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| Team ID | PNT2022TMID44448 |
| Submitted By | R.Nandhini |
| Topic | Signs With smart connectivity for better road safety |
| Assignment | 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. |

Program Code :

```
#include "Ultrasonic.h"

Ultrasonic ultrasonic(8,13);

int distance;

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

void loop()
{
  distance = ultrasonic.read();
  Serial.print("Distance in CM: ");
  Serial.println(distance);
  If (distance<100
  Serial.print(“alert”);
  Serial.print();
  Delay(3000);
  {
```

OUTPUT:

Wokwi IDE interface showing the simulation of an HC-SR04 ultrasonic sensor connected to an Arduino Uno.

Library Manager: `hc-sr04-Ultrasonic-Simulation.ino` • `diagram.json` • `Ultrasonic.h` • `Ultrasonic.cpp`

```
37
38 #include "Ultrasonic.h"
39 /*
40  * Pass as a parameter the trigger and echo pin, respectively,
41  * or onnall pin (for sensors 3 pins), like:
42  * Ultrasonic ultrasonic(13);
43  */
44 Ultrasonic ultrasonic(8,13);
45 int distance;
46 void setup(){
47   Serial.begin(9600);
48 }
49 void loop() {
50   distance = ultrasonic.read(CM);
51   Serial.print("Distance in CM: ");
52   Serial.println(distance);
53   if (distance < 100)
54     Serial.print("alert");
55   Serial.println();
56   delay(3000);
57 }
```

Simulation: The diagram shows an HC-SR04 ultrasonic sensor connected to an Arduino Uno. The sensor's VCC pin is connected to the 5V pin on the Arduino, and its GND pin is connected to a GND pin. The trigger pin is connected to digital pin 8, and the echo pin is connected to digital pin 13.

Serial Monitor Output:

```
Distance in CM: 0
alert
Distance in CM: 0
alert
```

Wokwi interface includes a top bar with "SAVE" and "SHARE" buttons, a "Docs" button, and a bottom status bar showing "31°C Cloudy" and "12:11 AM 11/11/2022".