

ASSIGNMENT-4

Assignment date	29 th October, 2022
Student Name	GOGUL.M
Roll Number	412919106005
Maximum marks	2 Marks

Question:

Write code and connections in wokwi for ultrasonic sensor. Whenever distance is less than 100cm send "alert" to ibm cloud and display in device recent events. Upload document with wokwi share link and images of ibm cloud.

CODE:

```
#define ECHO_PIN 2
#define TRIG_PIN 3
#define organization = "55i2ca"
#define deviceType = "sara"
#define deviceId = "21032002"
#define authMethod = "use-token-auth"
#define authToken = "12345678"

void setup() {
    Serial.begin(9600);
    pinMode(LED_BUILTIN, OUTPUT);
    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() {
    float distance = readDistanceCM();

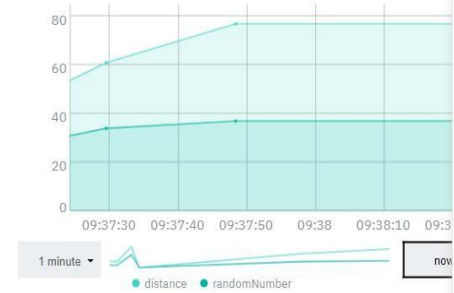
    if(distance < 100)
```

```
{  
  Serial.println("person detected");  
}  
else{  
  Serial.print("Measured distance: ");  
  Serial.println(readDistanceCM());  
  
  delay(100);  
}
```

IBM Watson IoT Platform

Ultrasonic sensor

Line chart



1 minute

distance randomNumber

Device Type: sara

Events 1

New event type

Event type name ultrasonic Send

Schedule 1 Every Minute

Payload

Specify the event payload in the editor window or by uploading a CSV file.

```
0 {
1   "randomNumber": random(0, 100),
2   "distance": random(10, 100)
3 }
4
```

Upload a CSV file

IBM Watson IoT Platform

613519106046@smartinternz.com ID: 552ca

Browse Action Device Types Interfaces Add Device

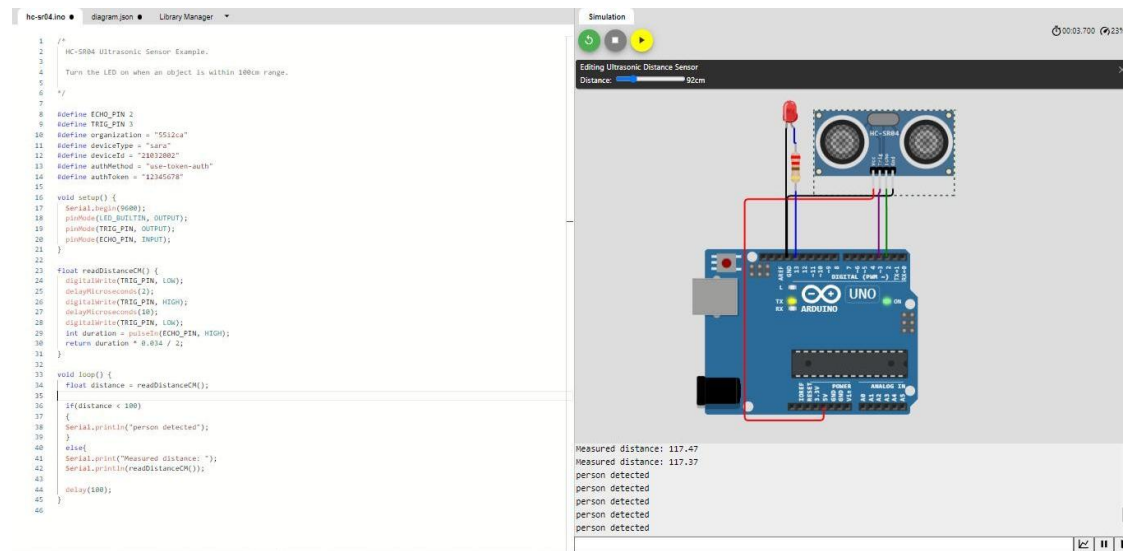
21032002 Disconnected sara Device 29 Oct 2022 09:22

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
ultrasonic	{"randomNumber":22,"distance":45}	json	a few seconds ago
ultrasonic	{"randomNumber":38,"distance":98}	json	a few seconds ago
ultrasonic	{"randomNumber":31,"distance":66}	json	a few seconds ago
ultrasonic	{"randomNumber":10,"distance":45}	json	a few seconds ago

2 Simulations running



LINK:

<https://wokwi.com/projects/346829645847462482>