// Define pins for Ultrasonic Sensor

const int trigPin = 9;

const int echoPin = 10;

// Define pin for Buzzer

const int buzzerPin = 8;

// Define threshold distance (in centimeters)

const int thresholdDistance = 10; // Change this value as needed

void setup() {

// Initialize the serial communication

Serial.begin(9600);

// Initialize the Ultrasonic Sensor pins

pinMode(trigPin, OUTPUT);

pinMode(echoPin, INPUT);

// Initialize the Buzzer pin

pinMode(buzzerPin, OUTPUT);

}

void loop() {

// Send a 10us pulse to trigger the sensor

digitalWrite(trigPin, LOW);

delayMicroseconds(2);

digitalWrite(trigPin, HIGH);

delayMicroseconds(10);

digitalWrite(trigPin, LOW);

// Read the echo pin

long duration = pulseIn(echoPin, HIGH);

// Calculate the distance (duration / 2) \* speed of sound (34300 cm/s)

int distance = duration \* 0.034 / 2;

// Print the distance to the Serial Monitor

Serial.print("Distance: ");

Serial.print(distance);

Serial.println(" cm");

// Check if the distance is less than the threshold distance

if (distance < thresholdDistance) {

// If an obstacle is detected, turn on the buzzer

digitalWrite(buzzerPin, HIGH);

} else {

// If no obstacle is detected, turn off the buzzer

digitalWrite(buzzerPin, LOW);

}

// Small delay to avoid bouncing

delay(100);

}