
sparkfun_qwiic_led_stick

Release 0.0.1

SparkFun Electronics

Oct 18, 2021

CONTENTS:

1 Contents 3

2 Supported Platforms 5

3 Dependencies 7

4 Documentation 9

5 Installation 11

5.1 PyPi Installation 11

6 Example Use 13

7 Table of Contents 15

7.1 API Reference 15

7.1.1 qwiic_led_stick 15

7.2 Example One - Blink 17

7.3 Example Two - Single Pixel 19

7.4 Example Three - Unique Pixels 20

7.5 Example Four - Set Brightness 22

7.6 Example Five - Binary Counter 23

7.7 Example Six - Color Gradient 25

7.8 Example Seven - Cycle Rainbow 27

7.9 Example Eight - Walking Rainbow 29

7.10 Example Nine - Change Length 32

7.11 Example Ten - Change Address 33

7.12 Example Eleven - 2 LED Sticks 35

8 Indices and tables 39

Python Module Index 41

Index 43

Python module for the [SparkFun Qwiic LED Stick - APA102C](#)

This python package is a port of the existing [SparkFun Qwiic LED Stick Arduino Library](#)

This package can be used in conjunction with the overall [SparkFun qwiic Python Package](#)

New to qwiic? Take a look at the entire [SparkFun qwiic ecosystem](#).

CONTENTS

- *Supported Platforms*
- *Dependencies*
- *Installation*
- *Documentation*
- *Example Use*

SUPPORTED PLATFORMS

The Qwiic LED Stick Python package currently supports the following platforms:

- [Raspberry Pi](#)

DEPENDENCIES

This driver package depends on the qwiic I2C driver: [Qwiic_I2C_Py](#)

DOCUMENTATION

The SparkFun Qwiic LED Stick module documentation is hosted at [ReadTheDocs](#)

INSTALLATION

5.1 PyPi Installation

This repository is hosted on PyPi as the [sparkfun-qwiic-led-stick](#) package. On systems that support PyPi installation via pip, this library is installed using the following commands

For all users (note: the user must have sudo privileges):

```
sudo pip install sparkfun-qwiic-led-stick
```

For the current user:

```
pip install sparkfun-qwiic-led-stick
```

To install, make sure the setuptools package is installed on the system.

Direct installation at the command line:

```
python setup.py install
```

To build a package for use with pip:

```
python setup.py sdist
```

A package file is built and placed in a subdirectory called dist. This package file can be installed using pip.

```
cd dist  
pip install sparkfun-qwiic-led-stick-<version>.tar.gz
```


EXAMPLE USE

See the examples directory for more detailed use examples.

```
from __future__ import print_function
import qwiic_led_stick
import time
import sys

def run_example():

    print("\nSparkFun Qwiic LED Stick Example 1")
    my_stick = qwiic_led_stick.QwiicLEDStick()

    if my_stick.begin() == False:
        print("\nThe Qwiic LED Stick isn't connected to the sytsem. Please check your \
↪connection", \
            file=sys.stderr)
        return
    print("\nLED Stick ready!")

    my_stick.set_all_LED_brightness(15)

    while True:

        # Turn on all the LEDs to white
        my_stick.set_all_LED_color(50, 50, 50)
        time.sleep(1)
        # Turn off all LEDs
        my_stick.LED_off()
        time.sleep(1)

if __name__ == '__main__':
    try:
        run_example()
    except (KeyboardInterrupt, SystemExit) as exErr:
        print("\nEnding Example 1")
        sys.exit(0)
```


TABLE OF CONTENTS

7.1 API Reference

7.1.1 qwiic_led_stick

Python module for the SparkFun Qwiic LED Stick - APA102C.

This package is a port of the existing [SparkFun Qwiic LED Stick Arduino Library](https://github.com/sparkfun/SparkFun_Qwiic_LED_Stick_Arduino_Library).

This package can be used in conjunction with the overall [SparkFun Qwiic Python Package](https://github.com/sparkfun/Qwiic_Py).

New to qwiic? Take a look at the entire [SparkFun Qwiic Ecostem](<https://www.sparkfun.com/qwiic>).

class qwiic_led_stick.QwiicLEDStick(*address=None, i2c_driver=None*)

Parameters

- **address** – The I2C address to use for the device. If not provided, the default address is used.
- **i2c_driver** – An existing i2c driver object. If not provided a driver is created.

Returns The GPIO device object.

Return type Object

LED_off()

Turn all LEDs off by setting color to 0

Returns true if the command was sent successfully, false otherwise.

Return type bool

begin()

Initialize the operation of the Qwiic LED Stick. Run is_connected()

Returns Returns true if an LED Stick is connected to the system False otherwise.

Return type bool

change_address(*new_address*)

Change the I2C address from one address to another.

Parameters **new_address** – the new address to be set to. Must be valid.

Returns Nothing

Return type Void

change_length(*new_length*)

Change the length of the LED string

Parameters **new_length** – the new length of the LED string

Returns true if the command was sent successfully, false otherwise.

Return type bool

is_connected()

Determine if a Qwiic SGP40 device is connected to the system.

Returns True if the device is connected, false otherwise.

Return type bool

set_all_LED_brightness(*brightness*)

Change the brightness of all LEDs while keeping their current color. To turn all LEDs off but remember their previous color, set brightness to 0

Parameters **brightness** – value of LED brightness between 0 and 31.

Returns true if the command was sent successfully, false otherwise.

