

Assignment -4

Assignment Date	27 October-2022
Student Name	S.VARALAKSHMI
Student Roll Number	510119106011
Maximum Marks	2 Marks

QUESTION-1:

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

CODE:

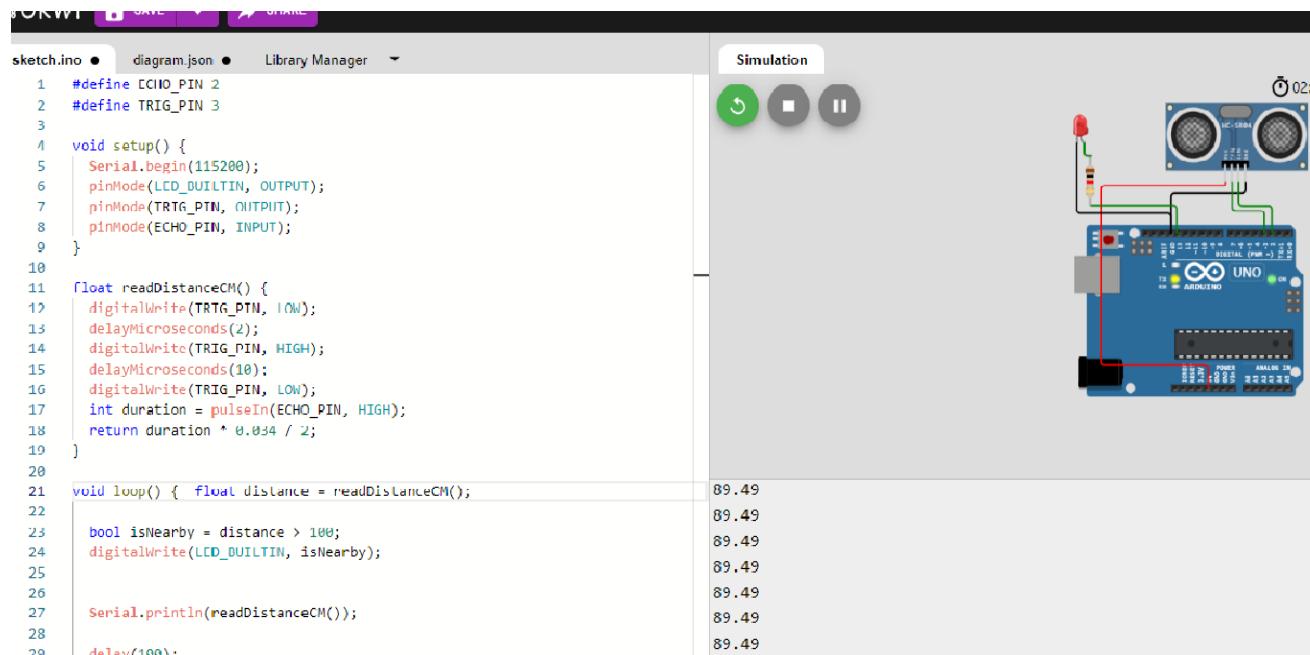
```
#define ECHO_PIN 2
#define TRIG_PIN 3

void setup() {
    Serial.begin(115200);
    pinMode(LED_BUILTIN, OUTPUT);
    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();  
  
    bool isNearby = distance > 100;  
  
    digitalWrite(LED_BUILTIN, isNearby);  
  
    Serial.println(readDistanceCM());  
  
    delay(100);  
}
```

OUTPUT:



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Simulation

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```
1 #define ECHO_PIN 2
2 #define TRIG_PIN 3
3
4 void setup() {
5     Serial.begin(115200);
6     pinMode(LED_BUILTIN, OUTPUT);
7     pinMode(TRIG_PIN, OUTPUT);
8     pinMode(ECHO_PIN, INPUT);
9 }
10
11 float readDistanceCM() {
12     digitalWrite(TRIG_PIN, LOW);
13     delayMicroseconds(2);
14     digitalWrite(TRIG_PIN, HIGH);
15     delayMicroseconds(10);
16     digitalWrite(TRIG_PIN, LOW);
17     int duration = pulseIn(ECHO_PIN, HIGH);
18     return duration * 0.034 / 2;
19 }
20
21 void loop() { float distance = readDistanceCM();
22
23     bool isNearby = distance > 100;
24     digitalWrite(LED_BUILTIN, isNearby);
25
26     Serial.println(readDistanceCM());
27
28     delay(100);
29 }
```

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REFERENCE LINK:

<https://wokwi.com/projects/new/arduino-uno>