

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:

WOKWI

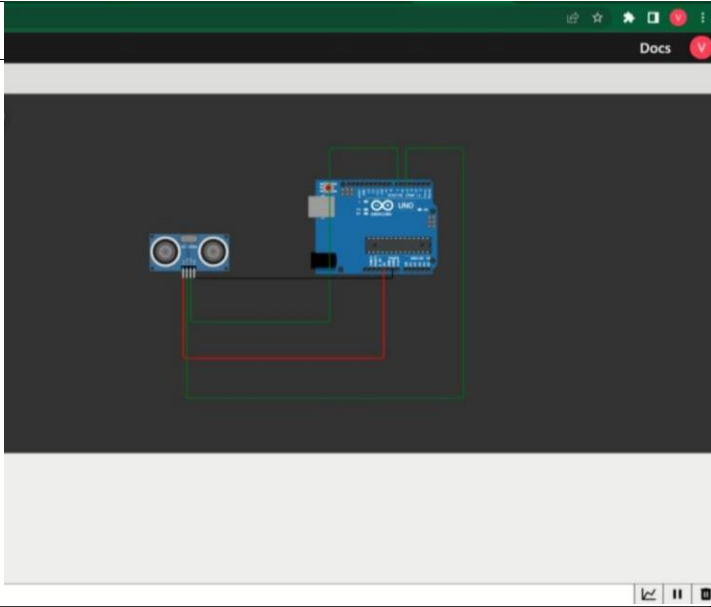
Docs

sketch.ino

Pin*5;

```
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,HIGH);
14   delayMicroseconds(2);
15   digitalWrite(3,LOW);
16   delayMicroseconds(10);
17   digitalWrite(3,HIGH);
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



```
ALERT!!
ALERT!!
ALERT!
ALERT!
ALERT! t
ALERT!
ALERT!
```

Test_python_3.7.4

test_python_3.7.4.py

```
42 pH = random.r
43 turbidity = random.randint(1,
44 temperature = random.randint(0
45
46 data = {'pH': pH, 'turbid': tur
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```

Run: Test_python_3.7.4

```
Published pH= 4 Turbidity:242 Temperature:71
Published pH= 12 Turbidity:564 Temperature:54
Published pH= 2 Turbidity:577 Temperature:98
Published pH= 7 Turbidity:577 Temperature:65
Published pH= 8 Turbidity:582 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:168
Published pH= 2 Turbidity:53 Temperature:21
Published pH= 6 Turbidity:499 Temperature:69
Published pH= 11 Turbidity:238 Temperature:26
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:508 Temperature:86
Published pH= 4 Turbidity:532 Temperature:8
```

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

