

Assignmen-4

Assignment Date	31 October 2022
Student Name	Megala P
Team ID	PNT2022TMID01763
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:
```

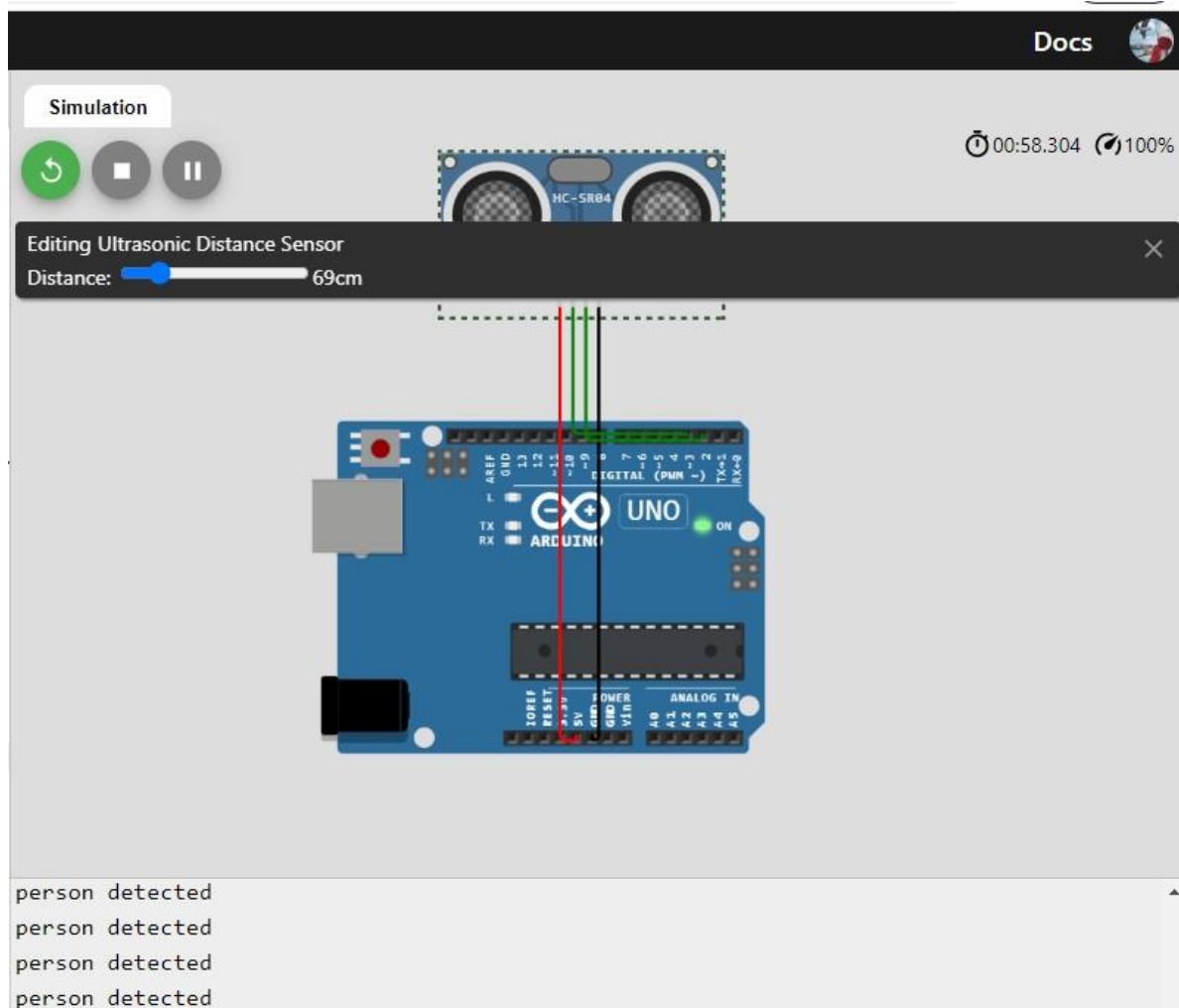
```
");
```

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

```
;
```

```
}
```

```
delay(1000); }
```



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

IBM Cloud

Device Recent Events

IBM Watson IoT Platform

820419205063@smartinternz.com
ID: a09qmv

Browse Action Device Types Interfaces

Add Device

criteria. To get started, you can add devices by using the Add Device button, or by using API.

Search by Device ID

Device Simulator

Device ID	Status	Device Type	Class ID	Date Added	Descriptive Location	Added By
1234	Disconnected	device1	Device	Oct 26, 2022 1:15 PM		820419205063@smartinternz.com

Identity Device Information Recent Events State Logs

Device ID: 1234
Device Type: device1
Date Added: Oct 26, 2022 1:15 PM
Added By: 820419205063@smartinternz.com
Connection Status: Disconnected

Items per page: 50 | 1-1 of 1 item

1 of 1 page

The screenshot shows the SmartThings IDE interface. At the top, there's a navigation bar with 'Browse', 'Action', 'Device Types', and 'Interfaces'. A sidebar on the left contains icons for various functions. The main area displays a table of devices. One device is selected, and its details are shown below. The details section includes tabs for 'Identity', 'Device Information', 'Recent Events', 'State', and 'Logs'. The 'Recent Events' tab is active, showing a stream of events. A status box at the bottom right indicates '2 Simulations running'.

Device ID	Status	Device Type	Class ID	Date Added	Descriptive Location	Added By
1234	Disconnected	device1	Device	Oct 26, 2022 1:15 PM		820419205063@smartintertz.com

Event	Value	Format	Last Received
event_1	"person detected"	json	a few seconds ago
event_1	"person detected"	json	a few seconds ago
event_1	"person detected"	json	a few seconds ago

2 Simulations running