

## ASSIGNMENT – 4

Date	29 October 2022
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Project Name	Gas Leakage Monitoring And Alerting System For Industries .

### QUESTION :

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

### 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!!");
  }
}
```

## OUTPUT :

**WOKWI** **SAVE** **SHARE** Docs **SIGN IN**

sketch.ino • diagram.json • Library Manager

```
1 long int echoPin=7;
2 long int trigPin=5;
3 void setup()
4 {
5   Serial.begin(9600);
6   pinMode(7,OUTPUT);
7   pinMode(5,INPUT);
8 }
9
10 void loop()
11 {
12   int duration, distance;
13   digitalWrite(3,LOW);
14   delayMicroseconds(2);
15   digitalWrite(3,HIGH);
16   delayMicroseconds(10);
17   digitalWrite(3,LOW);
18
19   duration=pulseIn(7,HIGH);
20   distance=(duration*0.034/2);
21   delay(1000);
22   if (distance<=100)
23   {
24     Serial.println("ALERT!!");
25   }
26
27 }
```

**Simulation**

00:07.248 100%

ALERT!!  
ALERT!!  
ALERT!!  
ALERT!!

**Test\_Python\_3.7.4** **Test\_Python\_3.7.4.py** **Test\_Python\_3.7.4**

Project

- Test\_Python\_3.7.4 --(PycharmProjects/Test\_Python\_3.7.4)
- d\_inklec\_Microcontroller\_Device\_1\_00002.log
- main.py
- Test\_Python\_3.7.4.py
- External Libraries
- Scratches and Consoles

```
42 pH = random.r
43 turbidity = random.randint(1,
44 temperature = random.randint(0,
45
46 data = {'pH': pH, 'turbid': tur
47
48
49 # print(data)
50 def myOnPublishCallback():
51     while True
```

Run: Test\_Python\_3.7.4

Published pH= 4 Turbidity: 242 Temperature: 74  
Published pH= 12 Turbidity: 564 Temperature: 54  
Published pH= 2 Turbidity: 571 Temperature: 98  
Published pH= 7 Turbidity: 677 Temperature: 65  
Published pH= 8 Turbidity: 352 Temperature: 13  
Published pH= 5 Turbidity: 862 Temperature: 88  
Published pH= 3 Turbidity: 834 Temperature: 7  
Published pH= 9 Turbidity: 213 Temperature: 89  
Published pH= 14 Turbidity: 677 Temperature: 22  
Published pH= 11 Turbidity: 292 Temperature: 100  
Published pH= 2 Turbidity: 53 Temperature: 21  
Published pH= 6 Turbidity: 499 Temperature: 69  
Published pH= 11 Turbidity: 238 Temperature: 20  
Published pH= 2 Turbidity: 443 Temperature: 43  
Published pH= 6 Turbidity: 986 Temperature: 91  
Published pH= 5 Turbidity: 593 Temperature: 85  
Published pH= 14 Turbidity: 308 Temperature: 86  
Published pH= 4 Turbidity: 532 Temperature: 8  
Published pH= 7 Turbidity: 56 Temperature: 18

**IBM Watson IoT Platform**

Browse Action Device Types Interfaces **Add Device**

The recent events listed show the live stream of data that is coming an

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]

00003 Disconnected Micro\_controller\_2 Devi

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