

Assignment -4

Assignment Date	26 October 2022
Student Name	Swathy. M.M
Team ID	PNT2022TMID33110
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 ");
```

```
}
```

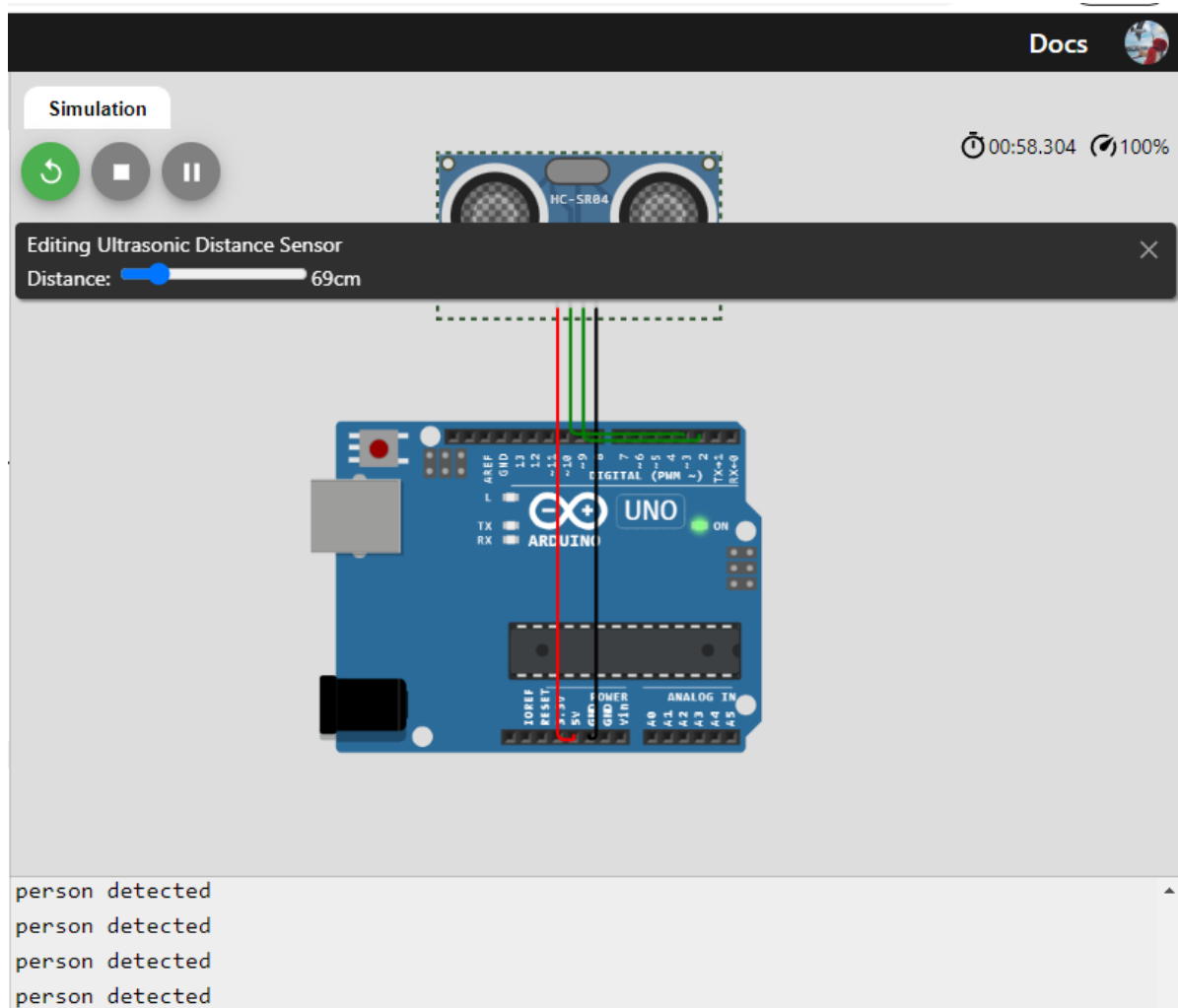
```
else{
```

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

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

```
}
```

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



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

IBM Cloud

Device Recent Events

The screenshot displays the IBM Watson IoT Platform interface. At the top, the header shows the user's email (820419205063@smartinternz.com) and ID (u09qmv). The main navigation bar includes tabs for Browse, Action, Device Types, and Interfaces, along with an 'Add Device' button. Below the navigation bar, a search bar is labeled 'Search by Device ID'. A table lists devices, with one device (ID 1234) highlighted. The device's status is 'Disconnected', and it was added on 'Oct 26, 2022 1:15 PM' by '820419205063@smartinternz.com'. A 'Device Simulator' toggle is visible. Below the table, a detailed view of the selected device is shown, including its identity, device information, recent events, state, and logs. The device information section lists the following details:

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			

At the bottom of the interface, a footer shows the system tray with the Windows logo, a search bar, and various application icons. The system clock indicates the time is 1:12 PM on 10/26/2022.

Browse Action Device Types Interfaces Add Device

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@smartintez.com → ...

Identity Device Information Recent Events State Logs

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	'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