

Assignment -4

| | |
|-----------------|--|
| Assignment Date | 29 October 2022 |
| Student Name | RUBANRAJ. S |
| Team ID | PNT2022TMID25689 |
| Project Name | Project-Smart Farmer-IoT Enabled Smart Farming Application |
| Maximum Marks | 2 Marks |

Question-1:

Write code and connections in wokwi for ultrasonic. 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 = “fkxdqs”
#define deviceType = “Arduino”
#define deviceId = “1200”
#define authMethod = “use-token-auth” #define
authToken = “00000000” void
setup() { Serial.begin(9600);
pinMode(TRIG_PIN, OUTPUT);
pinMode(ECHO_PIN, INPUT);
}

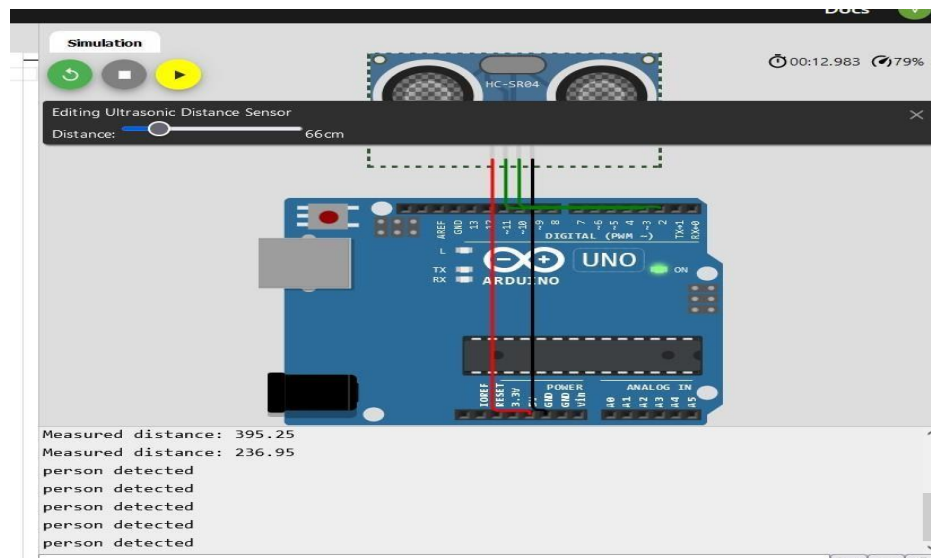
float readDistanceCM() {
digitalWrite(TRIG_PIN, LOW);
delayMicroseconds(2);
digitalWrite(TRIG_PIN, HIGH);
delayMicroseconds(10);
digitalWrite(TRIG_PIN, LOW); int
```

```

duration = pulseIn(ECHO_PIN, HIGH);
return duration * 0.034 / 2;
}

void loop() { float distance = readDistanceCM();
if(distance <=
100)
{
Serial.println("person detected ");
}
else{
Serial.print("Measured distance: ");
Serial.println(readDistanceCM());
}
delay(1000);
}

```



Wokwi Link: <https://wokwi.com/projects/346567349532361298>

IBM Cloud

Device Recent Events

← → https://floods.internetofthings.ibmcloud.com/dashboard/devices/browse

IBM Watson IoT Platform

820419205065@smartinternz.com
ID: floods

Browse Action Device Types Interfaces

Add Device

Crucially, to get started, you can add devices by using the Add Device button, or by using APIs.

Search by Device ID

Device Simulator

| Device ID | Status | Device Type | Class ID | Date Added | Descriptive Location | Added By |
|-----------|--------------|-------------|----------|----------------------|----------------------|-------------------------------|
| 1200 | Disconnected | Arduino | Device | Oct 26, 2022 1:10 PM | | 820419205065@smartinternz.com |

Identity Device Information Recent Events State Logs

| | |
|-------------------|-------------------------------|
| Device ID | 1200 |
| Device Type | Arduino |
| Date Added | Oct 26, 2022 1:10 PM |
| Added By | 820419205065@smartinternz.com |
| Connection Status | Disconnected |

Items per page 50 | 1-1 of 1 item

1 of 1 page

The screenshot displays the IBM Watson IoT Platform interface. At the top, the navigation bar includes 'Browse', 'Action', 'Device Types', and 'Interfaces'. The main content area shows a device card for ID '1200', which is 'Disconnected' and of type 'Arduino'. The 'Recent Events' tab is selected, showing a table of events. A notification at the bottom right indicates '1 Simulation running'.

| Event | Value | Format | Last Received |
|---------|------------------|--------|-------------------|
| event_1 | "PersonDetected" | json | a few seconds ago |
| event_1 | "PersonDetected" | json | a few seconds ago |
| event_1 | "PersonDetected" | json | a few seconds ago |
| event_1 | "PersonDetected" | json | a few seconds ago |
| event_1 | "PersonDetected" | json | a few seconds ago |

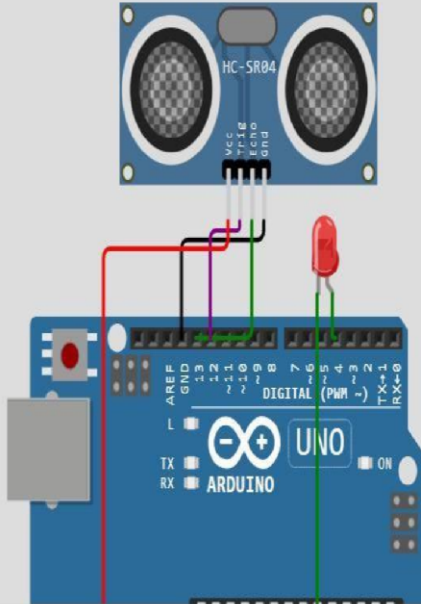
WOWKI EXECUTION PART WITH ANOTHER CODE:

WOKWI SAVE SHARE ♥

hc-sr04-Ultrasonic-Simulation.ino • diagram.json Ultrasonic.h Ultrasonic.cpp Library Manager

```
1 #include "Ultrasonic.h"
2 Ultrasonic ultrasonic(12, 13);
3 int distance;
4
5 void setup() {
6   Serial.begin(9600);
7   pinMode(6, OUTPUT);
8 }
9
10 void loop() {
11   distance = ultrasonic.read(CM);
12   Serial.print("Distance in CM: ");
13   Serial.println(distance);
14   if(distance<=100)
15   {
16     Serial.println("alert!!!!");
17     digitalWrite(4, HIGH);
18   }
19
20
21   delay(1000);
22 }
```

Simulation



Distance in CM: 50
alert!!!!
Distance in CM: 50
alert!!!!
Distance in CM: 50
alert!!!!