// ---------------------------------------------------------------- //

// Arduino Ultrasoninc Sensor HC-SR04

// Re-writed by Arbi Abdul Jabbaar

// Using Arduino IDE 1.8.7

// Using HC-SR04 Module

// Tested on 17 September 2019

// ---------------------------------------------------------------- //

#define echoPin 3 // attach pin D2 Arduino to pin Echo of HC-SR04

#define trigPin 2 //attach pin D3 Arduino to pin Trig of HC-SR04

// defines variables

long duration; // variable for the duration of sound wave travel

int distance; // variable for the distance measurement

void setup() {

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

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

  Serial.begin(9600); // // Serial Communication is starting with 9600 of baudrate speed

  Serial.println("Ultrasonic Sensor HC-SR04 Test"); // print some text in Serial Monitor

  Serial.println("with Arduino UNO R3");

}

void loop() {

  // Clears the trigPin condition

  digitalWrite(trigPin, LOW);

  delayMicroseconds(2);

  // Sets the trigPin HIGH (ACTIVE) for 10 microseconds

  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; // Speed of sound wave divided by 2 (go and back)

  // Displays the distance on the Serial Monitor

  Serial.print("Distance: ");

  Serial.print(distance);

  Serial.println(" cm");

}