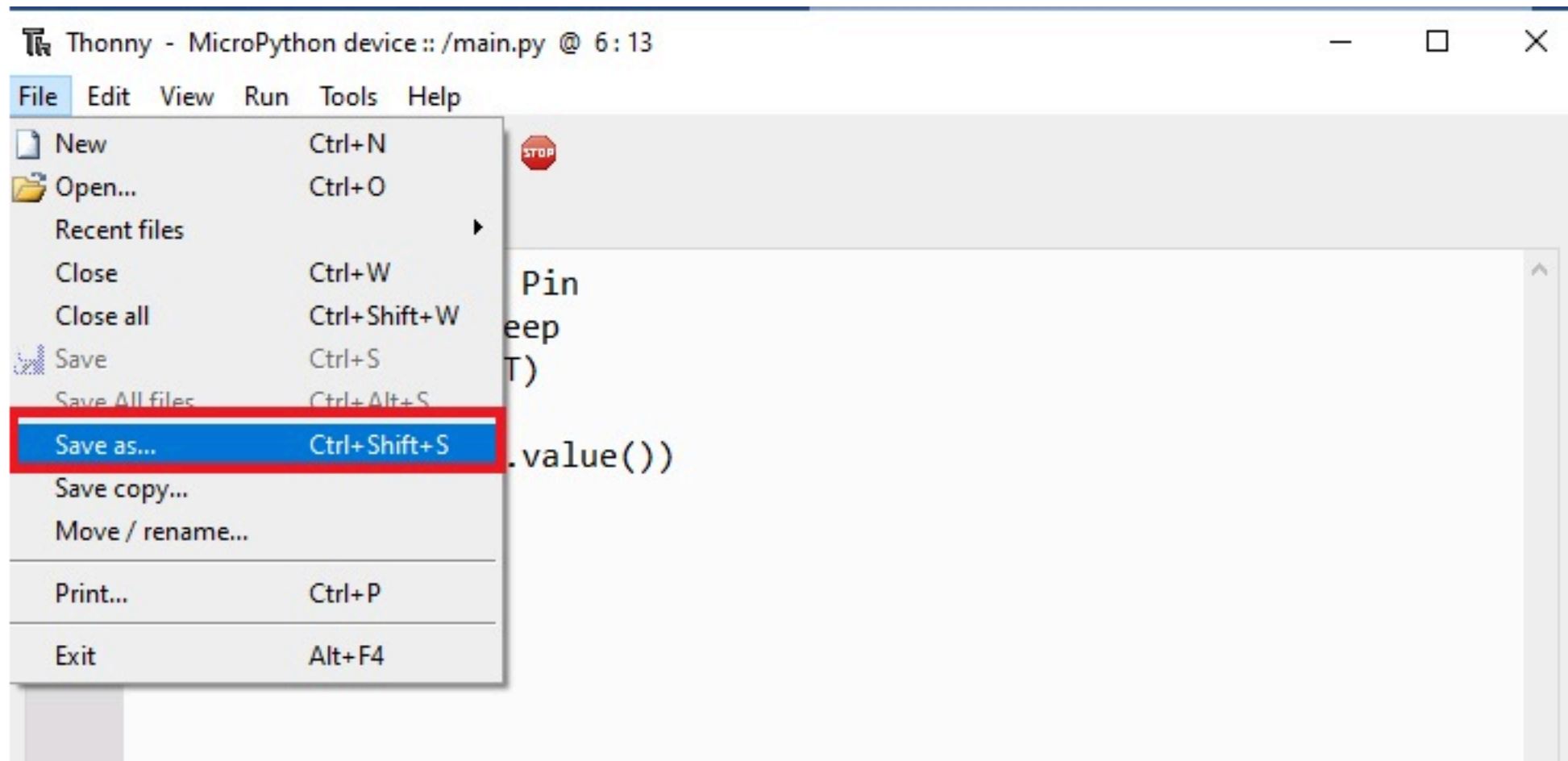
while True:
    uid = read()
    if (uid != None):
        print('Card:', uid)
