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**BSCS-2**

**Arduino code:**

#include <LiquidCrystal.h>

// Set up the LCD columns and rows

LiquidCrystal lcd(12, 11, 5, 4, 3, 2);

const int trigPin = 9;

const int echoPin = 8;

void setup() {

// Initialize the LCD and set up the display

lcd.begin(16, 2);

lcd.print("Distance:");

// Initialize the pins

pinMode(trigPin, OUTPUT);

pinMode(echoPin, INPUT);

// Begin Serial for debugging

Serial.begin(9600);

}

void loop() {

// Send a pulse to trigger the sensor

digitalWrite(trigPin, LOW);

delayMicroseconds(2);

digitalWrite(trigPin, HIGH);

delayMicroseconds(10);

digitalWrite(trigPin, LOW);

// Read the duration of the pulse returned

long duration = pulseIn(echoPin, HIGH);

// Calculate the distance in cm

int distance = duration \* 0.034 / 2;

// Display distance on the LCD

lcd.setCursor(0, 1); // Start at the second row

lcd.print("Dist: ");

lcd.print(distance);

lcd.print(" cm ");

// Print the distance to Serial Monitor (for debugging)

Serial.print("Distance: ");

Serial.print(distance);

Serial.println(" cm");

delay(500); // Refresh every 0.5 seconds

}