

ASSIGNMENT -4

DATE	28 TH OCTOBER2022
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MAXIMUM MARKS	4 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 IDE interface. On the left, the code editor shows the following C++ code:

```
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 HC-SR04 ultrasonic sensor connected to an Arduino Uno. The sensor's VCC pin is connected to the 5V pin, GND to GND, Trig to digital pin 12, and Echo to digital pin 13. A red LED is connected to digital pin 4 (HIGH) and GND. The simulation controls (play, add, and settings buttons) are visible above the sensor. Below the simulation, the serial monitor displays the following output:

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

IBM CLOUD

Browse

Action

Device Types

Interfaces

Q

Add Device +

<input type="checkbox"/>	Device ID	Status	Device Type	Class ID	Date Added	Descriptive Location
> <input type="checkbox"/>	123	Disconnected	hp1501	Device	Oct 11, 2022 10:32 PM	
▼ <input checked="" type="checkbox"/>	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

5 minutes

now

● distance

1 Simulation running