    sleep(1)
```

Upload / Burn Firmware

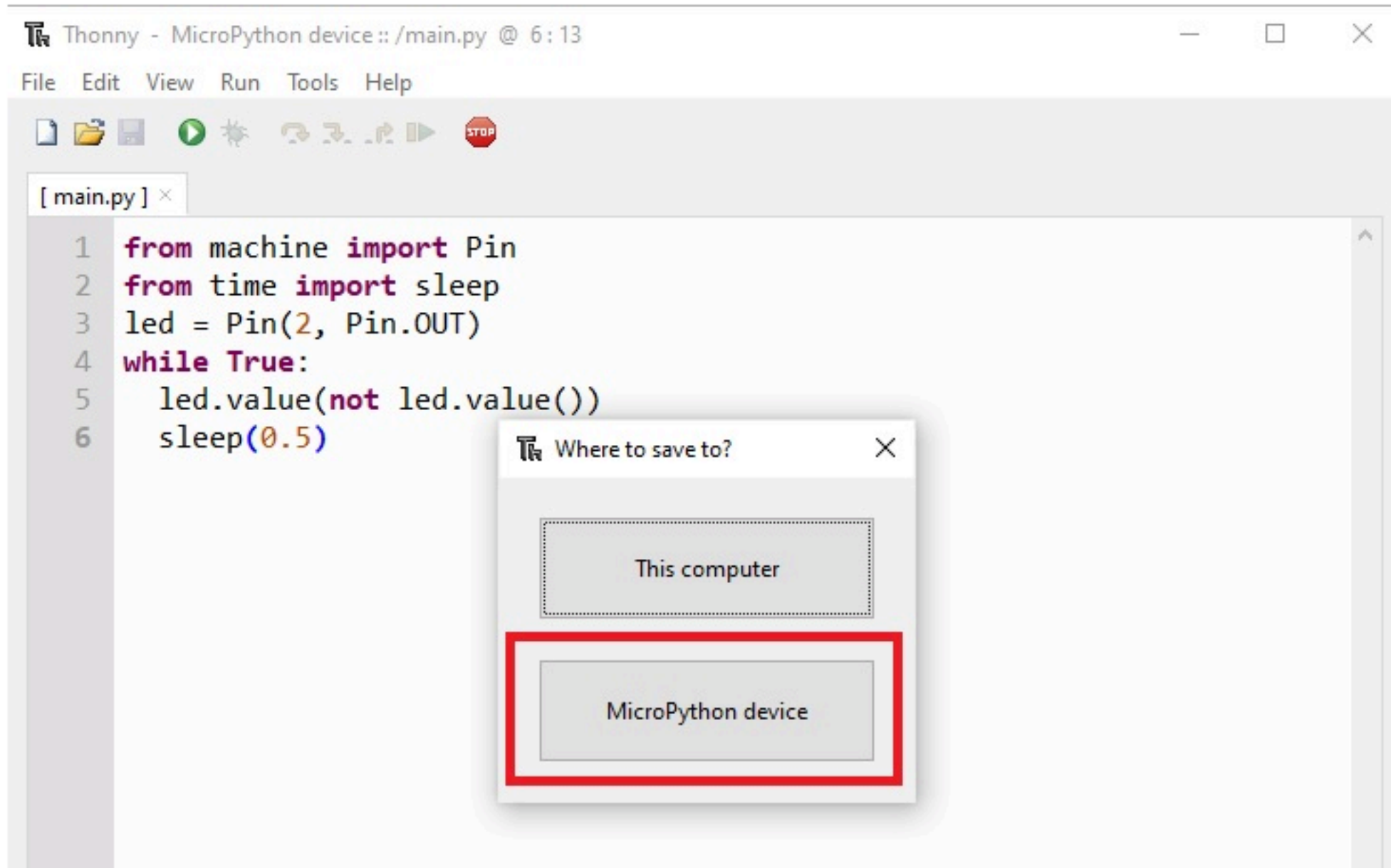
- Menu Tools -> Options



