

Assignment -4

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();
```

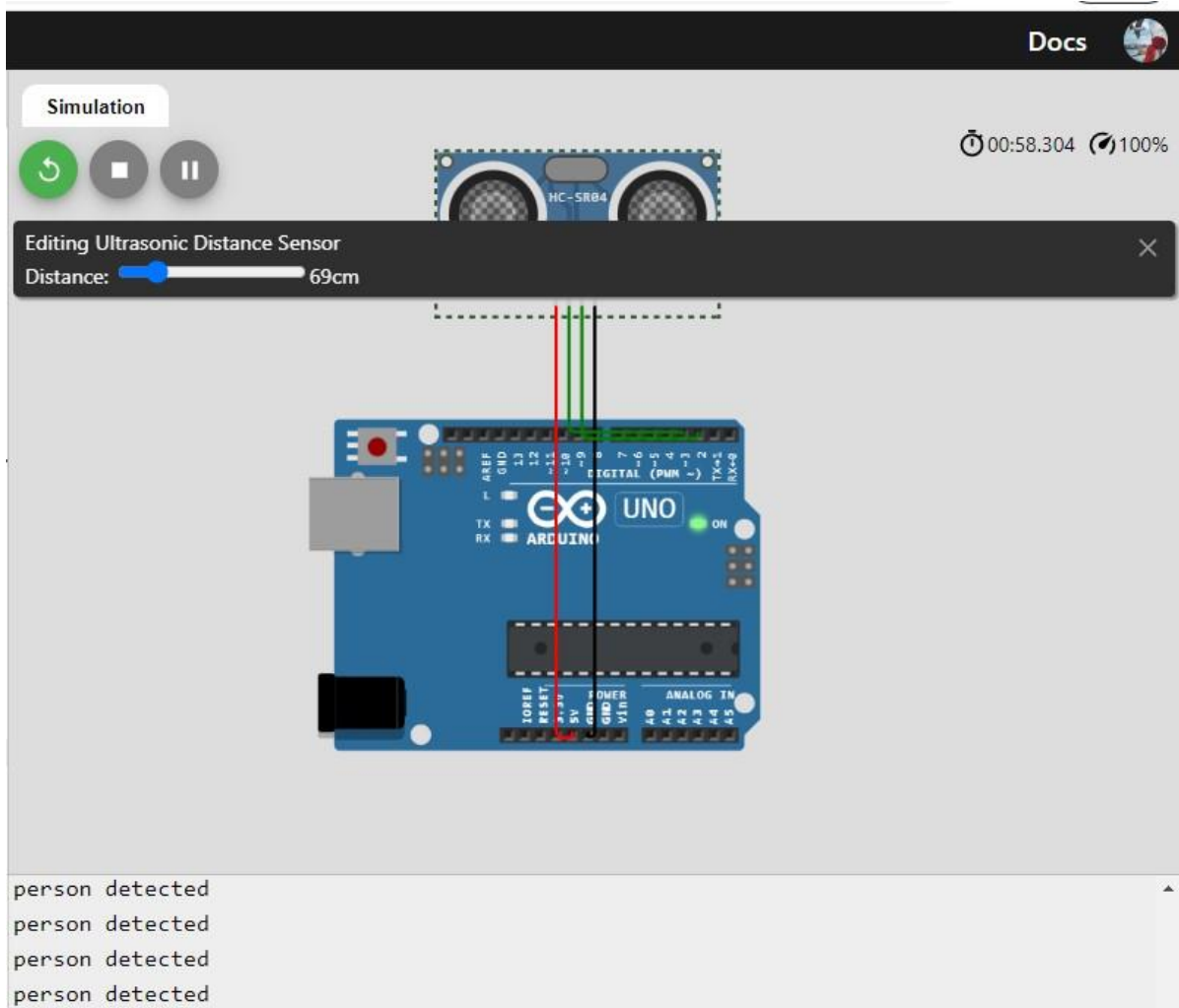
```

if(distance <= 100)
{
  Serial.println("person detected ");
}

else{
  Serial.print("Measured distance: ");
  Serial.println(readDistanceCM());
}

delay(1000); }

```



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

Type here to search

ENG 1:12 PM
IN 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 one device selected and its details shown below. The device details include tabs for 'Identity', 'Device Information', 'Recent Events', 'State', and 'Logs'. The 'Recent Events' tab is active, showing a list of events with columns for 'Event', 'Value', 'Format', and 'Last Received'. The events listed are 'event_1' with the value 'person detected' in json format, received a few seconds ago. A status bar at the bottom right indicates '2 Simulations running'.