

校准

# Drone extension

等待 1 秒

起飞



## LED module

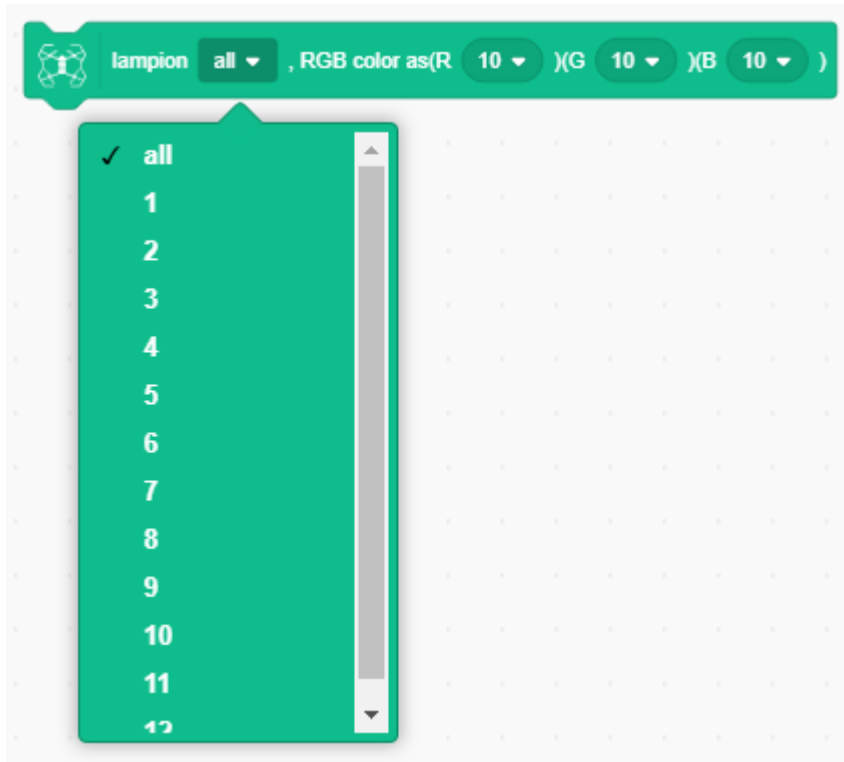


It's an extension that was designed especially for LiteBee drone. The LED module could change its color at the command of the program. That is the basic module for a drone light show.





## Relevant blocks



Light up the lampion of No. \*\* with the RGB color of R: \*\*, G: \*\*, B: \*\*

Light up all of the lampion with the RGB color of R: \*\*, G: \*\*, B: \*\*

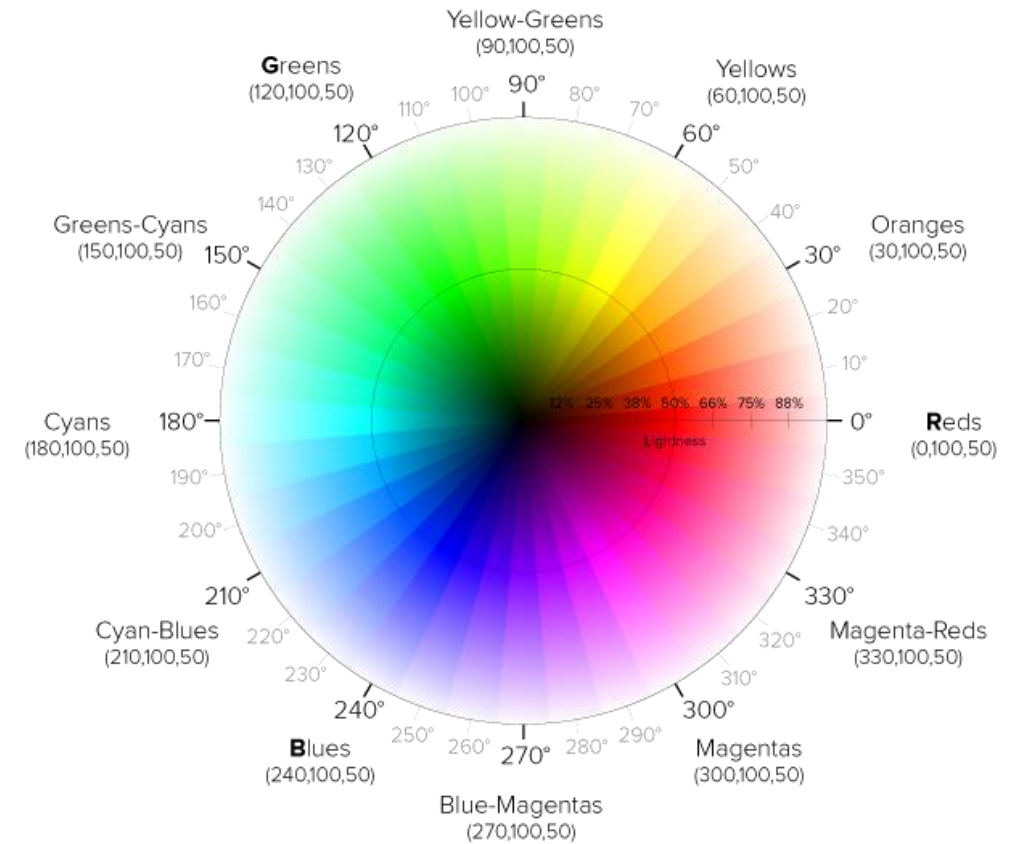


## RGB color model



The RGB color model is an additive color model in which red, green, and blue light are added together in various ways to reproduce a broad array of colors.

