Getting Started with the Raspberry Pi

Raspberry Pi 4

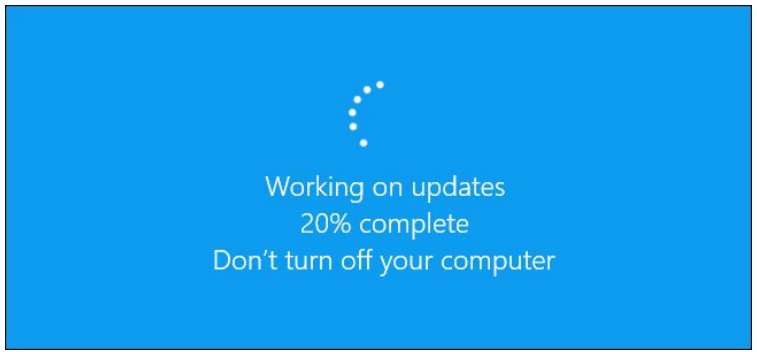
- Broadcom BCM2711, Quad core Cortex-A72 (ARM v8) 64-bit SoC @ 1.5GHz
- 2GB, 4GB or 8GB LPDDR4-3200 SDRAM (depending on model)
- 2.4 GHz and 5.0 GHz IEEE 802.11ac wireless, Bluetooth 5.0, BLE
- Gigabit Ethernet
- 2 USB 3.0 ports; 2 USB 2.0 ports.
- Raspberry Pi standard 40 pin GPIO header (fully backwards compatible with previous boards)
- 2 × micro-HDMI ports (up to 4kp60 supported)
- 2-lane MIPI DSI display port
- 2-lane MIPI CSI camera port
- 4-pole stereo audio and composite video port
- H.265 (4kp60 decode), H264 (1080p60 decode, 1080p30 encode)
- OpenGL ES 3.0 graphics
- Micro-SD card slot for loading operating system and data storage
- 5V DC via USB-C connector (minimum 3A*)
- 5V DC via GPIO header (minimum 3A*)
- Power over Ethernet (PoE) enabled (requires separate PoE HAT)
- Operating temperature: 0 – 50 degrees C ambient

https://www.raspberrypi.org/products/raspberry-pi-4-model-b/specifications/

Updating Software - Advanced Packaging Tool

pi@raspberrypi:~ $ **sudo apt update**

pi@raspberrypi:~ $ **sudo apt upgrade**



Let's install our first program!

