

Assignment -4

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| Assignment Date | 26 October 2022 |
| Student Name | Devagnanam.M |
| 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;
}

```

```

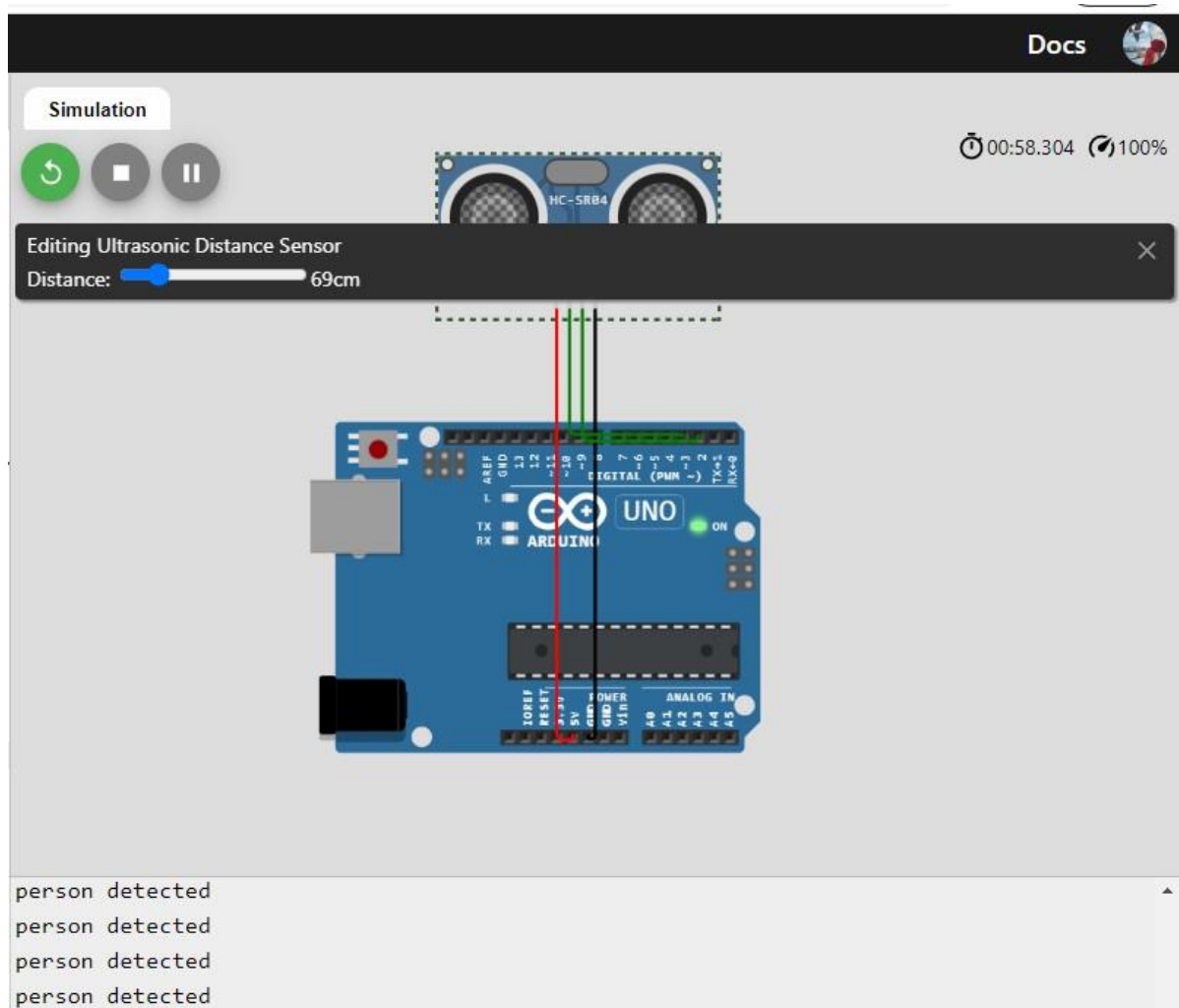
void loop() { float distance =
readDistanceCM();

```

```

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 first row shows device ID 123456, status 'Disconnected', device type 'demo_123', class ID 'Device', and date added 'Nov 4, 2022 2:49 PM'. Below this, a 'Recent Events' tab is selected, showing a table with columns: Event, Value, Format, and Last Received. The table contains five rows of events, all with the format 'json' and 'a few seconds ago' as the last received time. The first row has the value '{"persondetected":23}', the second '{"randomNumber":""}', the third '{"persondetected":0}', the fourth '{"persondetected":21}', and the fifth '{"persondetected":28}'. The bottom status bar shows '1 Simulation running' and network usage of 4.1 KBps and 0.5 KBps.

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

| 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 |

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

| Event | Value | Format | Last Received |
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| 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 |