

RGB PATTERNS

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INTRODUCTION

An RGB LED is an LED which consists of a red, a green and a blue LED. Most have four connections: a common anode and a ground for each color LED. With the three colors, most of the visible colors can be produced by altering the current through each LED. When all three colors are 100 percent active, white light will be observed. When for instance only red and green are 100 percent active, yellow light will be observed. In this way, colors can be blended to produce other colors.

This project implements pre-coded patterns, such as a fading pattern (gradual color change) and a blinking pattern (flickering color change). This way, the user selects a pattern and an RGB LED show will continue repeatedly.

A small casing will be build to prevent damaging the electronics and to make it look nicer. This housing includes cutouts for wiring and a switch.

CODE

```
// Fading, gradual color change
void loop() {
  brightnessR = brightnessR +
  fadeAmount;
  if ( brightnessR >= 255) {
    fadeAmount = -fadeAmount;
  }
  if (brightnessB < 0) {
    color = 4;
    fadeAmount = -fadeAmount;
  }
}
```

SPECIFICATIONS

- 50 cm RGB LED strip
- 5V DC power supply
- Breadboard
- Teensy
- Bi-junction transistors
- Potentiometer
- Switch
- Various resistors
- Casing to protect electronics

RESULTS

