



# **Part 11**

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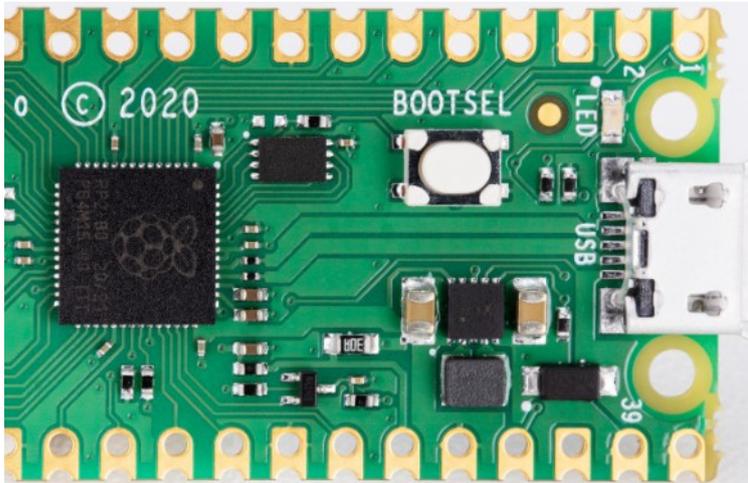
# **MicroPython**

## Installing MicroPython on the Pico

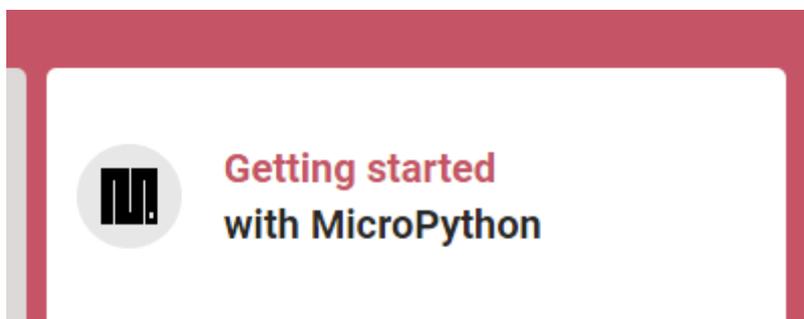
You can program your Pico by connecting it to a computer via USB, then dragging and dropping a file onto it.

To install MicroPython firmware, do the following steps

- Push and hold the `BOOTSEL` button and plug your Pico into the USB port of your Raspberry Pi or other computer. Release the `BOOTSEL` button after your Pico is connected.



- You will see, on your computer, the Pico as a Mass Storage Device called "`RPI-RP2`"
- Download the latest (stable) firmware file from <https://www.raspberrypi.org/documentation/pico/getting-started/>  
Click on "Getting started with MicroPython" and locate "Download UF2 File"



Download UF2 file →

**Note:** You can also double-click the `INDEX.HTM` file displayed in Pico's mounted storage. Your browser will open and display the 'Welcome to your Raspberry Pi Pico' webpage. Choose the 'Getting started with MicroPython' tab, and click 'Download UF2 file' to download the MicroPython firmware.

- Go to your download folder and drag and drop the MicroPython UF2 file onto the `RPI-RP2` volume. After a few seconds, the drive will disappear as the new MicroPython firmware is recognised and installed. Your Pico will reboot. You are now running MicroPython.

## Install Thonny

### Thonny on Raspberry Pi

Thonny is already installed on OS, but may need to be updated to the latest version. Open a terminal window, either by clicking the icon in the top left-hand corner of the screen or by pressing the Ctrl+Alt+T keys at the same time. In the window, type the following to update your OS and Thonny

```
sudo apt update
sudo apt -y upgrade
```

### Install Thonny on other operating systems

On Windows, macOS, and Linux, you can install the latest Thonny IDE or update an existing version. In a web browser, navigate to [thonny.org](https://thonny.org)

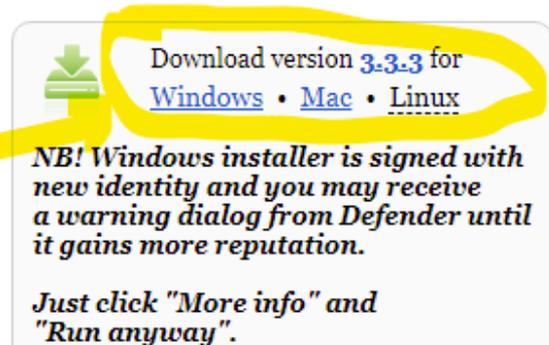
In the top right-hand corner of the browser window, you will see download links for Windows and macOS, and instructions for Linux

Download the relevant files and run them to install Thonny

To install Thonny on your Windows PC, follow the next instructions

Go to <https://thonny.org> and download the version for Windows and wait a few seconds while it downloads.