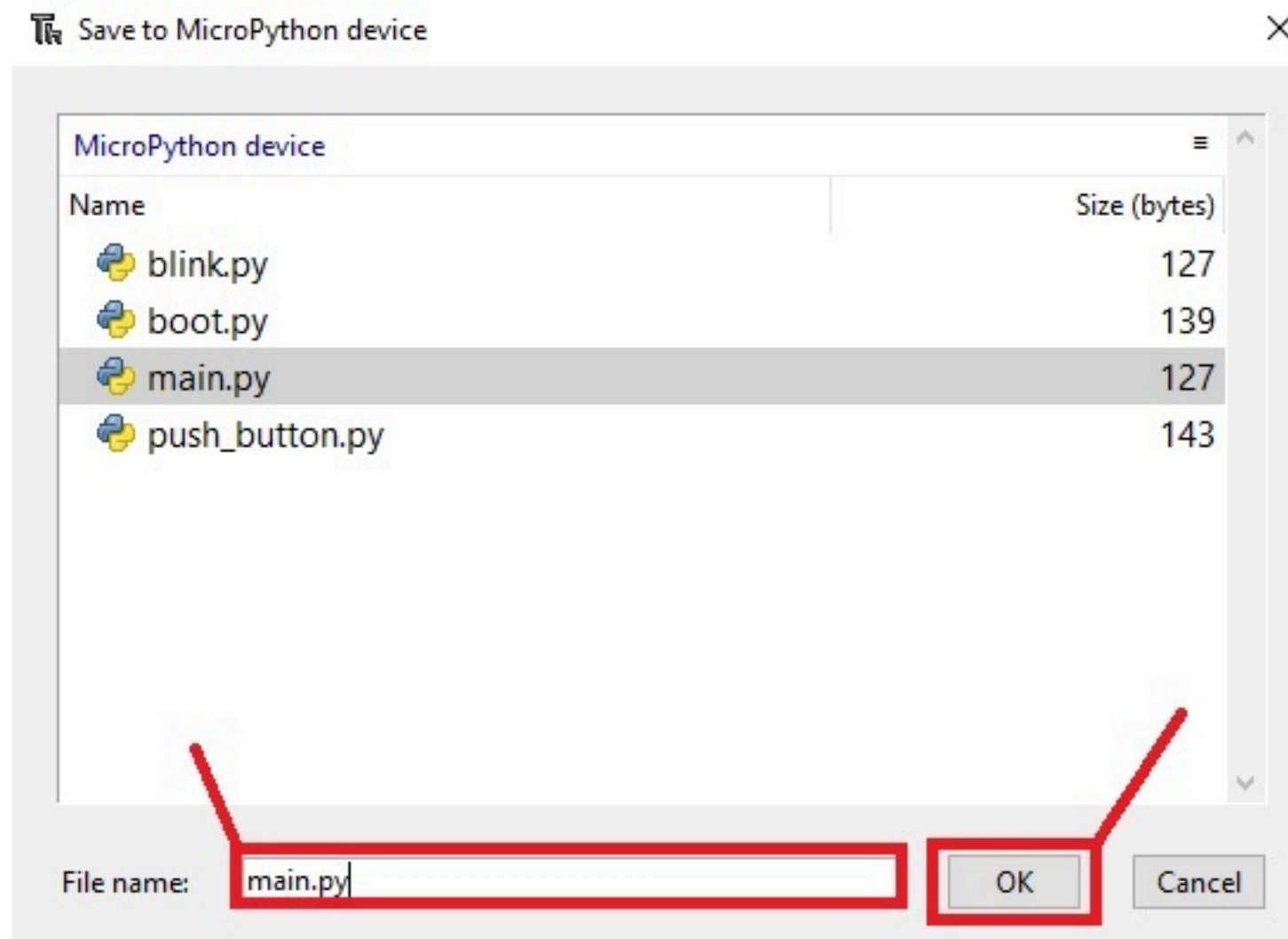
Upload Code



Upload Code



Upload Code



Upload Code

Press Enable/Reset
Button

