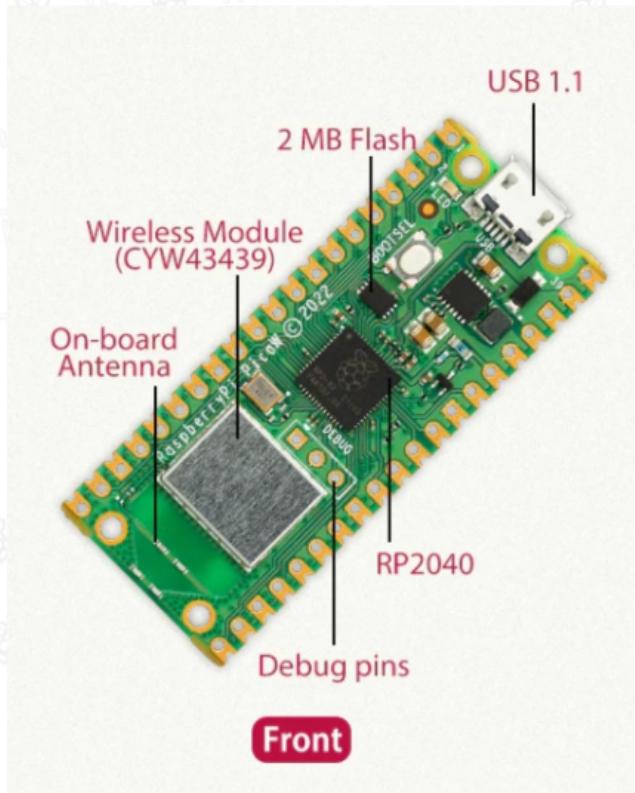




Th

Thonny setup & Pico Setup Class



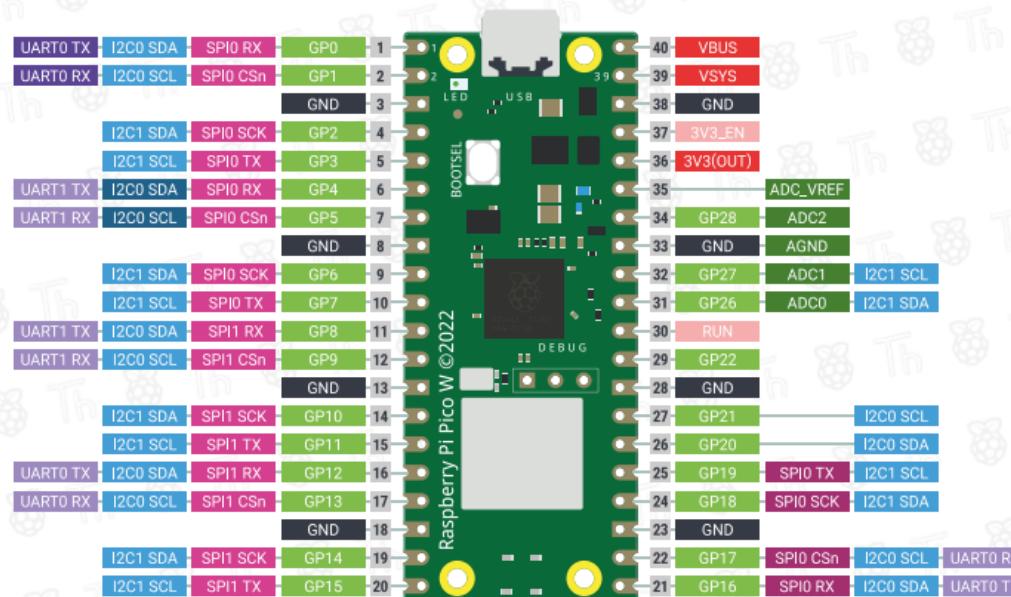
Pi Pico Features

In terms of hardware, the RP2040 microcontroller chip, is equipped with an ARM Cortex M0 + dual-core processor, with a running frequency of up to 133MHz, built-in 264KB SRAM and 2MB Flash memory, and up to 26 multi-function GPIO pins onboard. Raspberry Pi Pico W comes with a fully certified module on board featuring 2.4GHz 802.11n wireless LAN.

