

Assignment date	07 November 2022
Student Name	Ms.J.Sriji
Student Roll Number	821719106023
Maximum Marks	2 Marks

#### Question-4

Write code and connections in wokwi for the ultrasonic sensor

#### Code

```

/*
  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

The screenshot shows the Wokwi IDE interface. On the left, the code for the simulation is displayed, including comments and a setup function. The simulation window on the right shows an Arduino Uno board connected to an HC-SR04 ultrasonic sensor. The serial monitor displays the output of the code, showing distance readings in both centimeters and inches.

**Code Snippet:**

```

23 pass INC as a parameter.
24 Example: ultrasonic.read(INC)
25
26 created 3 Apr 2014
27 by Erick Simões (github: @ErickSimoes |
28 modified 23 Jan 2017
29 by Erick Simões (github: @ErickSimoes |
30 modified 03 Mar 2017
31 by Erick Simões (github: @ErickSimoes |
32 modified 11 Jun 2018
33 by Erick Simões (github: @ErickSimoes |
34
35 This example code is released into the P
36
37
38 #include "Ultrasonic.h"
39
40
41 /*
42 Pass as a parameter the trigger and echo pins
43 or only the signal pin (for sensors 3 pin)
44 Ultrasonic ultrasonic(13);
45
46 */
47 Ultrasonic ultrasonic(12, 13);
48 int distance;
49
50 void setup() {
51   Serial.begin(9600);
52 }

```

**Simulation Output:**

```

Distance in Inches: 41
Distance in CM: 104
Distance in Inches: 41
Distance in CM: 105
Distance in Inches: 41
Distance in CM: 105
Distance in Inches: 41

```