

ASSIGNMENT -4

DATE	28 TH OCTOBER2022
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MAXIMUM MARKS	2 MARKS

QUESTION:

WRITE A CODE AND CONNECTIONS IN WOKWI FOR ULTRASONIC SENSOR.WHENEVER DISTANCE IS LESS THAN 100 CMS SEND ALERT TO IBM CLOUD AND DISPLAY IN DEVICE EVENTS.

ANSWER :

WOKWI :

The screenshot displays the Wokwi online IDE interface. On the left, the code editor shows the following C++ code for an Arduino Uno:

```
1 #include "Ultrasonic.h"
2 Ultrasonic ultrasonic(12, 13);
3 int distance;
4
5 void setup() {
6   Serial.begin(9600);
7   pinMode(6, OUTPUT);
8 }
9
10 void loop() {
11   distance = ultrasonic.read(CM);
12   Serial.print("Distance in CM: ");
13   Serial.println(distance);
14   if(distance<=100)
15   {
16     Serial.println("alert!!!!");
17     digitalWrite(4, HIGH);
18   }
19
20
21   delay(1000);
22 }
```

On the right, the simulation window shows an Arduino Uno board connected to an HC-SR04 ultrasonic sensor. The sensor's VCC pin is connected to the 5V pin, GND to GND, Trig to pin 12, and Echo to pin 13. A red LED is connected to pin 4 (HIGH) and GND. The simulation is running, and the serial output shows the following messages:

```
Distance in CM: 50
alert!!!!
Distance in CM: 50
alert!!!!
Distance in CM: 50
alert!!!!
```

IBM CLOUD

Browse

Action

Device Types

Interfaces

Add Device

Device ID

Status

Device Type

Class ID

Date Added

Descriptive Location

>

123

Disconnected

hp1501

Device

Oct 11, 2022 10:32 PM

▼

1234

Disconnected

assign4hp

Device

Oct 26, 2022 8:12 PM

→ ...

Identity

Device Information

Recent Events

State

Logs

The recent events listed show the live stream of data that is coming and going from this device.

Event	Value	Format	Last Received
event_1hp	{"distance":30}	json	a few seconds ago
event_1hp	{"distance":28}	json	a few seconds ago
event_1hp	{"distance":48}	json	a few seconds ago
event_1hp	{"distance":76}	json	a few seconds ago
event_1hp	{"distance":59}	json	a few seconds ago

1 Simulation running

ultrasonic

+ Add New Card

Paste Card

Settings

Line chart

Time	Distance
21:42:30	45
21:43:00	60
21:43:30	40
21:44:00	50
21:44:30	85
21:45:00	35
21:45:30	70
21:46:00	40

5 minutes

now

distance

1 Simulation running