

Introduction

Please check the bottom of this page for code examples.

MicroPython is a tiny, efficient version of Python designed to run on microcontrollers like the Raspberry Pi Pico. If regular Python is a full toolbox, MicroPython is the compact, ultra-portable version that still lets you build amazing things.

Here's the essence of it:

What MicroPython actually is

MicroPython is:

- A lightweight Python interpreter
- Designed for small, low-power devices
- Fast to start (boots in milliseconds)
- Able to control hardware directly (GPIO, I2C, SPI, PWM)

It gives you the power of Python, but trimmed down so it fits into devices with **tiny memory and low CPU power**.

Why MicroPython exists

Traditional Python needs:

- An operating system
- Lots of RAM
- A full CPU

Microcontrollers like the Pico have:

- No OS
- Kilobytes of RAM
- Very small processors

MicroPython bridges that gap by giving you a Python-like experience on hardware that normally only runs C or assembly.

What you can do with MicroPython

This is where it gets fun. You can:

- Blink LEDs
- Read sesors
- Drive motors
- Control displays
- Build IoT devices
- Make robots
- Read buttons and switches
- Communicate over Wi-Fi (Pico W)

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