

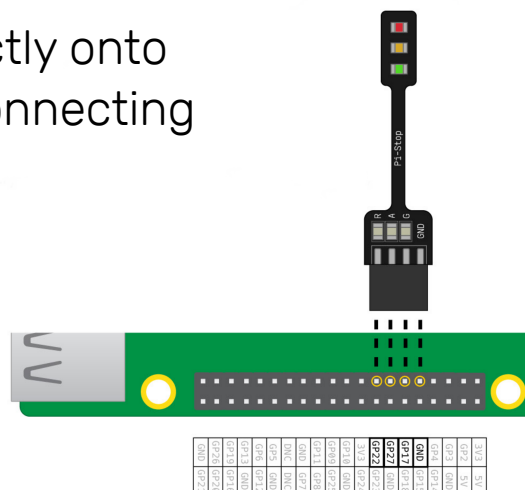
CONTROLLING A TRAFFIC LIGHT SEQUENCE WITH SCRATCH



Connecting the pi-stop

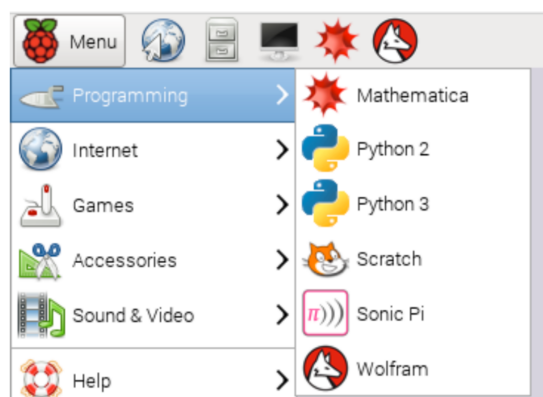
- 1 Take the pi-stop and put it directly onto the Raspberry Pi's GPIO pins, connecting it as follows.

pi-stop	GPIO pin
Red	22
Amber	27
Green	17
Ground	GND

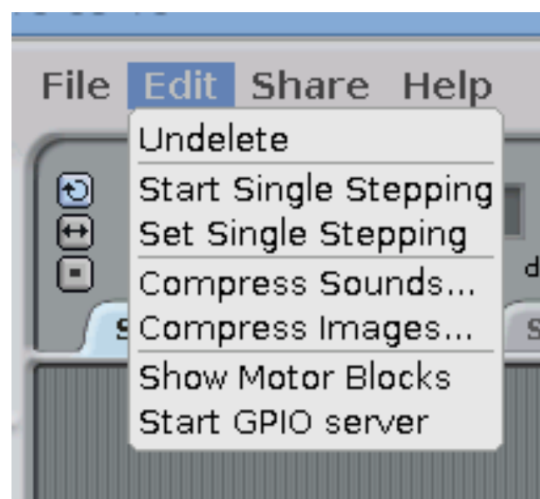


Scratch setup

- 1 Start Scratch from the Menu



- 2 Now tell it you want to use the GPIO pins
To do this, click on edit and select "Start GPIO server"



Setting up Scratch for controlling LEDs

- 1 Create 3 variables
red, amber, green

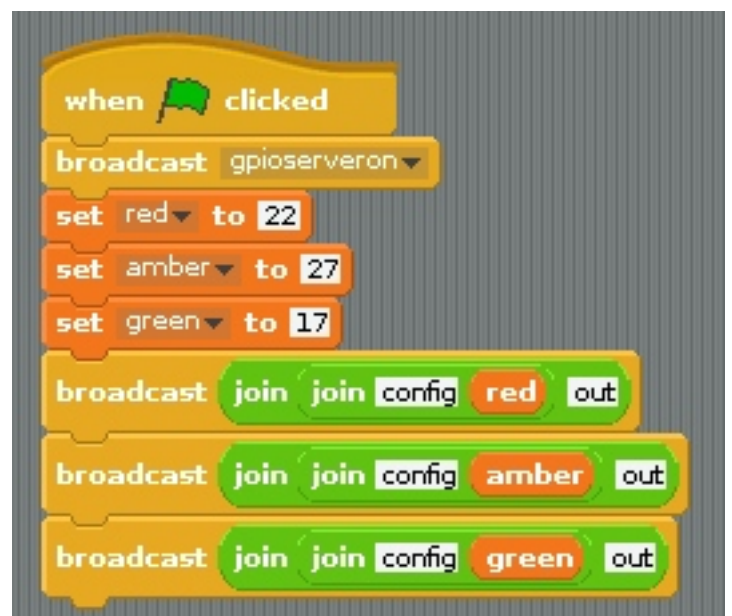


- 2 Set the 3 variable to
their GPIO pin values



- 3 Configure the pins as
outputs using
config22out
config27out
config17out

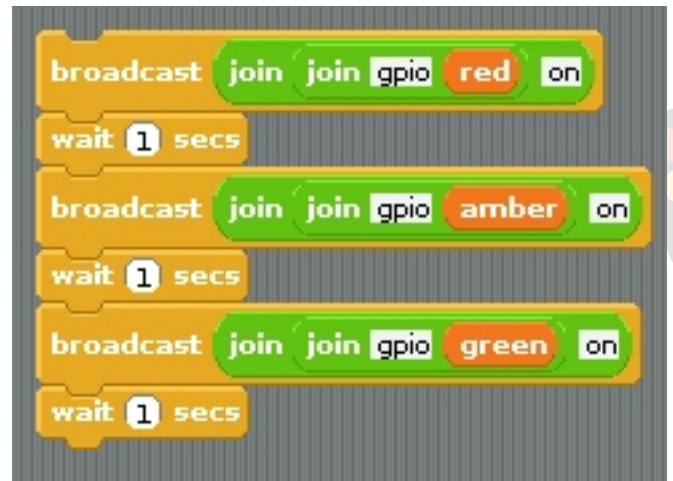
NOTE: there are 2 joins
that add together the
3 pieces of text
config- value red - out



Turn on the LEDs

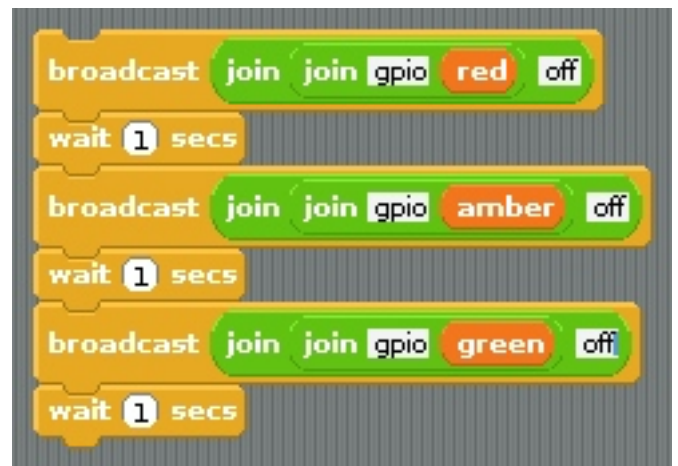
1

Add this code to the end of the previous code to turn the LEDs on one at a time. Waiting one second between each LED



2

Let's turn all the LEDs off again



4

Try repeating this by putting the code inside a **forever** loop

5

Now we know how to control the lights individually, and time the pauses between commands, can you create a traffic light sequence?

The sequence goes:

- Green On
- Amber
- Red On
- ● Red and amber on
- Green On

It's important to think about timing.
How long should the light stay on at each stage?