Return type bool

set_all_LED_color(*red, green, blue*)

Set the color of all LEDs in the string. Each will be shining the same color. The color value must be between 0-255.

Parameters

- **red** – the red value to set all LEDs to. Between 0 and 255.
- **green** – the green value to set all LEDs to. Between 0 and 255.
- **blue** – the blue value to set all the LEDs to. Between 0 and 255.

Returns Returns true if command is written successfully, false otherwise

Return type bool

set_all_LED_unique_color(*red_list, green_list, blue_list, length*)

Change the color of all LEDs at once to individual values.

Parameters

- **red_list** – a list of red values for the LEDs. Index 0 of red_list corresponds to the red value of LED 0.
- **blue_list** – a list of blue values for the LEDs.
- **green_list** – a list of green values for the LEDs.
- **length** – the length of the LED string.

Returns True if commands are written successfully, false otherwise

Return type bool

set_single_LED_brightness(*number, brightness*)

Change the brightness of a specific LED while keeping their current color. To turn LEDs off but remember their previous color, set brightness to 0.

Parameters

- **number** – number of LED to change brightness. LEDs indexed starting at 1.

- **brightness** – value of LED brightness between 0 and 31.

Returns true if the command was sent successfully, false otherwise.

Return type bool

set_single_LED_color(*number, red, green, blue*)

Change the color of a specific LED.

Parameters

- **number** – the number of LED. Indexing starts at 1.
- **red** – the red value between 0 and 255
- **green** – the green value between 0 and 255
- **blue** – the blue value between 0 and 255

Returns Returns true if command written successfully, false otherwise

Return type bool

7.2 Example One - Blink

Listing 1: examples/qwiic_led_stick_ex1_blink.py

```

1  #!/usr/bin/env python
2  # -----
3  # qwiic_led_stick_ex1_blink.py
4  #
5  # This example blinks the entire LED stick.
6  # -----
7  #
8  # Written by Priyanka Makin @ SparkFun Electronics, June 2021
9  #
10 # This python library supports the SparkFun Electronics qwiic sensor/
11 # board ecosystem on a Raspberry Pi (and compatible) board computers.
12 #
13 # More information on qwiic is at https://www.sparkfun.com/qwiic
14 #
15 # Do you like this library? Help support SparkFun by buying a board!
16 #
17 #=====
18 # Copyright (c) 2019 SparkFun Electronics
19 #
20 # Permission is hereby granted, free of charge, to any person obtaining a copy
21 # of this software and associated documentation files (the "Software"), to deal
22 # in the Software without restriction, including without limitation the rights
23 # to use, copy, modify, merge, publish, distribute, sublicense, and/or sell
24 # copies of the Software, and to permit persons to whom the Software is
25 # furnished to do so, subject to the following conditions:
26 #
27 # The above copyright notice and this permission notice shall be included in all
28 # copies or substantial portions of the Software.
29 #

```

(continues on next page)

(continued from previous page)

```

30 # THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
31 # IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
32 # FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE
33 # AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER
34 # LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM,
35 # OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE
36 # SOFTWARE.
37 #=====
38 # Example 1
39
40 from __future__ import print_function
41 import qwiic_led_stick
42 import time
43 import sys
44
45 def run_example():
46
47     print("\nSparkFun Qwiic LED Stick Example 1")
48     my_stick = qwiic_led_stick.QwiicLEDStick()
49
50     if my_stick.begin() == False:
51         print("\nThe Qwiic LED Stick isn't connected to the sytsem. Please check your
↪connection", \
52             file=sys.stderr)
53         return
54     print("\nLED Stick ready!")
55
56     my_stick.set_all_LED_brightness(15)
57
58     while True:
59
60         # Turn on all the LEDs to white
61         my_stick.set_all_LED_color(50, 50, 50)
62         time.sleep(1)
63         # Turn off all LEDs
64         my_stick.LED_off()
65         time.sleep(1)
66
67 if __name__ == '__main__':
68     try:
69         run_example()
70     except (KeyboardInterrupt, SystemExit) as exErr:
71         print("\nEnding Example 1")
72         sys.exit(0)

```

7.3 Example Two - Single Pixel

Listing 2: examples/qwiic_led_stick_ex2_single_pixel.py

```

1  #!/usr/bin/env python
2  # -----
3  # qwiic_led_stick_ex2_single_pixel.py
4  #
5  # This example will alternate blinking two single LEDs on the LED Stick.
6  # -----
7  #
8  # Written by Priyanka Makin @ SparkFun Electronics, June 2021
9  #
10 # This python library supports the SparkFun Electronics qwiic sensor/
11 # board ecosystem on a Raspberry Pi (and compatible) board computers.
12 #
13 # More information on qwiic is at https://www.sparkfun.com/qwiic
14 #
15 # Do you like this library? Help support SparkFun by buying a board!
16 #
17 #=====
18 # Copyright (c) 2019 SparkFun Electronics
19 #
20 # Permission is hereby granted, free of charge, to any person obtaining a copy
21 # of this software and associated documentation files (the "Software"), to deal
22 # in the Software without restriction, including without limitation the rights
23 # to use, copy, modify, merge, publish, distribute, sublicense, and/or sell
24 # copies of the Software, and to permit persons to whom the Software is
25 # furnished to do so, subject to the following conditions:
26 #
27 # The above copyright notice and this permission notice shall be included in all
28 # copies or substantial portions of the Software.
29 #
30 # THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
31 # IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
32 # FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE
33 # AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER
34 # LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM,
35 # OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE
36 # SOFTWARE.
37 #=====
38 # Example 2
39
40 from __future__ import print_function
41 import qwiic_led_stick
42 import time
43 import sys
44
45 def run_example():
46
47     print("\nSparkFun Qwiic LED Stick Example 2")
48     my_stick = qwiic_led_stick.QwiicLEDStick()

