

#### **Assignment -4**

Assignment Date	26 October 2022
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Team ID	PNT2022TMID33527
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 organisation = "a09qmv"

#define deviceType = "device1"

#define deviceId ="1234"

#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;
}

```

```

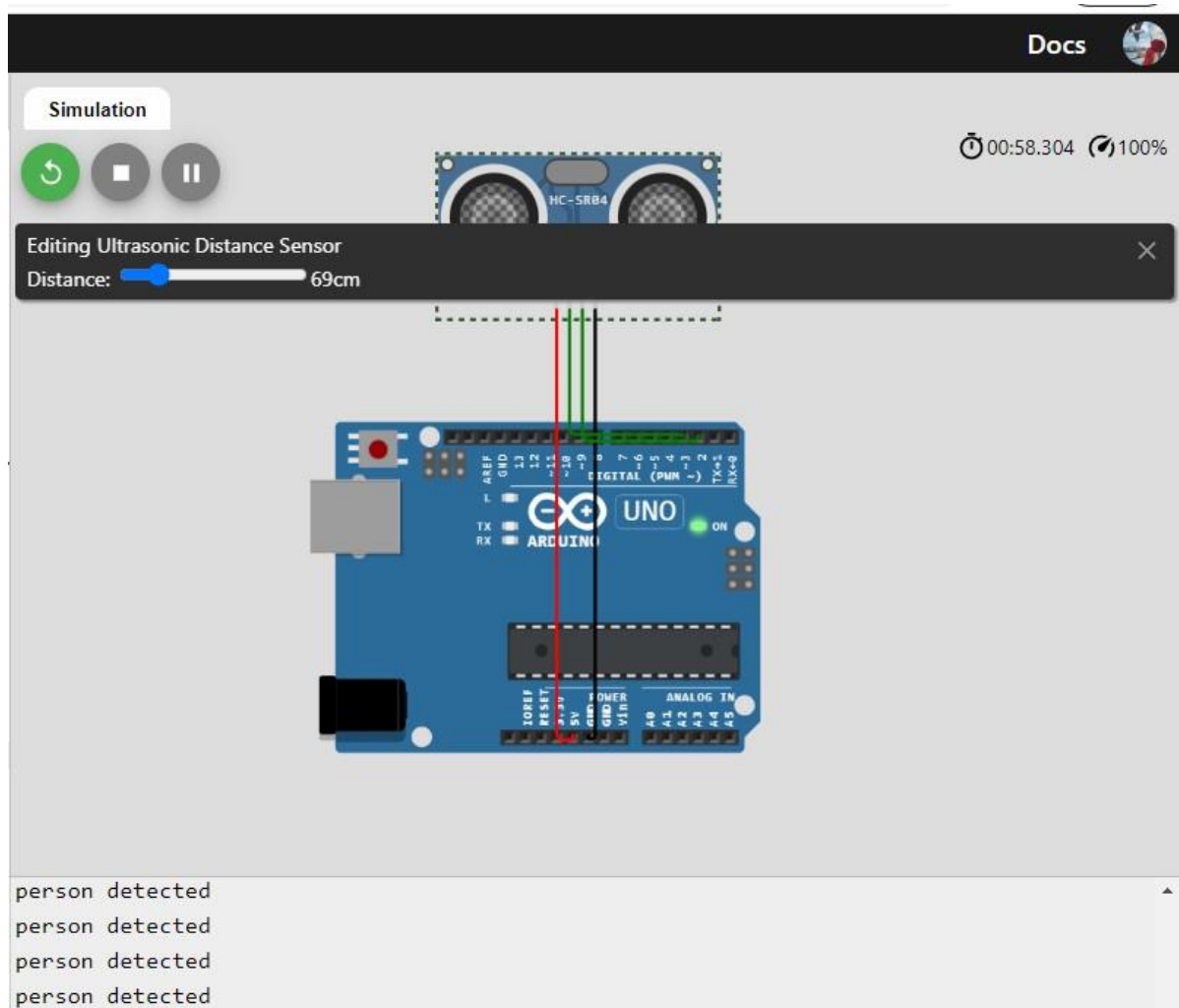
void loop() { float distance =
readDistanceCM();

```

```

if(distance <= 100)
{
Serial.println("person detected ");
}
else{
Serial.print("Measured distance: ");
Serial.println(readDistanceCM());
}
delay(1000); }

```



**Wokwi Link:** <https://wokwi.com/projects/346567584774095442>

## 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, and Descriptive Location. The table contains one entry for device ID 123456, which is 'Disconnected' and of type 'demo\_123'. Below the table, a modal window titled 'Identity' is open, showing details for the selected device. The details include: Device ID (123456), Device Type (demo\_123), Date Added (Nov 4, 2022 2:49 PM), Added By (922519106009@smartinternz.com), and Connection Status (Disconnected). The bottom status bar shows network activity (4.1 KBps, 0.5 KBps) and system time (11:00, 08/11/2022).

Device ID	Status	Device Type	Class ID	Date Added	Descriptive Location
123456	Disconnected	demo_123	Device	Nov 4, 2022 2:49 PM	

Device ID	Device Type	Date Added	Added By	Connection Status
123456	demo_123	Nov 4, 2022 2:49 PM	922519106009@smartinternz.com	Disconnected

The screenshot shows the IBM Watson IoT Platform dashboard with the 'Recent Events' tab selected. The main content area displays a table with columns: Event, Value, Format, and Last Received. The table contains five entries, all labeled 'event\_1', with values representing 'persondetected' counts (23, random number, 0, 21, 28). The bottom status bar shows network activity (4.6 KBps, 0.2 KBps) and system time (11:06, 08/11/2022).

Event	Value	Format	Last Received
event_1	{"persondetected":23}	json	a few seconds ago
event_1	{"randomNumber":""}	json	a few seconds ago
event_1	{"persondetected":0}	json	a few seconds ago
event_1	{"persondetected":21}	json	a few seconds ago
event_1	{"persondetected":28}	json	a few seconds ago