

#### Assignment -4

Assignment Date	25 October 2022
Student Name	Ram Prashanth G
Team ID	PNT2022TMID00114
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:

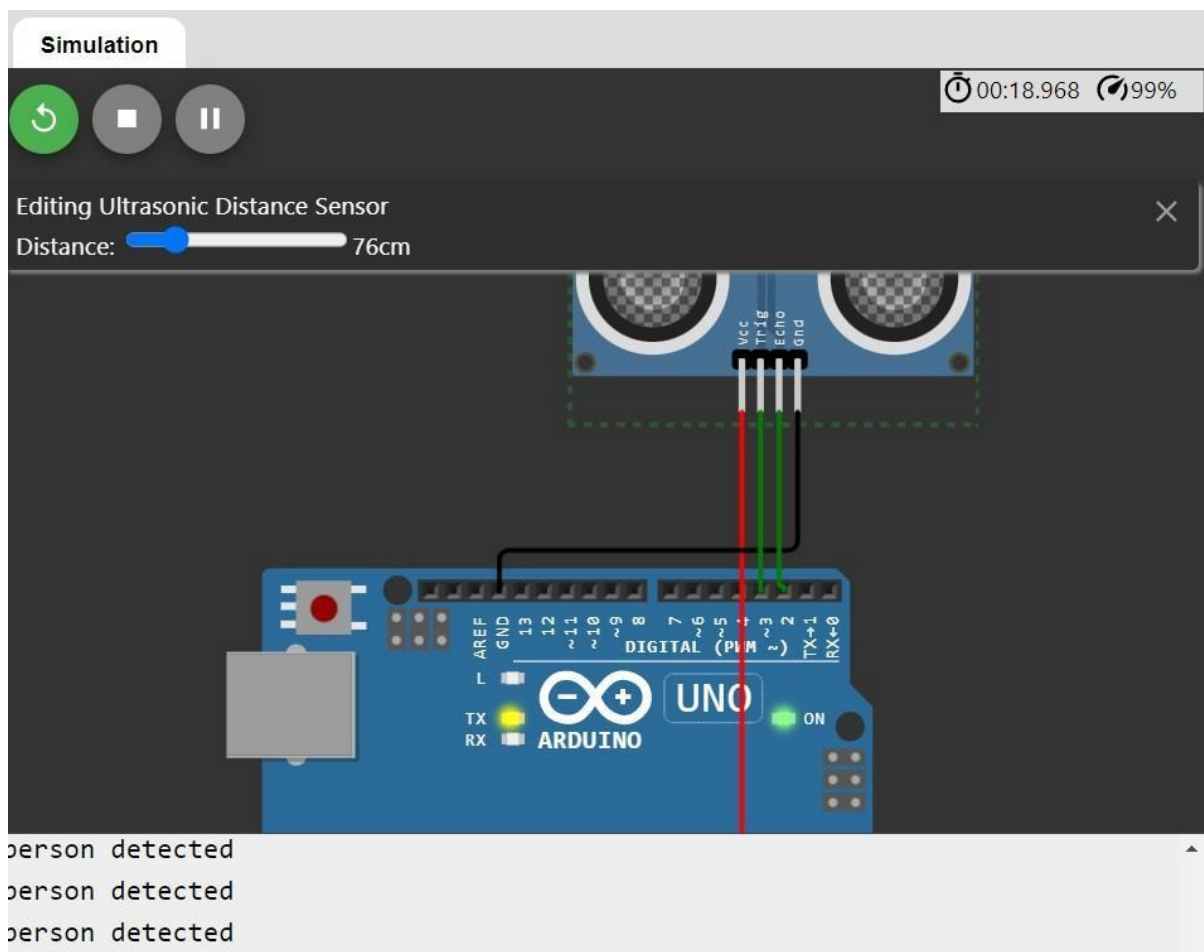
```
#define ECHO_PIN 2
#define TRIG_PIN 3
#define organization = "mmbh4c"
#define deviceType = "Ultrasonic"
#define deviceId = "pga460_sensor"
#define authMethod = "use-token-auth"
#define authToken = "123456789" void
setup() { Serial.begin(9600);
pinMode(TRIG_PIN, OUTPUT);
pinMode(ECHO_PIN, INPUT);
}

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/346094692918624851>

IBM Cloud

Device Recent Events

IBM

IBM Cloud

IBM Watson IoT Platform

mmbh4c.internetofthings.ibmcloud.com/dashboard/devices/browse

820419205501@smartintenz.com  
ID: mmbh4c

BrowseActionDevice TypesInterfaces

Add Device

Search by Device ID

Device Simulator

	Device ID	Status	Device Type	Class ID
>	1234	Disconnected	SmartFarmer	Device
▼	Ultrasonic_1	Disconnected	Ultrasonic	Device

Identity

Device Information

Recent Events

State

Logs

Device ID

Ultrasonic\_1

Device Type

Ultrasonic

Date Added

Oct 25, 2022 4:25 PM

Added By

820419205501@smartintenz.com

Connection Status

Disconnected

Last Connected: Oct 25, 2022 4:28 PM

Client Address: 42.109.148.176

SecureToken

Duration: 2 minutes

Data Transferred: 2.7 KB

>	pga460_sensor	Disconnected	Ultrasonic	Device
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IBM

IBM Cloud

IBM Watson IoT Platform

mmbh4c.internetofthings.ibmcloud.com/dashboard/devices/browse

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BrowseActionDevice TypesInterfaces

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>	1234	Disconnected	SmartFarmer	Device
▼	Ultrasonic_1	Connected	Ultrasonic	Device

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
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

>	pga460_sensor	Disconnected	Ultrasonic	Device
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Items per page 50 | 1-3 of 3 items

1 Simulation running