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EXPERIMENT NO.– 6

# Problem Statement:

Create an Arduino program that:

* Illuminates the **green LED** when the counter is **less than 100**.
* Illuminates the **yellow LED** when the counter is **between 101 and 200**.
* Illuminates the **red LED** when the counter is **greater than 200**.

# Components Required:

* + Arduino Board (UNO, Mega, etc.)
  + 3 LEDs (Green, Yellow, Red)
  + 3 x 220Ω Resistors
  + Breadboard
  + Jumper Wires
  + Arduino IDE

# Circuit Connections:

1. **Green LED**
   * Anode (long leg) → **Digital Pin 7** (via a **220Ω** resistor)
   * Cathode (short leg) → **GND**

# Yellow LED

* + Anode (long leg) → **Digital Pin 8** (via a **220Ω** resistor)
  + Cathode (short leg) → **GND**

# Red LED

* + Anode (long leg) → **Digital Pin 9** (via a **220Ω** resistor)
  + Cathode (short leg) → **GND**

**Arduino Code :**

#define GREEN\_LED 7

#define YELLOW\_LED 8

#define RED\_LED 9 int counter = 0;

void setup() {

pinMode(GREEN\_LED, OUTPUT); pinMode(YELLOW\_LED, OUTPUT); pinMode(RED\_LED, OUTPUT);

Serial.begin(9600);

}

void loop() { counter += 10;

Serial.println(counter);

if (counter < 100) { digitalWrite(GREEN\_LED, HIGH); digitalWrite(YELLOW\_LED, LOW); digitalWrite(RED\_LED, LOW);

}

else if (counter >= 101 && counter <= 200) { digitalWrite(GREEN\_LED, LOW); digitalWrite(YELLOW\_LED, HIGH); digitalWrite(RED\_LED, LOW);

}

else if (counter > 200) { digitalWrite(GREEN\_LED, LOW); digitalWrite(YELLOW\_LED, LOW); digitalWrite(RED\_LED, HIGH);

}

delay(1000);

if (counter > 300) { counter = 0;

}

}

# Output :

1. When the counter is **less than 100** → **Green LED illuminates**.
2. When the counter is **between 101 and 200** → **Yellow LED illuminates**.
3. When the counter is **greater than 200** → **Red LED illuminates**.
4. The counter **resets to 0 after reaching 300** and repeats the cycle.
5. The counter value is displayed in the **Serial Monitor**.