

#### Assignment -4

Assignment Date	29 October 2022
Student Name	THARUNKUMAR 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);

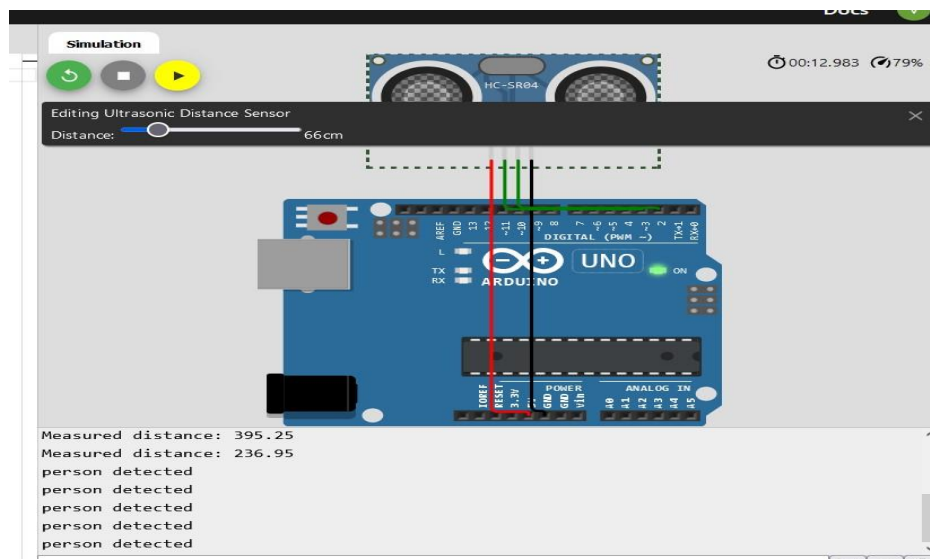
return duration * 0.034 / 2;
```

```

}

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>

### Device Recent Events

IBM Watson IoT Platform

820419205065@smartinternz.com  
ID: fiodqs

Browse Action Device Types Interfaces Add Device

Prerequisites. To get started, you can add devices by using the Add device button, or by using API.

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. The top navigation bar features the 'IBM Watson IoT Platform' logo and a search bar. The main content area is divided into sections for 'Browse', 'Action', 'Device Types', and 'Interfaces'. A table lists devices, with the first device (ID 1200) highlighted. Below the table, a 'Recent Events' section shows a live stream of data events, all labeled 'PersonDetected'.

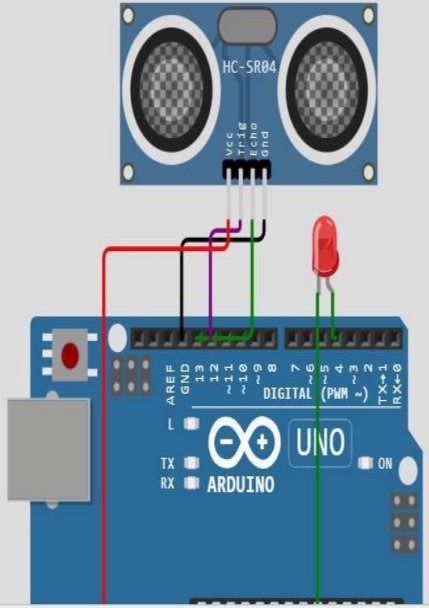
Event	Value	Format	Last Received
event_1	"PersonDetected"	json	a few seconds ago
event_1	"PersonDetected"	json	a few seconds ago
event_1	"PersonDetected"	json	a few seconds ago
event_1	"PersonDetected"	json	a few seconds ago
event_1	"PersonDetected"	json	a few seconds ago

## WOWKI EXECUTION PART WITH ANOTHER CODE:

WOKWI SAVE SHARE ♥

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

```
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 }
```



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