

Instruction for Traffic Light Control

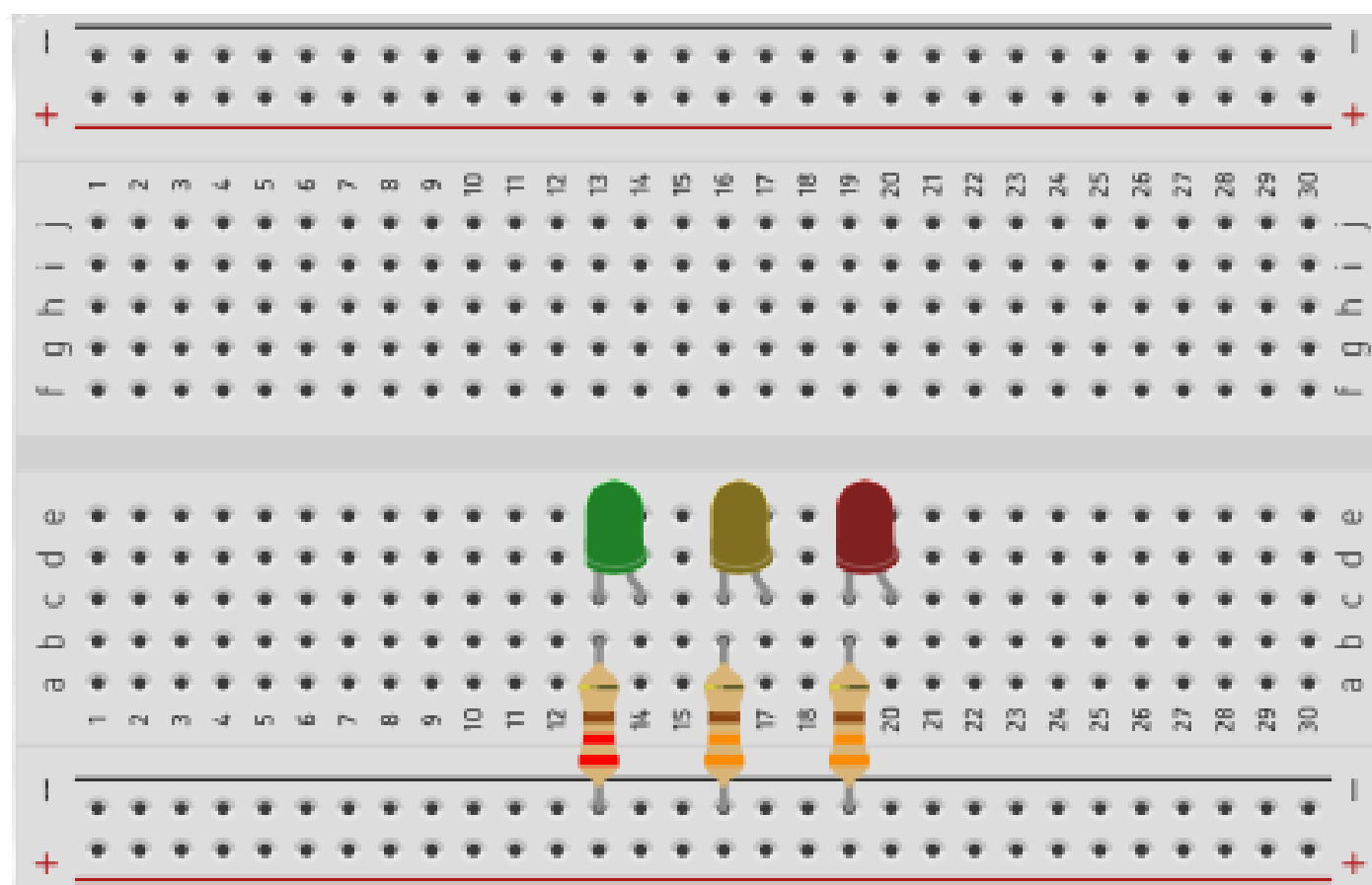
Materials Required:

- Arduino UNO
- LED (Red, Yellow & Green)
- Jumper wires
- Resistor

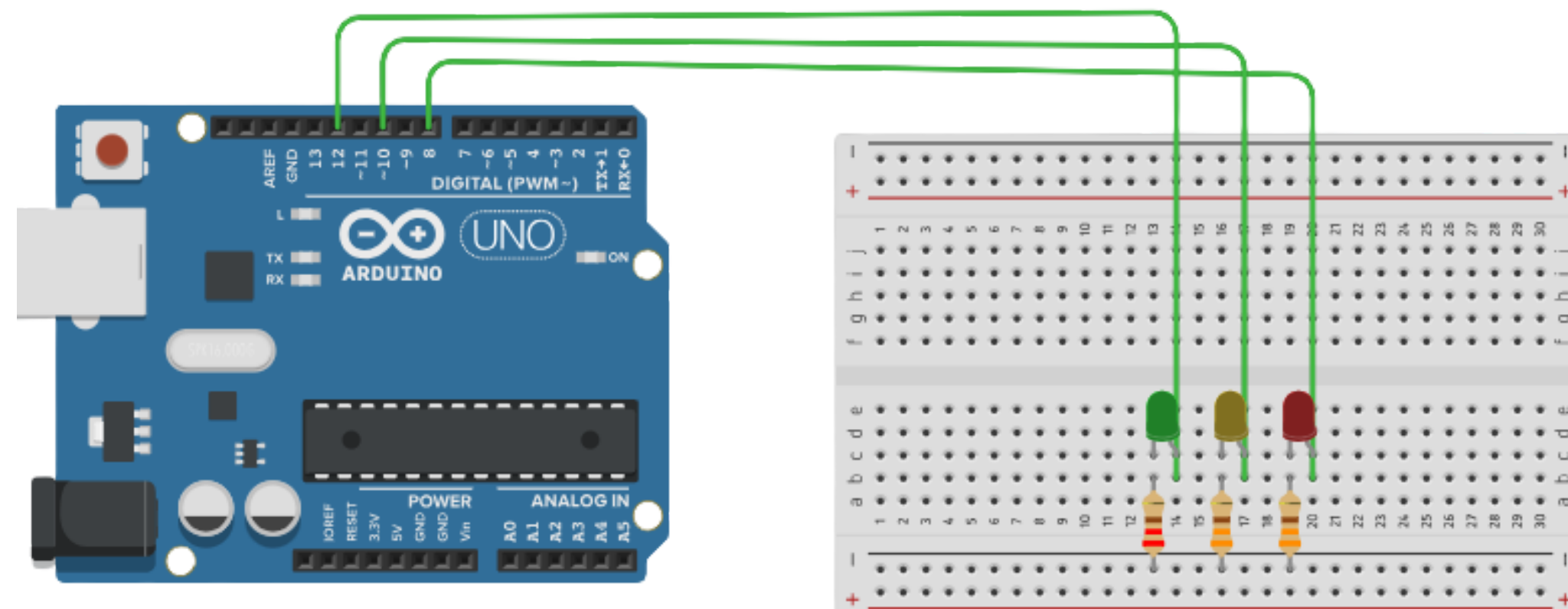
Steps:

Step 1 Take all the parts Arduino UNO, 3 LEDs (Red, Yellow, Green), 3 × 220Ω resistors, Breadboard, Jumper wires, USB cable.