pi@raspberrypi:~ $ **sudo apt install speedtest-cli**

pi@raspberrypi:~ $ **speedtest-cli**

Updating WiFi

The configuration file for WiFi APs is titled: **wpa_supplicant.conf**

The config file is in a folder titled: **wpa_supplicant**

That folder is located in the directory: **etc**

pi@raspberrypi:~ $ **sudo nano *etc/wpa_supplicant/wpa_supplicant.conf***

Github

cd /usr/local/bin

sudo wget https://github.com/corbitt799/natia/archive/master.zip

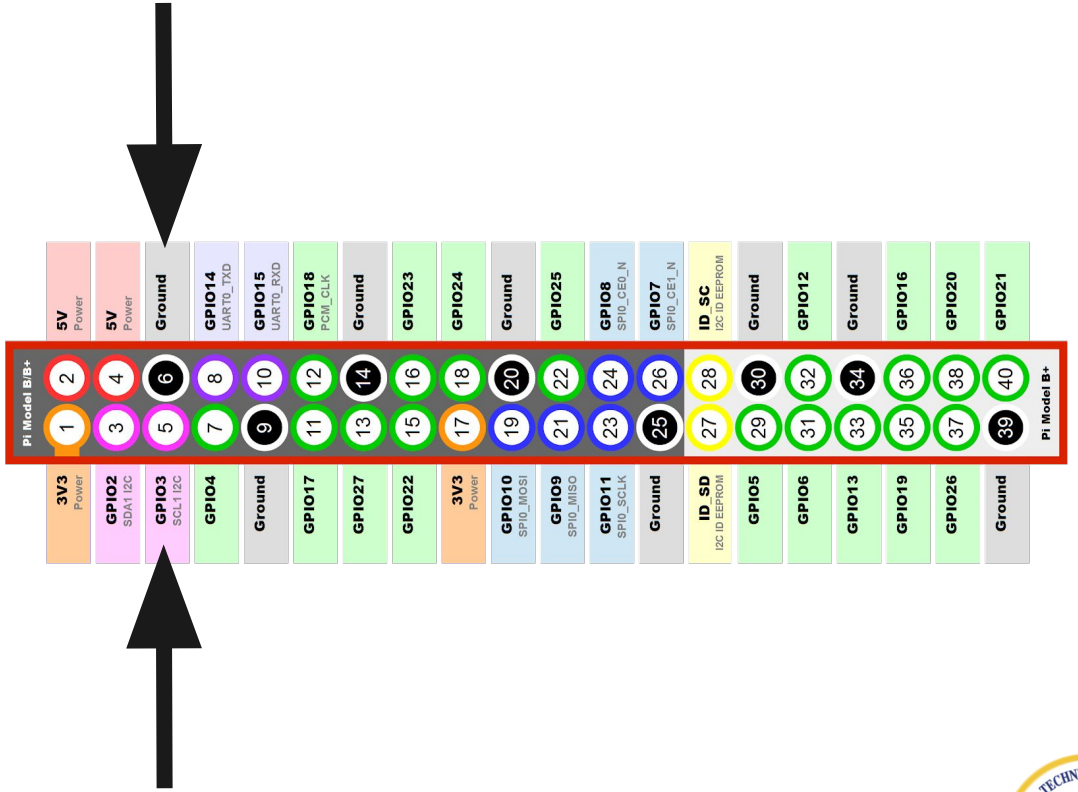
