

Micro:bit Project Sheet 19

Success Criteria

- Powers up LED strip
- Random Colours displayed
- Brightness and colour changes on roll axis

µPython

The code presented here is a modified version of the sample on the Micro:bit Python API document. (<http://microbit-micropython.readthedocs.io/en/latest/neopixel.html>)

I've only added the accelerometer to make it a bit more interactive for student/teacher demos

µPython

```
# Add your Python code here. E.g.

from microbit import *
import neopixel
from random import randint

# Setup the Neopixel strip on pin0 with a length of 8 pixels
np = neopixel.NeoPixel(pin0, 8)

while True:
    # Iterate over each LED in the strip

    for pixel_id in range(0, len(np)):
        # Get accelerometer value and scale it down
        x = abs(accelerometer.get_x()) / 25

        red = randint(0, x)
        green = randint(0, x)
        blue = randint(0, x)

        # Assign the current LED a red, green and blue value based on acc value
        np[pixel_id] = (red, green, blue)

        # Display the current pixel data on the Neopixel strip
        np.show()
        sleep(100)
```

Testing

- Does Neopixel display random colours
- Do the colours change in negative roll
- Do colours change in positive roll

Notes

- Wire up as pictured.

