**CODE:**

const int TRIG\_PIN = 7;

const int ECHO\_PIN = 8;

// Anything over 400 cm (23200 us pulse) is "out of range"

const unsigned int MAX\_DIST = 23200;

void setup() {

  // The Trigger pin will tell the sensor to range find

  pinMode(TRIG\_PIN, OUTPUT);

  digitalWrite(TRIG\_PIN, LOW);

  //Set Echo pin as input to measure the duration of

  //pulses coming back from the distance sensor

  pinMode(ECHO\_PIN, INPUT);

  // We'll use the serial monitor to view the sensor output

**Serial**.begin(9600);

}

void loop() {

  unsigned long t1;

  unsigned long t2;

  unsigned long pulse\_width;

  float cm;

  float inches;

  // Hold the trigger pin high for at least 10 us

  digitalWrite(TRIG\_PIN, HIGH);

  delayMicroseconds(10);

  digitalWrite(TRIG\_PIN, LOW);

  // Wait for pulse on echo pin

  while ( digitalRead(ECHO\_PIN) == 0 );

  // Measure how long the echo pin was held high (pulse width)

  // Note: the micros() counter will overflow after ~70 min

  t1 = micros();

  while ( digitalRead(ECHO\_PIN) == 1);

  t2 = micros();

  pulse\_width = t2 - t1;

  // Calculate distance in centimeters and inches. The constants

  // are found in the datasheet, and calculated from the assumed speed

  //of sound in air at sea level (~340 m/s).

  cm = pulse\_width / 58.0;

  inches = pulse\_width / 148.0;

  // Print out results

  if ( pulse\_width > MAX\_DIST ) {

**Serial**.println("Out of range");

  } else {

**Serial**.print(cm);

**Serial**.print(" cm \t");

**Serial**.print(inches);

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

  }

  // Wait at least 60ms before next measurement

  delay(60);

}

**JSON:**

{

  "version": 1,

  "author": "yuvi",

  "editor": "wokwi",

  "parts": [

    {

      "type": "wokwi-arduino-uno",

      "id": "uno",

      "top": 259.31,

      "left": 31.06,

      "rotate": 0,

      "hide": false,

      "attrs": {}

    },

    {

      "type": "wokwi-hc-sr04",

      "id": "ultrasonic",

      "top": 86.99,

      "left": 109.89,

      "rotate": 0,

      "hide": false,

      "attrs": { "distance": "180" }

    }

  ],

  "connections": [

    [ "uno:GND.1", "ultrasonic:GND", "black", [ "v-8", "\*", "v8" ] ],

    [ "uno:8", "ultrasonic:ECHO", "green", [] ],

    [ "uno:7", "ultrasonic:TRIG", "purple", [ "\*", "v4" ] ],

    [ "uno:5V", "ultrasonic:VCC", "red", [ "v16", "h-96", "\*", "v12" ] ]

  ]

}