sudo unzip master.zip

sudo mv natia-master natia

./natia/power_button/install

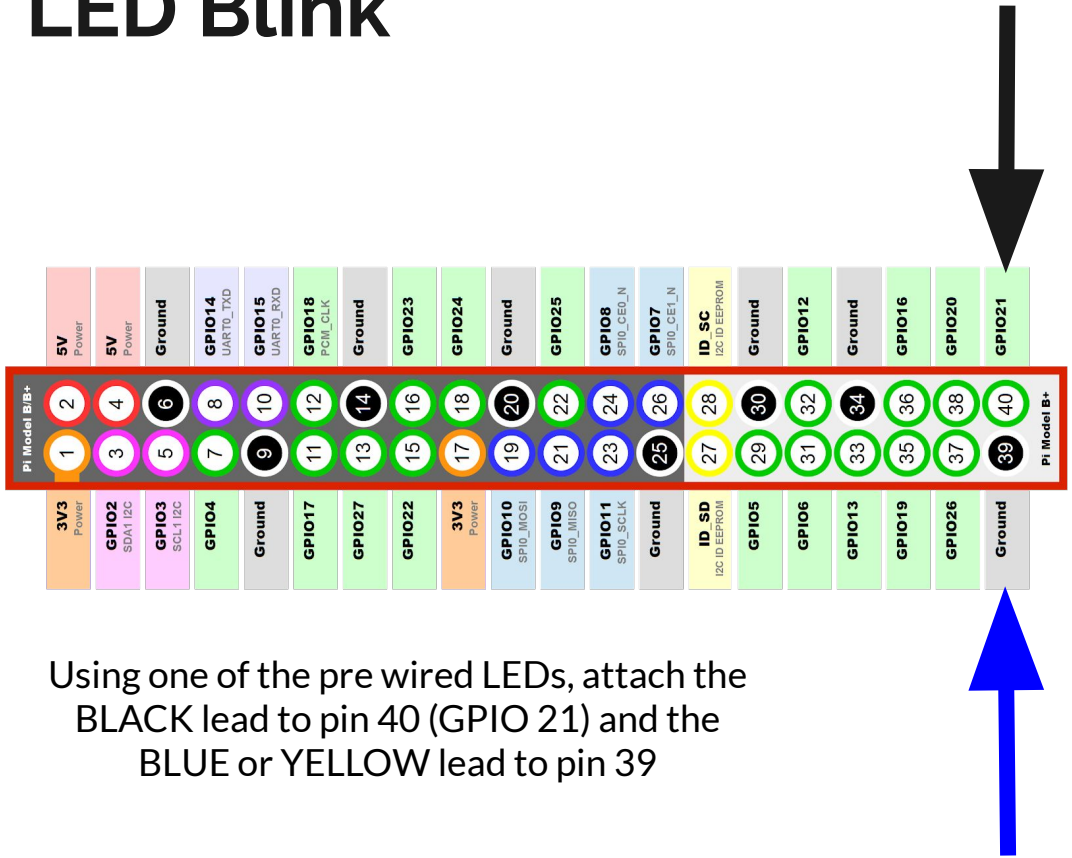
sudo reboot

Power Button



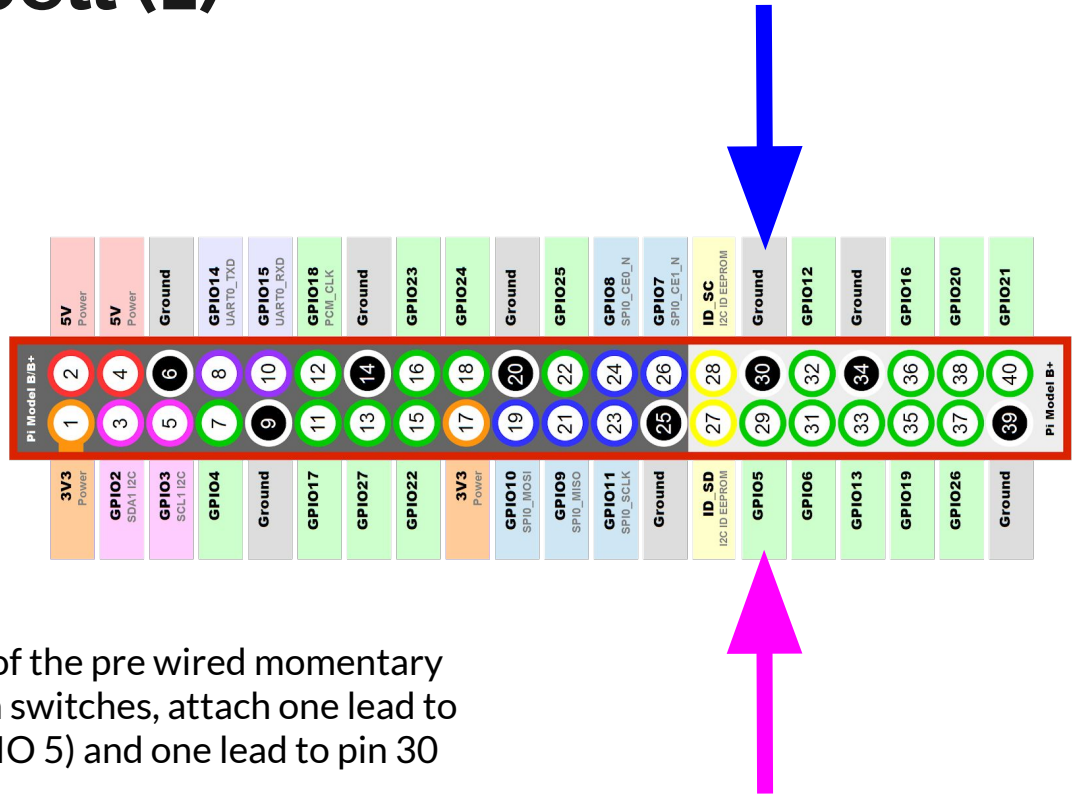
Using one of the pre wired momentary push button switches, attach one lead to pin 5 (GPIO3) and one lead to pin 6

LED Blink



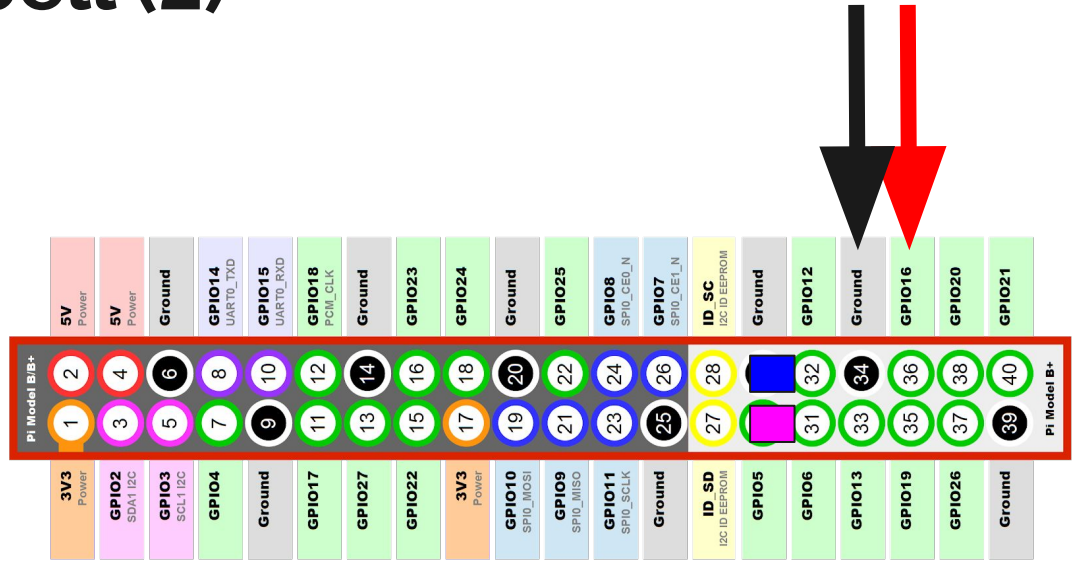
Using one of the pre wired LEDs, attach the BLACK lead to pin 40 (GPIO 21) and the BLUE or YELLOW lead to pin 39

