GPIO Zero Python library

GPIO Zero is a Python library for beginners, used to control the GPIO interface of the Raspberry Pi;

It provides a simple and easy-to-use interface for controlling peripheral devices such as LEDs, buttons, servos, motors, and various sensors.

1. Install GPIO Zero

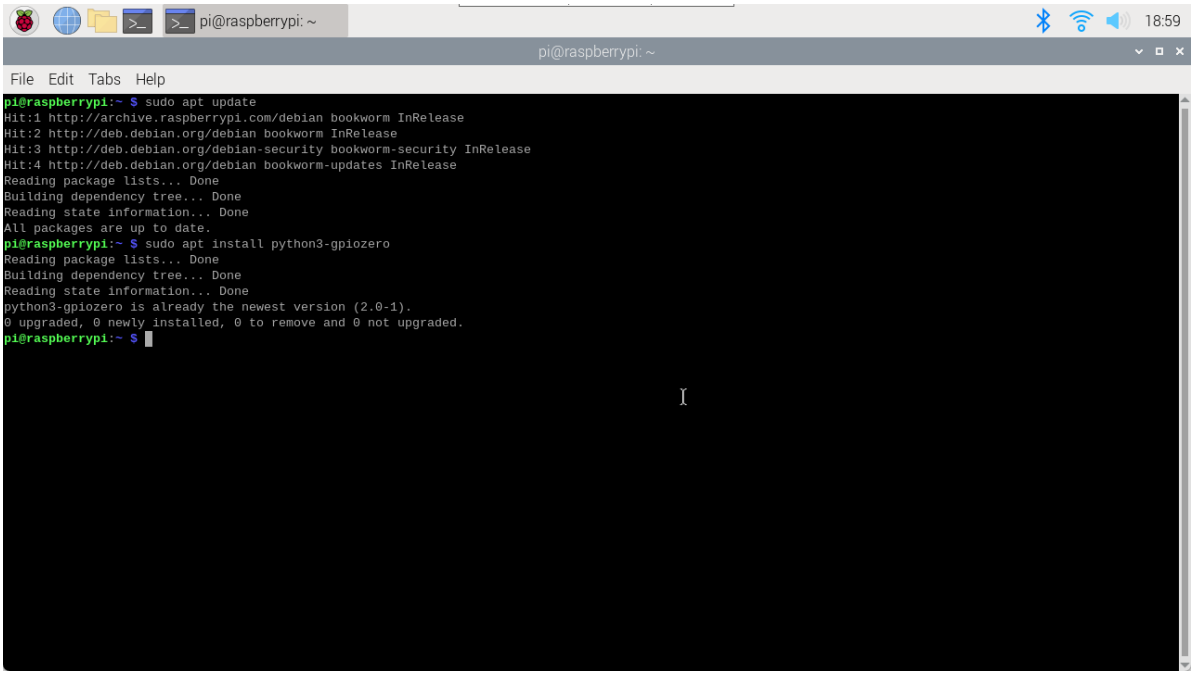
GPIO Zero is installed by default in Raspberry Pi OS desktop images and Raspberry Pi OS Lite images.

- Updated repository list and software

```
sudo apt update
```

- Install GPIO Zero

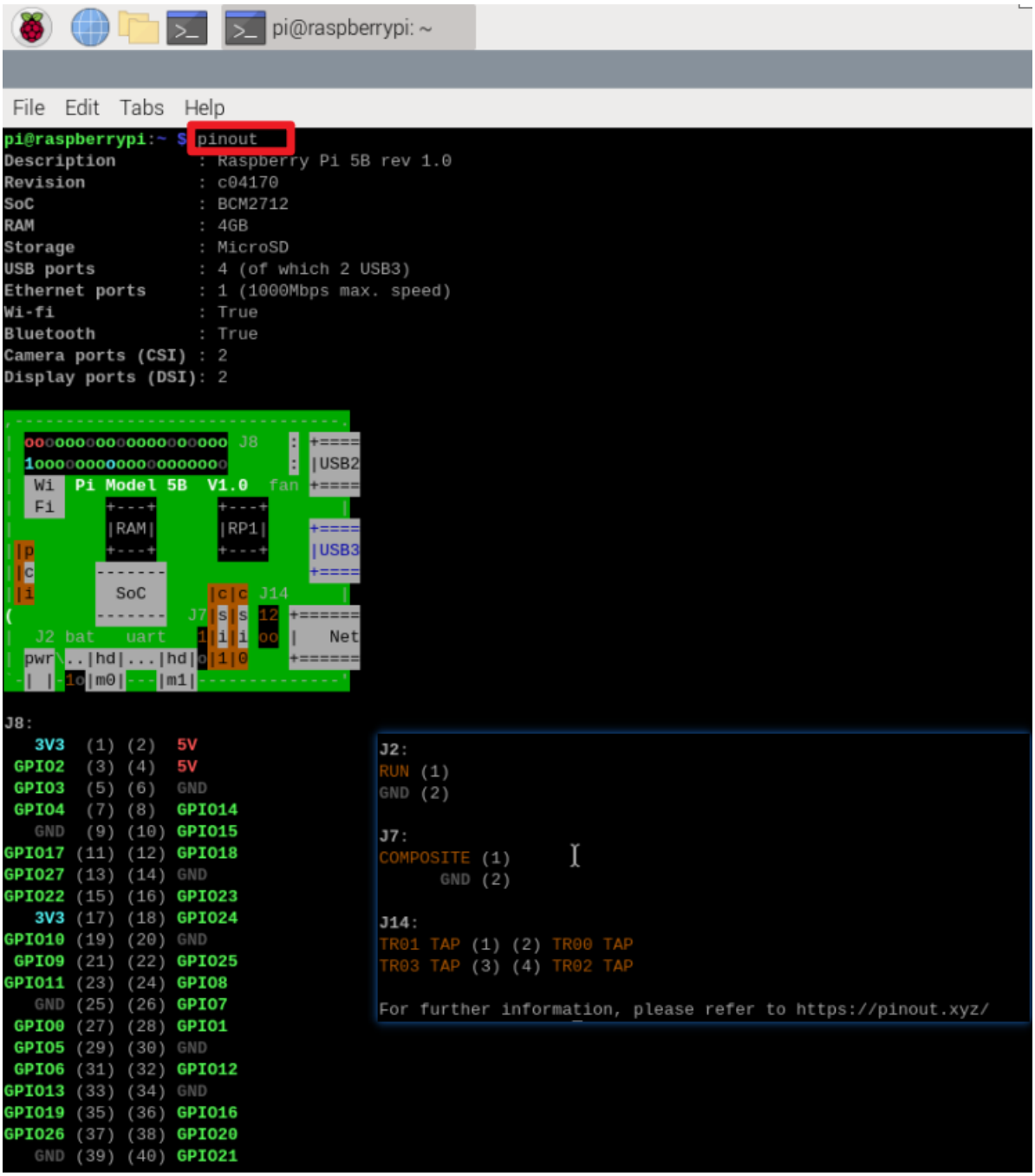
```
sudo apt install python3-gpiozero
```