```

(continues on next page)

(continued from previous page)

```

49     if my_stick.begin() == False:
50         print("\nThe Qwiic LED Stick isn't connected to the system. Please check your
51         ↳connection", \
52             file=sys.stderr)
53         return
54     print("\nLED Stick ready!")
55
56     while True:
57
58         # Turn all LEDs off
59         my_stick.LED_off()
60         # TODO: make sure this numbering matches up with the silkscreen
61         # Turn on LED #4, red
62         my_stick.set_single_LED_color(4, 255, 0, 0)
63         time.sleep(1)
64         # Turn all LEDs off
65         my_stick.LED_off()
66         # Turn on LED #6, red
67         my_stick.set_single_LED_color(6, 255, 0, 0)
68         time.sleep(1)
69
70 if __name__ == '__main__':
71     try:
72         run_example()
73     except (KeyboardInterrupt, SystemExit) as exErr:
74         print("\nEnding Example 2")
75         sys.exit(0)

```

7.4 Example Three - Unique Pixels

Listing 3: examples/qwiic_led_stick_ex3_single_pixel2.py

```

1  #!/usr/bin/env python
2  # -----
3  # qwiic_led_stick_ex3_single_pixel2.py
4  #
5  # This example changes each LED of the LED Stick to an arbitrary color.
6  # -----
7  #
8  # Written by Priyanka Makin @ SparkFun Electronics, June 2021
9  #
10 # This python library supports the SparkFun Electronics qwiic sensor/
11 # board ecosystem on a Raspberry Pi (and compatible) board computers.
12 #
13 # More information on qwiic is at https://www.sparkfun.com/qwiic
14 #
15 # Do you like this library? Help support SparkFun by buying a board!
16 #
17 #=====

```

(continues on next page)

(continued from previous page)

```

18 # Copyright (c) 2019 SparkFun Electronics
19 #
20 # Permission is hereby granted, free of charge, to any person obtaining a copy
21 # of this software and associated documentation files (the "Software"), to deal
22 # in the Software without restriction, including without limitation the rights
23 # to use, copy, modify, merge, publish, distribute, sublicense, and/or sell
24 # copies of the Software, and to permit persons to whom the Software is
25 # furnished to do so, subject to the following conditions:
26 #
27 # The above copyright notice and this permission notice shall be included in all
28 # copies or substantial portions of the Software.
29 #
30 # THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
31 # IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
32 # FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE
33 # AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER
34 # LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM,
35 # OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE
36 # SOFTWARE.
37 #=====
38 # Example 3
39
40 from __future__ import print_function
41 import qwiic_led_stick
42 import time
43 import sys
44
45 def run_example():
46
47     print("\nSparkFun Qwiic LED Stick Example 3")
48     my_stick = qwiic_led_stick.QwiicLEDStick()
49
50     if my_stick.begin() == False:
51         print("\nThe Qwiic LED Stick isn't connected to the system. Please check your
↳connection", \
52             file=sys.stderr)
53         return
54     print("\nLED Stick ready!")
55
56     # Create 3 lists of the same length as the LED Stick, initialize with arbitrary
↳values
57     # Pixel_list = [0, 1, 2, 3, 4, 5, 6, 7, 8, 9]
58     red_list = [214, 78, 183, 198, 59, 134, 15, 209, 219, 186]
59     green_list = [59, 216, 170, 21, 114, 63, 226, 92, 155, 175]
60     blue_list = [214, 147, 25, 124, 153, 163, 188, 33, 175, 221]
61
62     my_stick.set_all_LED_unique_color(red_list, green_list, blue_list, 10)
63
64 if __name__ == '__main__':
65     try:
66         run_example()
67     except (KeyboardInterrupt, SystemExit) as exErr:

```

(continues on next page)

(continued from previous page)

```

68     print("\nEnding Example 3")
69     sys.exit(0)

```

7.5 Example Four - Set Brightness

Listing 4: examples/qwiic_led_stick_ex4_set_brightness.py

```

1  #!/usr/bin/env python
2  # -----
3  # qwiic_led_stick_ex3_set_brightness.py
4  #
5  # This example changes brightness of the LED Stick in different ways, then stops
6  # through each available brightness setting.
7  # -----
8  #
9  # Written by Priyanka Makin @ SparkFun Electronics, June 2021
10 #
11 # This python library supports the SpakrFun Electronics qwiic sensor/
12 # board ecosystem on a Raspberry Pi (and compatible) board computers.
13 #
14 # More information on qwiic is at https://www.sparkfun.com/qwiic
15 #
16 # Do you like this library? Help support SparkFun by buying a board!
17 #
18 #=====
19 # Copyright (c) 2019 SparkFun Electronics
20 #
21 # Permission is hereby granted, free of charge, to any person obtaining a copy
22 # of this software and associated documentation files (the "Software"), to deal
23 # in the Software without restriction, including without limitation the rights
24 # to use, copy, modify, merge, publish, distribute, sublicense, and/or sell
25 # copies of the Software, and to permit persons to whom the Software is
26 # furnished to do so, subject to the following conditions:
27 #
28 # The above copyright notice and this permission notice shall be included in all
29 # copies or substantial portions of the Software.
30 #
31 # THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
32 # IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
33 # FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE
34 # AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER
35 # LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM,
36 # OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE
37 # SOFTWARE.
38 #=====
39 # Example 4
40
41 from __future__ import print_function
42 import qwiic_led_stick
43 import time

