



# CONTROLLING AN LED

Within this tutorial you are going to learn how to create a simple circuit and using the Raspberry Pi and EduBlocks to control an LED.

## YOU WILL NEED

- 1 x LED
- 2 x Male to Female jumper wires
- 1 x breadboard
- A Raspberry Pi

Once the LED is wired to the Raspberry Pi this completes our electronic circuit.

We can now code our LED to do something.

## CODING THE LED

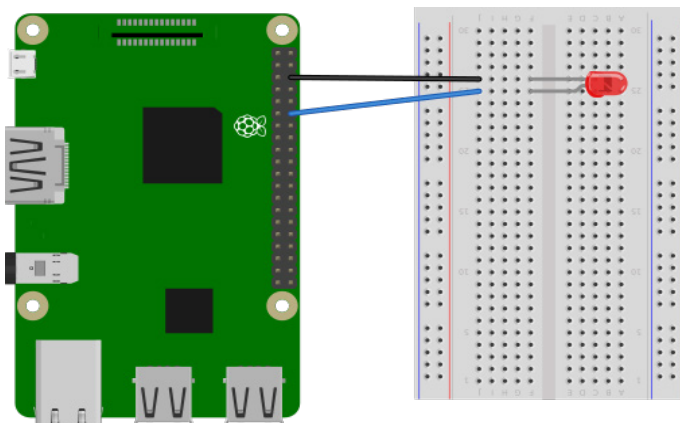
### TURNING THE LED ON

1. Open up EduBlocks by clicking on Raspberry Pi Menu > Programming > EduBlocks.
2. Click on **gpiozero**
3. Click on **General**, click and drag a **from gpiozero import** and drop it within the coding area.
4. Click on **Outputs**
5. Click on **LED**, click and drag an **led = LED ()** block to the coding area and attach it under **from gpiozero import \***

## CREATING THE CIRCUIT

Let's create the electronic circuit that we are going to control using Python and a Raspberry Pi.

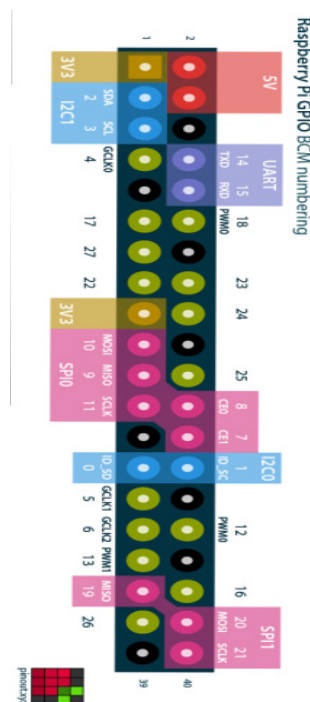
The Circuit will look like this:



**NOTE:** The LED has one short leg known as the cathode (Negative = -) and one long leg known as the anode (positive = +)

The Anode is connected to pin 18 on the Raspberry Pi

The Cathode is connected to ground on the Raspberry Pi



6. Within the gap of **led = LED ()** type **18**. This will set the LED to pin 18 on the Raspberry Pi

7. Click on **LED**, click and drag an **led.on()**





block to the coding area and attach it under **led = LED (18)**. This will turn the LED on.

Your code should look like this:

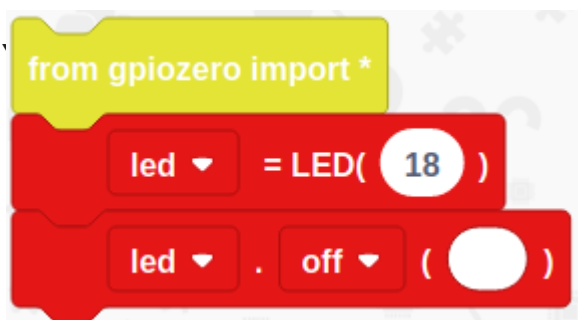


To run the code click on **Run** in the top menu.

You should now see the LED turn on.

## TURNING AN LED OFF

To turn the LED off click on the small arrow next to **on** within the **led.on()** block and click on **off**.



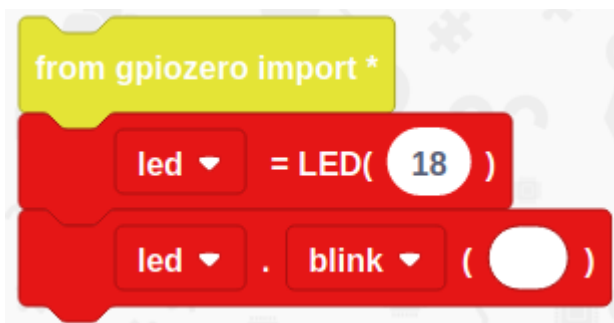
To run the code Click on **Run** within the top menu.

You should now see the LED turn off.

## MAKING AN LED BLINK

To make the LED blink on and off click on the small arrow next to **off** within the **led.off()** block and click on **blink**.

Your code should look like this:



To run your code click on **Run** within the top menu bar.

You should now see the LED blink on and off.

You now know how to control an LED using a Raspberry Pi and EduBlocks.