

Circuit Connections:

- **Power and Ground:**

- Connect the Arduino's **5V** pin to the **positive rail** of the breadboard.
- Connect the Arduino's **GND** pin to the **negative rail** of the breadboard.

- **LED Connections:**

- **Red LED:**

- Connect the **cathode** to a **220Ω resistor**, then to the ground rail.
- Connect the **anode** to **D13** of the Arduino.

- **Yellow LED:**

- Connect the **cathode** to a **220Ω resistor**, then to the ground rail.
- Connect the **anode** to **D12** of the Arduino.

- **Green LED:**

- Connect the **cathode** to a **220Ω resistor**, then to the ground rail.
- Connect the **anode** to **D8** of the Arduino.

- **Push Button Connection:**

- Connect the **1a terminal** to a **1000Ω resistor**, then to **ground**.
- Connect the **2a terminal** to the **positive rail** of the breadboard.
- Connect the **1b terminal** to **D2** of the Arduino.

Working Principle:

When the push button is pressed, the red, yellow, and green LEDs will blink sequentially according to the delay set in the Arduino code. The resistors limit the current flow through the LEDs and the push button, ensuring safe operation. The following images illustrate the working of a traffic light model built using an Arduino.