```
// Pin definitions for LEDs
const int redPin = 8;
const int yellowPin = 4;
const int greenPin = 2;

// Enum to track the current state of the traffic light
enum TrafficLightState { RED, YELLOW, GREEN };
TrafficLightState currentState = RED;

// Timing variables
unsigned long previousMillis = 0;
const long redDuration = 5000;    // 5 seconds for Red light (adjust this for longer delay)
const long yellowDuration = 2000; // 2 seconds for Yellow light
const long greenDuration = 5000;  // 5 seconds for Green light

void setup() {
  // Initialize the LED pins as outputs
  pinMode(redPin, OUTPUT);
  pinMode(yellowPin, OUTPUT);
  pinMode(greenPin, OUTPUT);

  // Start with the red light on
  digitalWrite(redPin, HIGH);
  digitalWrite(yellowPin, LOW);
  digitalWrite(greenPin, LOW);
}

void loop() {
  unsigned long currentMillis = millis();
```

```
// Switch states based on the time intervals for each color
switch (currentState) {
  case RED:
    if (currentMillis - previousMillis >= redDuration) {
      // Transition from Red to Yellow
      previousMillis = currentMillis;
      digitalWrite(redPin, LOW);
      digitalWrite(yellowPin, HIGH);
      currentState = YELLOW;
    }
    break;

  case YELLOW:
    if (currentMillis - previousMillis >= yellowDuration) {
      // Transition from Yellow to Green
      previousMillis = currentMillis;
      digitalWrite(yellowPin, LOW);
      digitalWrite(greenPin, HIGH);
      currentState = GREEN;
    }
    break;

  case GREEN:
    if (currentMillis - previousMillis >= greenDuration) {
      // Transition from Green back to Red
      previousMillis = currentMillis;
      digitalWrite(greenPin, LOW);
      digitalWrite(redPin, HIGH);
    currentState = RED;
   }
   break;
 }
}
```