





















# BODGERS

# Today

1. A look at GPIO Pins and GPIO Zero
2. A look at some basic electronic components
3. Build our first circuit
4. Start working on the Reaction Game

# Raspberry Pi 3 GPIO Header

Pin#	NAME		NAME	Pin#
01	3.3v DC Power		DC Power 5v	02
03	GPIO02 (SDA1 , I <sup>2</sup> C)		DC Power 5v	04
05	GPIO03 (SCL1 , I <sup>2</sup> C)		Ground	06
07	GPIO04 (GPIO_GCLK)		(TXD0) GPIO14	08
09	Ground		(RXD0) GPIO15	10
11	GPIO17 (GPIO_GEN0)		(GPIO_GEN1) GPIO18	12
13	GPIO27 (GPIO_GEN2)		Ground	14
15	GPIO22 (GPIO_GEN3)		(GPIO_GEN4) GPIO23	16
17	3.3v DC Power		(GPIO_GEN5) GPIO24	18
19	GPIO10 (SPI_MOSI)		Ground	20
21	GPIO09 (SPI_MISO)		(GPIO_GEN6) GPIO25	22
23	GPIO11 (SPI_CLK)		(SPI_CE0_N) GPIO08	24
25	Ground		(SPI_CE1_N) GPIO07	26
27	ID_SD (I <sup>2</sup> C ID EEPROM)		(I <sup>2</sup> C ID EEPROM) ID_SC	28
29	GPIO05		Ground	30
31	GPIO06		GPIO12	32
33	GPIO13		Ground	34
35	GPIO19		GPIO16	36
37	GPIO26		GPIO20	38
39	Ground		GPIO21	40

Rev. 2  
29/02/2016

[www.element14.com/RaspberryPi](http://www.element14.com/RaspberryPi)



# GPIO Zero

A simple interface to everyday GPIO components  
used with Raspberry Pi.

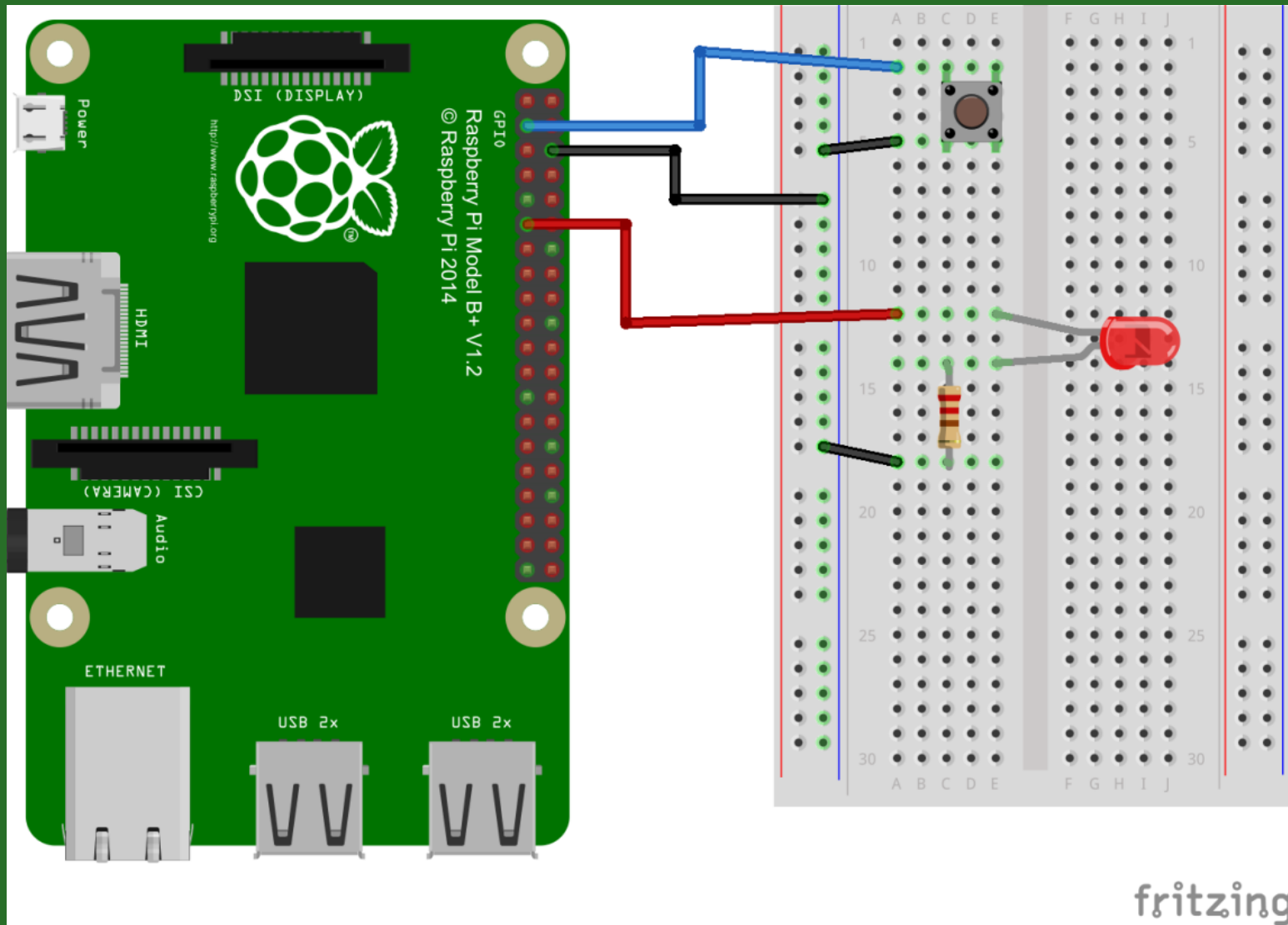
Here is the code to turn a LED on for 1 second