Supported input power 1.8–5.5V DC Operating temperature – 20°C to +85°C (Raspberry Pi Pico and Pico H); –20°C to +70°C (Raspberry Pi Pico W and Pico WH)

In terms of software, you can choose the C/C++ SDK provided by the Raspberry Pi, or use MicroPython for development, and there are complete development materials and tutorials, which can be easily developed and embedded in the product

Pi Pico Pinouts



Power

Ground

UART / UART (default)

GPIO, PIO, and PWM

ADC

SPI / SPI (default)

I2C / I2C (default)

System Control

Burning PicoW Firmware

③



1. Download the MicroPython UF2 file.
2. 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.
3. It will mount as a Mass Storage Device called RPI-RP2.
4. Drag and drop the MicroPython UF2 file onto the RPI-RP2 volume. Your Pico will reboot. You are now running MicroPython.
5. You can access the REPL via USB Serial. Our MicroPython documentation contains step-by-step instructions for connecting to your Pico and programming it in MicroPython.

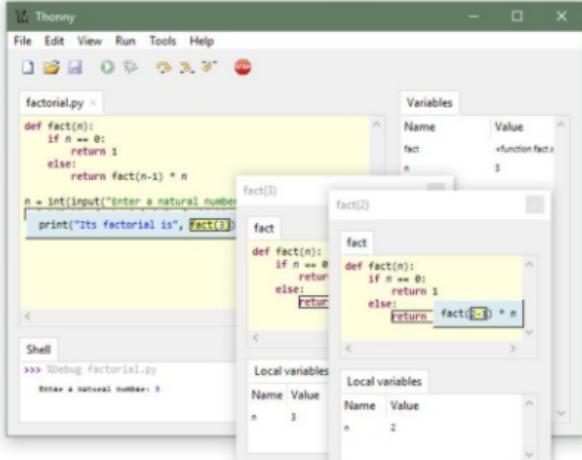
Download the **micropython firmware pico W uf2 file provided**. Can also be gotten on the internet.

Operation instructions: Press and hold the **BOOTSEL button**, insert the USB cable connected to the Pico into the USB port of the computer, a new U disk folder will pop up on the computer, drag and the "UF2" file just downloaded to the folder, the Raspberry Pi Pico will restart automatically. In this way, the firmware burning is completed

Installing Thonny & Setup

Thonny

Python IDE for beginners



Download version 3.3.13 for
[Windows](#) • [Mac](#) • [Linux](#)

For the curious: [4.0.0b3](#)

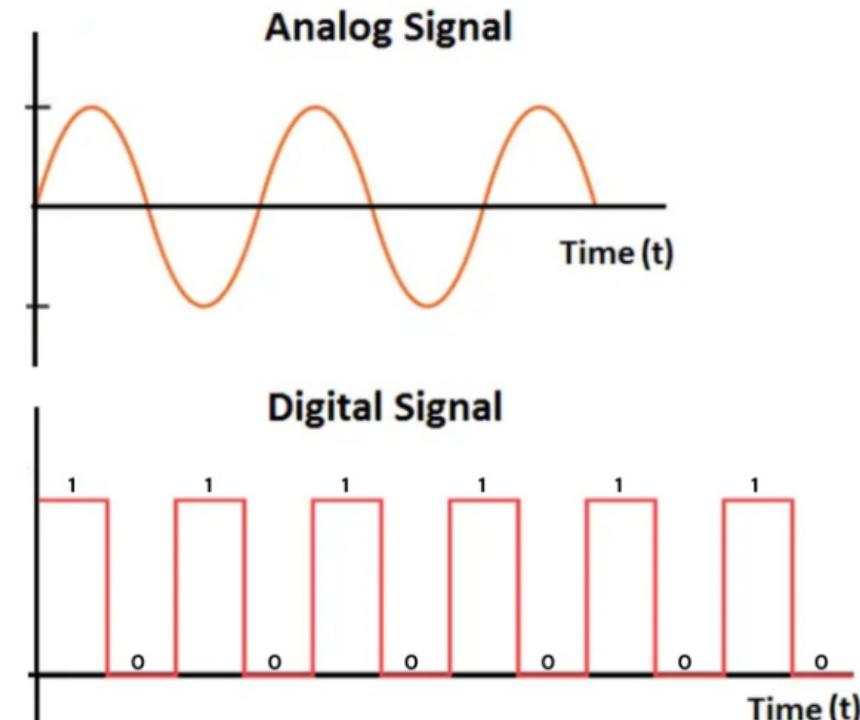
The Thonny IDE has been Provided.