2. GPIO pin arrangement

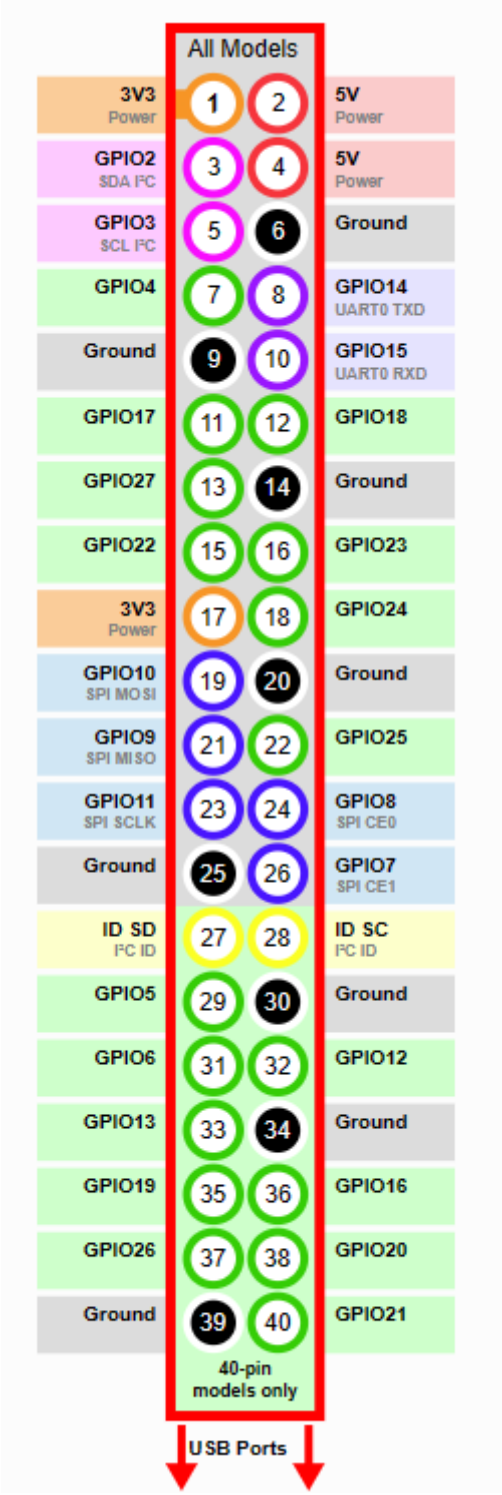
Open the terminal and run the command: pinout

```
This tool is provided by the GPIO Zero Python library
```



3. Pin number

The GPIO Zero library uses Broadcom (BCM) pin numbers instead of physical (BOARD) numbers: that is, to control GPIO17, you need to specify 17 instead of 11 for the pin number in the program.



Note: When using the Raspberry Pi GPIO pins, you need to pay attention to the pin connection method between the module and the Raspberry Pi motherboard to prevent damage to the motherboard.

```
common problem:
LED: When using LED, a current limiting resistor should be added;
Motor: connected through the motor control board/driver board, not directly
connected.
```

4. Import the GPIO Zero library

- Import the entire library

```
import gpiozero
```

- Import a single interface: use the Button interface in the GPIO Zero library

```
from gpiozero import Button
```

5. Reference materials

For more GPIO pin usage, please refer to the tutorial provided on the official website of the GPIO Zero library!

```
Official website link: https://gpiozero.readthedocs.io/en/latest/
```