

ASSIGNMENT 4

Write code and connections in wowki for ultrasonic sensor.

Whenever distance is less than 100cms send “alert” to IBM cloud and display in device recent events.

Program Code:

```
#include "Ultrasonic.h"
Ultrasonic ultrasonic(6,2);
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(3000);
```

```
}
```

OUTPUT:

The screenshot displays the Arduino IDE interface with a simulation running. The code in the editor is as follows:

```
1 #include "Ultrasonic.h"
2 Ultrasonic ultrasonic(6,2);
3 int distance;
4 void setup() {
5   Serial.begin(9600);
6 }
7 void loop() {
8   distance = ultrasonic.read(CM);
9   Serial.print("Distance in CM: ");
10  Serial.println(distance);
11  if (distance < 100)
12    Serial.print("alert");
13    Serial.println();
14    delay(3000);
15  }
16
```

The simulation window shows a virtual circuit with an HC-SR04 ultrasonic sensor connected to an Arduino Uno. The sensor's VCC pin is connected to the 5V pin on the Arduino, GND to GND, and the Trig pin to digital pin 6. The Echo pin is connected to digital pin 2. The serial monitor displays the following output:

```
Distance in CM: 317
Distance in CM: 162
Distance in CM: 47
alert
```

The status bar at the bottom indicates the system is at 30°C, cloudy, and the time is 7:38 PM on 10/28/2022.