Install Thonny, open Thonny software after installation, open "Tools -> Settings -> Interpreter", select MicroPython (Raspberry Pi Pico W) interpreter, and select the serial port number of Raspberry Pi Pico at the serial port (If the board has been connected to the computer).

The software will generally automatically detect the serial port number) and click OK, you can see that the files in the Raspberry Pi Pico are displayed at the bottom left of the software; if the file tree on the left is not displayed, you can check the "view -> file".

Classification of Signals

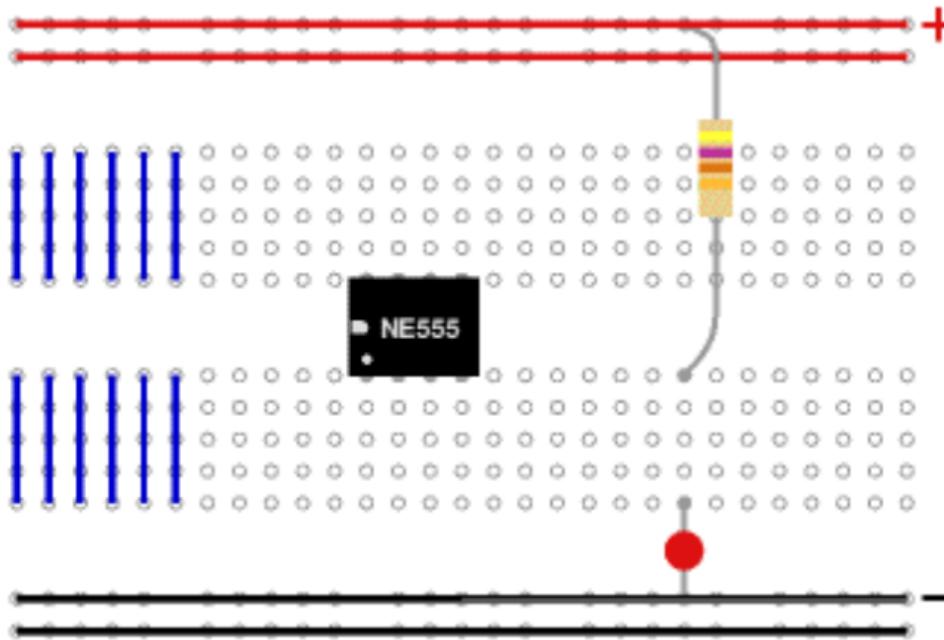
1. Continuous Time and Discrete Time Signals
2. Deterministic and Non-deterministic Signals
3. Even and Odd Signals
4. Periodic and Aperiodic Signals
5. Energy and Power Signals
6. Real and Imaginary Signals



