

## ASSIGNMENT- IV

Assignment Date	26 October 2022
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### Question:

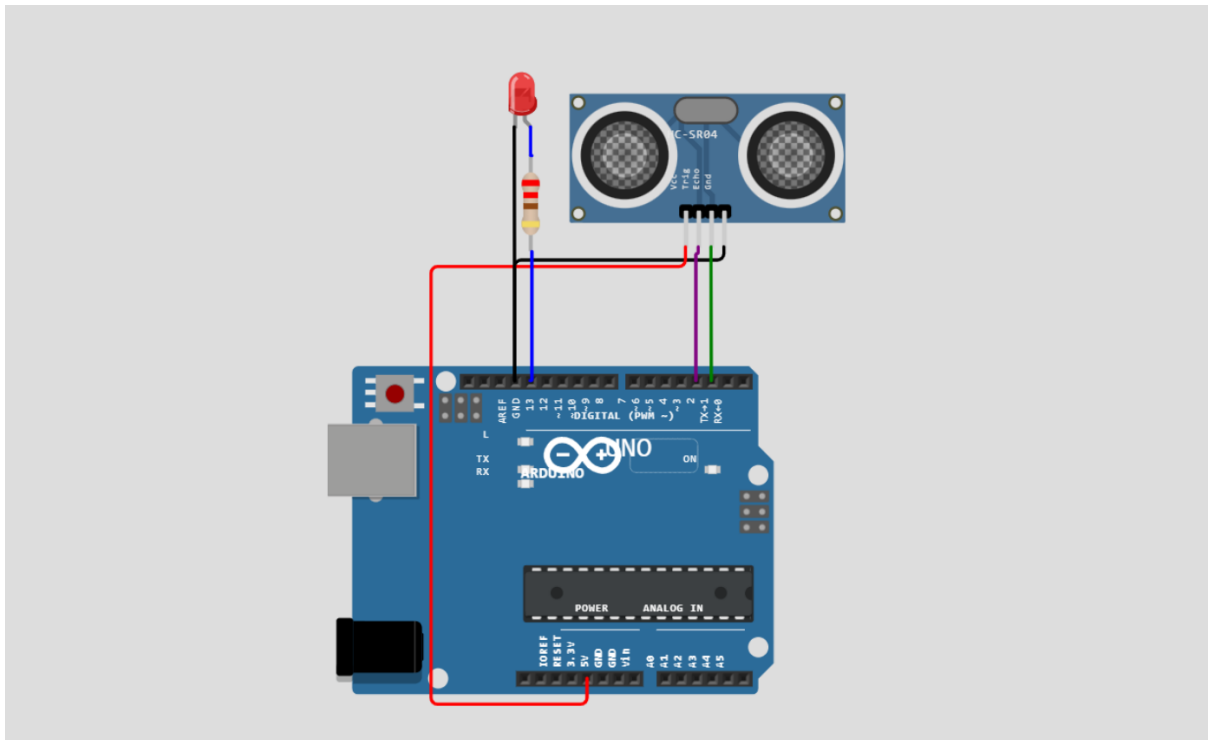
Write code and connections in wokwi for ultrasonic sensor. Whenever distance is less than 100cms send “alert” to ibm cloud and display in device recent events.

### Coding:

```
#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);  
}
```

## Simulation:



hc-sr04.ino • diagram.json Library Manager

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

Simulation

