

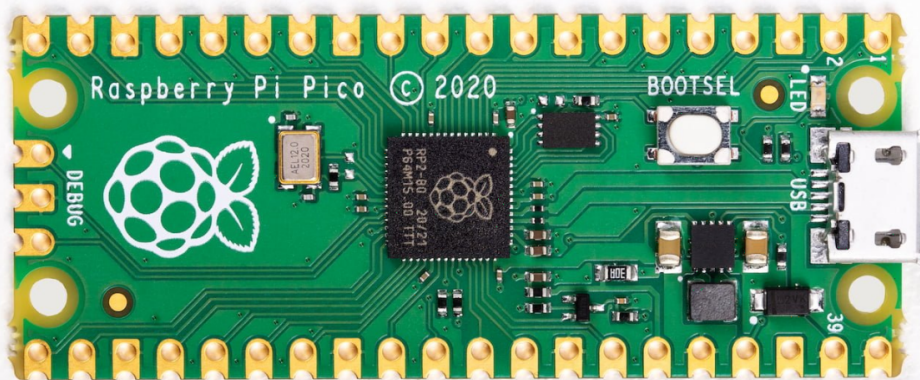
# What is a Raspberry Pi Pico?

## What is Raspberry Pi Pico?

The Raspberry Pi Pico is a microcontroller board developed by the Raspberry Pi Foundation. It was announced in January 2021 and represents a departure from the traditional single-board computers (SBCs) that the Raspberry Pi Foundation is known for, such as the Raspberry Pi 3 or 4. Instead of being a full-fledged computer, the Raspberry Pi Pico is a microcontroller board designed for embedded projects and electronics prototyping. It is closer to an Arduino than a Raspberry Pi.

The Pico includes 26 programmable general-purpose input/output (GPIO) pins, which can be used for various digital and analogue tasks. The Pico can be programmed using **MicroPython**, a lightweight version of the Python programming language designed for microcontrollers. It also supports C and other programming languages. **To know more about Pico.**

At the moment, The Raspberry Pi Pico family currently consists of four boards; Raspberry Pi Pico, Pico H , Pico W, and Pico WH. Raspberry Pi Pico W and Pico WH have on-board single-band 2.4GHz wireless interfaces.

