// defines pins numbers

const int trigPin = 9; /to arduino/

const int echoPin = 10;

const int relay = 11;

const int ledPin = 13;

// defines variables

long duration;

int distance;

int safetyDistance;

void setup() {

pinMode(trigPin, OUTPUT); // Sets the trigPin as an Output

pinMode(echoPin, INPUT); // Sets the echoPin as an Input

pinMode(relay, OUTPUT);

pinMode(ledPin, OUTPUT);

Serial.begin(9600); // Starts the serial communication

}

void loop() {

// Clears the trigPin

digitalWrite(trigPin, LOW);

delayMicroseconds(2);

// Sets the trigPin on HIGH state for 10 micro seconds

digitalWrite(trigPin, HIGH);

delayMicroseconds(10);

digitalWrite(trigPin, LOW);

// Reads the echoPin, returns the sound wave travel time in microseconds

duration = pulseIn(echoPin, HIGH);

// Calculating the distance

distance= duration\*0.034/2;

safetyDistance = distance;

if (safetyDistance <= 30){

 digitalWrite(relay, HIGH);

 digitalWrite(ledPin, HIGH);

}

else{

 digitalWrite(relay, LOW);

 digitalWrite(ledPin, LOW);

}

// Prints the distance on the Serial Monitor

Serial.print("Distance: ");

Serial.println(distance);

}