

Assignment – 4

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Qn: Write code and connections in wokwi for the ultrasonic sensor.

Code:

```
#include "Ultrasonic.h"
```

```
Ultrasonic ultrasonic(12, 13);
```

```
int distance;
```

```
void setup() {
```

```
    Serial.begin(9600);
```

```
}
```

```
void loop() {
```

```
    // Pass INC as a parameter to get the distance in inches
```

```
    distance = ultrasonic.read(CM);
```

```
    Serial.print("Distance in CM: ");
```

```
    Serial.println(distance);
```

```
    if (distance < 100)
```

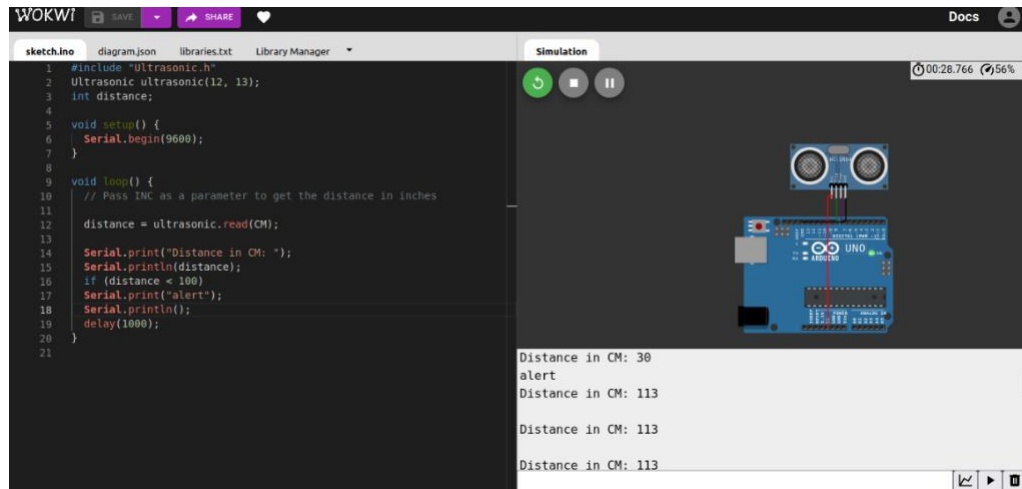
```
        Serial.print("alert");
```

```
        Serial.println();
```

```
        delay(1000);
```

```
}
```

Output:



The screenshot displays the Wokwi IDE interface. On the left, the 'sketch.ino' file contains the following C++ code:

```
1 #include "Ultrasonic.h"
2 Ultrasonic ultrasonic(12, 13);
3 int distance;
4
5 void setup() {
6   Serial.begin(9600);
7 }
8
9 void loop() {
10   // Pass INC as a parameter to get the distance in inches
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
21
```

On the right, the 'Simulation' window shows a 3D model of an Arduino Uno board with an ultrasonic sensor module connected. Below the model, the serial output is displayed:

```
Distance in CM: 30
alert
Distance in CM: 113
Distance in CM: 113
Distance in CM: 113
```

The simulation window also includes a toolbar with play, pause, and stop buttons, and a status bar showing a timer at 00:28.766 and a battery level at 56%.