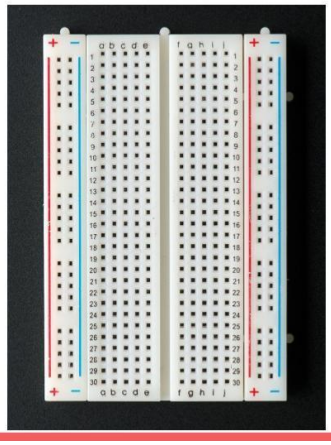
7Make an LED blink using the Raspberry Pi

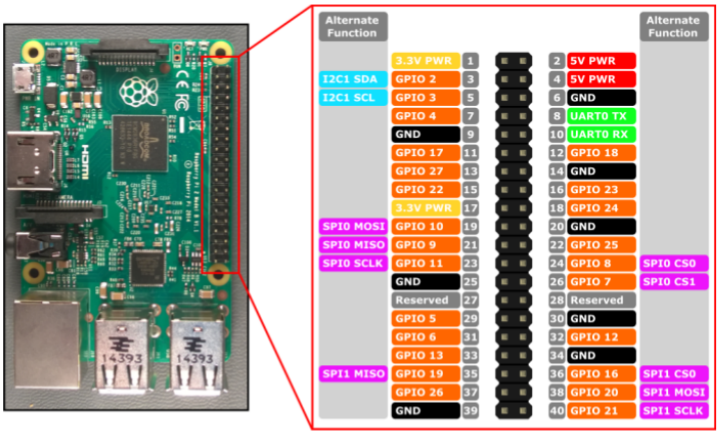
We are going to make an LED light up using Python and the Raspberry Pi!

Things we will use:

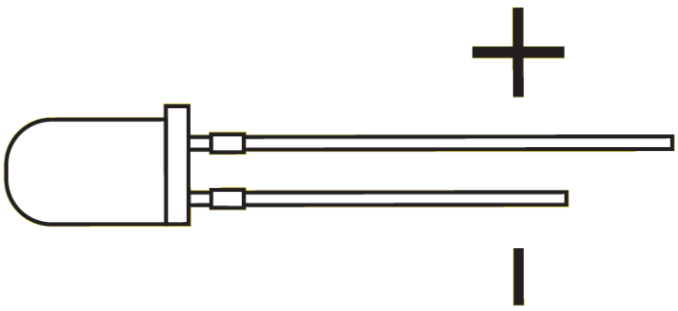
LED
Resistor
2 wires



How do we make the Pi talk to the LED?



LED only goes one way



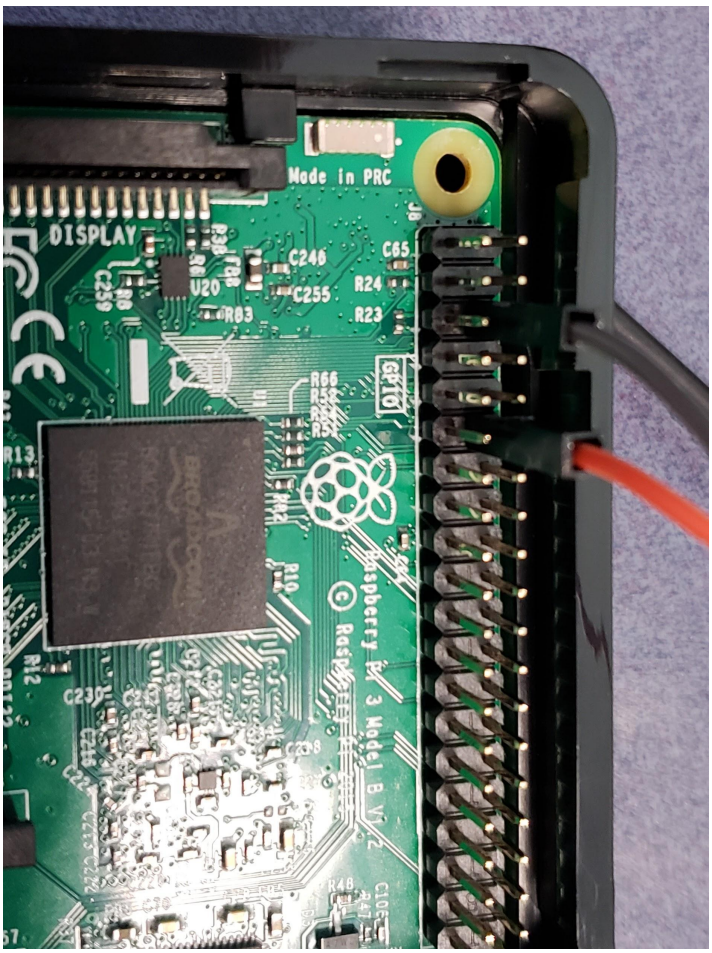
You will need:

