

# Arduino - Temperature Sensor & Photoresistor

## Temperature

The screenshot shows the Arduino IDE interface with a sketch named "temp.ino" open. The sketch is intended to control three LEDs (RLED, GLED, BLED) based on a sensor value. The code includes logic for three color ranges: Blue (val < LOWER\_BOUND), Red (val > UPPER\_BOUND), and Green (else). The Serial Monitor window shows repeated "Blue" messages, indicating the code is running but not correctly mapping the sensor value to the LED colors.

```
temp | Arduino IDE 2.3.6
File Edit Sketch Tools Help
temp.ino
25 // LED is Blue
26 if (val < LOWER_BOUND)
27 {
28     digitalWrite(RLED, LOW);
29     digitalWrite(GLED, LOW);
30     digitalWrite(BLED, HIGH);
31     Serial.println("Blue");
32 }
33 // LED is Red
34 else if (val > UPPER_BOUND)
35 {
36     digitalWrite(RLED, HIGH);
37     digitalWrite(GLED, LOW);
38     digitalWrite(BLED, LOW);
39     Serial.println("Red");
40 }
41 // LED is Green
42 else
43 {
44     digitalWrite(RLED, LOW);
45     digitalWrite(GLED, HIGH);
46 }
```

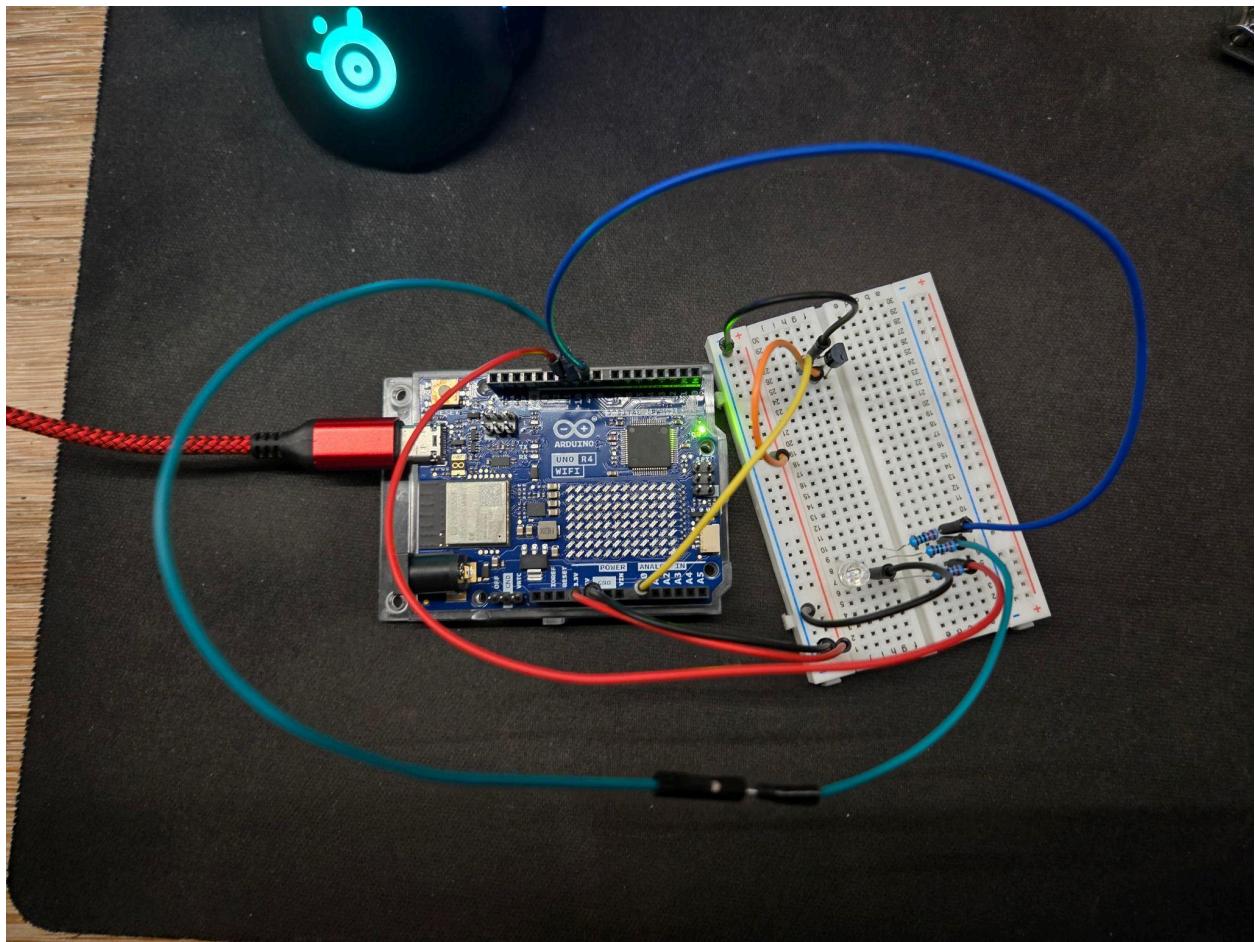
Output Serial Monitor

Message (Enter to send message to 'Arduino Uno R4 WiFi' on 'COM10')

Blue  
Blue  
Blue  
79  
Blue  
61  
Blue  
61  
Blue  
81  
Blue

New Line 9600 baud

Ln 25, Col 1 Arduino Uno R4 WiFi on COM10 52



# Photoresistor

The screenshot shows the Arduino IDE 2.3.6 interface with a sketch named "photo.ino" open. The sketch is titled "Automatic Night Light" and uses pins 9 and 0 for a white LED and a light sensor respectively. It includes code for reading the sensor, mapping the value, and controlling the LED via analogWrite. The Serial Monitor window is visible at the bottom, showing the current index (9/68) and baud rate (9600). The status bar indicates the connection is to an "Arduino Uno R4 WiFi" on port "COM10".

```
photo | Arduino IDE 2.3.6
File Edit Sketch Tools Help
Arduino UNO R4 WiFi
photo.ino
1 // Automatic Night Light
2
3
4 const int WLED=9;      // White LED Anode on pin 9 (PWM)
5 const int LIGHT=0;     // Light Sensor on Analog Pin 0
6 const int MIN_LIGHT=200; // Minimum Expected light value
7 const int MAX_LIGHT=900; // Maximum Expected Light value
8 int val = 0;           // Variable to hold the analog reading
9
10 void setup()
11 {
12   pinMode(WLED, OUTPUT); // Set White LED pin as output
13   Serial.begin(9600);
14 }
15
16 void loop()
17 {
18   val = analogRead(LIGHT);           // Read the light sensor
19   Serial.println(val);
20   val = map(val, MIN_LIGHT, MAX_LIGHT, 255, 0); // Map the light reading
21   val = constrain(val, 0, 255);       // Constrain light value
22   Serial.println(val);
23   analogWrite(WLED, val);           // Control the White LED
Serial Monitor X
Message (Enter to send message to 'Arduino Uno R4 WiFi' on 'COM10')
843
21
828
27
838
23
847
20
834
25
833
@ indexing: 9/68
New Line 9600 baud
Ln 9, Col 1 Arduino Uno R4 WiFi on COM10
```