

# Nalaiya Thiran (IBM)

## ASSIGNMENT – 4

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:

```
#include "Ultrasonic.h"

Ultrasonic ultrasonic(12, 13);
int distance;

void setup() {
    Serial.begin(9600);
}

void loop() {

    distance = ultrasonic.read(CM);

    Serial.print("Distance in CM: ");
    Serial.println(distance);
    if (distance<100)
        Serial.print("alert");
    Serial.println();
    delay(1000);
}
```

## Output:

The screenshot displays the Wokwi IDE interface. On the left, the 'sketch.ino' file is open, showing the following code:

```
1 #include "Ultrasonic.h"
2
3 Ultrasonic ultrasonic(12, 13);
4 int distance;
5
6 void setup() {
7   Serial.begin(9600);
8 }
9
10 void loop() {
11   distance = ultrasonic.read(CM);
12
13   Serial.print("Distance in CM: ");
14   Serial.println(distance);
15   if (distance < 100)
16     Serial.print("alert");
17   Serial.println();
18   delay(1000);
19 }
20
```

On the right, the 'Simulation' tab shows a 3D model of an Arduino Uno board connected to an HC-SR04 ultrasonic sensor. The sensor's VCC pin is connected to the 5V pin on the Arduino, GND to GND, and the Trig pin to digital pin 12 and the Echo pin to digital pin 13. Below the simulation, the serial output is displayed:

```
Distance in CM: 35
alert
Distance in CM: 94
alert
Distance in CM: 109
Distance in CM: 185
```