Assignment - 4

Ultrasonic Sensor in Wokwi

Assignment Date	26 October 2022
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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 (liek 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 | ----------
 ----------
*/
#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

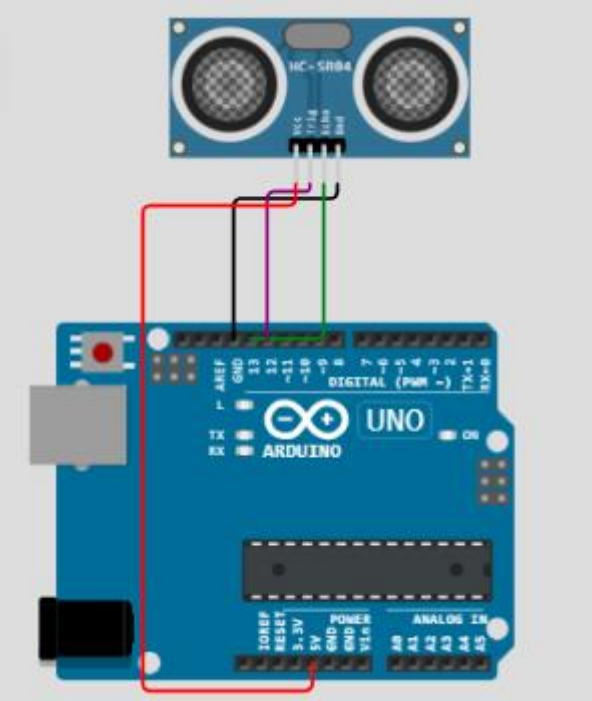
```
{
 "version": 1,
```

```
"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: