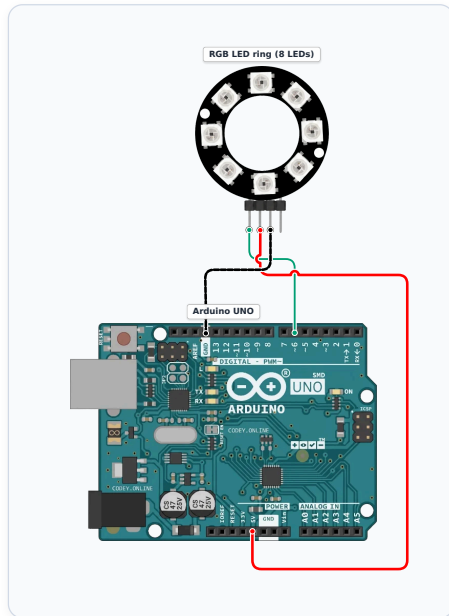


★ Beginner ⌚ 10 minutes

Rainbow Ring

With the LED ring, you make a spinning rainbow. Each light gets a different color, and all colors move around.

Wiring diagram



What do you need?



This is how you build it

1. Connect the LED ring: DI to pin 6, 5V to 5V, and GND to GND.
2. That is all! Leave DO free.

The code

```
// Rainbow ring
// The LED ring spins all the colors of the rainbow around.

#include <Adafruit_NeoPixel.h>

const int RING_PIN = 6;    // DI of the ring is on pin 6
const int LED_COUNT = 8;  // The ring has 8 lights
const int SPEED = 20;     // Smaller means it spins faster

Adafruit_NeoPixel ring(LED_COUNT, RING_PIN, NEO_GRB + NEO_KHZ800);

void setup() {
  ring.begin();
  ring.setBrightness(40); // Not too bright: 0 = off, 255 = super bright
  ring.show();
}

void loop() {
  // Move the rainbow a little bit each time
  for (long color = 0; color < 65536; color += 512) {
    for (int i = 0; i < LED_COUNT; i++) {
      // Each light gets a slightly different color
      long lightColor = color + (i * 65536L / LED_COUNT);
      ring.setPixelColor(i, ring.gamma32(ring.ColorHSV(lightColor)));
    }
    ring.show();
    delay(SPEED);
  }
}
```

What does the code do?

- We use the `Adafruit_NeoPixel` library to control the ring.
- `ColorHSV()` makes a color from the rainbow. Each light gets a spot a bit further in the rainbow.
- By moving the color a little each time, the rainbow looks like it is spinning around.

Try this...

- Make the rainbow spin twice as fast
- Turn it into a police light that flashes red and blue in turns
- Make one light go around in circles, like a little light running around

🚀 Build this project with Codey: open codey.online/starter-kits/uno/projects/rainbow-ring and click MAKE THIS. Then the code and the wiring diagram are ready right away.