

Assignment -4

Question-1: Write code and connections in wokwi for ultrasonic sensor.
Whenever distance is less than 100 cms send "alert" to IBM cloud and display in device recent events.

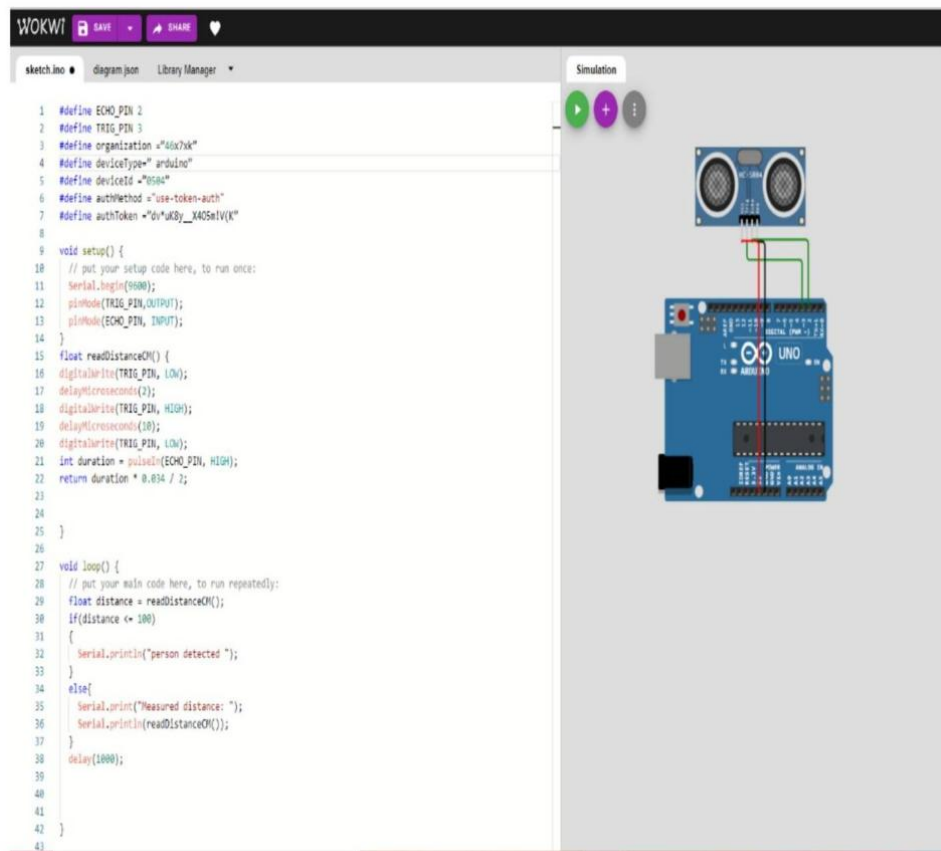
Solution:

```
#define ECHO_PIN 2
#define TRIG_PIN 3
#define organization ="46x7xk"
#define deviceType=" arduino"
#define deviceId ="0504"
#define authMethod ="use-token-auth"
#define authToken ="dv*uK8y__X4O5m!V(K"
```

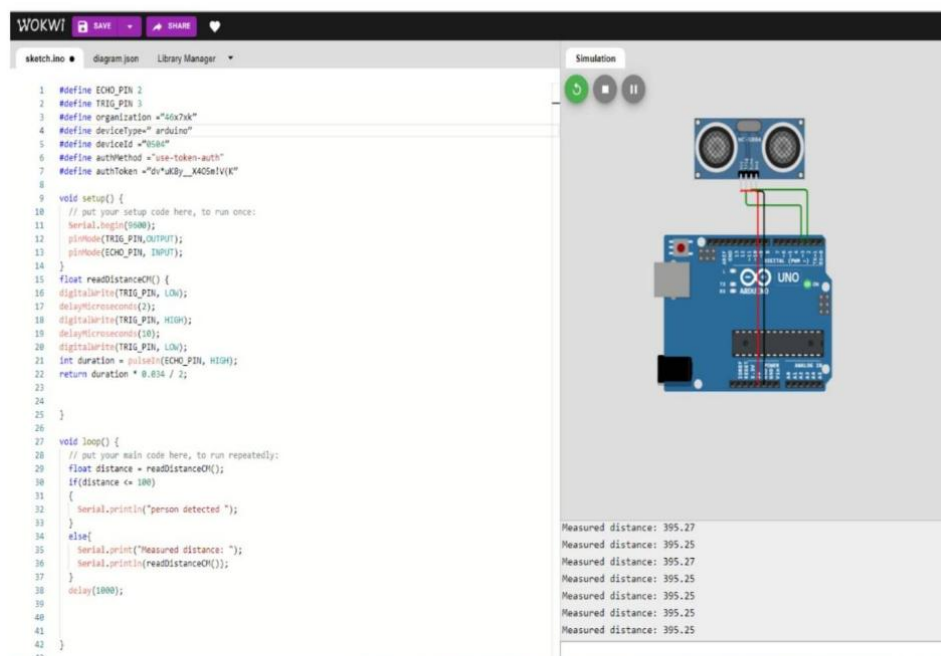
```
void setup() {
  // put your setup code here, to run once:
  Serial.begin(9600);
  pinMode(TRIG_PIN,OUTPUT);
  pinMode(ECHO_PIN, INPUT);
}

float readDistanceCM() {
  digitalWrite(TRIG_PIN, LOW);
  delayMicroseconds(2);
  digitalWrite(TRIG_PIN, HIGH);
  delayMicroseconds(10);
  digitalWrite(TRIG_PIN, LOW);
```

```
int duration = pulseIn(ECHO_PIN, HIGH);  
return duration * 0.034 / 2;  
  
}  
  
void loop() {  
    // put your main code here, to run repeatedly:  
    float distance = readDistanceCM();  
    if(distance <= 100)  
    {  
        Serial.println("person detected ");  
    }  
    else{  
        Serial.print("Measured distance: ");  
        Serial.println(readDistanceCM());  
    }  
    delay(1000);  
  
}
```



Output:



Wokwi Link: <https://wokwi.com/projects/347484942224065107>

IBM CLOUD

Device Recent Events



Service Details - IBM Cloud x IBM Watson IoT Platform x

46x7xk.internetofthings.ibmcloud.com/dashboard/devices/browse

IBM Watson IoT Platform

volarmathu202@gmail.com ID: 44xc7ak

Browse Action Device Types Interfaces Add Device

0504 Disconnected arduino Device Nov 5, 2022 4:30 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_1	{"version":1,"author":"Anonymous maker","edito...	json	a few seconds ago
event_1	{"version":1,"author":"Anonymous maker","edito...	json	a few seconds ago
event_1	{"version":1,"author":"Anonymous maker","edito...	json	a few seconds ago
event_1	{"version":1,"author":"Anonymous maker","edito...	json	a few seconds ago

Items per page 50 | 1-1 of 1 item

3 Simulations running

Type here to search

16:51 05-11-2022