PyLeap NeoPixel Sound Meter for Circuit Playground Bluefruit

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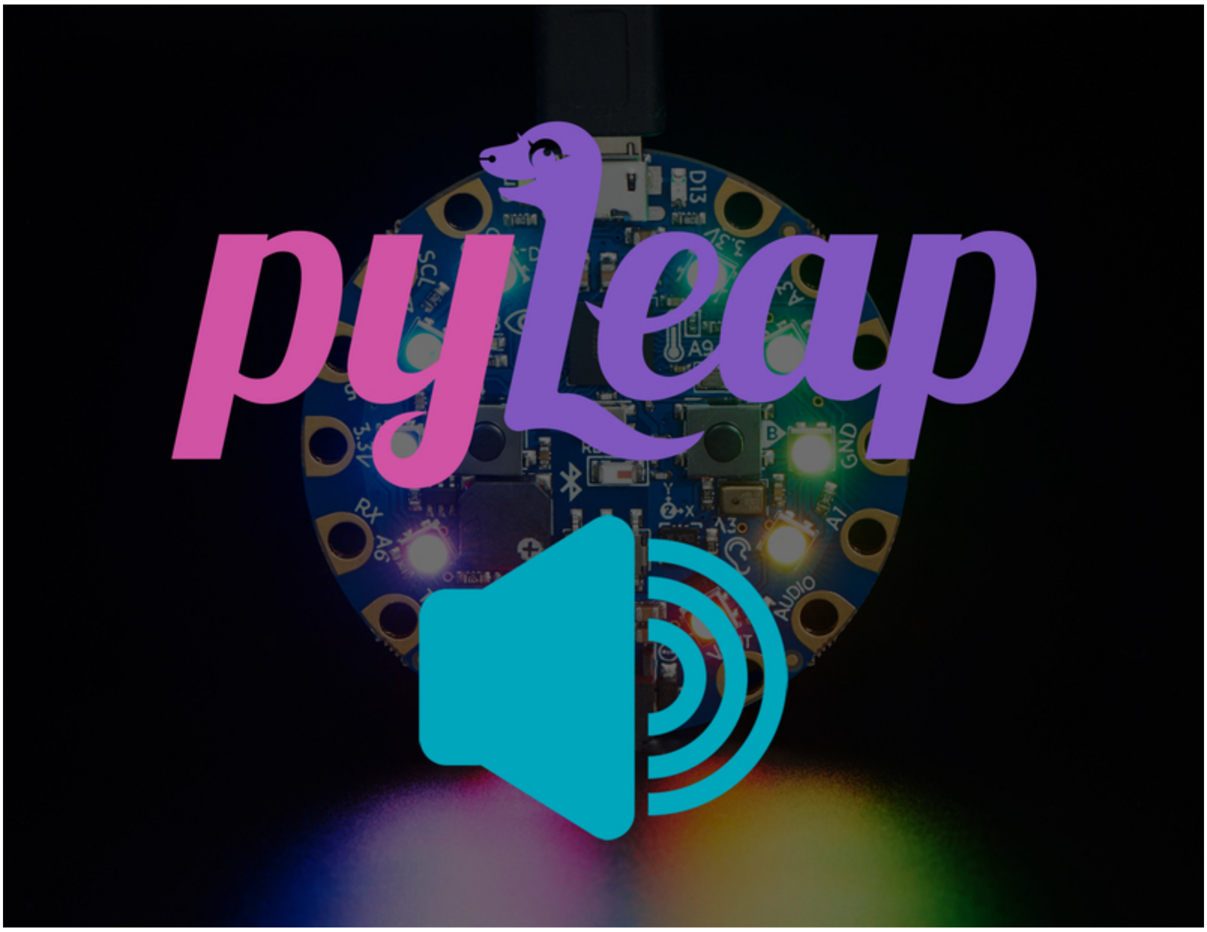

https://learn.adafruit.com/pyleap-neopixel-sound-meter

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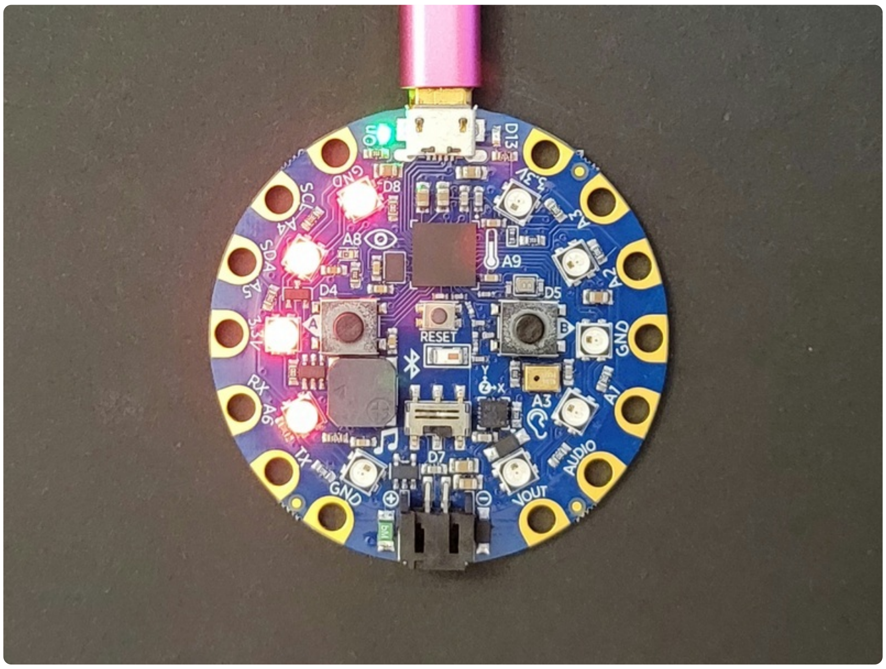
NeoPixel Sound Meter

There is a **microphone (sound sensor)** and **ten NeoPixel LEDs** on your Circuit Playground Bluefruit. This example uses the ten LEDs to indicate sound level from the sensor.

Try talking to your board to see the number of NeoPixel LEDs increase.



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"""
Circuit Playground Bluefruit NeoPixel Sound Meter

Talk or make noise close to your Circuit Playground Bluefruit to see the NeoPixels
light up.
"""
from adafruit_circuitplayground import cp

# Choose a color. Defaults to red. This is an RGB value, where (r, g, b) represents
red, green,
# and blue. Each value has a range of 0-255, where 0 is off and 255 is max
intensity. You can
# update these values to change the colors. For example, (0, 255, 0) would be max
green. You can
# combine numbers within the range to make other colors such as (255, 0, 180) being
pink.
# Try it out!
color_value = (255, 0, 0)

# This is the sound level needed to light up all 10 NeoPixels. If all the LEDs are
lighting up too
# easily, increase this value to make it more difficult to reach the max. If you
are only able to
# light up a few LEDs, decrease this value to make it easier to reach the max. Full
possible sound
```

```
# range is 0 - 65535.
sound_max = 1500

cp.pixels.auto_write = False
cp.pixels.brightness = 0.3


def scale_range(value):
    """Scale a value from 0-sound_max (chosen sound range) to 0-9 (NeoPixel range).
    Allows remapping sound value to pixel position.
    Full sound range is 0 - 65535. sound_max should be chosen based on testing."""
    return round(value / sound_max * 9)


while True:
    peak = scale_range(cp.sound_level)

    for pixel in range(10):
        if pixel <= peak:
            cp.pixels[pixel] = color_value
        else:
            cp.pixels[pixel] = (0, 0, 0)  # Off
    cp.pixels.show()
```