

#### Assignment -4

Assignment Date	6 <sup>TH</sup> NOVEMBER 2022
Student Name	R.SIDDESHWARAN
Team ID	PNT2022TMID25688
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 = “000000000” 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
```

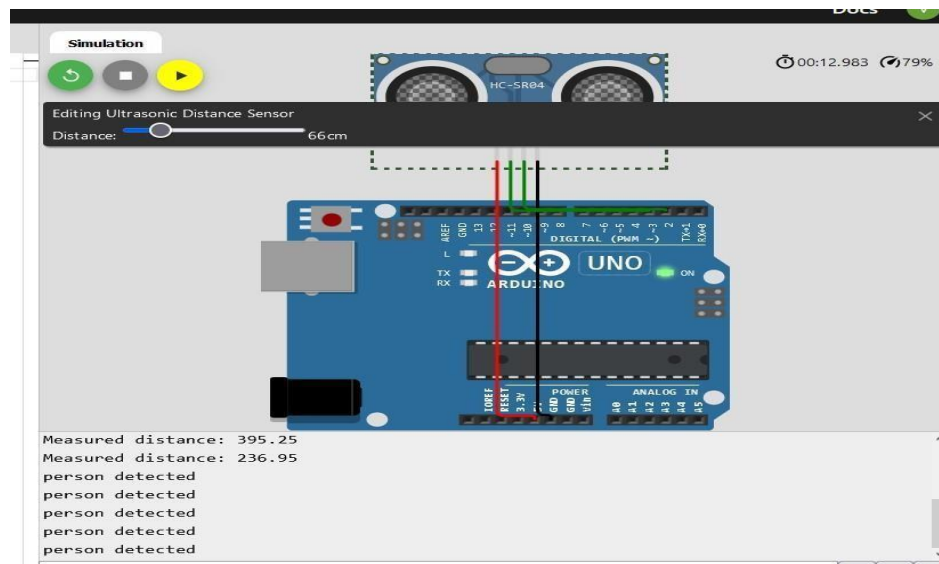
```

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

Prerequisite: 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

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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 the details for a specific device with ID 1200, which is currently 'Disconnected'. The 'Recent Events' tab is active, displaying a list of events where the value is 'PersonDetected'. A message at the bottom right states '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

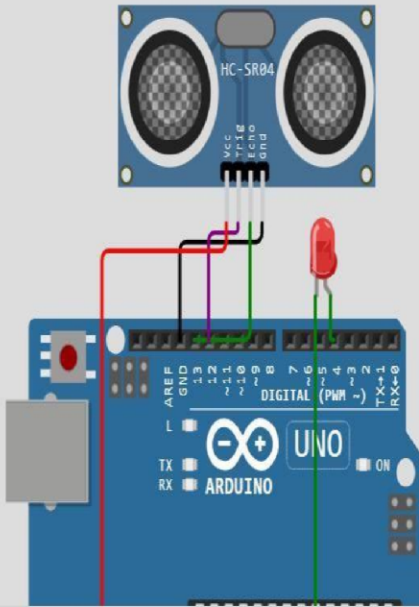
## WOWKI EXECUTION PART WITH ANOTHER CODE:

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!!!!