Doorbell (1)



Using one of the pre wired momentary push button switches, attach one lead to pin 29 (GPIO 5) and one lead to pin 30

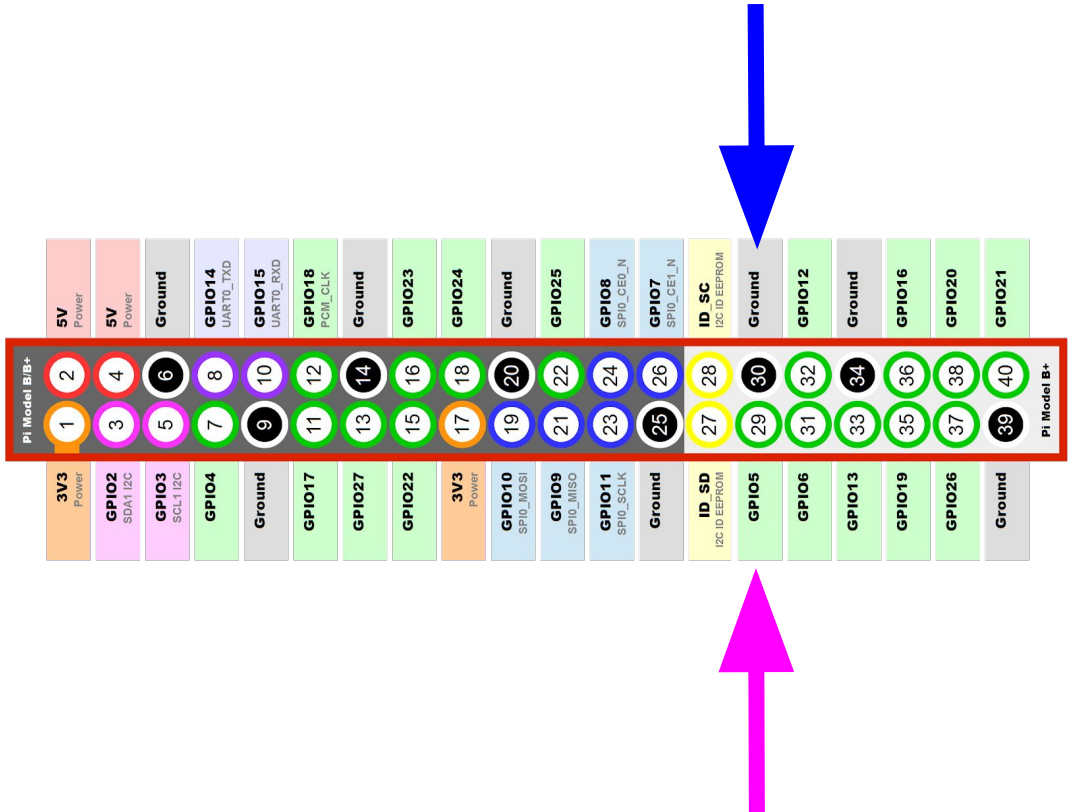
Doorbell (2)



Using the buzzer, attach the RED lead to pin 36 (GPIO 16) and the BLACK lead to pin 34

