

Raspberry Pi Boy

<https://raspberrypi-boy.neocities.com>

LED Blinking

LED's

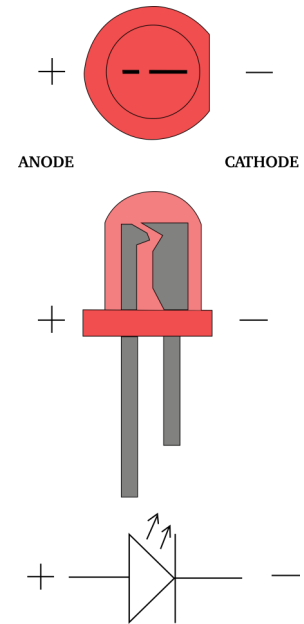
A Light Emitting Diode is a diode that when connected correctly produces light .

As with all types of diodes current can only flow one way Through the LED.

This means that power must flow via the anode and then through the LED coming out of the Cathode.

Another thing to remember is that you must only let 20 milli-Amps pass through an LED or the current will destroy the LED.

The cathode will be the shorter of the two legs .

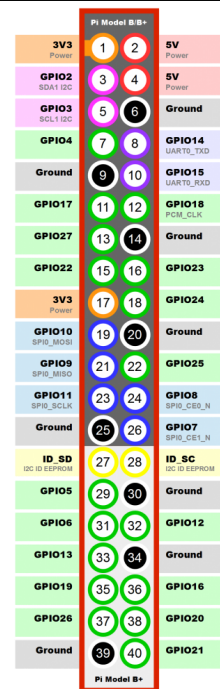


GPIO'S

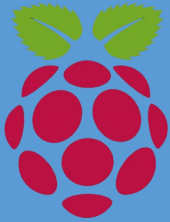
GPIO's General Purpose input output pins are the way the pi interacts with the outside world (the world we live) These are what will let us control an LED.

They are a bank of 40 pins that you will see on the top of the Pi.

To the right you can see how the pins are laid out. The numbers inside the circles show the physical pins and the tags to the left and right are the Broadcom mappings and are how the Raspberry Pi sees the Pins.



www.raspberrypi.org/pinout



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We will need

- 1x ready Raspberry Pi
- 1x 330 ohm resistor
- 1x Bread board
- 1x LED
- Some jumper wires

Task 1:

Here we are simply going to get the LED to glow.

First, Shut down the pi and disconnect any cables connected to it.

Then wire the circuit as shown to the Right:

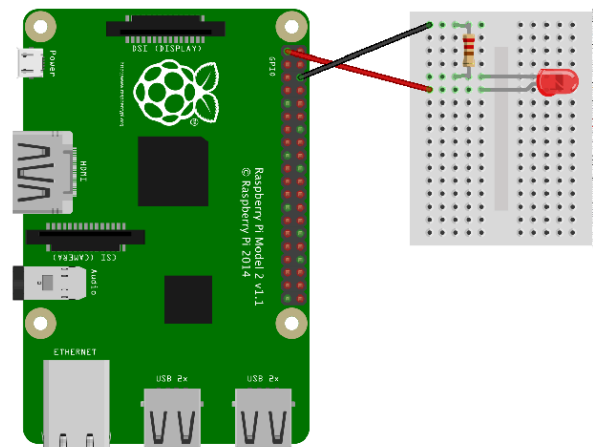
Pin 1 (3.3v) to the Anode

Pin 5 (Ground) to the Cathode

Now when power is applied the led Should glow.

Finally disconnect the pin connected to Pin (3.3v) and connect it to pin 11.

Now were ready to control this LED.



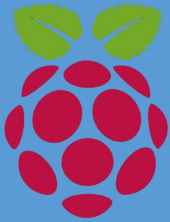
fritzing

Now we will use python to Control the LED:

First we need to load up Python in Admin by opening terminal and typing

```
pi@raspberrypi ~ $ sudo idle3 &
```

Once loaded start a new file by clicking File >>> New at the top of the screen then type.



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Now we will use python to Blink the LED:

First we need to load up Python in Admin by opening terminal and typing

```
pi@raspberrypi ~ $ sudo idle3 &
```

Once loaded start a new file by clicking File >>> New at the top of the screen then type:

```
import time
import RPi.GPIO as GPIO
GPIO.setmode(GPIO.BOARD)
GPIO.setup(11, GPIO.OUT)

while True:
    GPIO.output(11, True)
    time.sleep(1)
    GPIO.output(11, False)
    time.sleep(1)
```