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#include <Wire.h>
const int ThermistorPin = 0, bluePin = 12, greenPin = 13, redPin = 11;
const int R_fixed = 5973, n = 3, delayTime = 200, i = 0;
double logR2, R2, T, total;
double A, B, C;

int blue1 = 50, blue2 = 70;    // Blue LED Ranges
int green1 = 0, green2 = 40;   // Green LED Ranges
int red1 = 40, red2 = 50;      // Red LED Ranges

void setup() {
  Serial.begin(9600);
  //analogReference(EXTERNAL);    // Uses 3.3v VDD

  pinMode(bluePin, OUTPUT);      // Enables digital output though pin
  pinMode(greenPin, OUTPUT);
  pinMode(redPin, OUTPUT);

  //A = 0.0007546217777020686;    // Steinhart-Hart coefficients
  //B = 0.0002839274414398837;
  //C = -2.8242350520778535*pow(10,-8);
}

void loop() {
  double res = volateToResistance(ThermistorPin), temperature = temp(res, A,
B, C);
  Serial.print("Temperature: ");
  Serial.print(temperature,1);
  Serial.println(" C");

  Serial.print("Resistance: ");
  Serial.print(res, 1);
  Serial.println(" ohm");

  Serial.print("Voltage:");
  Serial.print((analogRead(ThermistorPin) * 5.015) / 1024.0, 4);
  Serial.println(" volts");

  led(temperature);
  delay(1000);
}

double temp(double R2, double A_, double B_, double C_)
{
  logR2 = log(R2);

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    T = (1.0 / (A_ + B_*logR2 + C_*logR2*logR2*logR2));
    return T - 273.15;
}

double volateToResistance(int pin)
{
    total = 0; // reset
    for (int i = 0; i < 10; i++) total += analogRead(pin);
    double R_thermistor = R_fixed * total / (10230 - total);
    return R_thermistor;
}

void led(double temp)
{
    if(blue1 < temp && blue2 > temp)
        digitalWrite(bluePin, HIGH);
    else
        digitalWrite(bluePin, LOW);

    if(green1 < temp && green2 > temp)
        digitalWrite(greenPin, HIGH);
    else
        digitalWrite(greenPin, LOW);

    if(red1 < temp && red2 > temp)
        digitalWrite(redPin, HIGH);
    else
        digitalWrite(redPin, LOW);
}

```