const int trigPin = 4;  // GPIO pin for the ultrasonic sensor trigger

const int echoPin = 5;  // GPIO pin for the ultrasonic sensor echo

const int ledPin = 2;   // GPIO pin for the LED

void setup() {

  pinMode(trigPin, OUTPUT);

  pinMode(echoPin, INPUT);

  pinMode(ledPin, OUTPUT);

  Serial.begin(9600);

}

void loop() {

  long duration, distance;

  // Send a short pulse to trigger the ultrasonic sensor

  digitalWrite(trigPin, LOW);

  delayMicroseconds(2);

  digitalWrite(trigPin, HIGH);

  delayMicroseconds(10);

  digitalWrite(trigPin, LOW);

  // Read the echo signal to calculate the distance

  duration = pulseIn(echoPin, HIGH);

  distance = (duration \* 0.0343) / 2;  // Calculate the distance in cm

  Serial.print("Distance: ");

  Serial.print(distance);

  Serial.println(" cm");

  // Glow the LED based on the distance

  if (distance < 20) {

    analogWrite(ledPin, 255); // Glow the LED at full brightness

  } else {

    analogWrite(ledPin, 0); // Turn off the LED

  }

  delay(100); // Wait for 0.1 seconds before taking the next reading

}

