

ASSIGNMENT-4

DISTANCE DETECTION USING ULTRASONIC SENSOR

Date	28 October 2022
Team ID	PNT2022TMID39931
Student Roll Number	511319106022
Maximum Marks	2 Marks

Question1 :

Write code and connections in wokwi for ultrasonic sensor. Whenever distance is less than 100 cms send "alert" to ibm cloud and display in device recent events.

WOKWI LINK :

<https://wokwi.com/projects/347133885569565267>

CODE:

```
#define ECHO_PIN 2
#define TRIG_PIN 3

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);
```

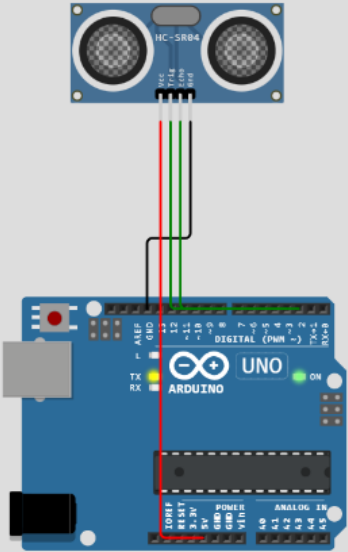
```
    delayMicroseconds(10);  
    digitalWrite(TRIG_PIN, LOW);  
    int duration = pulseIn(ECHO_PIN, HIGH);  
    return duration * 0.034 / 2;  
}
```

```
void loop() {  
    float distance = readDistanceCM();  
    if (distance <= 100)  
    {  
        Serial.println("Movement detected ");  
    }  
    else {  
        Serial.print("Distance: ");  
        Serial.println(readDistanceCM());  
    }  
    delay(100);  
}
```

OUTPUT:

Simulation

00:27.838 101%



Distance: 109.50
Distance: 109.60
Distance: 109.60
Distance: 109.60
Distance: 109.60
Distance: 109.60
Distance: 109.60

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