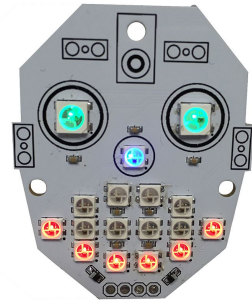# Using McRoboFace with the BBC micro:bit

The McRoboFace is a robotic face with 17 individually controllable RGB LEDs, known as neopixels, that you can use to bring your electronic creations to life.

Each neopixel can be set to any of 16 million different colours (256 for each of Red, Green and Blue).

This tutorial will show you how to make McRoboFace be happy and sad.

Start a fresh Python project at https://www.microbit.co.uk/create-code and type in the following code:

```
from microbit import *
import neopixel

np = neopixel.NeoPixel(pin0,17)
smile = [1,1,1,1,1,1,0,0,0,0,0,0,0,0,1,1,1]
frown = [1,0,0,0,0,1,1,1,1,1,0,0,0,0,1,1,1]

while True:
    # Display a smile

    for id in range(0,len(smile)):
        if(smile[id] !=0):
            np[id] = (255,255,0)
        else:
            np[id] = (0,0,0)
    np.show()
    sleep(2000)
    for id in range(0,len(frown)):
        if(frown[id] !=0):
            np[id] = (255,0,0)
        else:
            np[id] = (0,0,0)
    np.show()
```
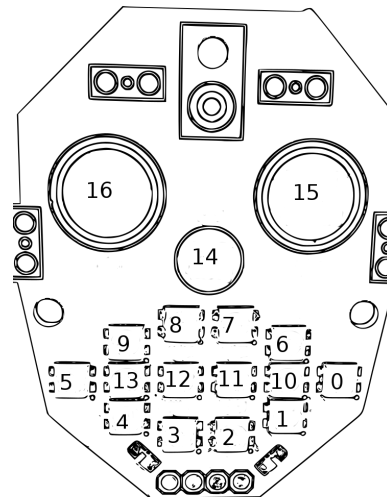
To turn a neopixel on we tell it what colour it needs to be and use the show command.
For example:

```
np[0](255,0,255)
np.show()
```

will set neopixel 0 to a blue colour.

Colours are specified by sending how much Red,Green and Blue (0 to 255) the neopixel should use.

Further information on the micro:bit neopixel library can be found at:
http://microbit-micropython.readthedocs.io/en/latest/neopixel.html