```

(continues on next page)

(continued from previous page)

```

44 import sys
45
46 def run_example():
47
48     print("\nSparkFun Qwiic LED Stick Example 3")
49     my_stick = qwiic_led_stick.QwiicLEDStick()
50
51     if my_stick.begin() == False:
52         print("\nThe Qwiic LED Stick isn't connected to the system. Please check your
↳ connection", \
53             file=sys.stderr)
54         return
55     print("\nLED Stick ready!")
56
57     # Initialize LEDs as a rainbow followed by 1 white pixel
58     red_list = [255, 255, 170, 0, 0, 0, 0, 170, 255, 255]
59     green_list = [0, 170, 255, 255, 255, 170, 0, 0, 0, 255]
60     blue_list = [0, 0, 0, 0, 170, 255, 255, 255, 170, 255]
61
62     # Turn on the LED Stick according to the 3 arrays
63     my_stick.set_all_LED_unique_color(red_list, green_list, blue_list, 10)
64
65     while True:
66
67         # This will step through each available brightness setting
68         # Brightness values can be from 0 - 31
69         for i in range(0, 32):
70             my_stick.set_all_LED_brightness(i)
71
72             print("\nBrightness level: " + str(i))
73             time.sleep(1)
74
75 if __name__ == '__main__':
76     try:
77         run_example()
78     except (KeyboardInterrupt, SystemExit) as exErr:
79         print("\nEnding Example 4")
80         sys.exit(0)

```

7.6 Example Five - Binary Counter

Listing 5: examples/qwiic_led_stick_ex5_binary_counter.py

```

1  #!/usr/bin/env python
2  # -----
3  # qwiic_led_stick_ex5_binary_counter.py
4  #
5  # This example counts up from 0 to 1023 and displays the number in binary on the
6  # LED Stick.
7  # -----

```

(continues on next page)

(continued from previous page)

```

8  #
9  # Written by Priyanka Makin @ SparkFun Electronics, June 2021
10 #
11 # This python library supports the SpakrFun Electronics qwiic sensor/
12 # board ecosystem on a Raspberry Pi (and compatible) board computers.
13 #
14 # More information on qwiic is at https://www.sparkfun.com/qwiic
15 #
16 # Do you like this library? Help support SparkFun by buying a board!
17 #
18 #=====
19 # Copyright (c) 2019 SparkFun Electronics
20 #
21 # Permission is hereby granted, free of charge, to any person obtaining a copy
22 # of this software and associated documentation files (the "Software"), to deal
23 # in the Software without restriction, including without limitation the rights
24 # to use, copy, modify, merge, publish, distribute, sublicense, and/or sell
25 # copies of the Software, and to permit persons to whom the Software is
26 # furnished to do so, subject to the following conditions:
27 #
28 # The above copyright notice and this permission notice shall be included in all
29 # copies or substantial portions of the Software.
30 #
31 # THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
32 # IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
33 # FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE
34 # AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER
35 # LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM,
36 # OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE
37 # SOFTWARE.
38 #=====
39 # Example 5
40
41 from __future__ import print_function
42 import qwiic_led_stick
43 import time
44 import sys
45
46 def binary_LED_display(LED_stick, count, LED_length):
47     # Create color arrays because we want to turn on whole string of LEDs at one time
48     red_list = [0] * LED_length
49     green_list = [0] * LED_length
50     blue_list = [0] * LED_length
51
52     # This for loop will repeat for each pixel of the LED Stick
53     for i in range(0, LED_length):
54         # For ith_bit, we use the bitshift operator. count >> i takes the binary
55         # representation of count and shifts it to the right i times. For example,
56         # if count was 10, 0b1010, and i was 2, we get 0b10. This aligns with the
57         # ith bit of count to the 0th bit of ith_bit
58         ith_bit = count >> i
59         # This will resolve to the 0th bit of ith_bit

```

(continues on next page)

(continued from previous page)

```

60     ith_bit_true = ith_bit & 0b1
61     # Write the color red to the current LED if the ith_bit_true
62     # LED_stick.set_single_LED_color(10 - i, 255 * ith_bit_true, 0, 0)
63     red_list[LED_length - i - 1] = 255 * ith_bit_true
64
65     LED_stick.set_all_LED_unique_color(red_list, green_list, blue_list, LED_length)
66
67 def binary_serial_display(count, bit_length):
68     print(str(count) + "\t" + str(bin(count)))
69
70 def run_example():
71
72     print("\nSparkFun Qwiic LED Stick Example 5")
73     my_stick = qwiic_led_stick.QwiicLEDStick()
74
75     if my_stick.begin() == False:
76         print("\nThe Qwiic LED Stick isn't connected to the system. Please check your
↪connection", \
77             file=sys.stderr)
78         return
79     print("\nLED Stick ready!")
80
81     # Reset the state of LEDs
82     my_stick.LED_off()
83
84     while True:
85         # This loop counts from 0 to 1023 and displays the binary over the
86         # serial port and the LED stick
87         for i in range(0, 1024):
88             binary_LED_display(my_stick, i, 10)
89             binary_serial_display(i, 10)
90             time.sleep(1)
91
92 if __name__ == '__main__':
93     try:
94         run_example()
95     except (KeyboardInterrupt, SystemExit) as exErr:
96         print("\nEnding Example 5")
97         sys.exit(0)

```

7.7 Example Six - Color Gradient

Listing 6: examples/qwiic_led_stick_ex6_color_gradient.py

```

1 #!/usr/bin/env python
2 # -----
3 # qwiic_led_stick_ex6_color_gradient.py
4 #
5 # This example will display a linear gradient from one color to another on the LED
6 # Stick.