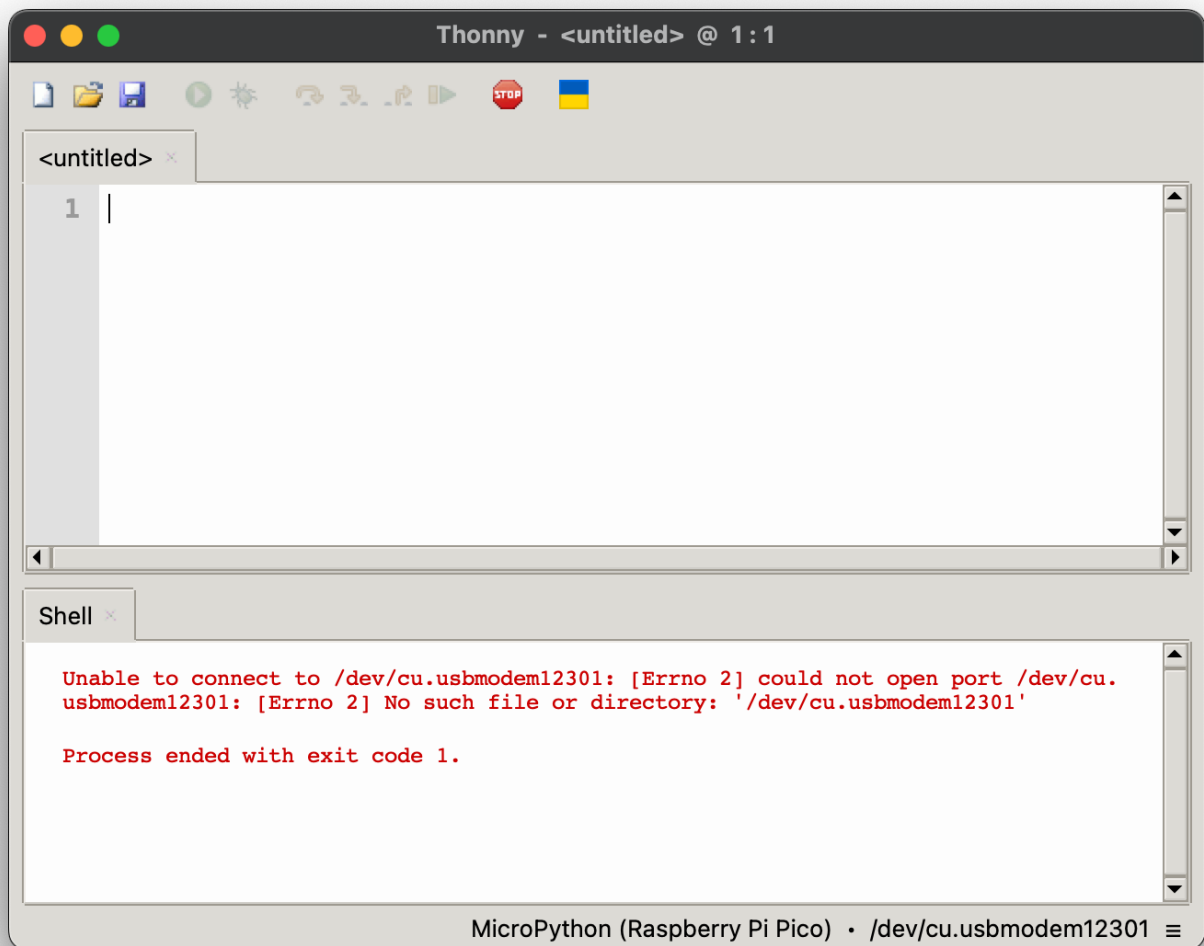


# Set up your Pico

1. Solder header pins onto the Pico, you can choose the types that you prefer.
2. Choose a programming language for your Pico, in this tutorial, we will be using **MicroPython**.
3. Download the correct MicroPython `.uf2` file for your board. **Raspberry Pi Pico** or **Raspberry Pi Pico W**
4. Push and hold the **BOOTSEL** button.
5. Plug your Pico into your computer with a USB cable.
6. It will show up as an external drive called **RPI-RP2**.
7. Copy the MicroPython `.uf2` file onto the **RPI-RP2**.
8. Pico will reboot, then you are ready to go!

## Download Thonny

Thonny is an integrated development environment (IDE) for Python programming. It is designed with beginners in mind and provides a simple and clean interface for writing and running Python code. Thonny includes features such as an interactive Python shell, a built-in package manager, and the ability to easily install and manage Python packages. **Download here.**



## Get Started

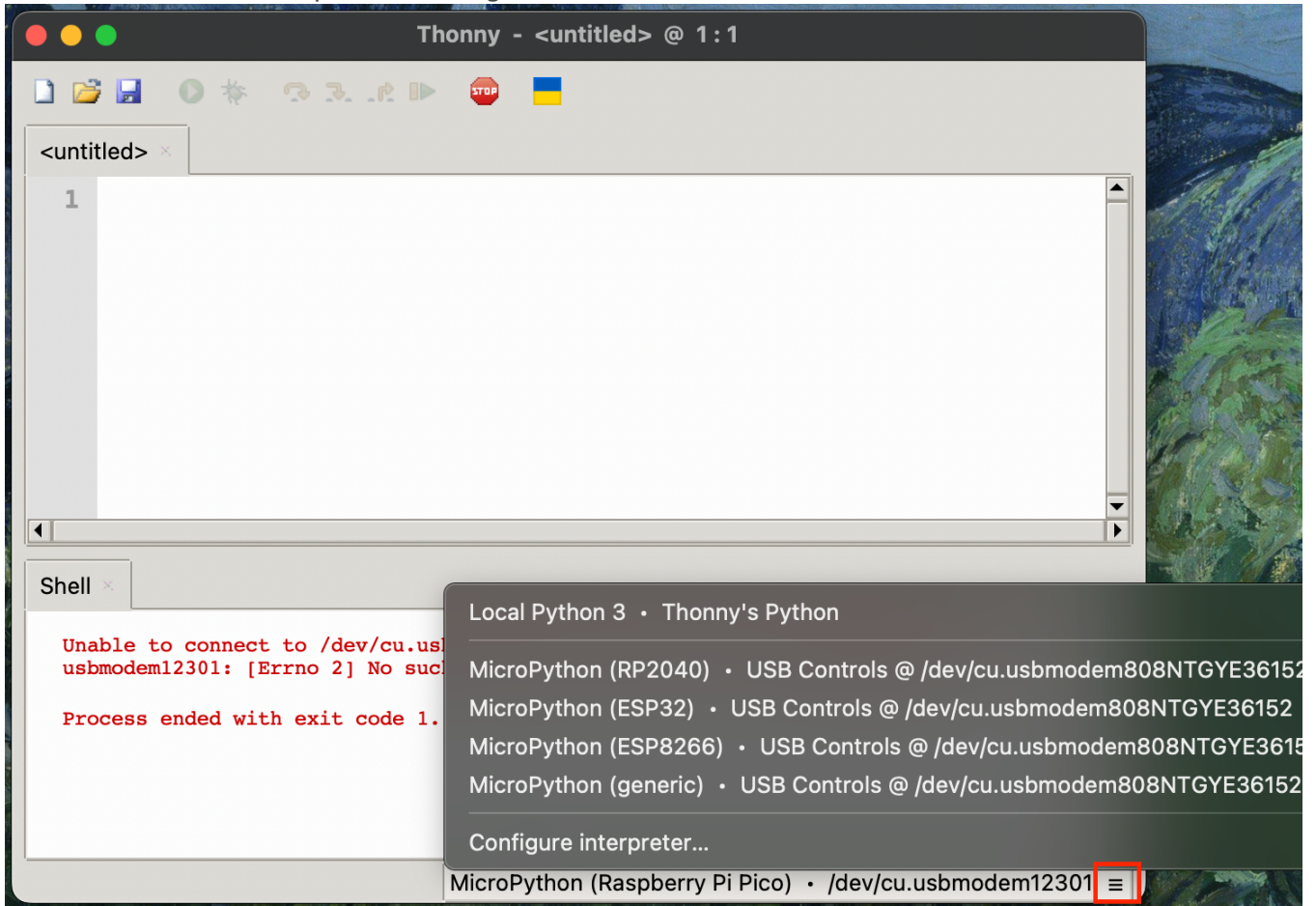
This example code will blink the built-in LED every 0.5 seconds, using the `machine` library and the `time` module.

