

Assignment -4

Assignment Date	25 October 2022
Student Name	Prabu Viruppalingam
Team ID	PNT2022TMID00114
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:

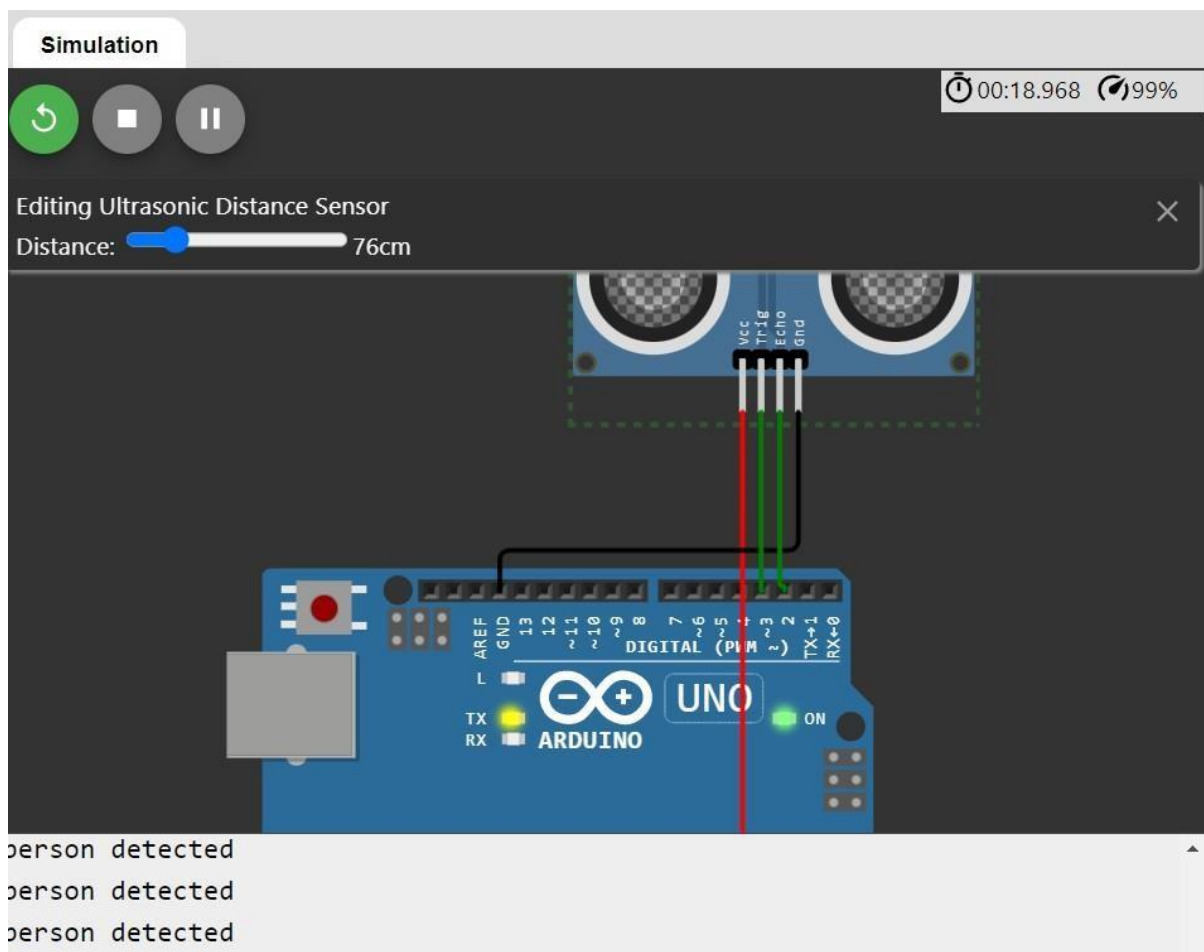
```
#define ECHO_PIN 2
#define TRIG_PIN 3
#define organization = "mmbh4c"
#define deviceType = "Ultrasonic"
#define deviceId = "pga460_sensor"
#define authMethod = "use-token-auth"
#define authToken = "123456789" void
setup() { Serial.begin(9600);
pinMode(TRIG_PIN, OUTPUT);
pinMode(ECHO_PIN, INPUT);
}

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/346094692918624851>

IBM Cloud

Device Recent Events

IBM CloudIBM Watson IoT Platform

mmbh4c.internetofthings.ibmcloud.com/dashboard/devices/browse

820419205501@smartinternz.comID: mmbh4c

BrowseActionDevice TypesInterfacesAdd Device

Search by Device IDDevice Simulator

Device ID	Status	Device Type	Class ID
1234	Disconnected	SmartFarmer	Device
Ultrasonic_1	Disconnected	Ultrasonic	Device
pga460_sensor	Disconnected	Ultrasonic	Device

IdentityDevice InformationRecent EventsStateLogs

Device ID

Ultrasonic_1

Device Type

Ultrasonic

Date Added

Oct 25, 2022 4:25 PM

Added By

820419205501@smartinternz.com

Connection Status

Disconnected

Last Connected: Oct 25, 2022 4:28 PM

Client Address: 42.109.148.176 SecureToken

Duration: 2 minutes

Data Transferred: 2.7 KB

IBM CloudIBM Watson IoT Platform

mmbh4c.internetofthings.ibmcloud.com/dashboard/devices/browse

820419205501@smartinternz.comID: mmbh4c

BrowseActionDevice TypesInterfacesAdd Device

Search by Device IDDevice Simulator

Ultrasonic_1	Connected	Ultrasonic	Device	Oct 25, 2022 4:28 PM
pga460_sensor	Disconnected	Ultrasonic	Device	Oct 25, 2022 1:19 PM

IdentityDevice InformationRecent EventsStateLogs

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	{ "Persondetected" }	json	a few seconds ago
event_1	{ "Persondetected" }	json	a few seconds ago
event_1	{ "Persondetected" }	json	a few seconds ago
event_1	{ "Persondetected" }	json	a few seconds ago
event_1	{ "Persondetected" }	json	a few seconds ago

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