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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**

2. Yellow LED

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

3. 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**.