```

(continues on next page)

(continued from previous page)

```

7  # -----
8  #
9  # Written by Priyanka Makin @ SparkFun Electronics, June 2021
10 #
11 # This python library supports the SpakrFun Electronics qwiic sensor/
12 # board ecosystem on a Raspberry Pi (and compatible) board computers.
13 #
14 # More information on qwiic is at https://www.sparkfun.com/qwiic
15 #
16 # Do you like this library? Help support SparkFun by buying a board!
17 #
18 #=====
19 # Copyright (c) 2019 SparkFun Electronics
20 #
21 # Permission is hereby granted, free of charge, to any person obtaining a copy
22 # of this software and associated documentation files (the "Software"), to deal
23 # in the Software without restriction, including without limitation the rights
24 # to use, copy, modify, merge, publish, distribute, sublicense, and/or sell
25 # copies of the Software, and to permit persons to whom the Software is
26 # furnished to do so, subject to the following conditions:
27 #
28 # The above copyright notice and this permission notice shall be included in all
29 # copies or substantial portions of the Software.
30 #
31 # THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
32 # IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
33 # FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE
34 # AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER
35 # LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM,
36 # OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE
37 # SOFTWARE.
38 #=====
39 # Example 6
40
41 from __future__ import print_function
42 import qwiic_led_stick
43 import time
44 import sys
45
46 def color_gradient(LED_stick, r1, b1, g1, r2, g2, b2, LED_length):
47     # Subtract 1 from LED_length because there is one less transition color
48     # than length of LEDs
49     LED_length = LED_length - 1
50     # Calculate the slope of the line between r/g/b1 and r/g/b2
51     r_slope = (r2 - r1) / LED_length
52     g_slope = (g2 - g1) / LED_length
53     b_slope = (b2 - b1) / LED_length
54     # Set the color for each pixel on your LED Stick
55     for i in range(0, LED_length):
56         # Evaluate the ith point on the line between r/g/b1 and r/g/b2
57         r_value = r1 + r_slope * i
58         g_value = g1 + g_slope * i

```

(continues on next page)

(continued from previous page)

```

59     b_value = b1 + b_slope * i
60     # Set the pixel to the calculated color
61     LED_stick.set_single_LED_color(i + 1, r_value, g_value, b_value)
62
63 def run_example():
64
65     print("\nSparkFun Qwiic LED Stick Example 6")
66     my_stick = qwiic_led_stick.QwiicLEDStick()
67
68     if my_stick.begin() == False:
69         print("\nThe Qwiic LED Stick isn't connected to the system. Please check your
↳ connection", \
70             file=sys.stderr)
71         return
72     print("\nLED Stick ready!")
73
74     # Set the colors for the gradient
75     # These are for the first color
76     r1 = 238
77     g1 = 49
78     b1 = 36
79     # These are for the last color
80     r2 = 66
81     g2 = 235
82     b2 = 23
83
84     color_gradient(my_stick, r1, g1, b1, r2, g2, b2, 10)
85
86 if __name__ == '__main__':
87     try:
88         run_example()
89     except (KeyboardInterrupt, SystemExit) as exErr:
90         print("\nEnding Example 6")
91         sys.exit(0)

```

7.8 Example Seven - Cycle Rainbow

Listing 7: examples/qwiic_led_stick_ex7_cycle_rainbow.py

```

1  #!/usr/bin/env python
2  # -----
3  # qwiic_led_stick_ex7_cycle_rainbow.py
4  #
5  # This example ake the LED Stick smoothly change through the colors of the rainbow.
6  # -----
7  #
8  # Written by Priyanka Makin @ SparkFun Electronics, June 2021
9  #
10 # This python library supports the SpakrFun Electronics qwiic sensor/
11 # board ecosystem on a Raspberry Pi (and compatible) board computers.

```

(continues on next page)

(continued from previous page)

```

12 #
13 # More information on qwiic is at https://www.sparkfun.com/qwiic
14 #
15 # Do you like this library? Help support SparkFun by buying a board!
16 #
17 #=====
18 # Copyright (c) 2019 SparkFun Electronics
19 #
20 # Permission is hereby granted, free of charge, to any person obtaining a copy
21 # of this software and associated documentation files (the "Software"), to deal
22 # in the Software without restriction, including without limitation the rights
23 # to use, copy, modify, merge, publish, distribute, sublicense, and/or sell
24 # copies of the Software, and to permit persons to whom the Software is
25 # furnished to do so, subject to the following conditions:
26 #
27 # The above copyright notice and this permission notice shall be included in all
28 # copies or substantial portions of the Software.
29 #
30 # THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
31 # IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
32 # FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE
33 # AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER
34 # LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM,
35 # OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE
36 # SOFTWARE.
37 #=====
38 # Example 7
39
40 from __future__ import print_function
41 import qwiic_led_stick
42 import time
43 import sys
44
45 def cycle_rainbow(LED_stick, delay):
46     # Red to yellow
47     for g in range(0, 255):
48         LED_stick.set_all_LED_color(255, g, 0)
49         time.sleep(delay)
50
51     # Yellow to green
52     for r in range(255, 0, -1):
53         LED_stick.set_all_LED_color(r, 255, 0)
54         time.sleep(delay)
55
56     # Green to cyan
57     for b in range(0, 255):
58         LED_stick.set_all_LED_color(0, 255, b)
59         time.sleep(delay)
60
61     # Cyan to blue
62     for g in range(255, 0, -1):
63         LED_stick.set_all_LED_color(0, g, 255)

