

Assignment -4

Assignment Date	26 October 2022
Student Name	Arun.N
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;
}

```

```

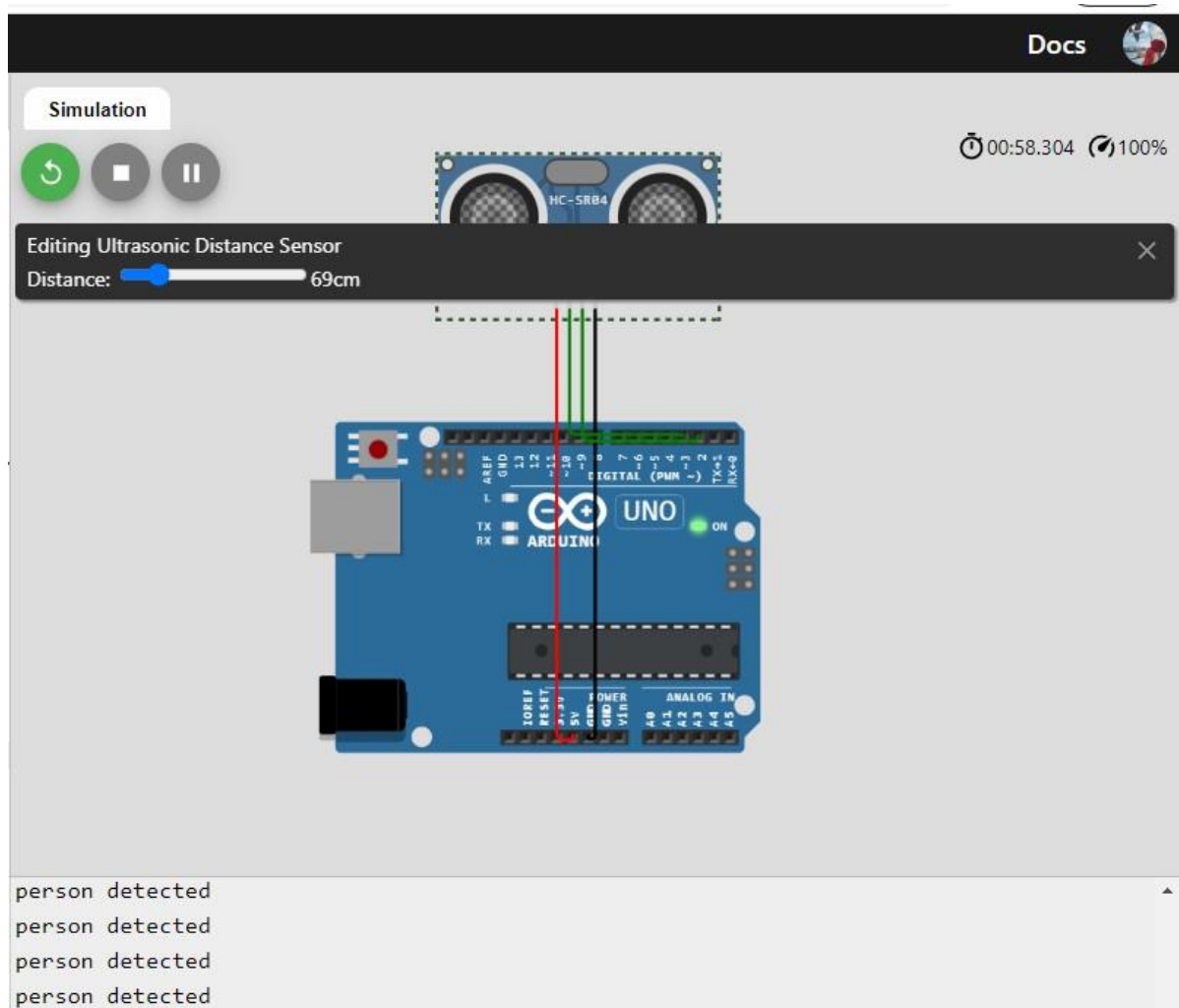
void loop() { float distance =
readDistanceCM();

```

```

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 tabs for '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 the table, there is a section for 'Recent Events' with a sub-header 'Device Information'. This section lists details for the selected device: 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 indicates '1 Simulation running'.

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, specifically the 'Recent Events' section for device ID 123456. The top navigation bar is the same as the previous screenshot. The main content area displays a table with columns: Event, Value, Format, and Last Received. The table lists several events, including 'event_1' with values like '{"persondetected":23}', '{"randomNumber":""}', '{"persondetected":0}', '{"persondetected":21}', and '{"persondetected":28}'. The bottom status bar indicates '1 Simulation running'.

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