### 1. Put in your code

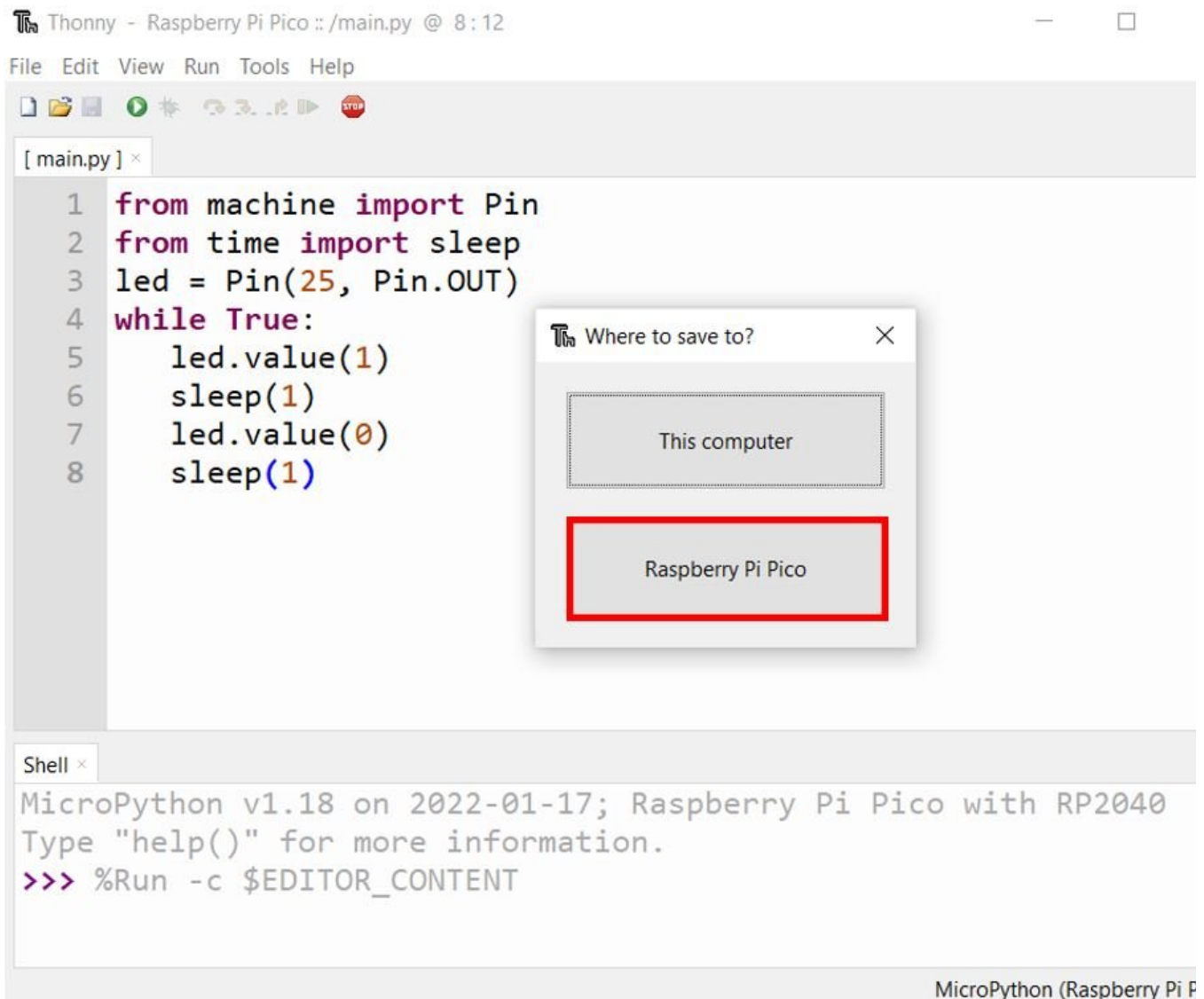
```
from time import sleep
from machine import Pin
led = Pin("LED", Pin.OUT)    #create LED object from pin13,Set Pin13 to output

while True:
    led.value(1)             #Set led turn on
    time.sleep(0.5)          #stay on for 0.5 seconds
    led.value(0)             #Set led turn off
    time.sleep(0.5)          #stay off for 0.5 seconds
```

2. Choose the board and port at the right bottom corner.



3. You can hit the green play button now, it will be blinking!
4. After testing the code and you are happy about it, save the code as `main.py` on Raspberry Pi Pico.



5. Pico will run any code named `main.py` automatically whenever it is powered. **But** remember to save a file with an identifiable file name on your computer, otherwise you will end up with a bunch of `main.py` without knowing what they do.
6. At this point, you don't need your computer anymore. You can power the Pico with a phone charger or battery.

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