Running Programs

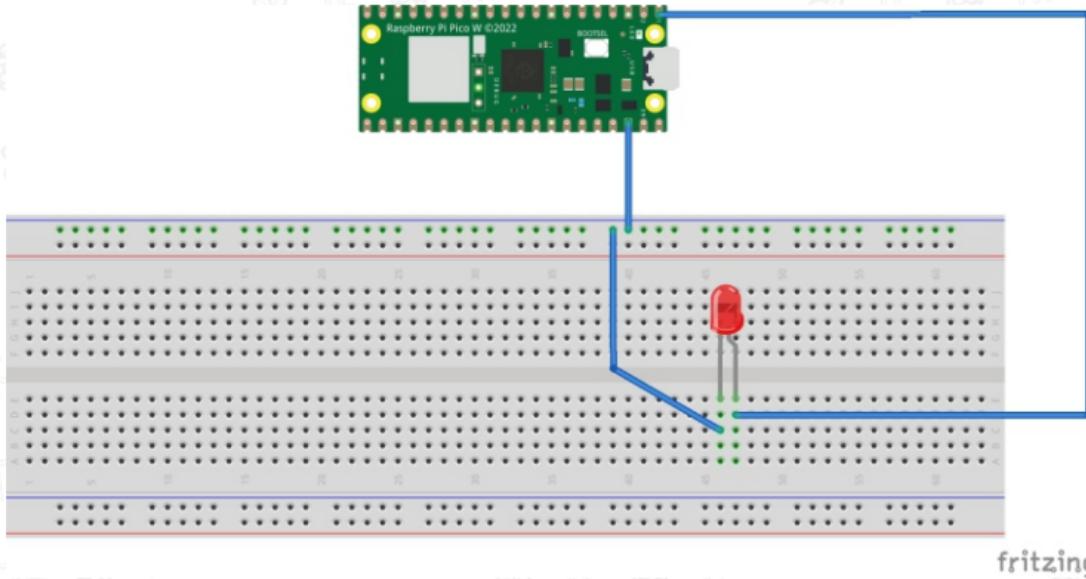
(Blinking onboard LED)

Breadboard Connection



Running Program

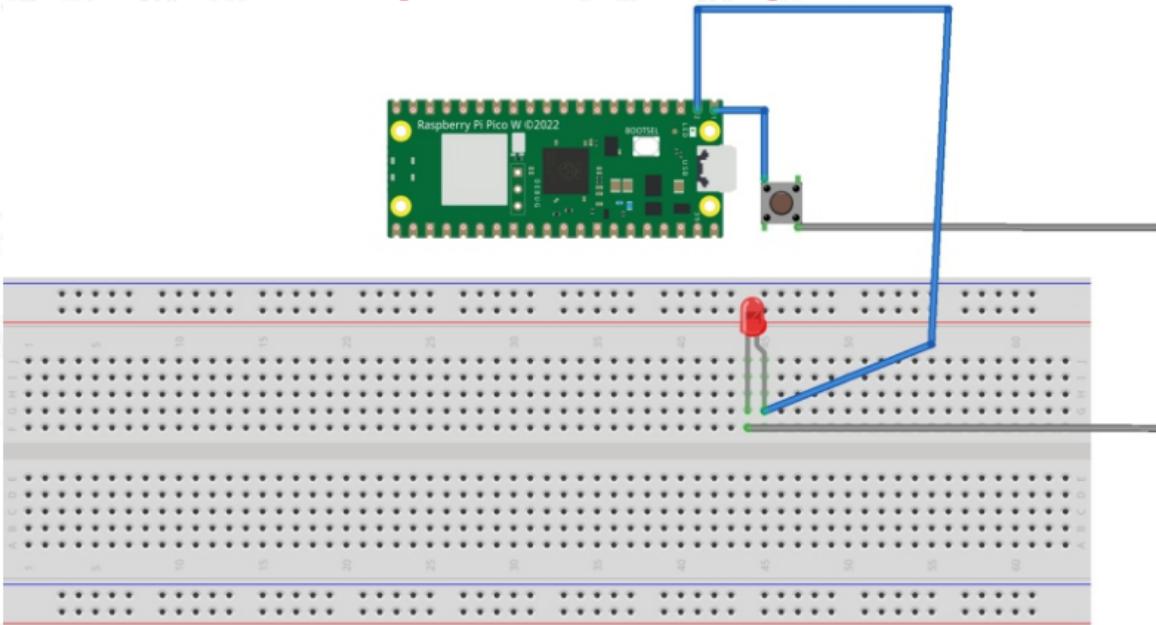
(Blinking external LED)



