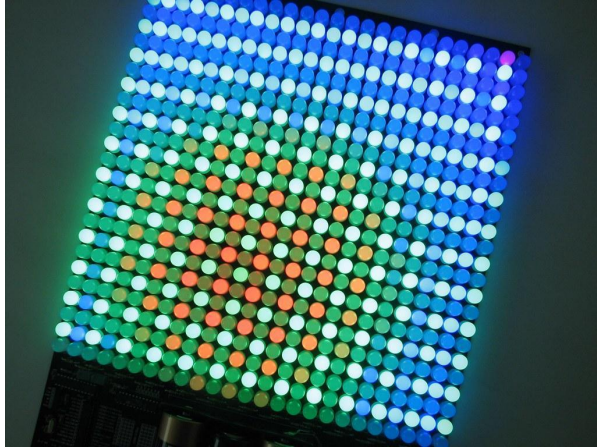


CodeX and RGB

Setting pixels to any color using RGB tuples



What is RGB?



RGB stands for Red, Green, Blue.

Find out more by watching one of the short videos on the next slides.

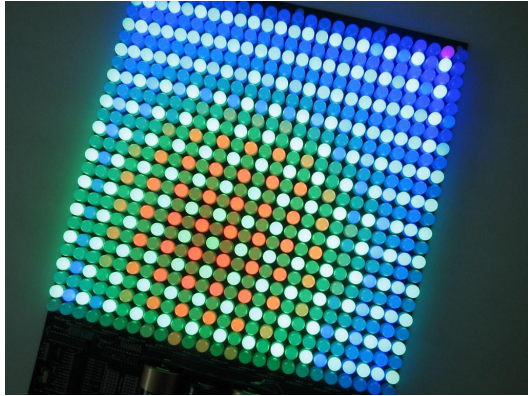


Code.org video on pixels

Watch from
0:45 to 2:35



Getting RGB values



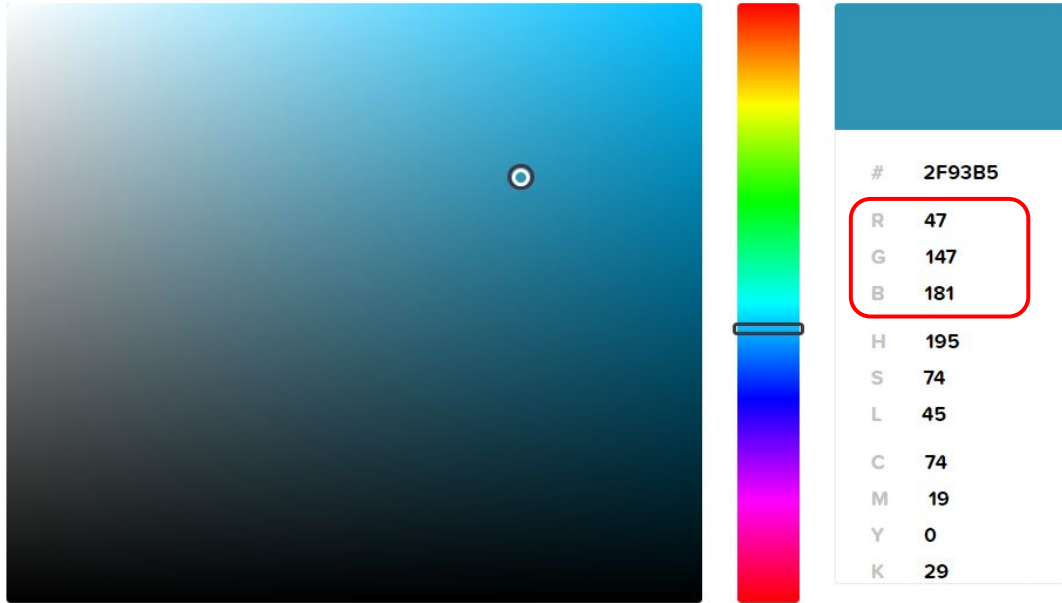
The video mentions “triplets” of numbers. Each number in the triplet represents a value in RGB.

 = (47, 147, 181)

- The first number is the amount of red
- The second number is the amount of green
- The third number is the amount of blue



Getting RGB values



Use online software to select a color and find the RGB colors.

(47, 147, 181)

- In Python, the triplet is called a “tuple”

Online color picker:

<https://htmlcolorcodes.com/color-picker/>



Using RGB values

Set your own colors by changing the color value to a tuple instead of a built-in color:
color:

```
color = (47, 147, 181)
```

```
delay = 1  
color = (47, 147, 181)  
pixels.set(0, color)  
pixels.set(1, color)  
pixels.set(2, color)  
pixels.set(3, color)
```



Using RGB values

You can also assign each pixel their own color by using the tuple in the `pixels.set()` function

```
sleep(delay)
pixels.set(0, (219, 31, 58))
pixels.set(1, (236, 213, 80))
pixels.set(2, (15, 42, 163))
pixels.set(3, (231, 61, 238))
```



Challenge:

Random RGB values

If you want to try something new, generate random numbers for R, G and B and see what color happens!

Everytime you run the code, or add the code multiple times, you should get a different color.

```
from codex import *
from time import sleep
from random import randrange

delay = 1
red = randrange(256)
green = randrange(256)
blue = randrange(256)
color = (red, green, blue)
pixels.set(0, color)
pixels.set(1, color)
pixels.set(2, color)
pixels.set(3, color)
sleep(delay)
```