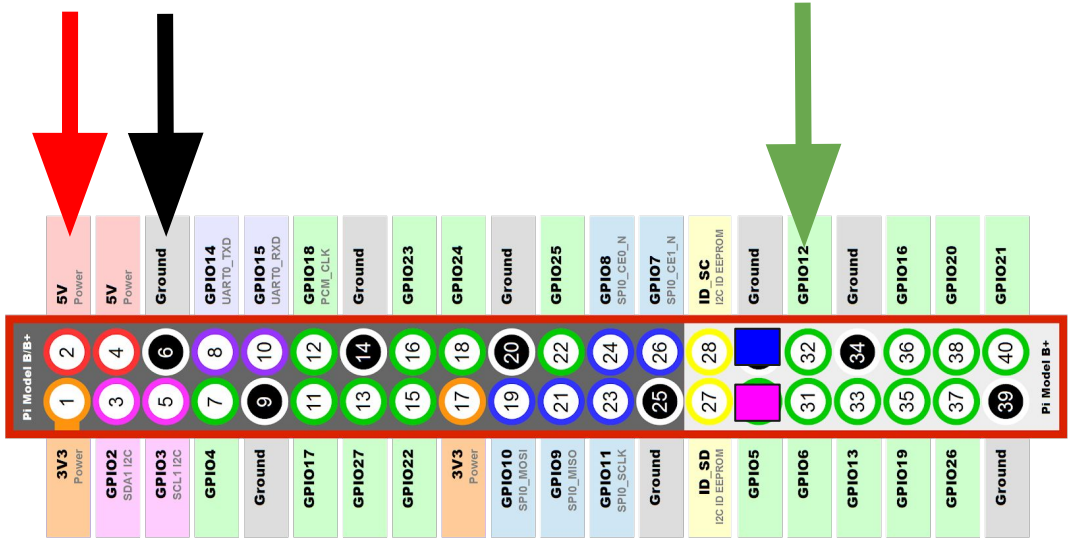
Using one of the pre wired momentary push button switches, attach one lead to pin 29 (GPIO 5) and one lead to pin 30

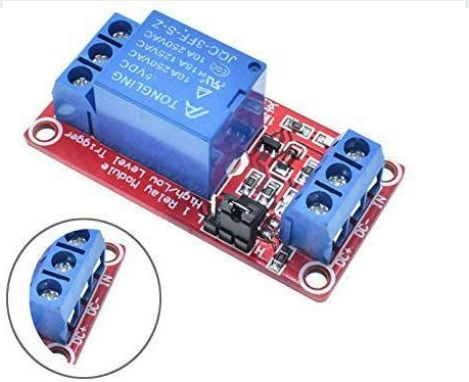
Door Open / Relay (1)



Using the pre wired door contacts, attach one lead to pin 29 (GPIO 5) and one lead to pin 30

Door Open / Relay (2)