**Thonny**  
Python IDE for beginners



Download version **3.3.3** for  
[Windows](#) • [Mac](#) • [Linux](#)

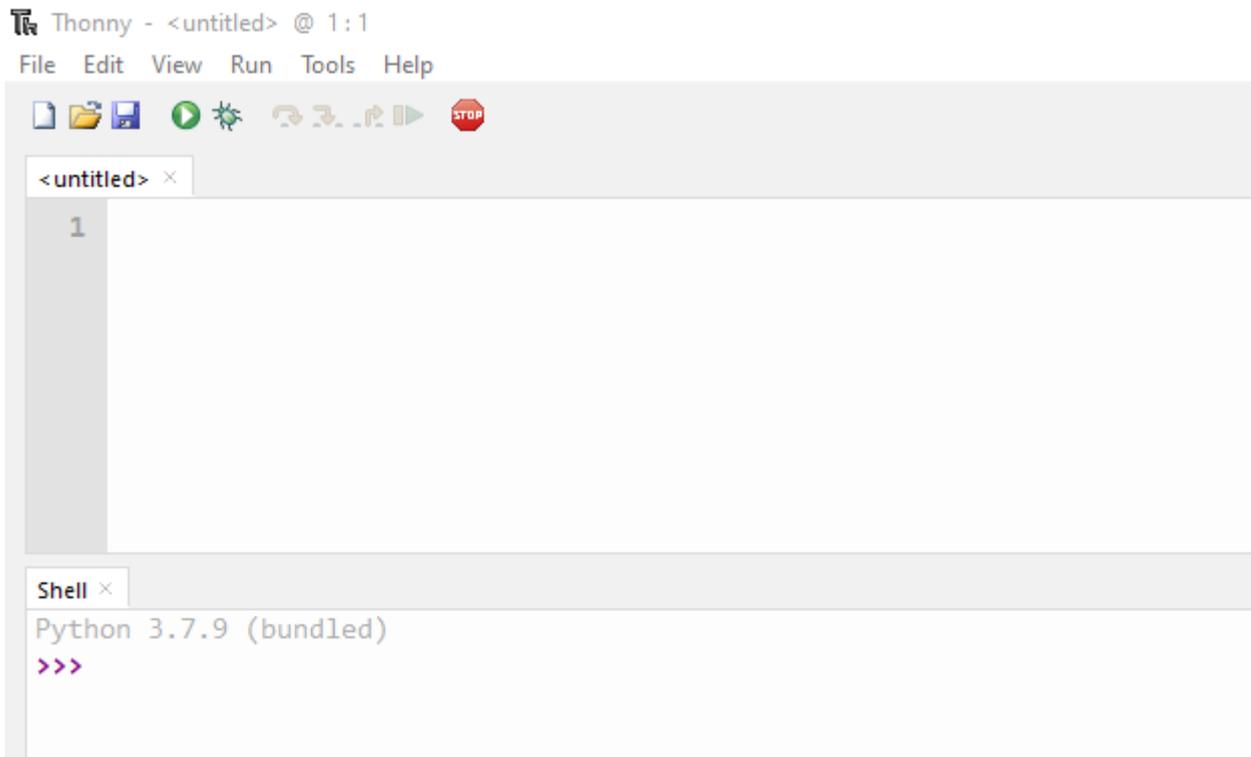
***NB! Windows installer is signed with new identity and you may receive a warning dialog from Defender until it gains more reputation.***

***Just click "More info" and "Run anyway".***

**Note:** as you can see, at writing this doc, the version was 3.3.3

Run the .exe file and follow the installation wizard to complete the installation process. You just need to click "Next".

After completing the installation, open Thonny IDE. A window as shown in the following figure should open.



