Assignment -4

Assignment Date	27 October 2022
Student Name	T.CHAKRI
Student Roll Number	721419106035
Maximum Marks	2 Marks

Question:

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.

Code:

```cpp
#define TRIG_PIN 6
#define ECHO_PIN 7

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);
```
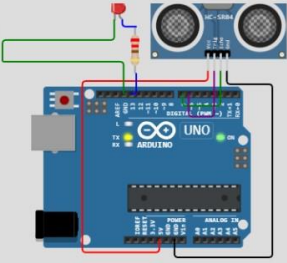
Circuit & Output:

```
hc-sr04.ino    diagram.json    Library Manager    ▼

1    #define TRIG_PIN 6
2    #define ECHO_PIN 7
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() {
22     float distance = readDistanceCM();
23
24     bool isNearby = distance < 100;
25     digitalWrite(LED_BUILTIN, isNearby);
26
27     Serial.print("Measured distance: ");
```

```
Measured distance: 177.24
Measured distance: 177.16
Measured distance: 177.26
Measured distance: 177.16
Measured distance: 177.26
Measured distance: 177.16
Measured distance: 177.26
```

Reference Link:

https://wokwi.com/projects/346768318202380882