Assignment -4

Assignment Date	27 October-2022
Student Name	**K. SAI VINAY**
Student Roll Number	**721419106017**
Maximum Marks	2 Marks

QUESTION-1:

Write codeand connections in wokwi for ultrasonic sensor. Whenever distance is less than 100cms send "alert" to ibm cloud and dispaly 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);
}
```
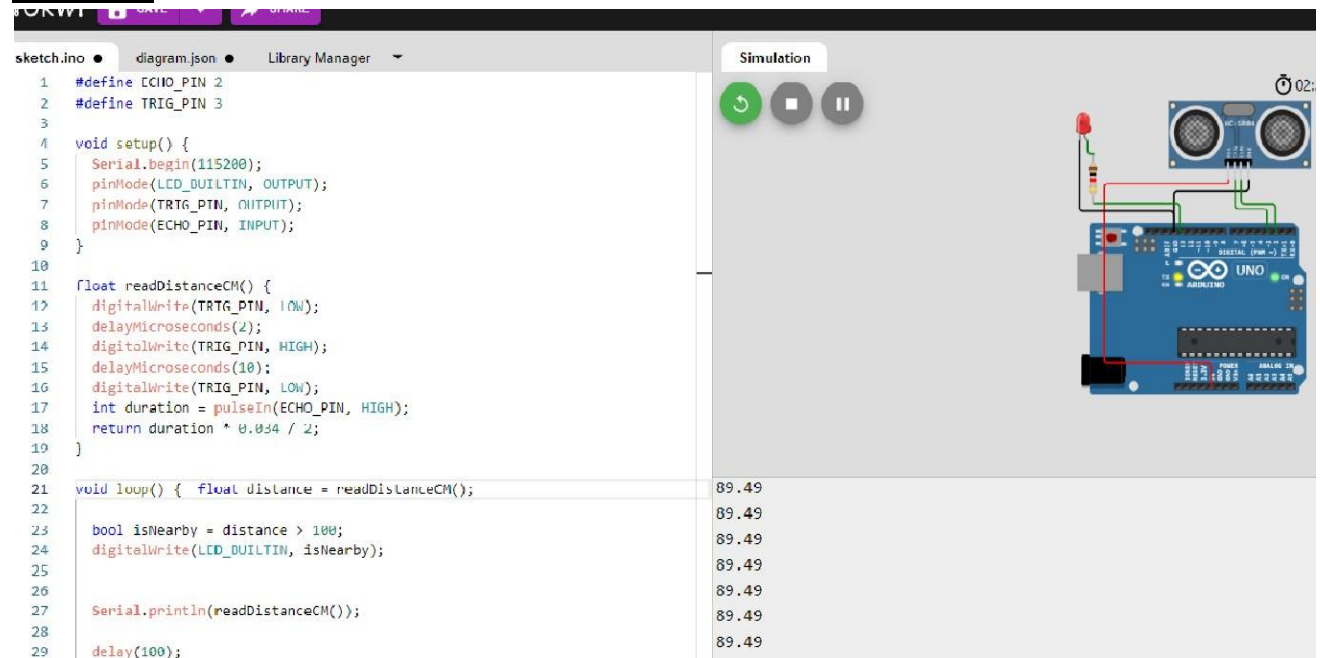
OUTPUT:
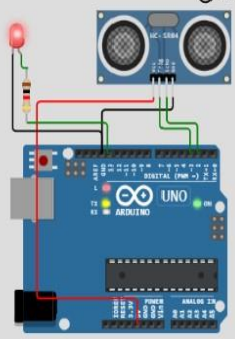
```
1    #define ECHO_PIN 2
2    #define TRIG_PIN 3
3
4    void setup() {
5      Serial.begin(115200);
6      pinMode(LED_BUILTIN, OUTPUT);
7      pinMode(TRIG_PIN, OUTPUT);
8      pinMode(ECHO_PIN, INPUT);
9    }
10
11   float readDistanceCM() {
12     digitalWrite(TRIG_PIN, LOW);
13     delayMicroseconds(2);
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
27     Serial.println(readDistanceCM());
28
29     delay(100);
30   }
```

Simulation output:
```
132.29
132.29
132.29
132.28
132.29
132.29
132.29
```

REFERENCE LINK:

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