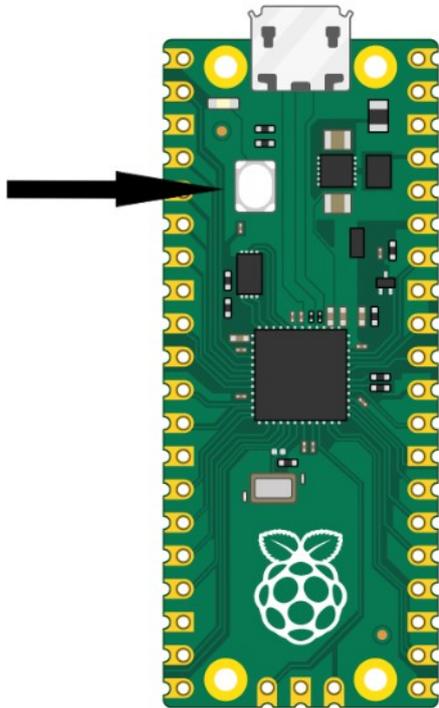
You can use Thonny to write standard Python code. Type the following in the main window, and then click the Run button (you will be asked to save the file).

```
print('Hello World!')
```

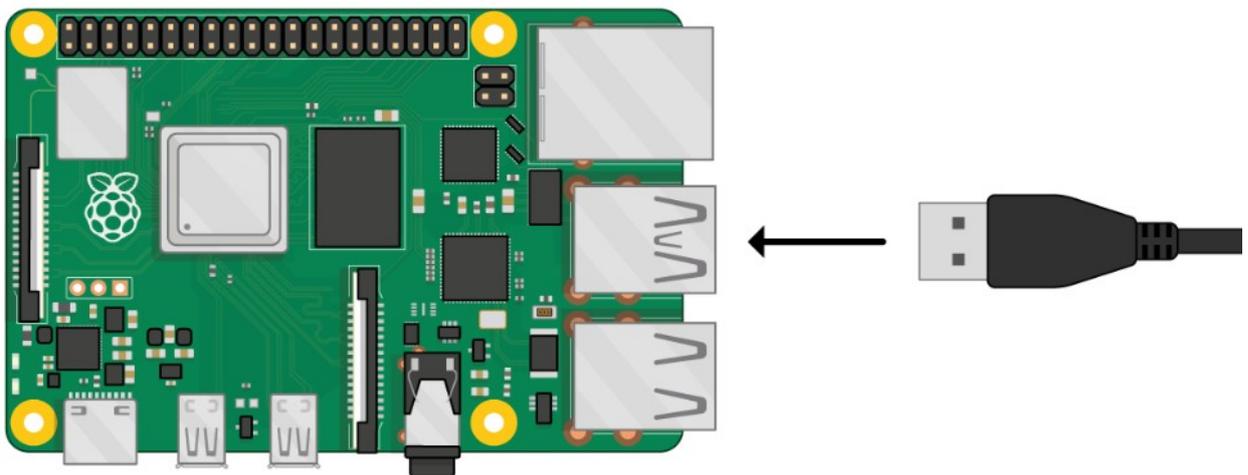
You're now ready to move on to the next step and connect your Pico.

### Add the MicroPython firmware

If you have never used MicroPython on your Pico, you will need to add the MicroPython firmware. Find the BOOTSEL button on your Pico.



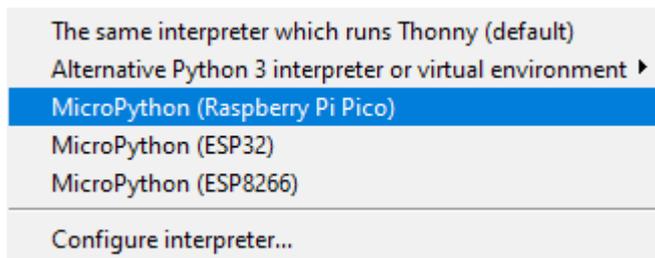
Press the BOOTSEL button and hold it while you connect the other end of the micro USB cable to your computer. A Raspberry Pi is shown in the image below, but the same applies to any computer.