```

(continues on next page)

(continued from previous page)

```

64         time.sleep(delay)
65
66         # Blue to magenta
67         for r in range(0, 255):
68             LED_stick.set_all_LED_color(r, 0, 255)
69             time.sleep(delay)
70
71         # Magenta to red
72         for b in range(255, 0, -1):
73             LED_stick.set_all_LED_color(255, 0, b)
74             time.sleep(delay)
75
76     def run_example():
77
78         print("\nSparkFun Qwiic LED Stick Example 7")
79         my_stick = qwiic_led_stick.QwiicLEDStick()
80
81         if my_stick.begin() == False:
82             print("\nThe Qwiic LED Stick isn't connected to the system. Please check your
83 ↪connection", \
84                 file=sys.stderr)
85             return
86         print("\nLED Stick ready!")
87
88         while True:
89             cycle_rainbow(my_stick, 0.01)
90
91     if __name__ == '__main__':
92         try:
93             run_example()
94         except (KeyboardInterrupt, SystemExit) as exErr:
95             print("\nEnding Example 7")
96             sys.exit(0)

```

7.9 Example Eight - Walking Rainbow

Listing 8: examples/qwiic_led_stick_ex8_walking_rainbow.py

```

1  #!/usr/bin/env python
2  # -----
3  # qwiic_led_stick_ex8_walking_rainbow.py
4  #
5  # This example makes a moving rainbow on the LED Stick.
6  # -----
7  #
8  # Written by Priyanka Makin @ SparkFun Electronics, June 2021
9  #
10 # This python library supports the SparkFun Electronics qwiic sensor/
11 # board ecosystem on a Raspberry Pi (and compatible) board computers.
12 #

```

(continues on next page)

(continued from previous page)

```

13 # More information on qwiic is at https://www.sparkfun.com/qwiic
14 #
15 # Do you like this library? Help support SparkFun by buying a board!
16 #
17 #=====
18 # Copyright (c) 2019 SparkFun Electronics
19 #
20 # Permission is hereby granted, free of charge, to any person obtaining a copy
21 # of this software and associated documentation files (the "Software"), to deal
22 # in the Software without restriction, including without limitation the rights
23 # to use, copy, modify, merge, publish, distribute, sublicense, and/or sell
24 # copies of the Software, and to permit persons to whom the Software is
25 # furnished to do so, subject to the following conditions:
26 #
27 # The above copyright notice and this permission notice shall be included in all
28 # copies or substantial portions of the Software.
29 #
30 # THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
31 # IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
32 # FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE
33 # AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER
34 # LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM,
35 # OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE
36 # SOFTWARE.
37 #=====
38 # Example 8
39
40 from __future__ import print_function
41 import qwiic_led_stick
42 import math
43 import time
44 import sys
45
46 def walking_rainbow(LED_stick, rainbow_length, LED_length, delay):
47     red_array = [None] * LED_length
48     blue_array = [None] * LED_length
49     green_array = [None] * LED_length
50
51     for j in range(0, rainbow_length):
52
53         for i in range(0, LED_length):
54             # There are n colors generated for the rainbow
55             # The value of n determines which color is generated at each pixel
56             n = i + 1 - j
57
58             # Loop n so that it is always between 1 and rainbow_length
59             if n <= 0:
60                 n = n + rainbow_length
61
62             # The nth color is between red and yellow
63             if n <= math.floor(rainbow_length / 6):
64                 red_array[i] = 255

```

(continues on next page)

(continued from previous page)

```

65         green_array[i] = int(math.floor(6 * 255 / rainbow_length * n))
66         blue_array[i] = 0
67
68         # The nth color is between yellow and green
69         elif n <= math.floor(rainbow_length / 3):
70             red_array[i] = int(math.floor(510 - 6 * 255 / rainbow_length * n))
71             green_array[i] = 255
72             blue_array[i] = 0
73
74         # The nth color is between green and cyan
75         elif n <= math.floor(rainbow_length / 2):
76             red_array[i] = 0
77             green_array[i] = 255
78             blue_array[i] = int(math.floor(6 * 255 / rainbow_length * n - 510))
79
80         # The nth color is between blue and magenta
81         elif n <= math.floor(5 * rainbow_length / 6):
82             red_array[i] = int(math.floor(6 * 255 / rainbow_length * n - 1020))
83             green_array[i] = 0
84             blue_array[i] = 255
85
86         # The nth color is between magenta and red
87         else:
88             red_array[i] = 255
89             green_array[i] = 0
90             blue_array[i] = int(math.floor(1530 - (6 * 255 / rainbow_length * n)))
91
92         # Set all the LEDs to the color values accordig to the arrays
93         LED_stick.set_all_LED_unique_color(red_array, green_array, blue_array, LED_
94         ↪length)
95         time.sleep(delay)
96
97     def run_example():
98
99         print("\nSparkFun Qwiic LED Stick Example 1")
100         my_stick = qwiic_led_stick.QwiicLEDStick()
101
102         if my_stick.begin() == False:
103             print("\nThe Qwiic LED Stick isn't connected to the system. Please check your_
104             ↪connection", \
105                 file=sys.stderr)
106             return
107         print("\nLED Stick ready!")
108
109         while True:
110             walking_rainbow(my_stick, 20, 10, 0.3)
111
112 if __name__ == '__main__':
113     try:
114         run_example()
115     except (KeyboardInterrupt, SystemExit) as exErr:
116         print("\nEnding Example 8")

