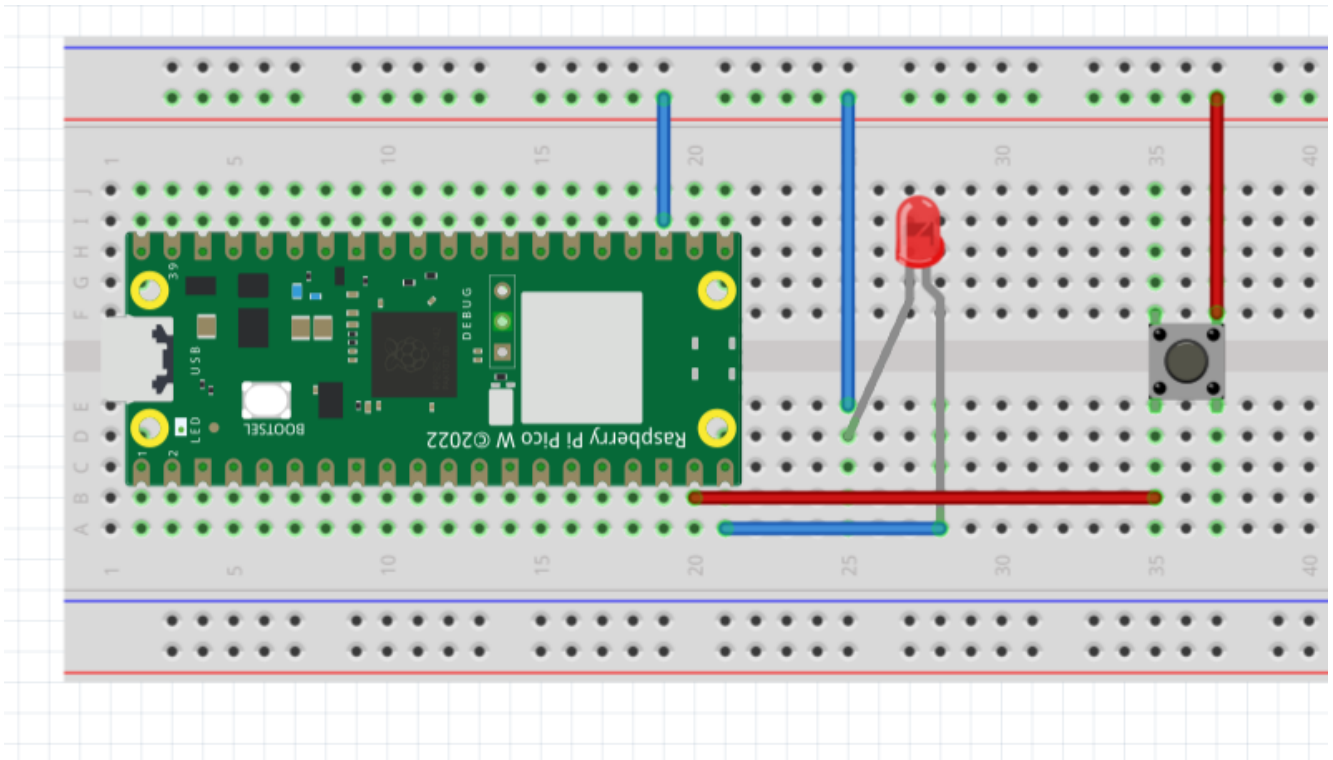


LESSON 4

Make an LED Pulse with a Button

Raspberry Pi Pico W - Student Guide



Lesson Objective

Learn how to use a push button to make an external LED slowly fade brighter and dimmer.

Press Button



Raspberry Pi Pico W



LED on GP15 pulses

Hardware Setup

The LED is connected to **GP15**. The push button is connected to **GP14**.

Python Code

File name: lesson4.py

```
from picozero import LED, Button

led = LED(15)
button = Button(14)

button.when_pressed = led.pulse
```

Understanding the Code

Code	Meaning
from picozero import LED, Button	Imports the LED and Button tools from the PicoZero library.
led = LED(15)	The external LED is connected to GP15 .
button = Button(14)	The push button is connected to GP14 .
button.when_pressed = led.pulse	When the button is pressed, the LED starts pulsing.

What does pulse mean?

pulse() makes the LED gradually become brighter, then gradually become dimmer.

Brightness increases → LED becomes bright → brightness decreases → LED becomes dim.

In Simple Words

Press the button on GP14 and the LED on GP15 will fade in and fade out.

Key Learning Point

A button is an **input**. The LED is an **output**. The command **led.pulse** controls the brightness of the LED smoothly.