fritzing

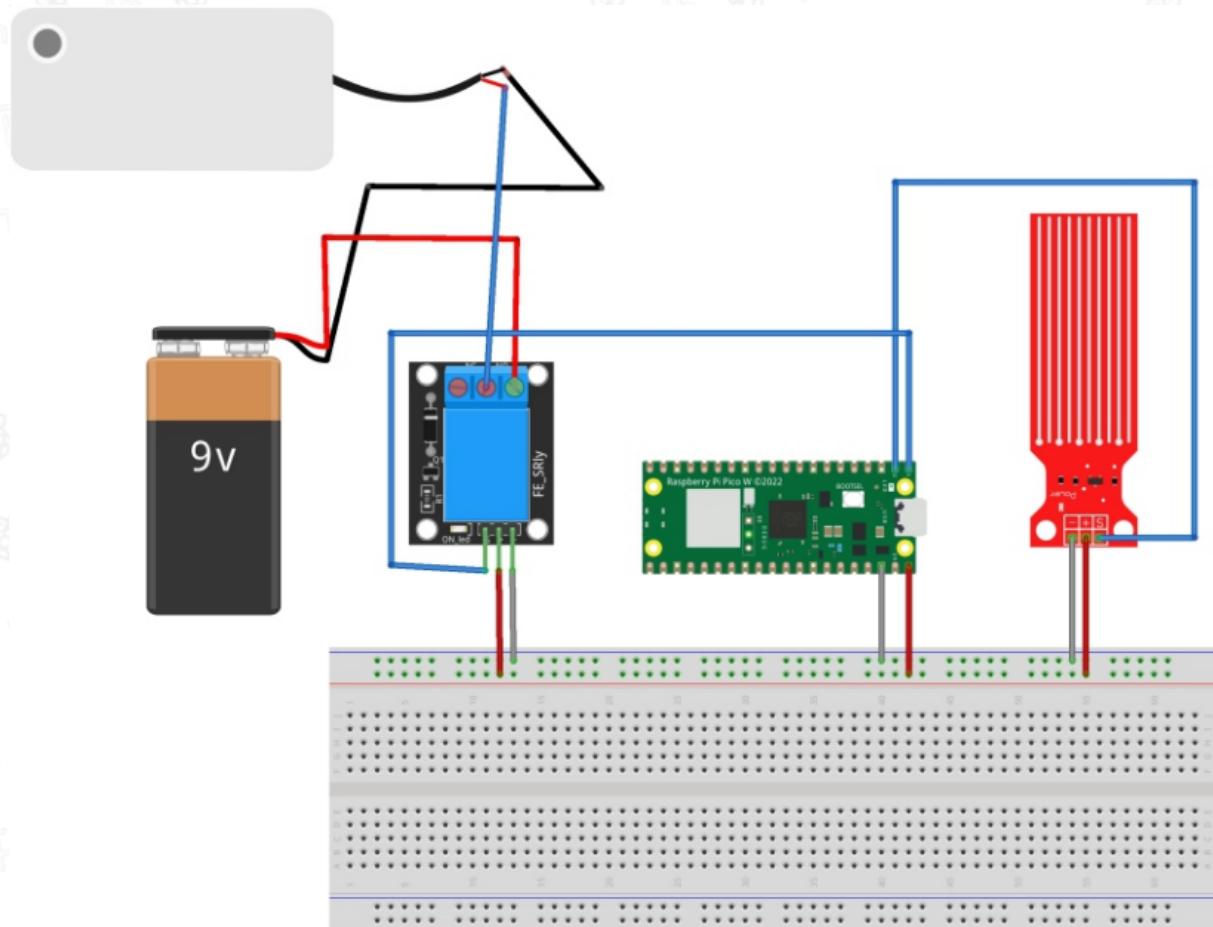
Running Program

(LED and Button)