```

(continues on next page)

```
sys.exit(0)
```

7.10 Example Nine - Change Length

Listing 9: examples/qwiic_led_stick_ex9_change_length.py

```

1  #!/usr/bin/env python
2  # -----
3  # qwiic_led_stick_ex9_change_length.py
4  #
5  # This example changes the length of the attached LED strip and shows the results
6  # by writing the whole strip white. Length will not reset on restart, change back
7  # to 10 if necessary with my_stick.change_length(10);
8  # If you add LEDs to the end of the stick, you must change the length to be able to
9  # use them.
10 # -----
11 #
12 # Written by Priyanka Makin @ SparkFun Electronics, June 2021
13 #
14 # This python library supports the SparkFun Electronics qwiic sensor/
15 # board ecosystem on a Raspberry Pi (and compatible) board computers.
16 #
17 # More information on qwiic is at https://www.sparkfun.com/qwiic
18 #
19 # Do you like this library? Help support SparkFun by buying a board!
20 #
21 #=====
22 # Copyright (c) 2019 SparkFun Electronics
23 #
24 # Permission is hereby granted, free of charge, to any person obtaining a copy
25 # of this software and associated documentation files (the "Software"), to deal
26 # in the Software without restriction, including without limitation the rights
27 # to use, copy, modify, merge, publish, distribute, sublicense, and/or sell
28 # copies of the Software, and to permit persons to whom the Software is
29 # furnished to do so, subject to the following conditions:
30 #
31 # The above copyright notice and this permission notice shall be included in all
32 # copies or substantial portions of the Software.
33 #
34 # THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
35 # IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
36 # FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE
37 # AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER
38 # LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM,
39 # OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE
40 # SOFTWARE.
41 #=====
42 # Example 9
43
44 from __future__ import print_function

```

(continues on next page)

(continued from previous page)

```

45 import qwiic_led_stick
46 import time
47 import sys
48
49 def run_example():
50
51     print("\nSparkFun Qwiic LED Stick Example 9")
52     my_stick = qwiic_led_stick.QwiicLEDStick()
53
54     if my_stick.begin() == False:
55         print("\nThe Qwiic LED Stick isn't connected to the system. Please check your
↳ connection", \
56             file=sys.stderr)
57         return
58     print("\nLED Stick ready!")
59
60     # First, turn all LEDs off
61     my_stick.LED_off()
62     # Give stick time to turn all LEDs off
63     time.sleep(0.5)
64
65     # Change LED length to 5
66     # This will allow you to write to a maximum of 5 LEDs
67     my_stick.change_length(5)
68     # Set all LEDs to dim white, notice only 5 are lit.
69     my_stick.set_all_LED_color(10, 10, 10)
70
71 if __name__ == '__main__':
72     try:
73         run_example()
74     except (KeyboardInterrupt, SystemExit) as exErr:
75         print("\nEnding Example 1")
76         sys.exit(0)

```

7.11 Example Ten - Change Address

Listing 10: examples/qwiic_led_stick_ex10_change_address.py

```

1  #!/usr/bin/env python
2  # -----
3  # qwiic_led_stick_ex10_change_address.py
4  #
5  # This example changes the address of the LED stick and shows the results by writing
6  # the whole strip white. Address will not reset on restart. Change the address back
7  # to default with my_stick.change_address(0x23).
8  # -----
9  #
10 # Written by Priyanka Makin @ SparkFun Electronics, June 2021
11 #
12 # This python library supports the SparkFun Electronics qwiic sensor/

```

(continues on next page)

(continued from previous page)

```

13 # board ecosystem on a Raspberry Pi (and compatible) board computers.
14 #
15 # More information on qwiic is at https://www.sparkfun.com/qwiic
16 #
17 # Do you like this library? Help support SparkFun by buying a board!
18 #
19 #=====
20 # Copyright (c) 2019 SparkFun Electronics
21 #
22 # Permission is hereby granted, free of charge, to any person obtaining a copy
23 # of this software and associated documentation files (the "Software"), to deal
24 # in the Software without restriction, including without limitation the rights
25 # to use, copy, modify, merge, publish, distribute, sublicense, and/or sell
26 # copies of the Software, and to permit persons to whom the Software is
27 # furnished to do so, subject to the following conditions:
28 #
29 # The above copyright notice and this permission notice shall be included in all
30 # copies or substantial portions of the Software.
31 #
32 # THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
33 # IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
34 # FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE
35 # AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER
36 # LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM,
37 # OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE
38 # SOFTWARE.
39 #=====
40 # Example 10
41
42 from __future__ import print_function
43 import qwiic_led_stick
44 import time
45 import sys
46
47 def run_example():
48
49     print("\nSparkFun Qwiic LED Stick Example 10")
50     my_stick = qwiic_led_stick.QwiicLEDStick()
51
52     if my_stick.begin() == False:
53         print("\nThe Qwiic LED Stick isn't connected to the system. Please check your
↳ connection", \
54             file=sys.stderr)
55         return
56     print("\nLED Stick ready!")
57
58     print("\nEnter a new I2C address for the Qwiic LED Stick to use.")
59     print("\nDon't use the 0x prefix. For instance, if you wanted to")
60     print("\nchange the address to 0x5B, you would type 5B and hit enter.")
61
62     new_address = raw_input("\nNew address: ")
63     new_address = int(new_address, 16)

