

const int trigPin = 17; // Ultrasonic sensor trigger pin

const int echoPin = 16; // Ultrasonic sensor echo pin

const int redLedPin = 12;  // Red LED pin

const int greenLedPin = 13; // Green LED pin

long duration;

int distance;

void setup() {

  pinMode(trigPin, OUTPUT);

  pinMode(echoPin, INPUT);

  pinMode(redLedPin, OUTPUT);

  pinMode(greenLedPin, OUTPUT);

  digitalWrite(redLedPin, LOW);

  digitalWrite(greenLedPin, LOW);

**Serial**.begin(9600);

}

void loop() {

  digitalWrite(trigPin, LOW);

  delayMicroseconds(2);

  digitalWrite(trigPin, HIGH);

  delayMicroseconds(10);

  digitalWrite(trigPin, LOW);

  duration = pulseIn(echoPin, HIGH);

  distance = duration \* 0.034 / 2; // Calculate distance in cm

**Serial**.print("Distance: ");

**Serial**.print(distance);

**Serial**.println(" cm");

  // Check if distance is not detected or is 0

  if (distance == 2) {

    // Turn on both LEDs

    digitalWrite(redLedPin, HIGH);

    digitalWrite(greenLedPin, HIGH);

  } else {

    // Control LEDs based on distance

    if (distance <= 4) {

      digitalWrite(redLedPin, HIGH);

      digitalWrite(greenLedPin, LOW);

    } else {

      digitalWrite(redLedPin, LOW);

      digitalWrite(greenLedPin, HIGH);

    }

  }

  delay(1000); // Delay 1 second before next reading

}