

Activity

RGB LED Strip

Displaying Patterns on RGB LED Strip



In this activity you will learn how to program evive to create patterns on RGB LED Strip using PictoBlox.

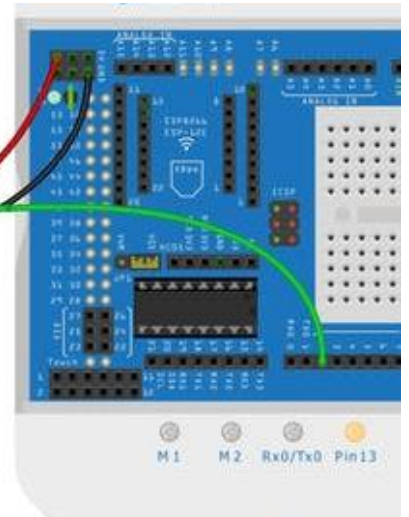
STEP-BY-STEP

1. Open **PictoBlox**, connect evive to your computer, and select the Board as evive.
2. Once you've selected the board, click on the **Connect** tab and connect the board. Click on **Upload Firmware** button.

CONNECTING RGB LED STRIP

3. Connect the RGB LED Strip to evive:
 - a. Connect GND of LED strip to GND of evive.
 - b. Connect 5V of LED strip to 5V of evive.
 - c. Connect Din pin of the LED strip to digital pin 2 of evive.

WS2812 Compatible Led Strip1



TESTING DIFFERENT PATTERNS

4. Add the **Lighting** extension using add an extension option.
5. Make the following script to visualise **Color Wipe** pattern:

```
when clicked
  forever
    initialise RGB strip 1 with 10 LED pixels on pin 2
    Color Wipe RGB strip 1 with color red & delay 0.05 seconds
    wait 1 seconds
    Color Wipe RGB strip 1 with color green & delay 0.05 seconds
    wait 1 seconds
    Color Wipe RGB strip 1 with color blue & delay 0.05 seconds
    wait 1 seconds
```

STEP 5



6. Make the following script to visualise **Theatre Chase** pattern:



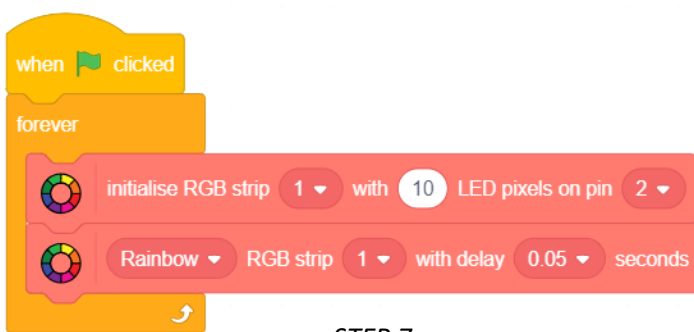
The script for the Theatre Chase pattern is as follows:

- when green flag clicked
- forever loop:
 - initialise RGB strip 1 with 10 LED pixels on pin 2
 - Theater Chase RGB strip 1 with color red & delay 0.05 seconds
 - wait 1 seconds
 - Theater Chase RGB strip 1 with color green & delay 0.05 seconds
 - wait 1 seconds
 - Theater Chase RGB strip 1 with color blue & delay 0.05 seconds
 - wait 1 seconds

STEP 6

7. Make the following script to visualise **Rainbow** pattern.

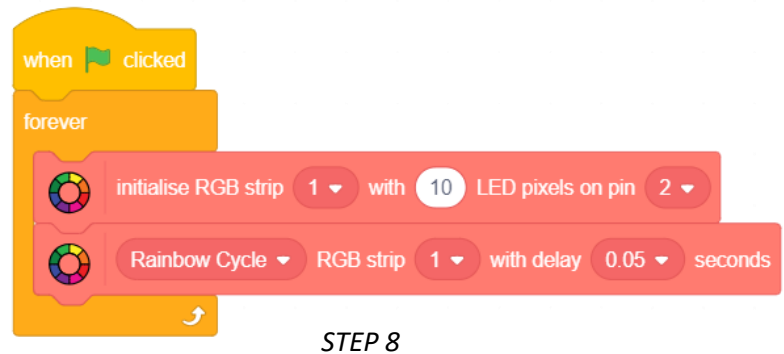
8. Make the following script to visualise **Rainbow Cycle** pattern.



The script for the Rainbow pattern is as follows:

- when green flag clicked
- forever loop:
 - initialise RGB strip 1 with 10 LED pixels on pin 2
 - Rainbow RGB strip 1 with delay 0.05 seconds

STEP 7

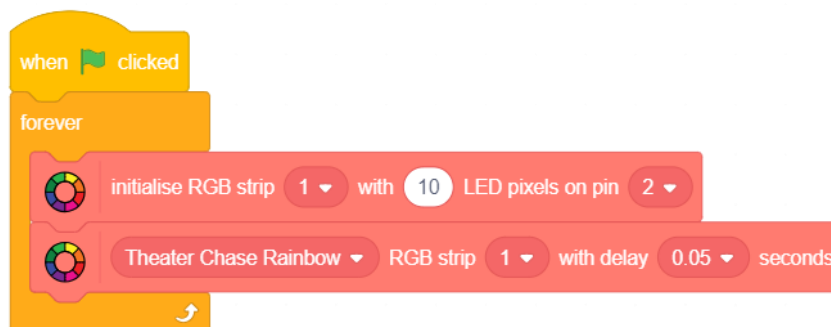


The script for the Rainbow Cycle pattern is as follows:

- when green flag clicked
- forever loop:
 - initialise RGB strip 1 with 10 LED pixels on pin 2
 - Rainbow Cycle RGB strip 1 with delay 0.05 seconds

STEP 8

9. Make the following script to visualise **Theatre Rainbow Chase** pattern.



The script for the Theatre Rainbow Chase pattern is as follows:

- when green flag clicked
- forever loop:
 - initialise RGB strip 1 with 10 LED pixels on pin 2
 - Theater Chase Rainbow RGB strip 1 with delay 0.05 seconds

STEP 9

10. Test all the scripts by clicking on the **green flag**.