Activity

RGB LED Strip

Making Custom Pattern on RGB LED Strip

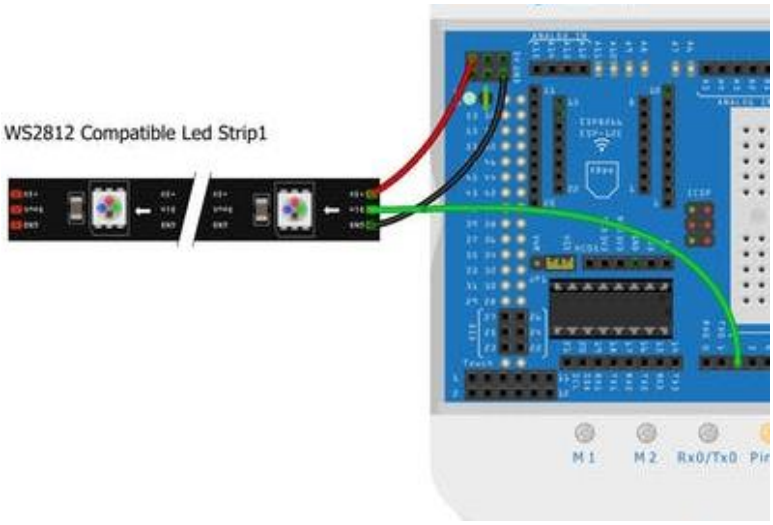
In this activity you will learn how to program evive to control individual LEDs on a RGB LED Strip using PictoBlox and create custom patterns.

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.

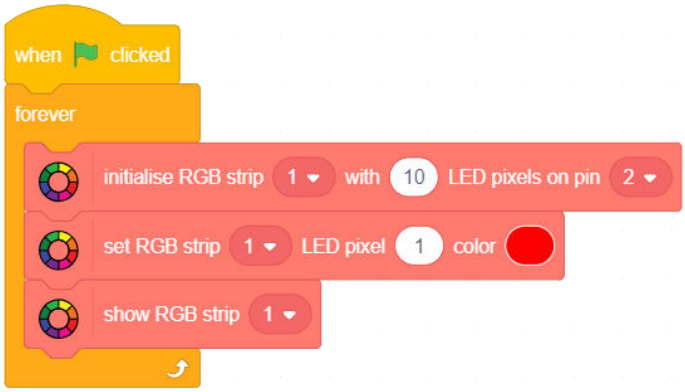
CONNECTING RGB LED STRIP

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.

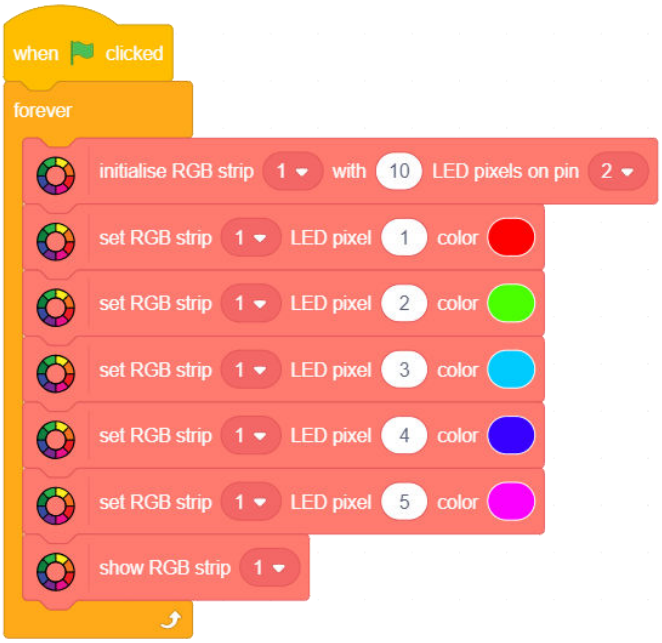


CONTROLLING INDIVIDUAL LEDS

4. Add the Lighting extension using add an extension option.
5. To set an individual LED, we will use these blocks:
   a. **Set RGB strip () LED pixel () color ()** block sets the selected RGB LED strip's pixel (specified in the block) to a color selected from the color picker.
   b. **Show RGB strip ()** block refreshes the LED state once all the pixel's color has been specified. The color of the strip will not change until you execute this block.
6. Make the following script. We are just giving colour to first LED and then showing the colour.



7. Now, to program the first five LEDs with different colours, make the following script. Run the script to see the change in the LED strip.

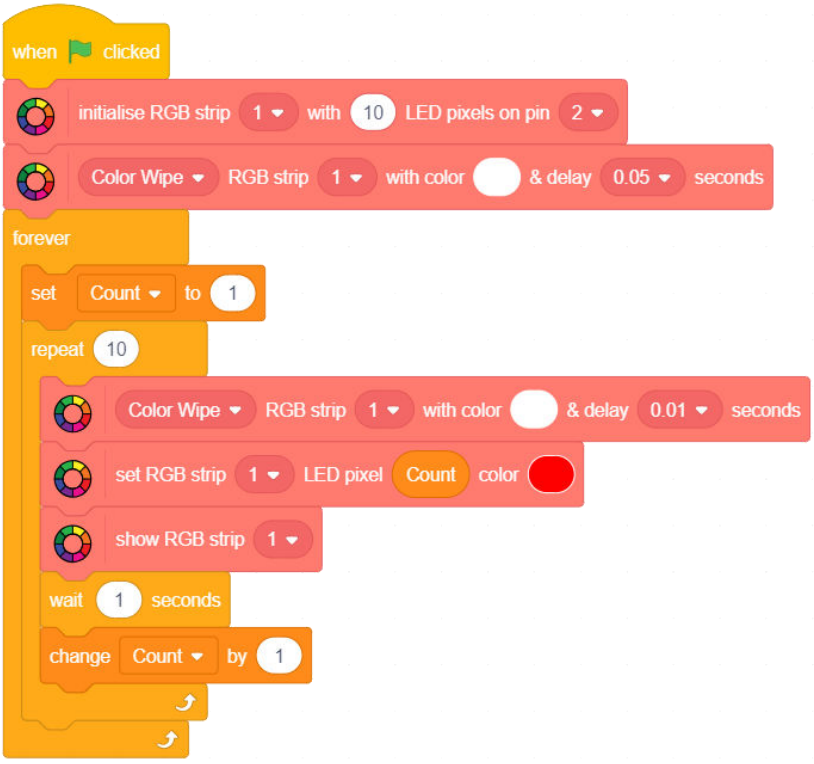


MAKING A PATTERN

8. In this activity, you are going to make a pattern to glow the LEDs one by one from 1 to 10: For 1 second first LED will glow, then it will be white and the second LED will glow the color for another 1 second. This will go till the last LED and then repeat.

9. To make the script, you will make a variable count. We will use the loop and use the count variable as the LED we want to control.

10. Create the following script.



11. Run the script using to see the pattern play on the RGB LED Strip.