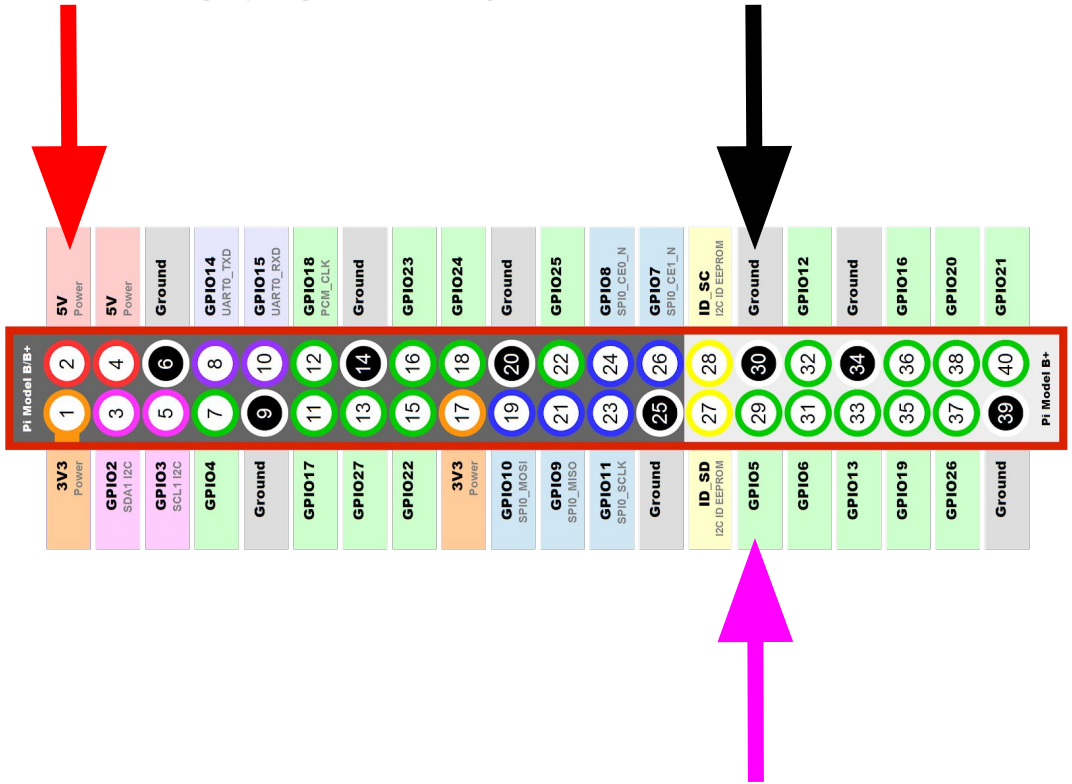


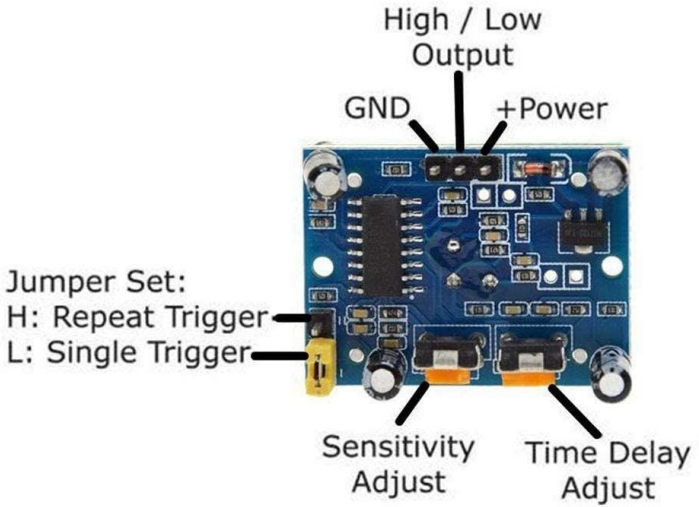


Using the relay:

- GRD to pin 6
- High/Low to pin 32 (GPIO 12)
- +Power to pin 2

Motion Alarm

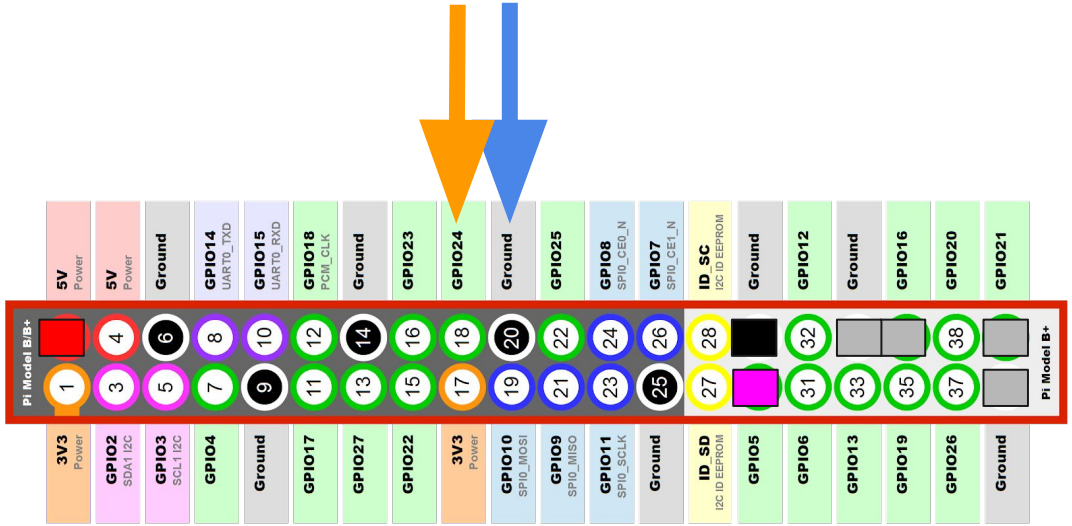




Using the motion sensor:

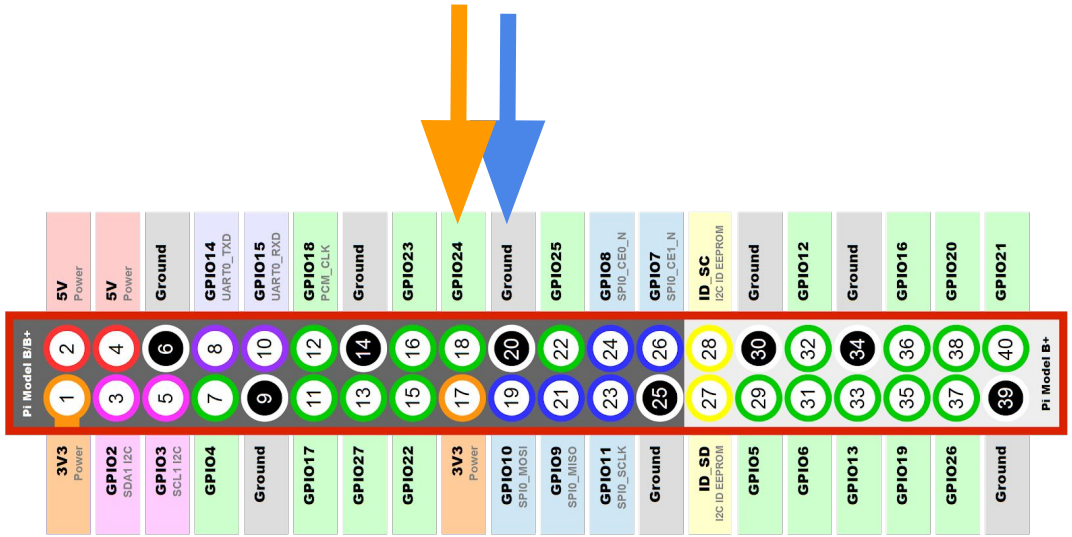
- GRD to pin 30
- High/Low to pin 29 (GPIO 5)
- +Power to pin 2

Motion Alarm w Switch



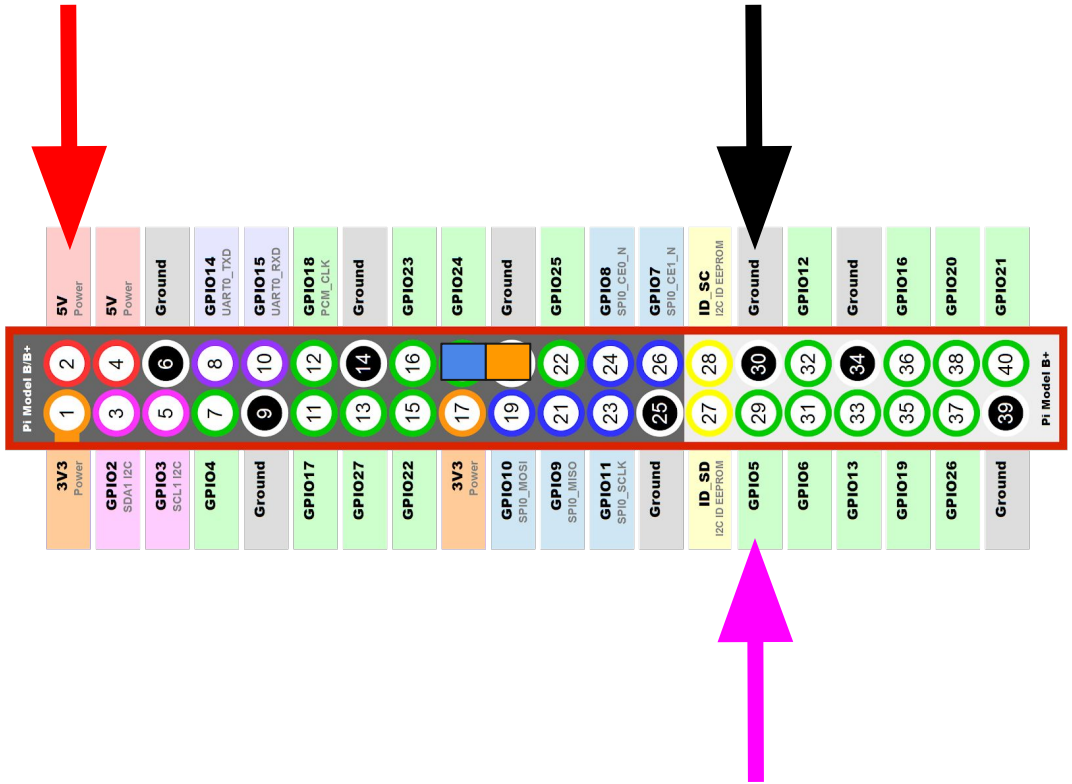
Using the pre wired toggle switch, attach one lead to pin 18 (GPIO 24) and one lead to pin 20