```

(continues on next page)

(continued from previous page)

```

64
65     # Check if the user entered a valid address
66     if new_address > 0x08 and new_address < 0x77:
67         print("\nCharacters received and new address is valid!")
68         print("\nAttempting to set Qwiic LED Stick address...")
69
70         if my_stick.change_address(new_address) == True:
71             print("\nAddress successfully changed!")
72             # Check that the Qwiic LED Stick acknowledges on the new address
73             time.sleep(0.02)
74             if my_stick.begin() == False:
75                 print("\nThe Qwiic LED Stick isn't connected to the system. Please check_
↪ your connection", \
76                     file=sys.stderr)
77             else:
78                 print("\nLED Stick acknowledged on new address!")
79         else:
80             print("\nAddress entered not a valid I2C address.")
81
82 if __name__ == '__main__':
83     try:
84         run_example()
85     except (KeyboardInterrupt, SystemExit) as exErr:
86         print("\nEnding Example 10")
87         sys.exit(0)

```

7.12 Example Eleven - 2 LED Sticks

Listing 11: examples/qwiic_led_stick_ex11_2_led_sticks.py

```

1  # !/usr/bin/env python
2  # -----
3  # qwiic_led_stick_ex11_2_led_sticks.py
4  #
5  # This example shows how to use two LED Sticks on the same I2C bus.
6  # -----
7  #
8  # Written by Priyanka Makin @ SparkFun Electronics, June 2021
9  #
10 # This python library supports the SparkFun Electronics qwiic sensor/
11 # board ecosystem on a Raspberry Pi (and compatible) board computers.
12 #
13 # More information on qwiic is at https://www.sparkfun.com/qwiic
14 #
15 # Do you like this library? Help support SparkFun by buying a board!
16 #
17 #=====
18 # Copyright (c) 2019 SparkFun Electronics
19 #
20 # Permission is hereby granted, free of charge, to any person obtaining a copy

```

(continues on next page)

(continued from previous page)

```

21 # of this software and associated documentation files (the "Software"), to deal
22 # in the Software without restriction, including without limitation the rights
23 # to use, copy, modify, merge, publish, distribute, sublicense, and/or sell
24 # copies of the Software, and to permit persons to whom the Software is
25 # furnished to do so, subject to the following conditions:
26 #
27 # The above copyright notice and this permission notice shall be included in all
28 # copies or substantial portions of the Software.
29 #
30 # THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR
31 # IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
32 # FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE
33 # AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER
34 # LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM,
35 # OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE
36 # SOFTWARE.
37 #=====
38 # Example 11
39
40 from __future__ import print_function
41 import qwiic_led_stick
42 import time
43 import sys
44
45 def run_example():
46
47     print("\nSparkFun Qwiic LED Stick Example 11")
48     my_stick1 = qwiic_led_stick.QwiicLEDStick()
49     my_stick2 = qwiic_led_stick.QwiicLEDStick(0x29)
50
51     if my_stick1.begin() == False:
52         print("\nThe Qwiic LED Stick 1 isn't connected to the system. Please check your
↳connection", \
53             file=sys.stderr)
54         return
55     print("\nLED Stick 1 ready!")
56
57     if my_stick2.begin() == False:
58         print("\nThe Qwiic LED Stick 2 isn't connected to the system. Please check your
↳connection", \
59             file=sys.stderr)
60         return
61     print("\nLED Stick 2 ready!")
62
63     # Set all of LED Stick 1 to white
64     my_stick1.set_all_LED_color(10, 10, 10)
65     # Set all of LED Stick 2 to red
66     my_stick2.set_all_LED_color(255, 0, 0)
67
68 if __name__ == '__main__':
69     try:
70         run_example()

```

(continues on next page)

(continued from previous page)

```
71  except (KeyboardInterrupt, SystemExit) as exErr:
72      print("\nEnding Example 11")
73      sys.exit(0)
```


INDICES AND TABLES

- `genindex`
- `modindex`
- `search`

PYTHON MODULE INDEX

q

`qwiic_led_stick`, [15](#)

INDEX

B

`begin()` (*qwiic_led_stick.QwiicLEDStick method*), 15

C

`change_address()` (*qwiic_led_stick.QwiicLEDStick method*), 15

`change_length()` (*qwiic_led_stick.QwiicLEDStick method*), 15

I

`is_connected()` (*qwiic_led_stick.QwiicLEDStick method*), 16

L

`LED_off()` (*qwiic_led_stick.QwiicLEDStick method*), 15

M

module
 qwiic_led_stick, 15

Q

qwiic_led_stick
 module, 15

QwiicLEDStick (*class in qwiic_led_stick*), 15

S

`set_all_LED_brightness()`
 (*qwiic_led_stick.QwiicLEDStick method*),
 16

`set_all_LED_color()`
 (*qwiic_led_stick.QwiicLEDStick method*),
 16

`set_all_LED_unique_color()`
 (*qwiic_led_stick.QwiicLEDStick method*),
 16

`set_single_LED_brightness()`
 (*qwiic_led_stick.QwiicLEDStick method*),
 16

`set_single_LED_color()`
 (*qwiic_led_stick.QwiicLEDStick method*),
 17