- **1 Breadboard**
- **1 LED**

- **1 Resistor**
- **1 red/orange wire**
- **1 blue/green/black wire**

Google “Raspberry Pi 3 GPIO”

1. **Connect a BLACK wire from one of the GROUND pins to the blue rail**
2. **Connect the SHORT leg of the LED to the blue rail and the LONG leg somewhere in the middle of the board**
3. **Connect one leg of the resistor to the same row as the long leg of the LED**
4. **Connect a RED wire from GPIO 18 (6th down on the right hand side) to the other leg of the resistor by putting them side by side in another numbered row**

- 

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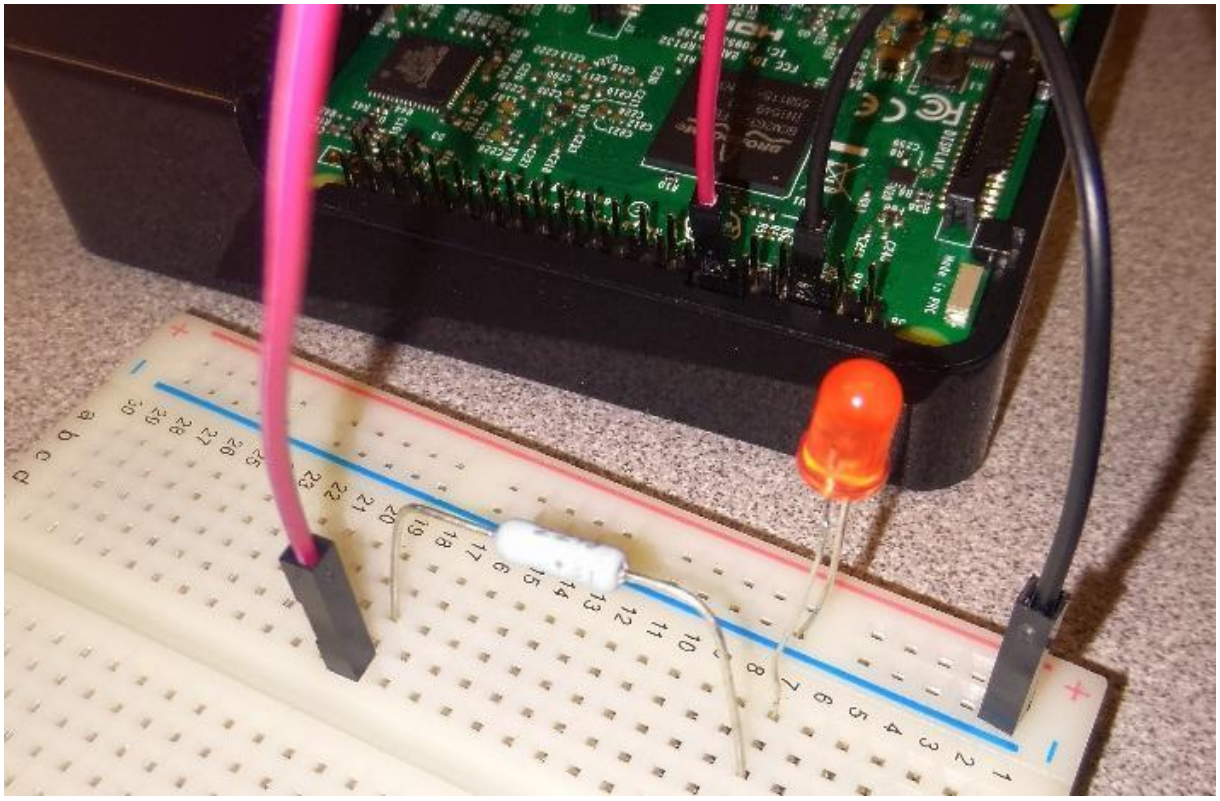

In the "Programming" Menu on the Raspberry Pi, start **Thonny**

Click the + sign to create a new file

Copy and paste the code below, then click the "run" button (you will have to save the file, just call it "blinky" or something like that)

```
# import the libraries we will need
import RPi.GPIO as GPIO
import time

# set the GPIO pins to the BCM address method
GPIO.setmode(GPIO.BCM)
# don't print useless warnings
GPIO.setwarnings(False)

# set GPIO18 to be "output"
GPIO.setup(18,GPIO.OUT)

# Turn the LED on
GPIO.output(18,GPIO.HIGH)
print ("LED on")
time.sleep(1)

# Turn the LED off
GPIO.output(18,GPIO.LOW)
print ("LED off")
time.sleep(1)
```