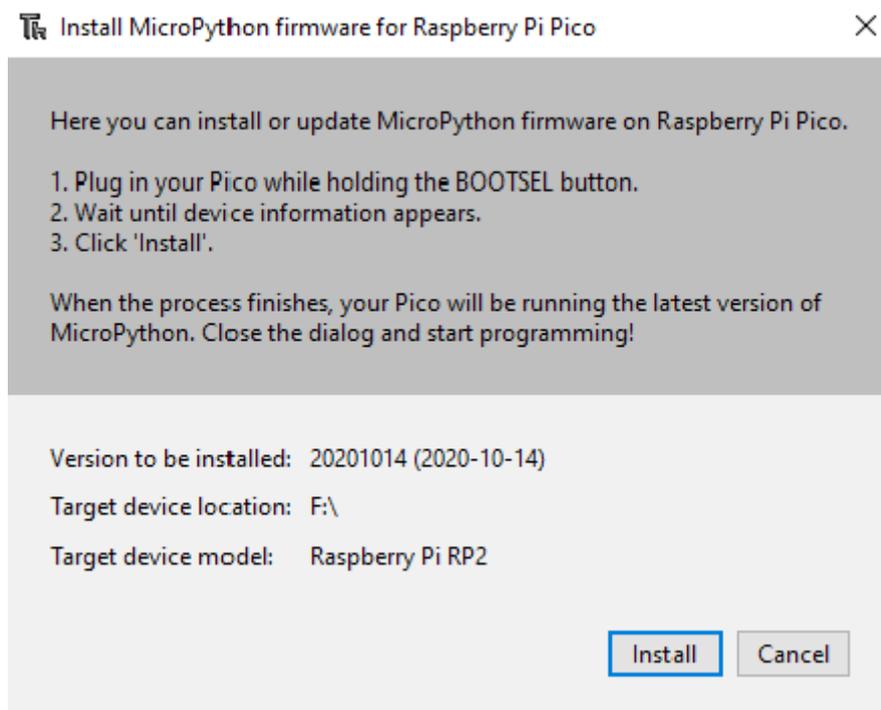
This puts your Pico into USB mass storage device mode. In the bottom right-hand corner of the Thonny window, you will see the version of Python that you are currently using.



Click on the Python version and choose 'MicroPython (Pico)'



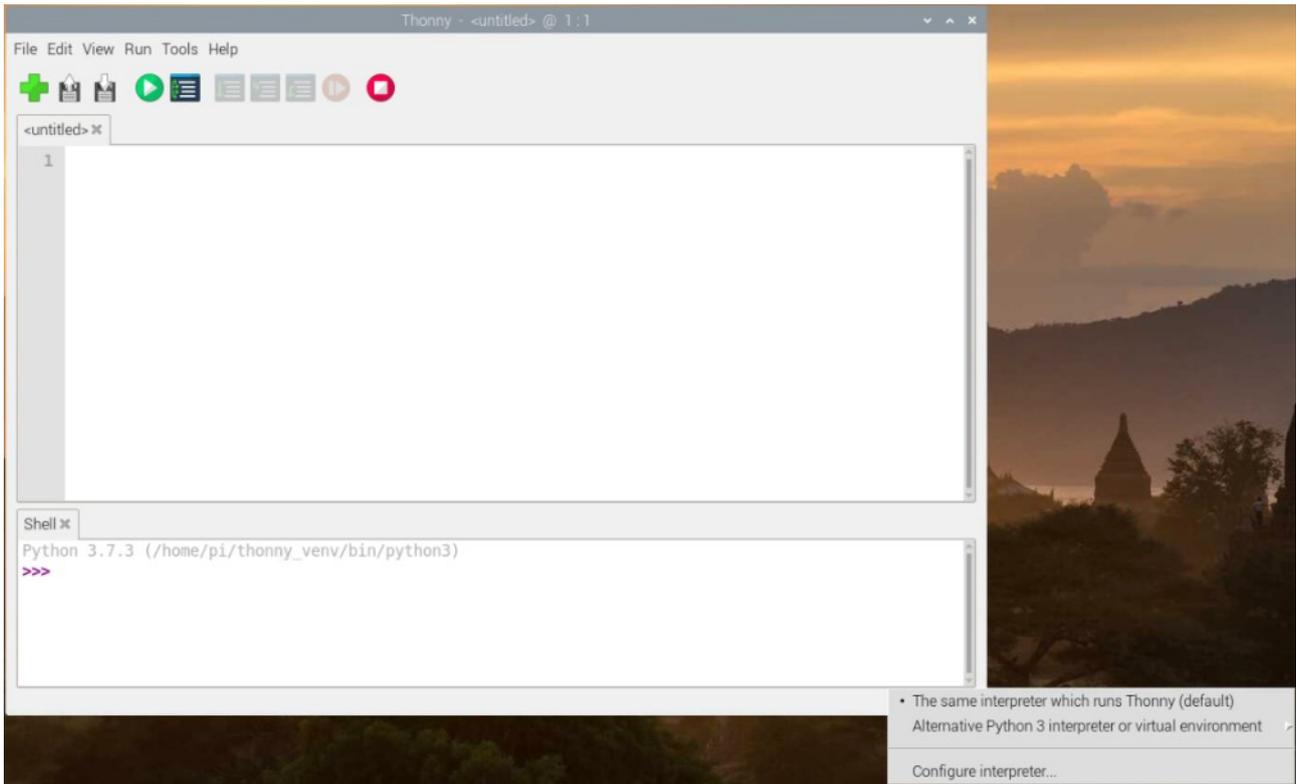
If you don't see this option, then check that you have plugged in your Pico. A dialog box will pop up to install the latest version of the MicroPython firmware on your Pico. Click the Install button to copy the firmware to your Pico.



