

ASSIGNMENT-4
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Qn: Write code and connections in wokwi for the ultrasonic sensor.

Whenever the distance is less than 100 cms send an "alert" to the IBM cloud
and display in the device recent events.

Upload document with wokwi share link and images of IBM cloud

LINK:

<https://wokwi.com/projects/new/arduino-uno>

CODE:

```
long int echoPin=7;
long int trigPin=5;
void setup()

    Serial.begin(9600);
    pinMode(7,OUTPUT);
    pinMode(5,INPUT);

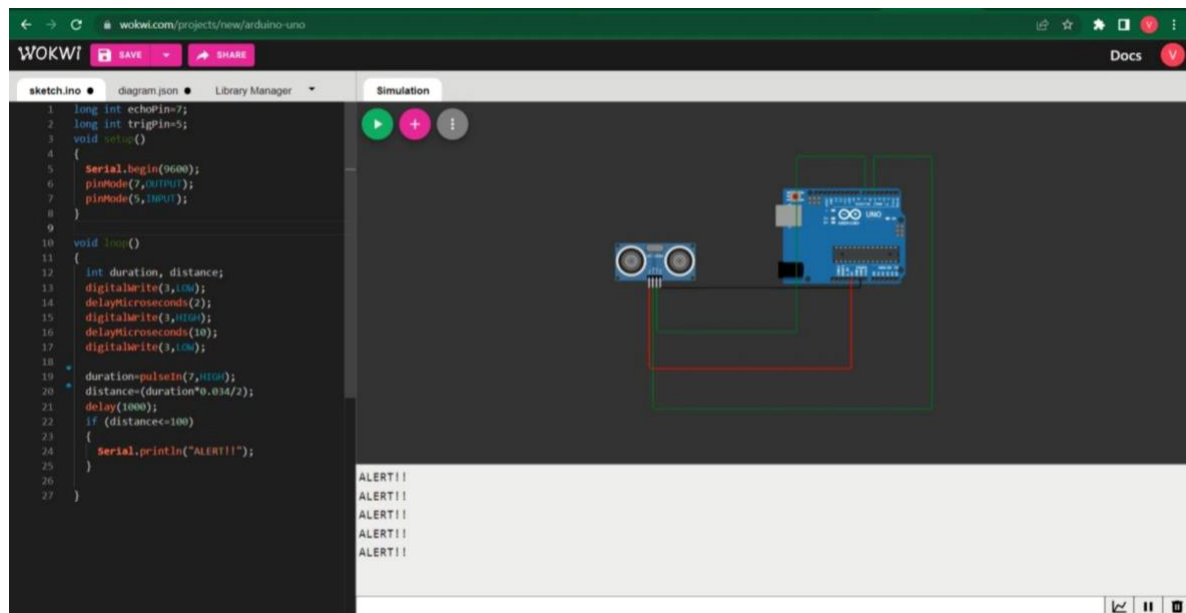
void loop()

    int duration, distance;
    digitalWrite(3,LOW);
    delayMicroseconds(2);
    digitalWrite(3,HIGH);
    delayMicroseconds(10);
    digitalWrite(3,LOW);

    duration=pulseIn(7,HIGH);
    distance=(duration*0.034/2);
    delay(1000);
    if (distance<=100)

        Serial.println("ALERT!!");
```

SIMULATIONS:



```
1 pH = random.r
2 turbidity = random.randint(1
3 temperature = random.randint(0
4
5 data = {'pH': pH, 'turbid': tur
6
7
8
9
10 # print(data)
11 def myOnPublishCallback():
12 while True
```

Event	Value
demo	{"pH":12,"turbid":93,"temp":87}
demo	{"pH":7,"turbid":873,"temp":94}
demo	{"pH":3,"turbid":204,"temp":19}
demo	{"pH":11,"turbid":304,"temp":77}
demo	{"pH":13,"turbid":16,"temp":50}

The screenshot displays the ThingsBoard web application. On the left is a dark blue sidebar with icons for home, devices, events, widgets, settings, and users. The top navigation bar includes links for Browse, Action, Device Types, Interfaces, and an Add Device button. The main content area shows a message: "The recent events listed show the live stream of data that is coming an". Below this is a table with two columns: Event and Value.

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demo	{"pH":13,"turbid":16,"temp":50}

At the bottom, there is a status bar showing a refresh icon, the ID "00003", the status "Disconnected", the device name "Micro_controller_2", and the label "Dev". Below this is a pagination control showing "Items per page 50", "1-3 of 3 items", "1 of 1 page", and navigation arrows.