

#### Assignment -4

Assignment Date	6 <sup>th</sup> November 2022
Team ID	PNT2022TMID33827
Project Name	Smart Farmer-IoT Enabled SmartFarming 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 = “fkxdqs”

#define deviceType = “Arduino”

#define deviceId = “1200”

#define authMethod = “use-token-auth”

#define authToken = “00000000”

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 =  
    readDistanceC  
    M();if(distance  
    <= 100)  
    {  
        Serial.println("person detected");  
    }  
    else{  
        Serial.print("Measur  
        eddistance: ");  
        Serial.println(readDistanceC  
        M());  
    }  
    delay(1000);  
}
```

Wokwi - Online Arduino IDE | (no subject) - ajithash | sketchino - Wokwi | wokwi - Google Search | WhatsApp | sketchino - Wokwi | Wokwi

wokwi.com/projects/347589136720331347

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sketch.ino | diagram.json | Library Manager

```
1 #define ECHO_PIN 2
2 #define TRIG_PIN 3
3 void setup() {
4   Serial.begin(9600);
5   pinMode(TRIG_PIN, OUTPUT);
6   pinMode(ECHO_PIN, INPUT);
7 }
8 float readDistanceCM() {
9   digitalWrite(TRIG_PIN, LOW);
10  delayMicroseconds(2);
11  digitalWrite(TRIG_PIN, HIGH);
12  delayMicroseconds(10);
13  digitalWrite(TRIG_PIN, LOW);
14  int duration = pulseIn(ECHO_PIN, HIGH);
15  return duration * 0.034 / 2;
16 }
17 void loop() {
18   float distance = readDistanceCM();
19   if(distance <= 100)
20   {
21     Serial.println("person detected");
22   }
23   else{
24     Serial.print("Measured distance: ");
25     Serial.println(readDistanceCM());
26   }
27   delay(1000);
28 }
```

Simulation

00:05.016 66%

HC-SR04

UNO

Measured distance: 395.25  
Measured distance: 395.27  
Measured distance: 395.25  
person detected  
person detected

Wokwi Link: <https://wokwi.com/projects/347589136720331347>