

## Assignment 3

★ Build wokwi product, use ultrasonic sensor and detect the distance from the object. Whenever distance is less than 100cms upload the value to the ibm cloud.in recent device events upload the data from wokwi.

### SIMULATION LINK:

<https://wokwi.com/projects/365139507800758273>

### 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.print("Measured distance: ");  
    Serial.println(readDistanceCM());  
  
    delay(100);  
}
```

WOKWI

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sketch.ino diagram.json Library Manager Simulation

```
1
2 #define ECHO_PIN 2
3 #define TRIG_PIN 3
4
5 void setup() {
6   Serial.begin(115200);
7   pinMode(LED_BUILTIN, OUTPUT);
8   pinMode(TRIG_PIN, OUTPUT);
9   pinMode(ECHO_PIN, INPUT);
10 }
11
12 float readDistanceCM() {
13   digitalWrite(TRIG_PIN, LOW);
14   delayMicroseconds(2);
15   digitalWrite(TRIG_PIN, HIGH);
16   delayMicroseconds(10);
17   digitalWrite(TRIG_PIN, LOW);
18   int duration = pulseIn(ECHO_PIN, HIGH);
19   return duration * 0.034 / 2;
20 }
21
22 void loop() {
23   float distance = readDistanceCM();
24
25   bool isNearby = distance < 100;
26   digitalWrite(LED_BUILTIN, isNearby);
27
28   Serial.print("Measured distance: ");
29   Serial.println(readDistanceCM());
30
31   delay(100);
32 }
```

00:33.227 100%

Measured distance: 58.87  
Measured distance: 58.87  
Measured distance: 58.97  
Measured distance: 58.97  
Measured distance: 58.97  
Measured distance: 58.87  
Measured distance: 58.87

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