

### ASSIGNMENT -4

DATE	27 <sup>TH</sup> 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 LINK :<https://wokwi.com/projects/346501228393398868>**

The screenshot displays the Wokwi online IDE interface. On the left, the code editor shows a C++ program for an ultrasonic sensor simulation. The code includes the `Ultrasonic.h` library, initializes the sensor on pins 12 and 13, and sets pin 6 as an output. In the `loop()` function, it reads the distance in centimeters, prints it to the serial monitor, and checks if the distance is less than or equal to 100 cm. If true, it prints "alert!!!" and sets a digital pin (pin 4) to HIGH, which is connected to a red LED in the simulation. A 1000ms delay is added at the end of the loop.

The right side of the interface shows the simulation of an Arduino Uno board with an HC-SR04 ultrasonic sensor connected to its pins. The sensor's VCC is connected to 5V, GND to GND, Trig to pin 12, and Echo to pin 13. A red LED is connected to pin 4 (HIGH) and ground. The simulation controls (play, pause, reset) are visible above the board.

Below the simulation, the console output shows the following sequence of events:

```
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

80

60

40

20

0

21:42

21:43

21:44

21:45

21:46

5 minutes

now

● distance

1 Simulation running