

#### **Assignment -4**

Assignment Date	26 October2022
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Team ID	PNT2022TMID16984
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 ="e03g10"

#define deviceType=" Arduino"

#define deviceId ="2502"

#define authMethod ="use-token-auth"

#define authToken ="12345678"

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{
```

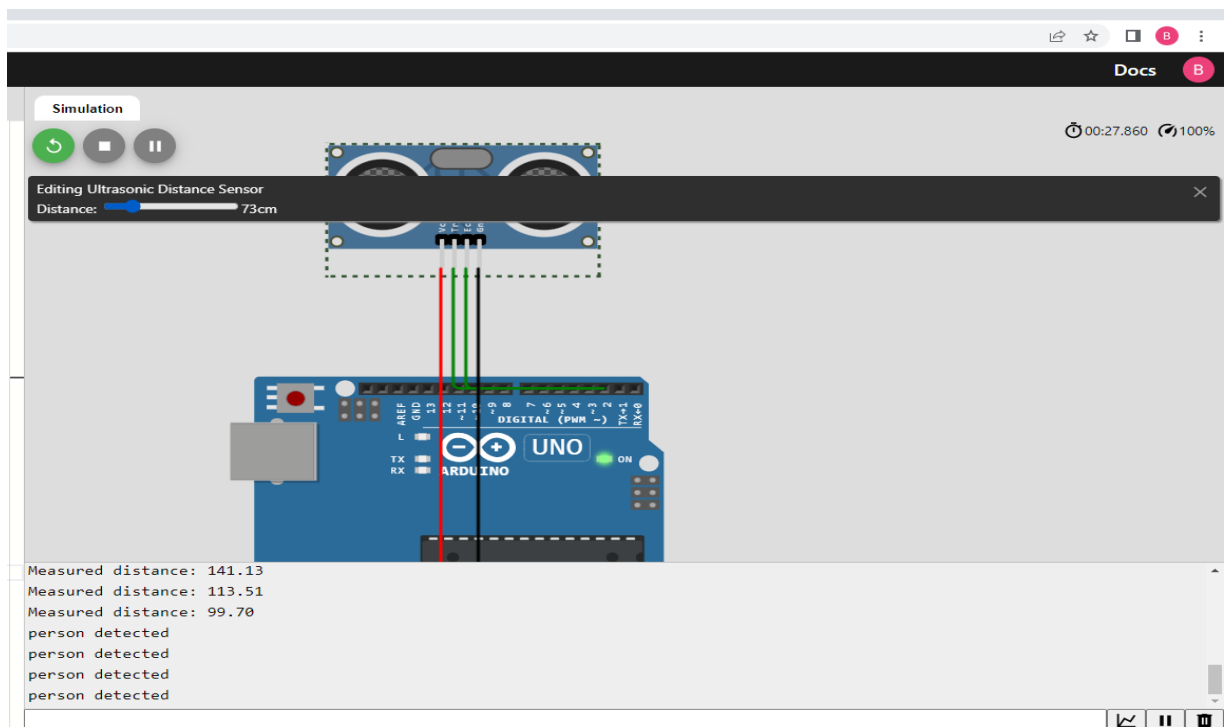
```
        Serial.print("Measured distance: ");
```

```
        Serial.println(readDistanceCM());
```

```
    }
```

```
    delay(1000);
```

```
}
```



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

**IBM Cloud**

### Device Recent Events

IBM Watson IoT Platform

820419205010@smartinternz.com

ID: e03g10

Browse

Action

Device Types

Interfaces

Add Device

This table shows a summary of all devices that have been added. It can be filtered, organized, and searched on using different criteria. To get started, you can add devices by using the Add Device button, or by using API.

Q

Search by Device ID

Device Simulator

	Device ID	Status	Device Type	Class ID	Date Added	Descriptive Location	Added By	
	2502	Disconnected	Arduino	Device	Oct 26, 2022 2:54 PM		820419205010@smartinternz.com	→ ...

Identity

Device Information

Recent Events

State

Logs

×

Device ID

2502

Device Type

Arduino

Date Added

Oct 26, 2022 2:54 PM

Added By

820419205010@smartinternz.com

Connection Status

Disconnected

Items per page: 50

1-1 of 1 item

1 of 1 page

<

1

>

1 Simulation running

← Back

Device Drilldown - 2502

Connection Information

Recent Events

State

Device Information

Metadata

Diagnostics

Connection Logs

Device Actions

Added By820419205010@smartinternz.com

Connection StatusDisconnected

Recent Events

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

1 Simulation running