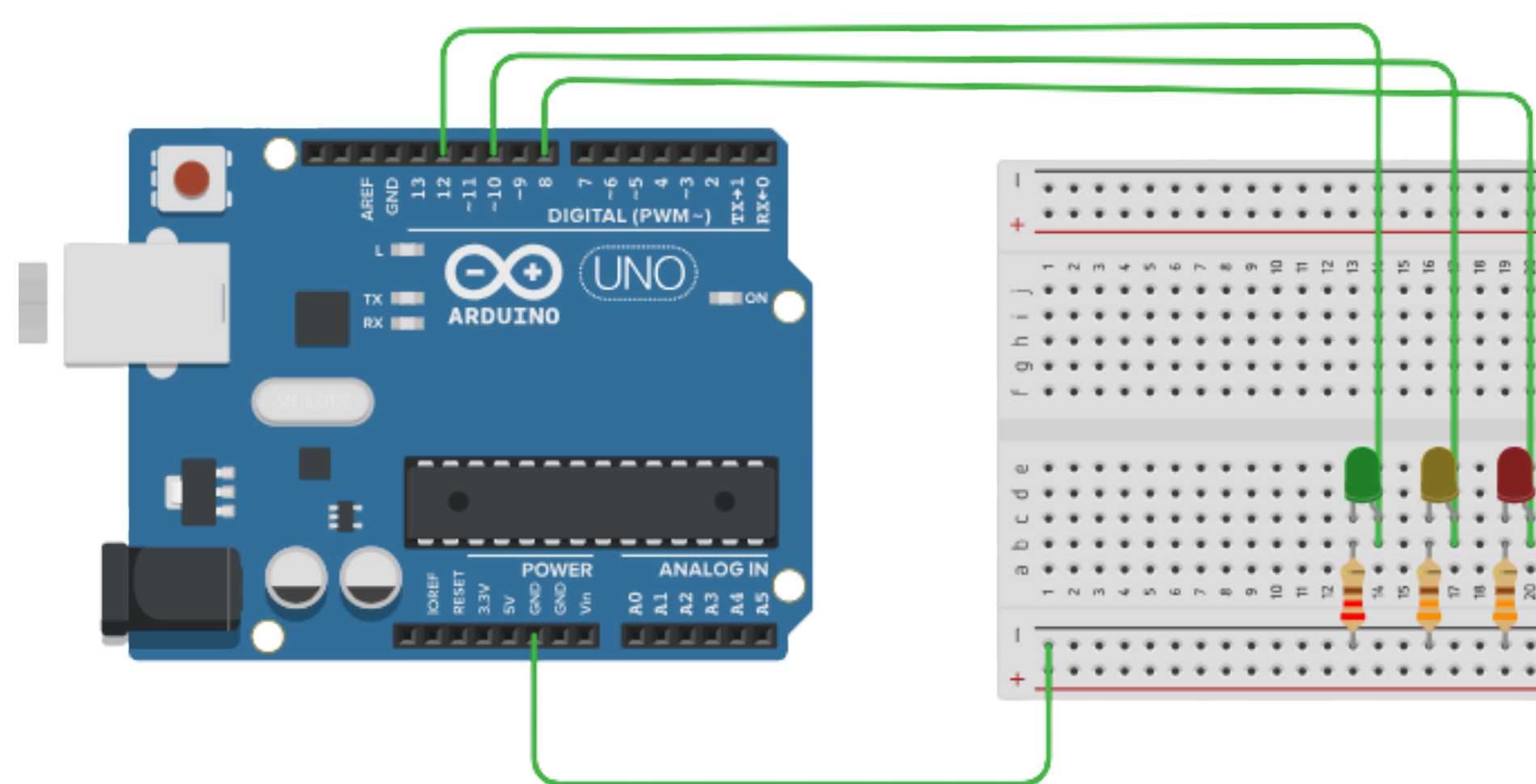
Step 2 Insert the Red, Yellow, and Green LEDs into the breadboard. Connect one 220Ω resistor to the short leg (negative) of each LED.