The name of the model comes from the initials of the three additive primary colors, red, green, and blue.





## RGB of common colors



<b>Lime</b> #A4C400 RGB(164, 196, 0)	<b>Green</b> #60A917 RGB(96, 169, 23)	<b>Emerald</b> #008A00 RGB(0, 138, 0)	<b>Teal</b> #00ABA9 RGB(0, 171, 169)	<b>Orange</b> #FA6800 RGB(250, 104, 0)	<b>Amber</b> #F0A30A RGB(240, 163, 10)	<b>Mauve</b> #76608A RGB(118, 96, 138)
<b>Cyan</b> #1BA1E2 RGB(27, 161, 226)	<b>Cobalt</b> #0050EF RGB(0, 80, 239)	<b>Indigo</b> #6A00FF RGB(106, 0, 255)	<b>Violet</b> #AA00FF RGB(170, 0, 255)	<b>Olive</b> #6D8764 RGB(109, 135, 100)	<b>Steel</b> #647687 RGB(100, 118, 135)	<b>Taupe</b> #87794E RGB(135, 121, 78)
<b>Pink</b> #F472D0 RGB(244, 114, 208)	<b>Magenta</b> #D80073 RGB(216, 0, 115)	<b>Crimson</b> #A20025 RGB(162, 0, 37)	<b>Red</b> #E51400 RGB(229, 20, 0)	<b>Yellow</b> #E3C800 RGB(227, 200, 0)	<b>Brown</b> #825A2C RGB(130, 90, 44)	



## Connecting



Connect the LED lampion with drone



1



2



3



## Practice



Light up the light with different colors

Write the outline of the programming first



## Guide idea



Collecting your thought will make your programming more effective

### The trigger key

Choose the trigger key to run the program



### Light color

Decide which color to apply, and set their RGB



### Start program

Write the program as the outline





## Reference



```
when k key pressed
wait 1 seconds
lampion all , RGB color as(R 163 + 1 )(G 194 + 0 )(B 0 + 0 )
wait 1 seconds
lampion all , RGB color as(R 245 - 1 )(G 114 + 0 )(B 208 + 0 )
wait 1 seconds
lampion all , RGB color as(R 3 * 9 )(G 161 + 0 )(B 226 + 0 )
wait 1 seconds
lampion all , RGB color as(R 500 / 2 )(G 104 + 0 )(B 0 + 0 )
wait 1 seconds
lampion all , RGB color as(R 106 + 0 )(G 0 + 0 )(B 255 + 0 )
```

**Tpis:** You could apply these blocks in “Operators” to give exact number for the value of RGB. You can add, subtract, multiply and divide to get the number you need.



## Reference



```
when k key pressed
wait 1 seconds
lampion all , RGB color as(R 163 + 1 )(G 194 + 0 )(B 0 + 0 )
wait 1 seconds
lampion all , RGB color as(R 245 - 1 )(G 114 + 0 )(B 208 + 0 )
wait 1 seconds
lampion all , RGB color as(R 3 * 9 )(G 161 + 0 )(B 226 + 0 )
wait 1 seconds
lampion all , RGB color as(R 500 / 2 )(G 104 + 0 )(B 0 + 0 )
wait 1 seconds
lampion all , RGB color as(R 106 + 0 )(G 0 + 0 )(B 255 + 0 )
```



**Note:** To run the program by clicking K-0 key



**Note:** light up the lampion with different colors

Lime  
#A4C400  
RGB(164,  
196, 0)

Pink  
#F472D0  
RGB(244,  
114, 208)

Cyan  
#1BA1E2  
RGB(27,  
161, 226)

Orange  
#FA6800  
RGB(250,  
104, 0)



**Note:** All the lampions off

**Tpis:** It means black when each value of RGB is 0 , but light off in the LiteBeeGo



## Practice



Task: Write a program that flies the drone along with the rectangle and change the color when making a turn

Write the outline of the programming first.



## Reference



```
when k key pressed
wait 1 seconds
calibration
wait 4 seconds
take off
wait 2 seconds
lampion all , RGB color as(R 163 + 1 )(G 194 + 0 )(B 0 + 0 )
set forward direction the speed as 50 cm/s, left direction the speed as 0 cm/s
wait 5 seconds
lampion all , RGB color as(R 245 - 1 )(G 114 + 0 )(B 208 + 0 )
set forward direction the speed as 0 cm/s, left direction the speed as 50 cm/s
wait 5 seconds
lampion all , RGB color as(R 3 * 9 )(G 161 + 0 )(B 226 + 0 )
set backward direction the speed as 50 cm/s, left direction the speed as 0 cm/s
wait 5 seconds
lampion all , RGB color as(R 500 / 2 )(G 104 + 0 )(B 0 + 0 )
set forward direction the speed as 0 cm/s, right direction the speed as 50 cm/s
wait 5 seconds
autoland
```

**Note:** Run the program after clicked the green flag

**Note:** To calibrate before take off, ensuring the drone fly steadily

**Note:** Light up the lampion and fly the drone forwards

**Note:** Switch the color of the lampion and make a turn

**Note:** Land after the program finished



## Task



Task: To create a drone light show

Request: Plan the flight route, and design the light script to create a light show by programming.

Outline your guideline first

Thank about it



- 1) Based on “Three–primary Colors” , could you tell why those colors can be shown as the format of RGB?
  
- 2) Is there any difficulty you met during programming?  
What is it? and how did you resolve it?

The background is a solid teal color with a repeating pattern of white, rounded rectangular outlines. The rectangles are arranged in a staggered grid, creating a subtle geometric texture.

Thanks