Assignment - 4
Ultrasonic Sensor in Wokwi

Assignment Date	01NOVEMBER 2022
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Maximum Marks	2 Marks

Question-1:
Write code and connections in wokwi for ultrasonic sensor. Whenever distance is less than100cms send "alert" to IBM cloud and display in device recent events.
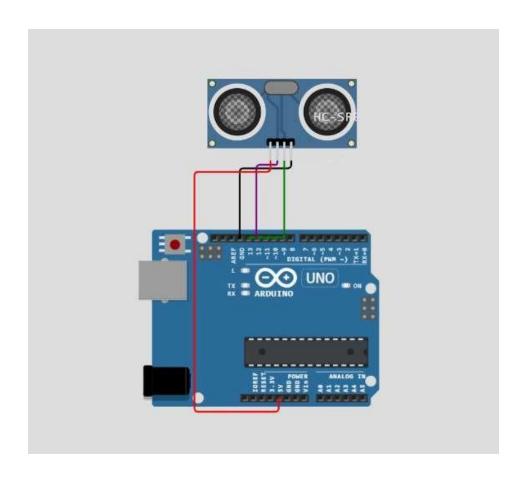
CODE:
Sketch.ino

```
/*
Ultrasonic Simple
Prints the distance read by an ultrasonic sensor in centimeters. They are
supported to four pins ultrasoundsensors (liek HC-SC04) and three pins (like
PING))) and Seeed Studio sensors).

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

---------------------------------        -----------------------------
|   HC-   |  Arduin |                    | 3 pins | Arduin |
   SC04        o                                       o
---------------------------------        -----------------------------

|   Vcc   |    5V   |         |   Vcc  |    5V   |
|   Trig  |    12   |  OR  |   SIG  |    13   |
|   Echo  |    13   |         |   Gnd  |   GND   |
|   Gnd   |   GND   |         --------------------

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                              */
```

```cpp
#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 inchesdistance =
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

```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