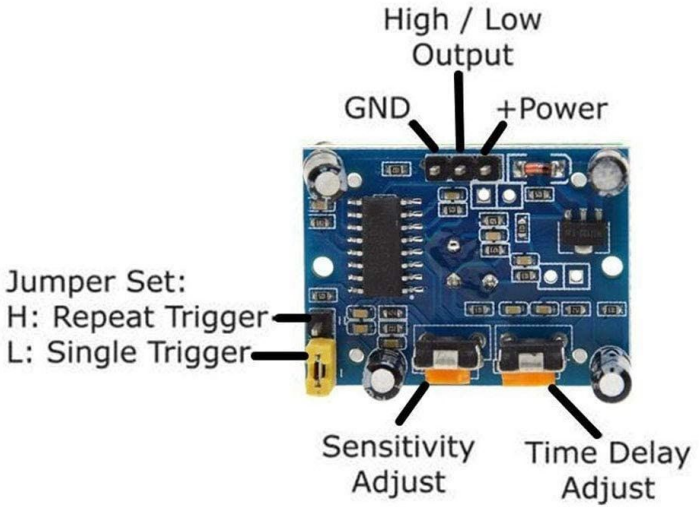
Halloween Fun (1)



Using the pre wired toggle switch, attach one lead to pin 18 (GPIO 24) and one lead to pin 20

Halloween Fun (2)

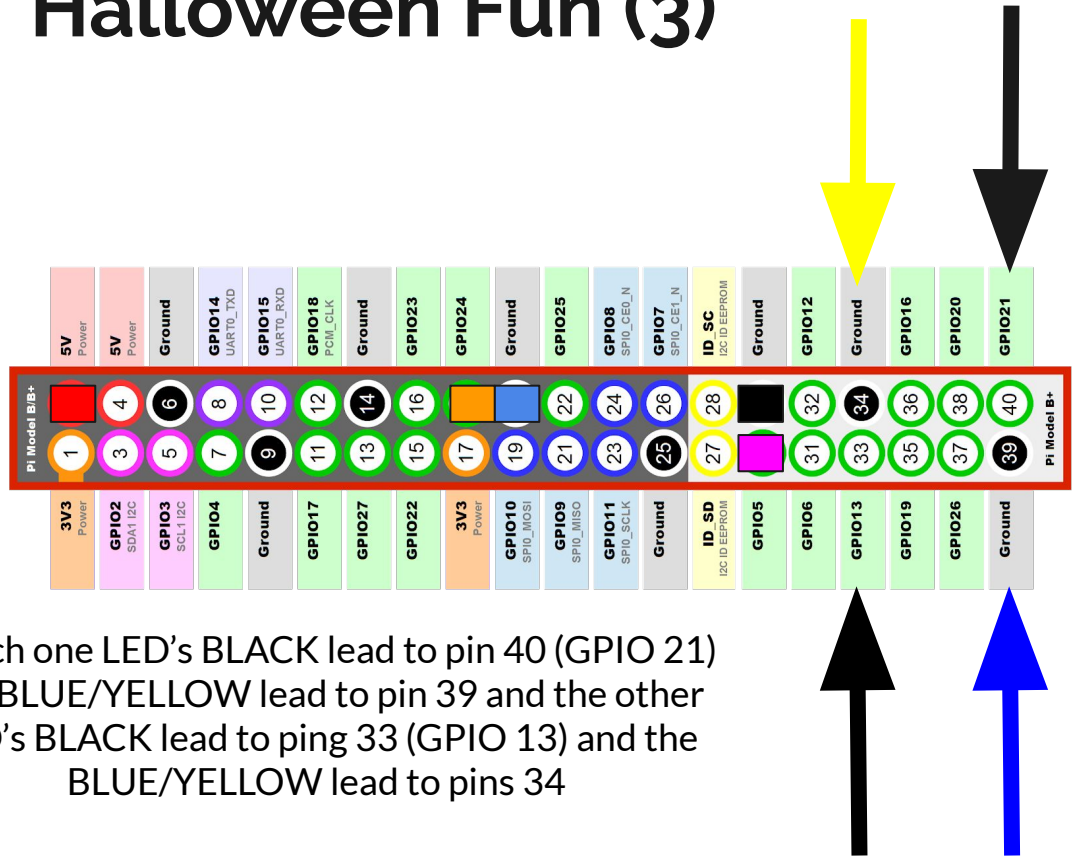




Using the motion sensor:

- GRD to pin 30
- High/Low to pin 29 (GPIO 5)
- +Power to pin 2

Halloween Fun (3)



Attach one LED's BLACK lead to pin 40 (GPIO 21) and BLUE/YELLOW lead to pin 39 and the other LED's BLACK lead to ping 33 (GPIO 13) and the BLUE/YELLOW lead to pins 34