

ASSIGNMENT-4

DISTANCE DETECTION USING ULTRASONIC SENSOR

Date	28 October 2022
Team ID	PNT2022TMID39945
Student Roll Number	511319106025
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/347140918060515922>

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);
```

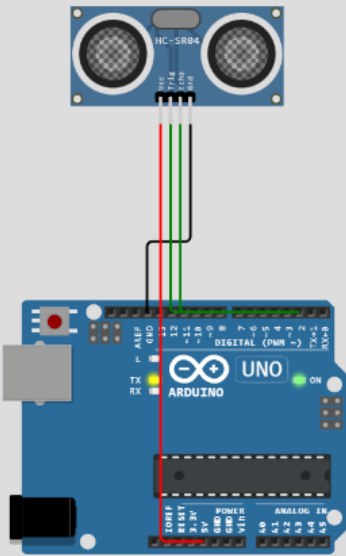
```
digitalWrite(TRIG_PIN, LOW);  
int duration = pulseIn(ECHO_PIN, HIGH);  
return duration * 0.034 / 2;  
}
```

```
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