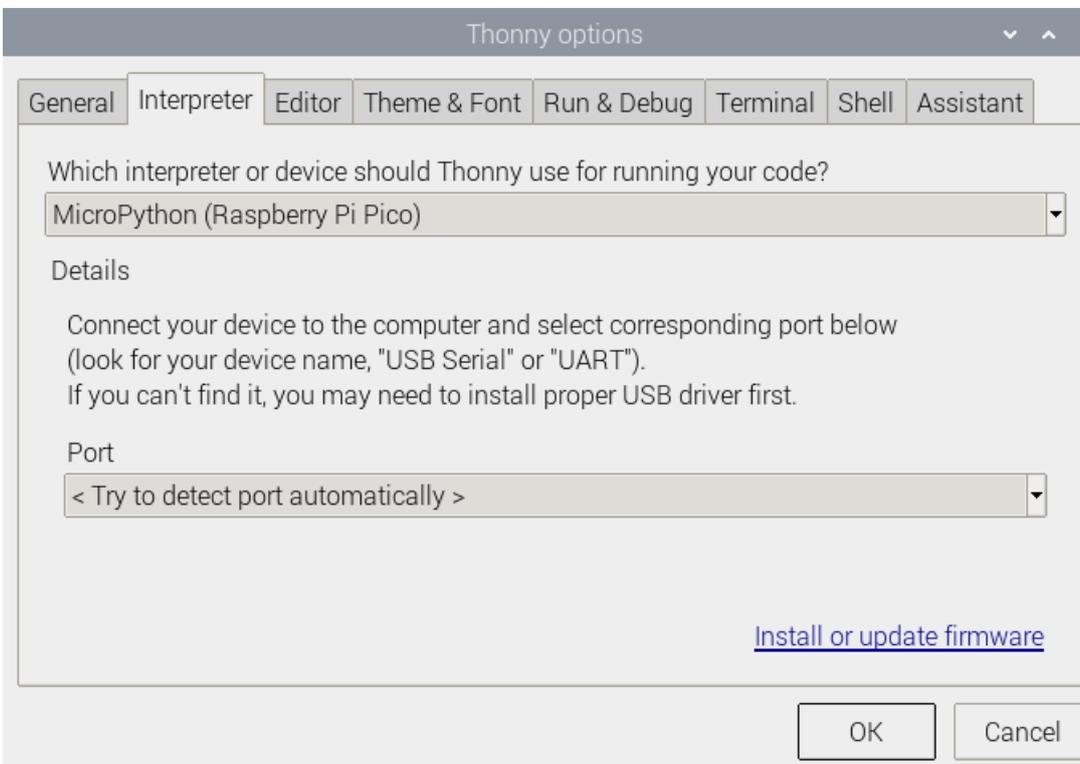
Wait for the installation to complete and click Close.

## Firmware installation menu

You can also access the firmware installation menu if you click on 'MicroPython (Pico)' in the status bar and choose 'Configure interpreter ...'.