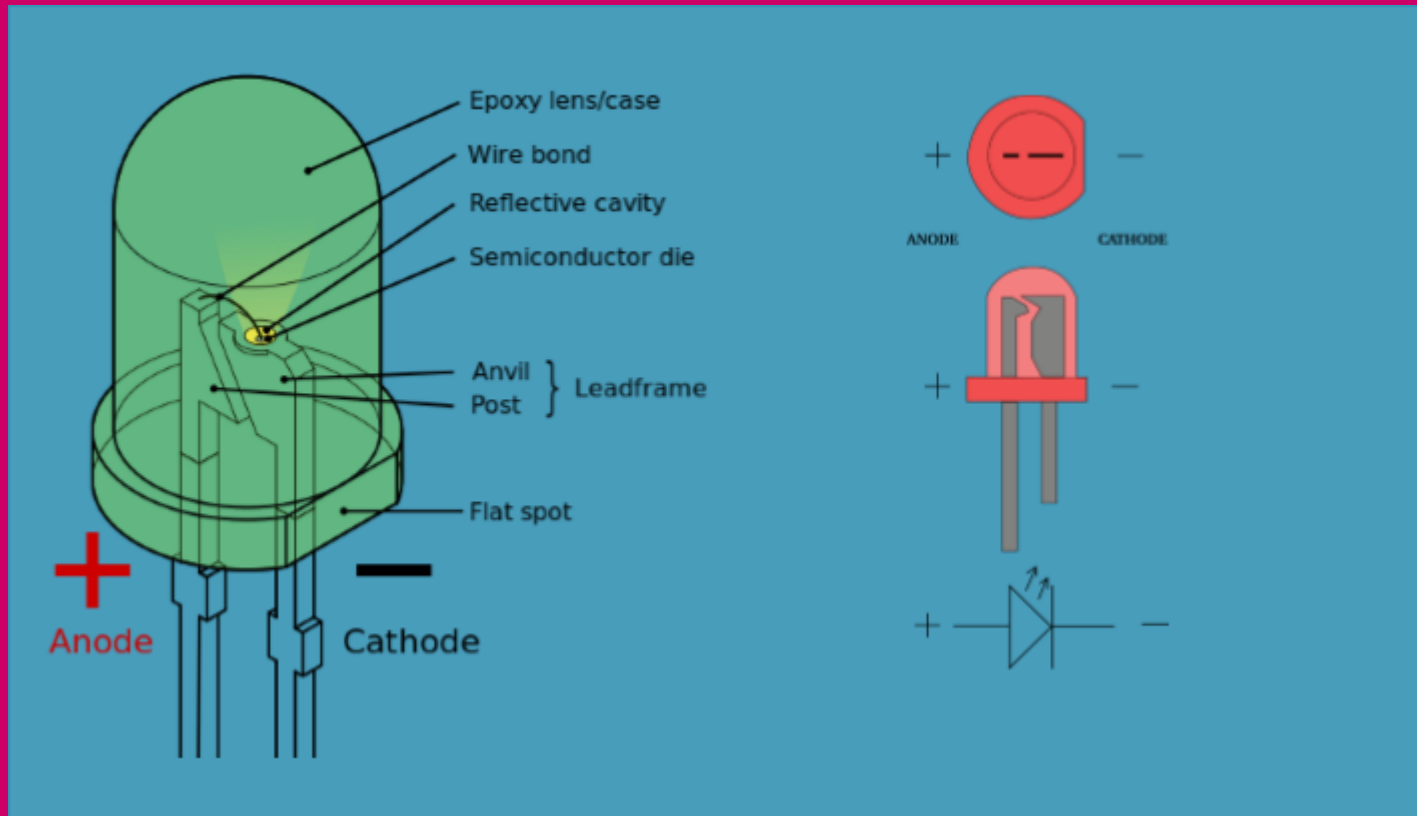
```
from gpiozero import LED
from time import sleep

led = LED(17)
led.on()
sleep(1)
led.off()
```

Here is the code to read a push button switch

```
from gpiozero import Button  
  
button = Button(2)  
button.wait_for_press()  
print("The button was pressed!")
```





# Some links

## GPIO Zero Documentation

<https://gpiozero.readthedocs.io/en/v1.3.1/>

## Breadboard 101

[https://www.youtube.com/watch?v=q\\_Q5s9AhCR0](https://www.youtube.com/watch?v=q_Q5s9AhCR0)

## LED 101

<https://www.youtube.com/watch?v=P3PDLsJQcGI>

## Resistors 101

<https://www.youtube.com/watch?v=Gc1wVdbVIOE>



