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-SC04   |   Arduino   |      | 3   pins   |   Arduino   |
 ------------------------------      ------------------------------

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

 ------------------------------
```

***/**

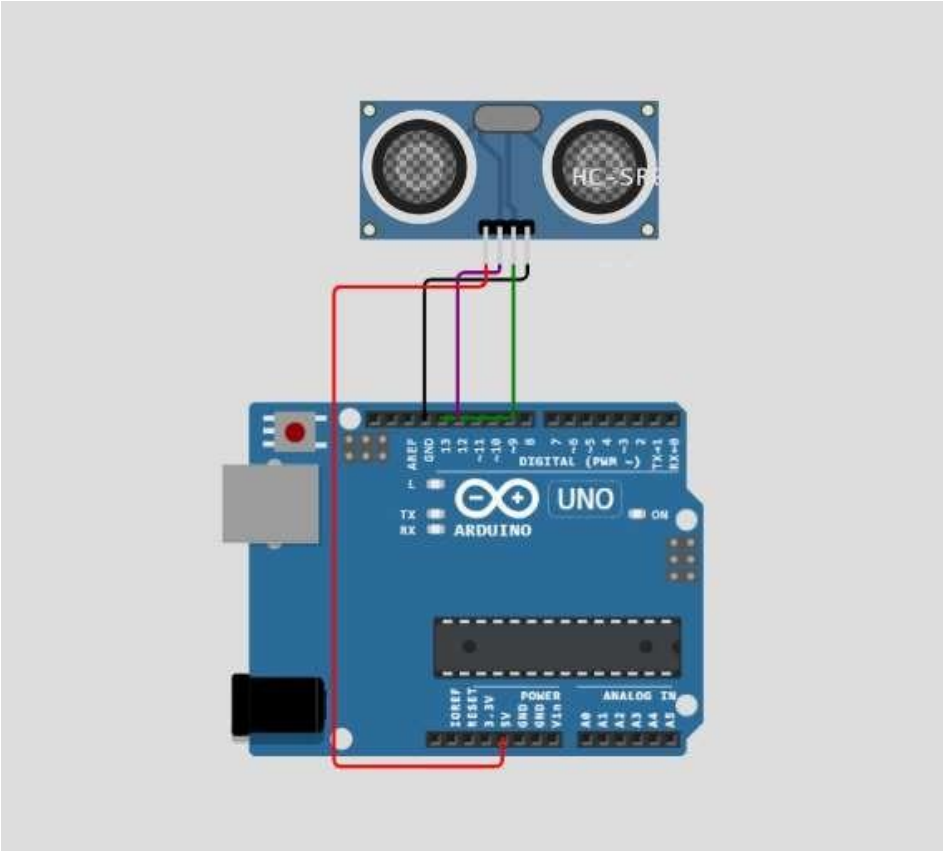
```
#include "Ultrasonic.h"
/*
Pass as a parameter the trigger and echo pin, respectively,or only the signal pin (for sensors 3 pins), like: Ultrasonic ultrasonic(13);
*/
Ultrasonic ultrasonic(12, 13);int distance;
void setup() { Serial.begin(9600);
}
void loop() {
// Pass INC as a parameter to get the distance in 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

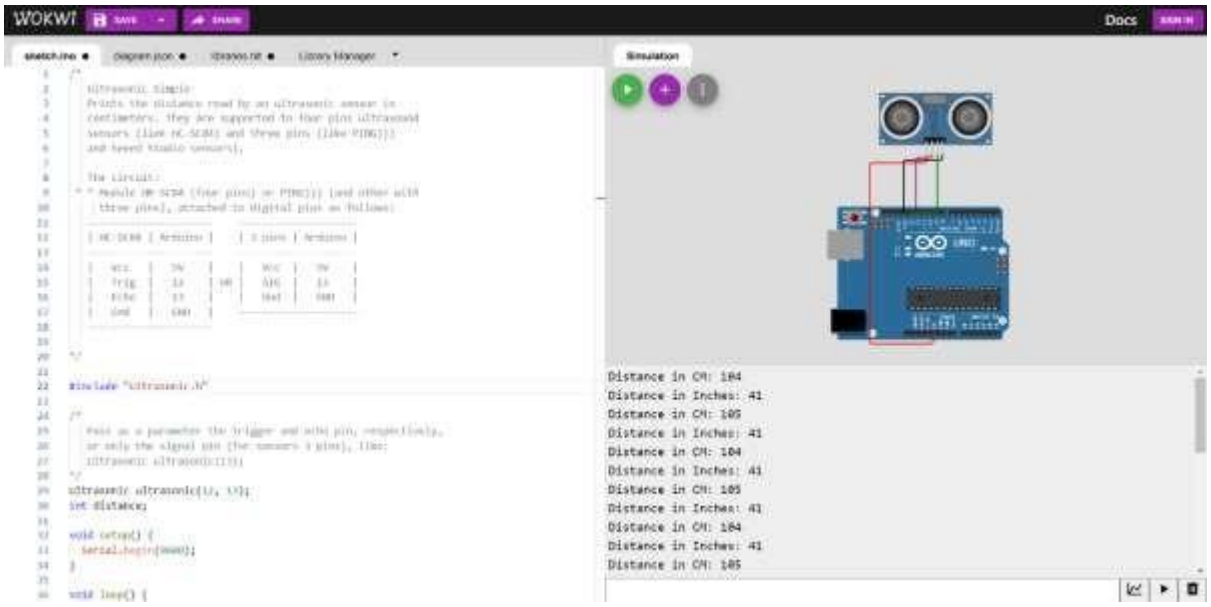
```
{
"version": 1,
"author": "Rozen Berg","editor": "wokwi", "parts": [
{
"type": "wokwi-arduino-uno","id": "uno",
"top": 259.31,
"left": 31.06,
"rotate": 0,
"hide": false,
"attrs": {}
},
```

{
"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:


WOKWI
Docs
Simulation
Distance in CM: 104
Distance in Inches: 41
Distance in CM: 105
Distance in Inches: 41
Distance in CM: 104
Distance in Inches: 41
Distance in CM: 105
Distance in Inches: 41
Distance in CM: 104
Distance in Inches: 41
Distance in CM: 105