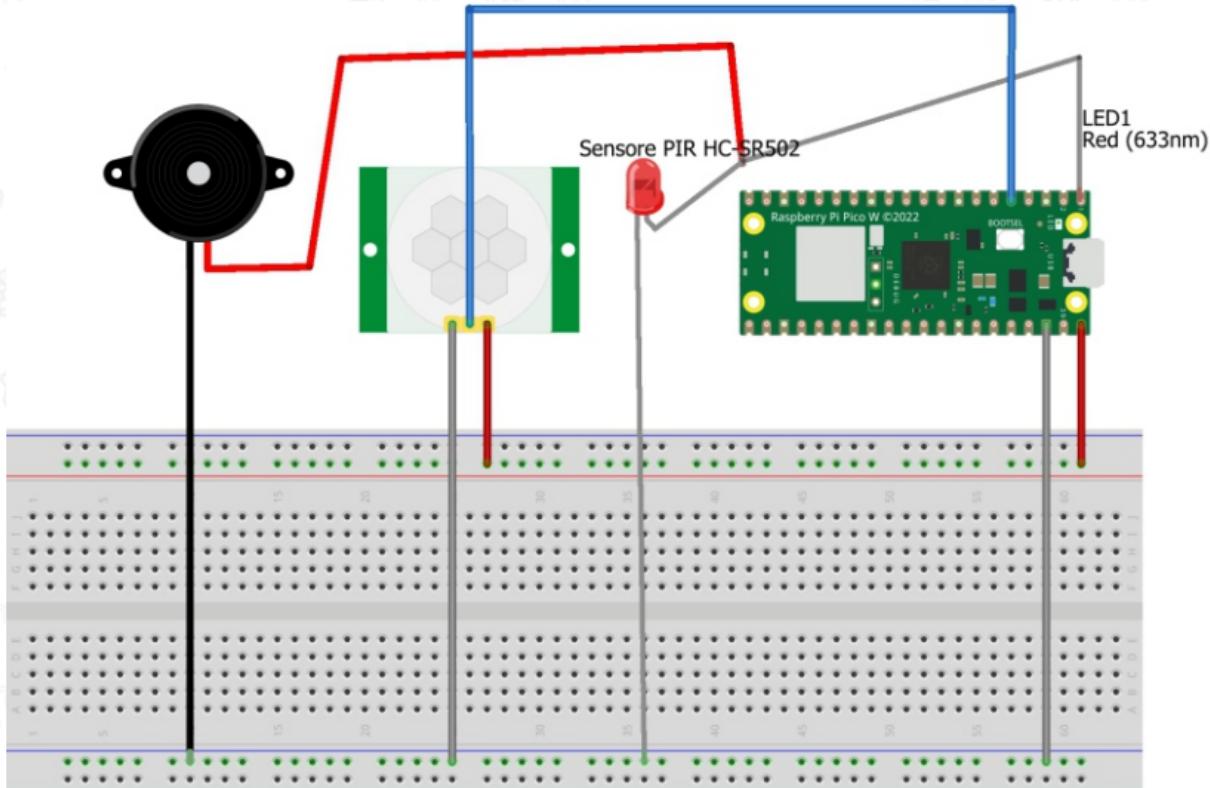
Running Program

(Water Sensor to trigger Pump)



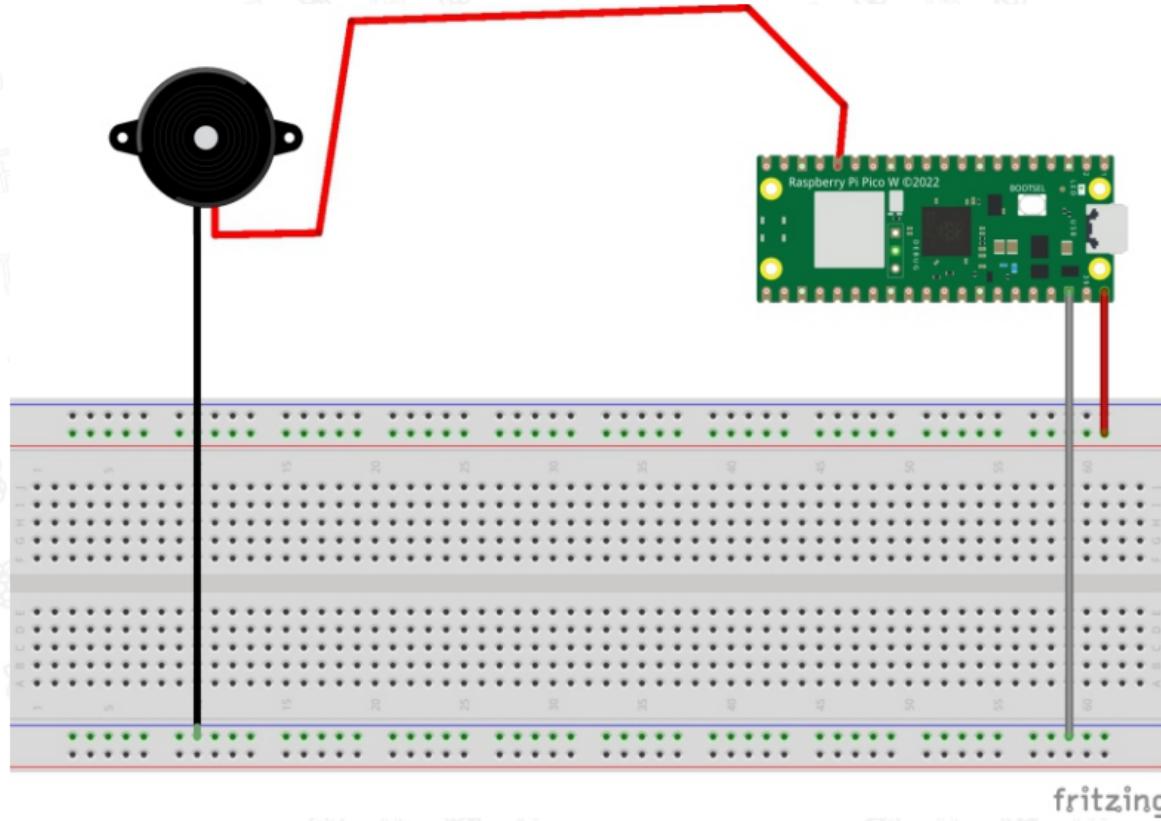
Running Program

(PIR sensor to
Trigger buzzer)



Running Program

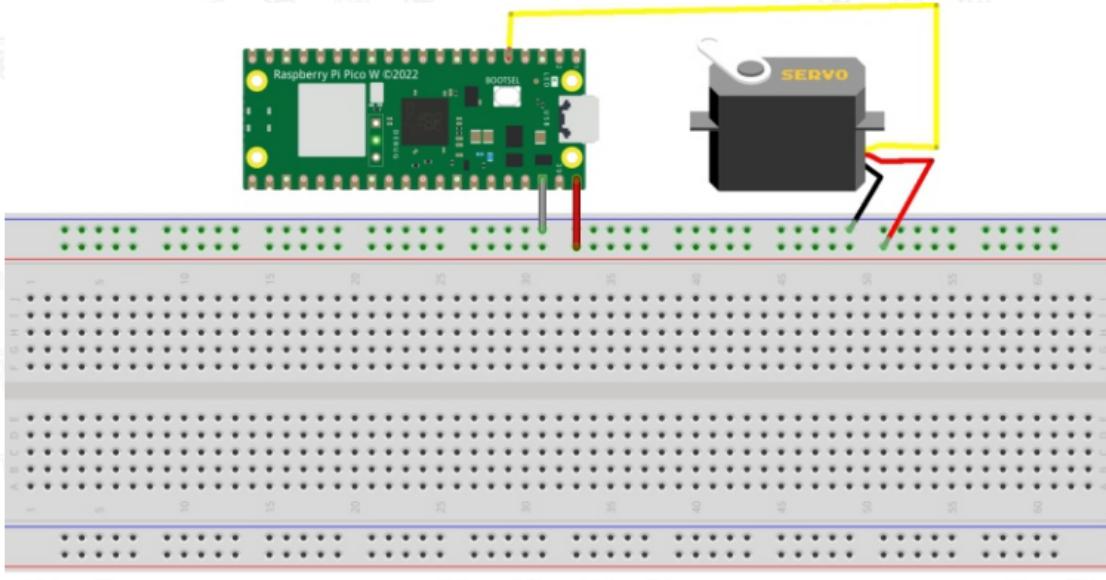
(Passive
Buzzer)