Step 3 Connect Red to Pin 8, Yellow to Pin 10, and Green to Pin 12

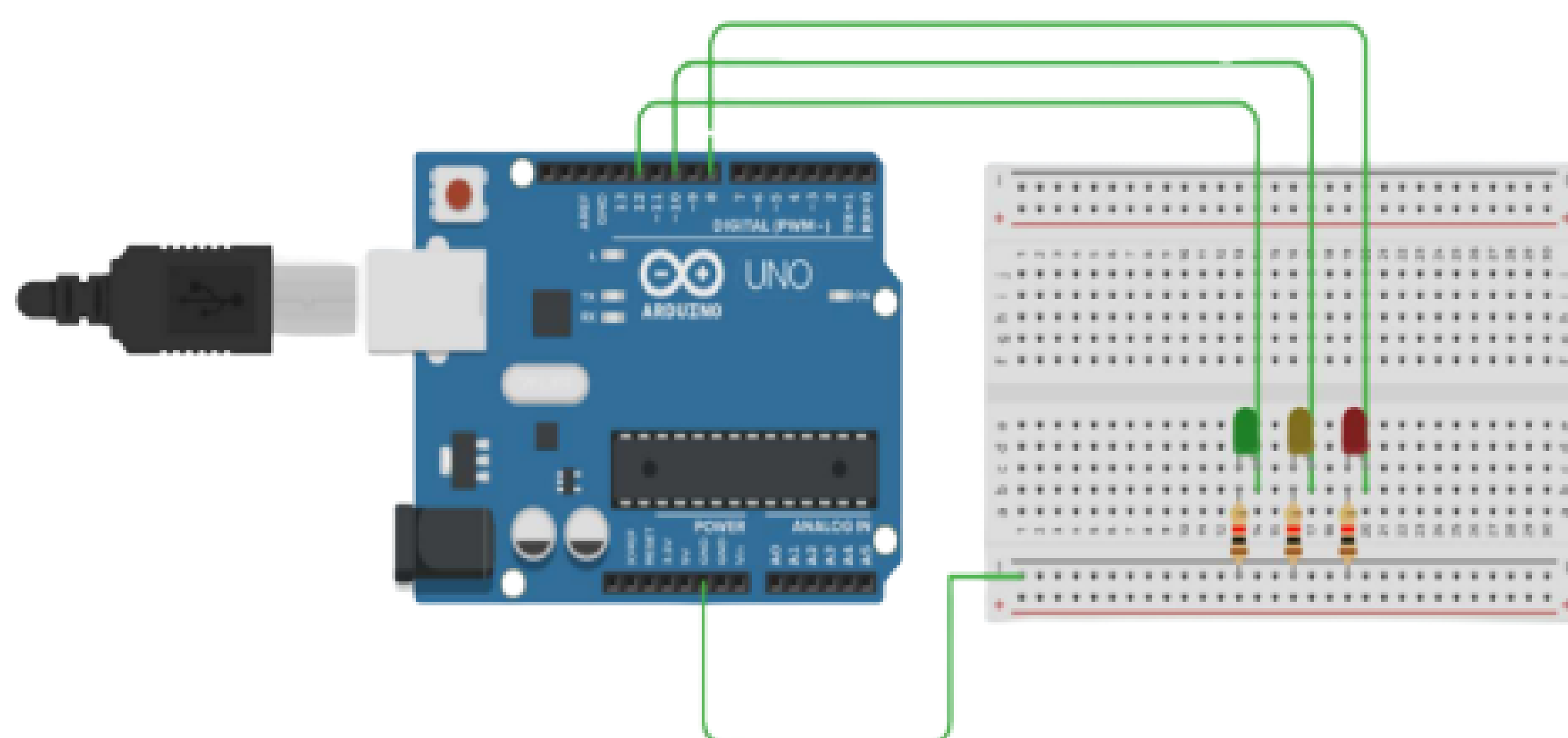


Step 4 Connect breadboard GND to Arduino GND.



Step 5 Upload the program

Step 6 After uploading, the LEDs will operate in sequence: Red → Yellow → Green (with blinking) and repeat continuously.



Code

```
void setup() {  
  // Initialize the LED pins as outputs  
  pinMode(8, OUTPUT); // red  
  pinMode(10, OUTPUT); // yellow  
  pinMode(12, OUTPUT); // green  
}  
  
void loop() {  
  
  digitalWrite(8, HIGH); // turn on red for 3 sec  
  delay(3000);  
  digitalWrite(10, HIGH); // turn on yellow for 1 sec  
  delay(1000);  
  
  digitalWrite(8, LOW); // turn off red  
  digitalWrite(10, LOW); // turn off yellow  
  
  digitalWrite(12, HIGH); // turn on green for 3 sec  
  delay(3000);  
  digitalWrite(12, LOW); // turn off green  
  delay(500);  
  
  // Blink  
  digitalWrite(12, HIGH); // turn on green for .5 sec  
  delay(500);  
  digitalWrite(12, LOW);  
  delay(500);  
  
  digitalWrite(12, HIGH); // turn on green for .5 sec  
  delay(500);  
  digitalWrite(12, LOW);  
  delay(500);  
  
  digitalWrite(12, HIGH); // turn on green for .5 sec  
  delay(500);  
  digitalWrite(12, LOW);  
  delay(1000);  
}
```