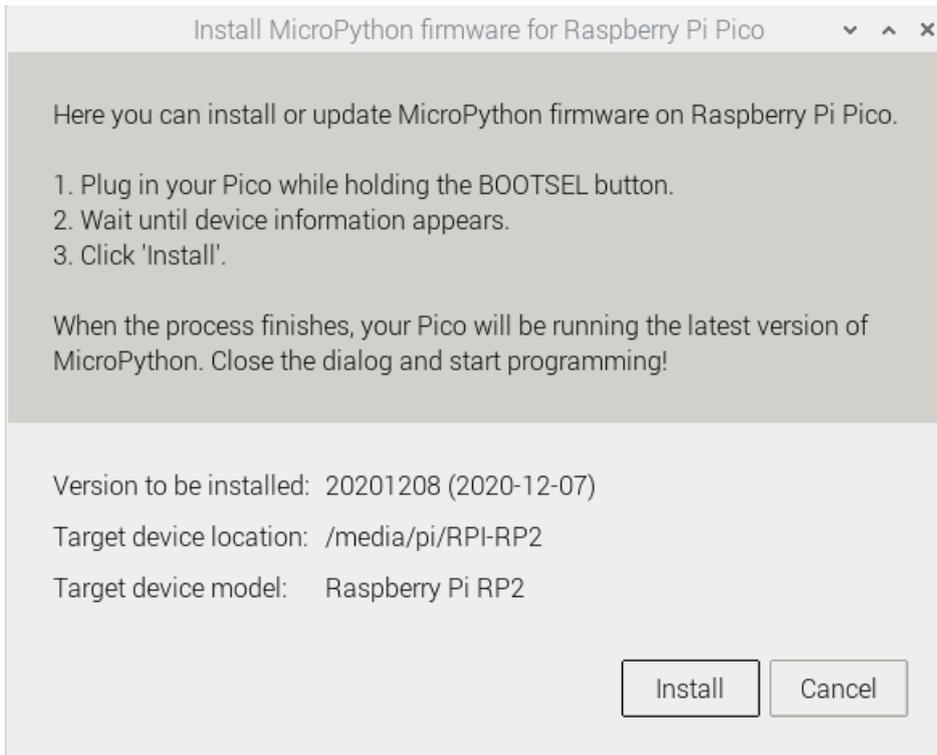


The interpreter settings will open.

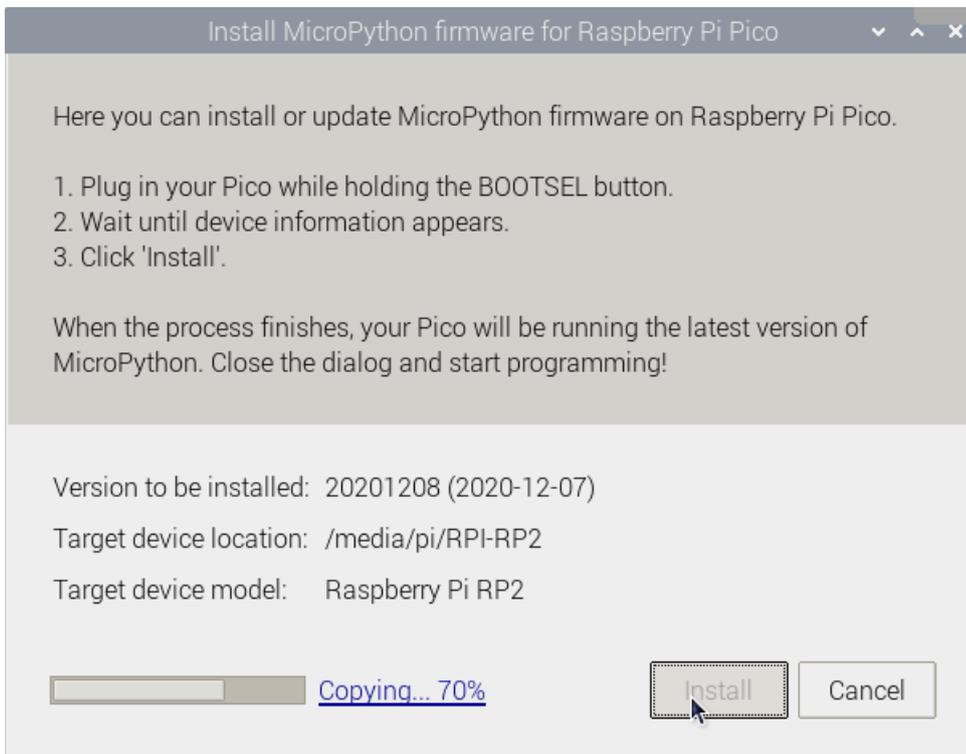


Click on Install or update firmware.

You will be prompted to plug in your Pico while you hold the BOOTSEL button.



Then you can click Install.



Wait for the installation to complete and click Close.

You don't need to update the firmware every time you use your Pico. Next time, you can just plug it into your computer without pressing the BOOTSEL button.