

Assignment -4

Assignment Date	6 TH NOVEMBER 2022
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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
```

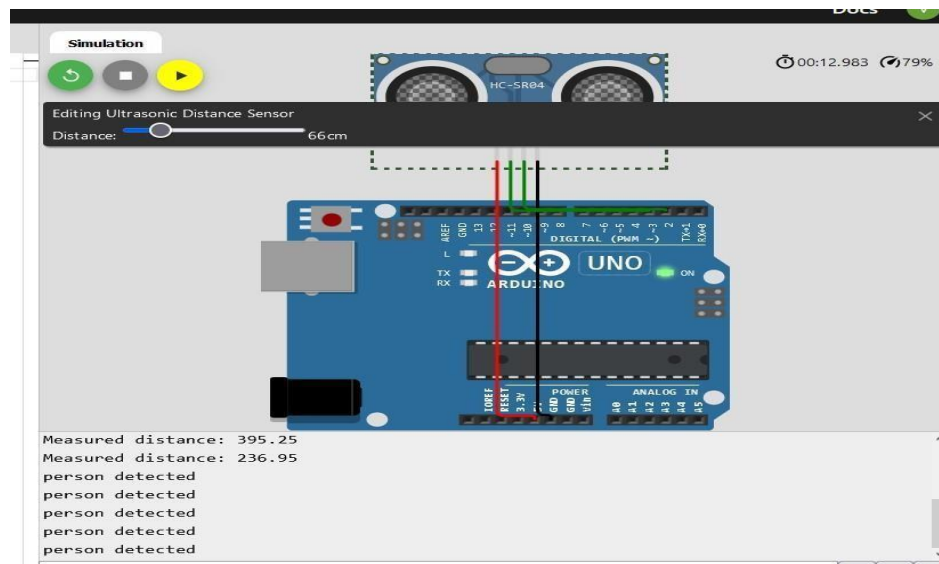
```

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

The screenshot shows the IBM Watson IoT Platform dashboard. The top navigation bar includes 'Browse', 'Action', 'Device Types', and 'Interfaces'. A search bar is present with the text 'Search by Device ID'. The main content area displays a table with columns: Device ID, Status, Device Type, Class ID, Date Added, Descriptive Location, and Added By. The table contains one row for device ID 1200, which is 'Disconnected' and of type 'Arduino'. Below the table, a detailed view for device 1200 is shown, including its identity, device information, recent events, state, and logs. The 'Recent Events' tab is selected, showing a list of events. The bottom status bar indicates '1 of 1 page' and '1-1 of 1 item'.

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			

The screenshot shows the IBM Watson IoT Platform dashboard with the 'Recent Events' tab selected for device ID 1200. The 'Device Simulator' toggle is turned on. The 'Recent Events' section displays a list of events, each with an event ID, value, format, and last received time. The events are all of type 'PersonDetected' and were received a few seconds ago. The bottom status bar 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

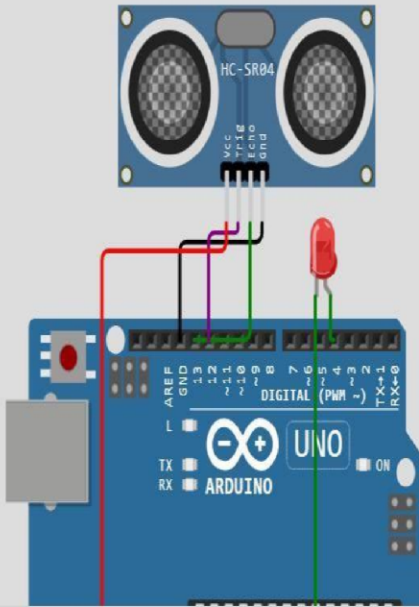
WOWKI EXECUTION PART WITH ANOTHER CODE:

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!!!!