

Assignment -4

Assignment Date	26 October 2022
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Team ID	PNT2022TMID01816
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 ");
```

```
}
```

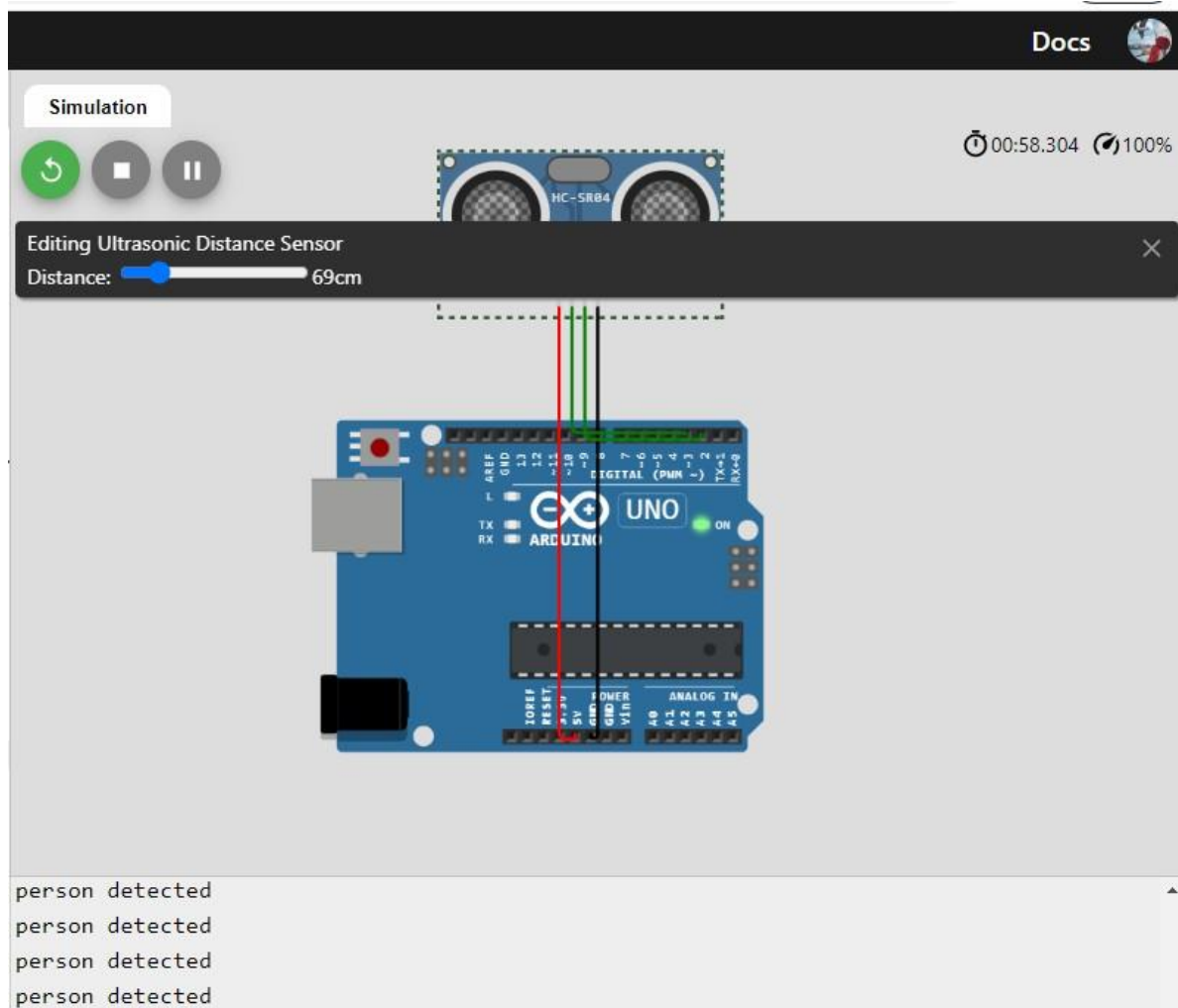
```
else{
```

```
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 (a09qmv). 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, Status: Disconnected, Device Type: device1) selected. The selected device's details are shown in a modal window, including its Identity, Device Information, Recent Events, State, and Logs. The device information section shows the following details:

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

The bottom of the interface shows a Windows taskbar with the search bar, task view button, and several application icons. The system tray on the right indicates the language is ENG, the time is 1:12 PM, and the date is 10/26/2022.

SmartThings IDE interface showing a device simulation. The top navigation bar includes 'Browse', 'Action', 'Device Types', and 'Interfaces'. A sidebar on the left contains icons for various functions. The main area displays a table of devices with columns: Device ID, Status, Device Type, Class ID, Date Added, Descriptive Location, and Added By. A device with ID 1234 is shown as 'Disconnected'. Below the table, there are tabs for 'Identity', 'Device Information', 'Recent Events', 'State', and 'Logs'. The 'Recent Events' tab is active, showing a stream of events with columns: Event, Value, Format, and Last Received. The events listed are 'person detected' in JSON format, received a few seconds ago. A status bar at the bottom right indicates '2 Simulations running'.