

Assignment - 4
Ultrasonic Sensor in Wokwi

Assignment Date	26 October 2022
Student Name	Deepak M
Student Roll Number	310619205025
Maximum Marks	2 Marks

Question-1:

Write code and connections in wokwi for ultrasonic sensor. Whenever distance is less than 100cms send “alert” to IBM cloud and display in device recent events.

CODE:

Sketch.ino

```
/*
```

```
    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
Sseed Studio sensors).
```

```
    The circuit:
```

```
    * * Module HC-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   |      | -----
    -----
```

```
*/
```

```

#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);
}

```

Diagram.json

```

{
  "version": 1,
  "author": "Rozen Berg",
  "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,

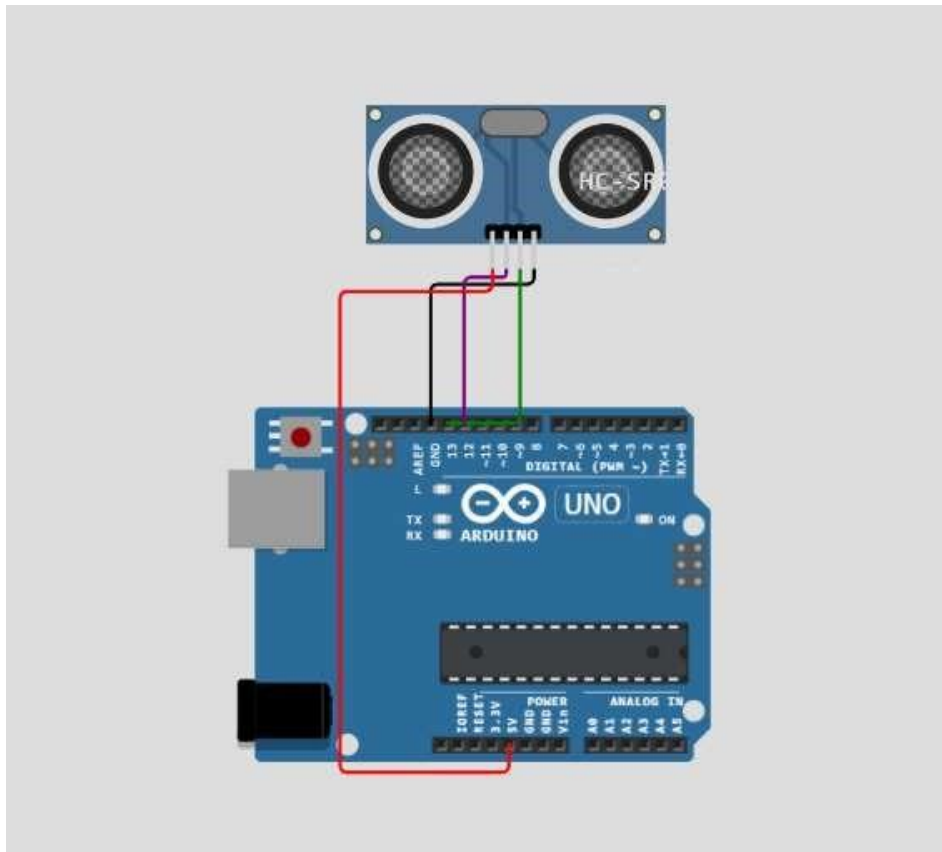
```

```

    "rotate": 0,
    "hide": false,
    "attrs": { "distance": "100" }
  }
],
"connections": [
  [ "uno:GND.1", "ultrasonic:GND", "black", [ "v-8", "*", "v8" ] ],
  [ "uno:13", "ultrasonic:ECHO", "green", [ ] ],
  [ "uno:12", "ultrasonic:TRIG", "purple", [ "*", "v4" ] ],
  [ "uno:5V", "ultrasonic:VCC", "red", [ "v16", "h-96", "*", "v12" ] ]
]
}

```

Circuit Diagram



Output:

