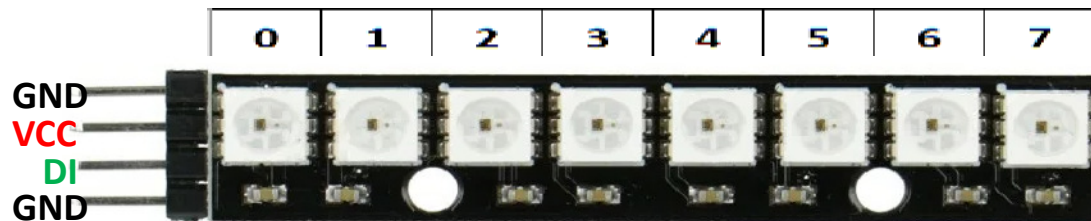


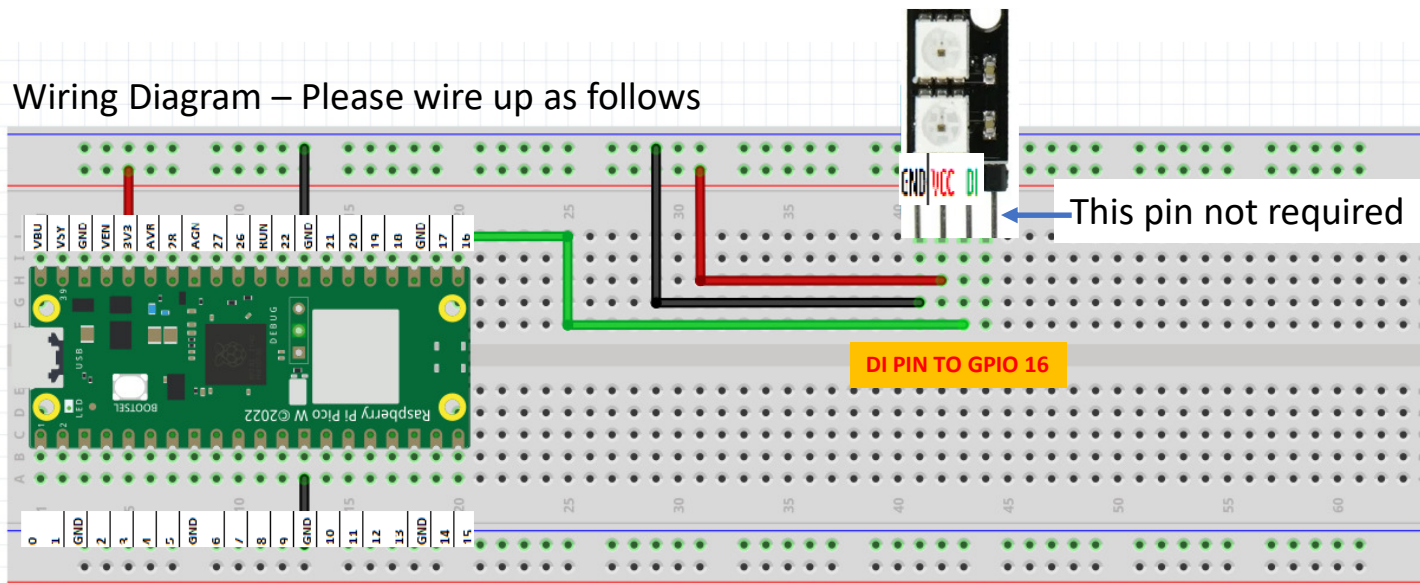
COLOUR YOUR LIFE WITH NEOPIXELS😊

Introducing the WS2812 LED Strip



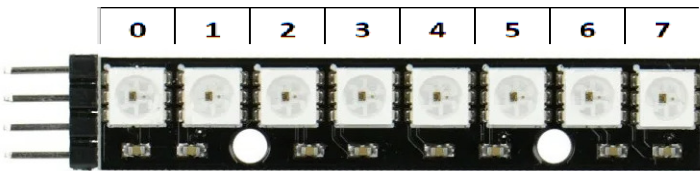
Each of the LED in the strip is addressable using the indices as shown in this diagram
The first LED is 0
Second is 1
.....
Last on is 7

Wiring Diagram – Please wire up as follows



The WS2812 uses the neopixel library.
This library is included in the firmware, so there's no need to download any packages for its use.
Wire it up and let's test it in Thonny's SHELL

```
>>> from machine import Pin
>>> import neopixel
>>> np = neopixel.NeoPixel(Pin(16), 8)
```



To illuminate the LED on the strip we to provide 2 pieces of data to the strip
1 - the index number (0 to 7) of the LED we want to illuminate
2 - the colour we want to illuminate it with- it is represented as a tuple. See the attached samples

```
>>> np[0] = (0, 128, 0)
>>> np.write()
```

These codes will
Turn the first LED
GREEN

neopixel is the library we need to control the WS2812 strip

np is the variable name we assign to this strip.

16 is the GPIO Pin number DI pin of the WS2812 is connected to

8 is the number of LEDs on this strip. In our case it is 8.
There are strips with more or less LEDs than what we have

Source : <https://www.html.am/html-codes/color/color-scheme.cfm>

SOME SAMPLE RGB COLOUR CODES	
RED	(255,0,0)
ORANGE	(255,165,0)
YELLOW	(255,255,0)
GREEN	(0,128,0)
BLUE	(0,0,255)
INDIGO	(75,0,130)
VIOLET	(238,130,238)
BLACK	(0,0,0)

This is Ex 5

You know how to turn the first LED on.

No turn the other LEDs ON USING THE SAMPLE COLOUR PROVIDED

Go to the colour scheme website provided and try other colours.

1st Challenge. How to turn the LED off after you illuminate it?

2nd Challenge. Refer to attached video. See if you can replicate it.

Hint: Requires : for loop and sleep

Ex5a – illuminating each LED with a different colour

You can use the program from Ex5 and make modifications to it.

You can put the colours for each of the LED in a python List like this

```
colour=[(255,0,0),(255,165,0),(255,255,0),(0,128,0),(0,0,255),(75,0,130),(238,130,238),(255,125,125)]
```

This way you can call the respective colour by just using the index of the list – colour[].

For example colour[0] will be (255,0,0)

colour[7] will be (255,125,125)