

Assignment – 4

Wokwi for the ultrasonic sensor

Assignment Date	05 November 2022
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Maximum Marks	2 Marks

Question-1:

Write code and connection in wokwi for the ultrasonic sensor.

PROGRAM

Ultrasonic Simple

Prints the distance read by an ultrasonic sensor in centimeters. They are supported to four pins ultrasound sensors (like HC-SC04) and three pins (like PING)) and Seeed Studio sensors).

The circuit:

* * Module HR-SC04 (four pins) or PING))) (and other with three pins), attached to digital pins as follows:

HC-SC04 Arduino			3 pins Arduino		
Vcc	5V		Vcc	5V	
Trig	12	OR	SIG	13	
Echo	13		Gnd	GND	
Gnd	GND				

Note: You do not obligatorily need to use the pins defined above

By default, the distance returned by the read() method is in centimeters. To get the distance in inches, pass INC as a parameter.

Example: ultrasonic.read(INC)

```
created 3 Apr 2014
by Erick Simões (github: @ErickSimoes | twitter: @AloErickSimoes)
modified 23 Jan 2017
by Erick Simões (github: @ErickSimoes | twitter: @AloErickSimoes)
modified 03 Mar 2017
by Erick Simões (github: @ErickSimoes | twitter: @AloErickSimoes)
modified 11 Jun 2018
by Erick Simões (github: @ErickSimoes | twitter: @AloErickSimoes)

This example code is released into the MIT License.

*/
#include "Ultrasonic.h"

/*
Pass as a parameter the trigger and echo pin, respectively,
or only the signal pin (for sensors 3 pins), like:
Ultrasonic ultrasonic(13);

*/
Ultrasonic ultrasonic(12, 13);
int distance;

void setup() {
  Serial.begin(9600);
}

void loop() {
  // Pass INC as a parameter to get the distance in inches

  distance = ultrasonic.read(CM);

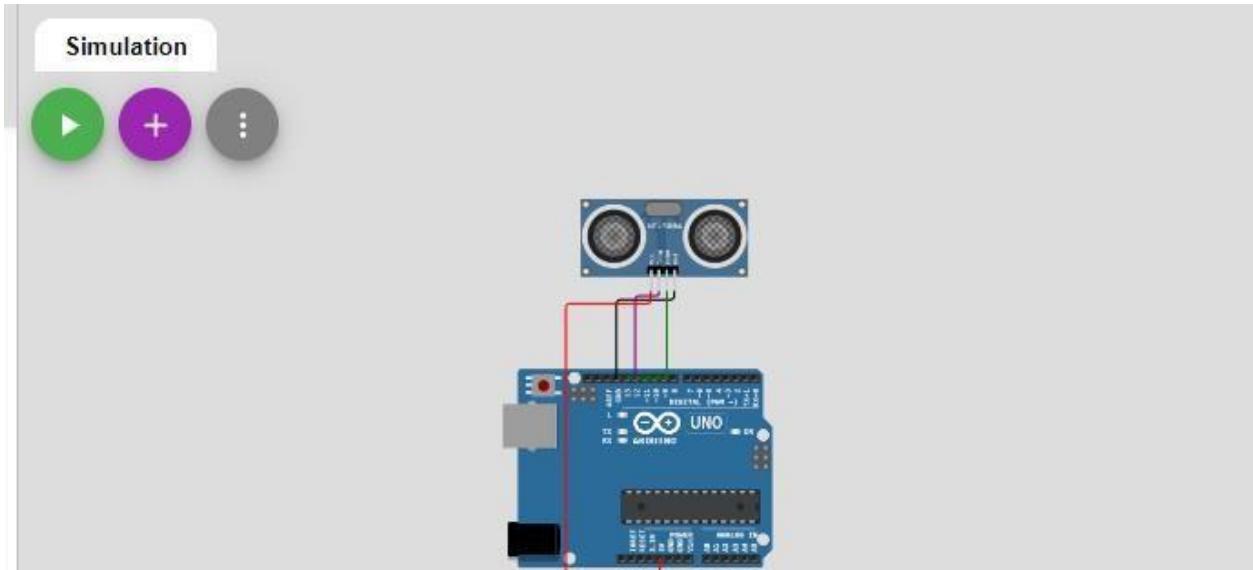
  Serial.print("Distance in CM: ");
  Serial.println(distance);

  distance = ultrasonic.read(INC);

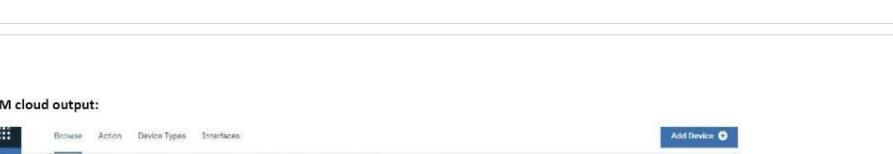
  Serial.print("Distance in Inches: ");
  Serial.println(distance);

  delay(1000);
}
```

OUTPUT



Ibm cloud output



The screenshot shows the IBM Cloud Device Explorer interface. The top navigation bar includes 'Browse', 'Action', 'Device Types', 'Interfaces', and a blue 'Add Device' button. On the left, there's a vertical sidebar with icons for Home, Devices, Metrics, Events, Rules, and Settings. The main area has tabs for 'Identity', 'Device Information', 'Recent Events' (which is selected), 'State', and 'Logs'. A message states, 'The recent events listed show the live stream of data that is coming and going from this device.' Below this, a table lists four events:

Event	Value	Format	Last Received
event_1	["distance":17,"Alert":"Distance less than 10']	json	a few seconds ago
event_1	["distance":19,"Alert":"Distance less than 10']	json	a few seconds ago
event_1	["distance":18,"Alert":"Distance less than 10']	json	a few seconds ago
event_1	["distance":19,"Alert":"Distance less than 10']	json	a few seconds ago