fritzing

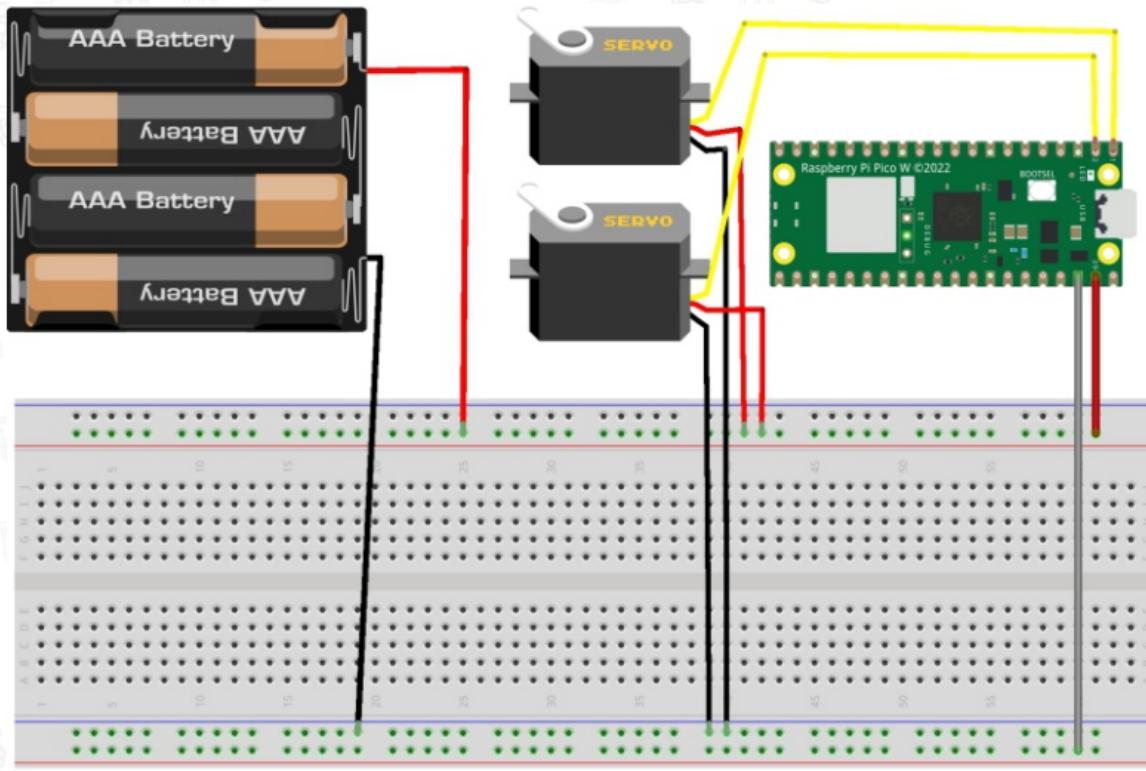
Running Program

(Basic Servo Function)



Running Program

(Sourcing Servo Power Externally)



Running Program

(Controlling Servo with Potentiometer)

