

#define TRIG\_PIN D8

#define ECHO\_PIN D9

#define LED\_PIN D7

void setup() {

  pinMode(TRIG\_PIN, OUTPUT);

  pinMode(ECHO\_PIN, INPUT);

  pinMode(LED\_PIN, OUTPUT);

**Serial**.begin(9600);

}

void loop() {

  long duration, distance;

  // Send a pulse from the TRIG pin

  digitalWrite(TRIG\_PIN, LOW);

  delayMicroseconds(2);

  digitalWrite(TRIG\_PIN, HIGH);

  delayMicroseconds(10);

  digitalWrite(TRIG\_PIN, LOW);

  // Read the ECHO pin

  duration = pulseIn(ECHO\_PIN, HIGH);

  // Calculate the distance

  distance = (duration / 2) / 29.1;

  // Print the distance to the Serial Monitor

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

**Serial**.print(distance);

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

  // Control the LED based on the distance

  if (distance < 50) {

    digitalWrite(LED\_PIN, HIGH); // Turn on LED if distance is less than 10 cm

  } else {

    digitalWrite(LED\_PIN, LOW); // Turn off LED otherwise

  }

  delay(500);

}