Assignment 1

Project Name : IOT based Gas leakage Monitoring and alerting system

Assignment Given : Smart home automation using sensor leads and buzzer
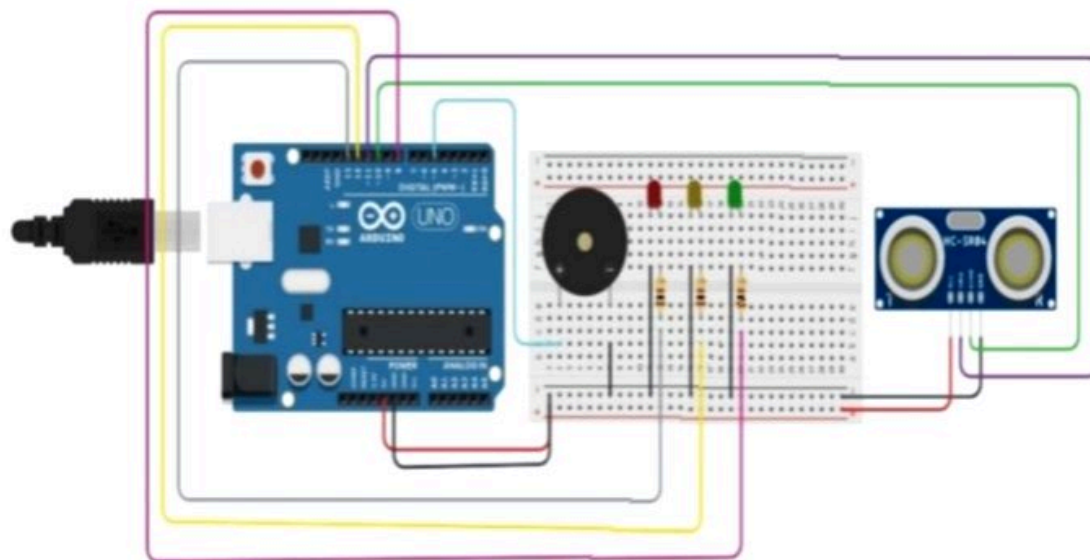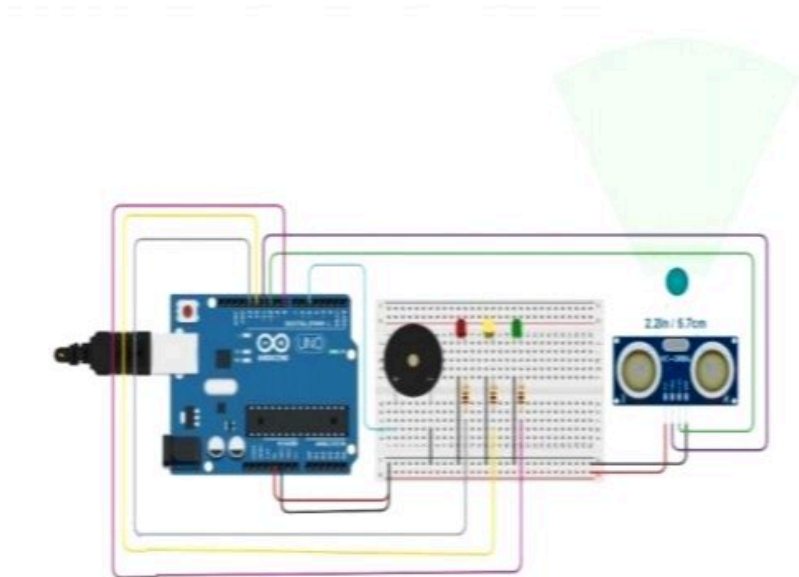
Team lead : Rubashree S

Team member 1 : Ramanika R

Team member 2 : Vidhya V

Team member 3 : keerthika R

Before Simulation:

After Simulation:

Code:

```cpp
1  // C++ code
2  //
3  int distancia = 0;
4
5  int i = 0;
6
7  long readUltrasonicDistance(int triggerPin, int echoPin)
8  {
9    pinMode(triggerPin, OUTPUT);  // Clear the trigger
10   digitalWrite(triggerPin, LOW);
11   delayMicroseconds(2);
12   // Sets the trigger pin to HIGH state for 10 microseconds
13   digitalWrite(triggerPin, HIGH);
14   delayMicroseconds(10);
15   digitalWrite(triggerPin, LOW);
16   pinMode(echoPin, INPUT);
17   // Reads the echo pin, and returns the sound wave travel time i
18   return pulseIn(echoPin, HIGH);
19 }
20
21 void setup()
22 {
23   pinMode(8, OUTPUT);
24   pinMode(12, OUTPUT);
25   pinMode(13, OUTPUT);
26   pinMode(5, OUTPUT);
```

```
25   pinMode(10, OUTPUT);
26   pinMode(5, OUTPUT);
27 }
28
29 void loop()
30 {
31   distancia = 0.01723 * readUltrasonicDistance(11, 10);
32   if (distancia > 10) {
33     digitalWrite(8, HIGH);
34     digitalWrite(12, LOW);
35     digitalWrite(13, LOW);
36     digitalWrite(5, LOW);
37     delay(200); // Wait for 200 millisecond(s)
38     digitalWrite(5, LOW);
39     delay(200); // Wait for 200 millisecond(s)
40   } else {
41     digitalWrite(8, LOW);
42     digitalWrite(5, LOW);
43   }
44
45   distancia = 0.01723 * readUltrasonicDistance(11, 10);
46   if (distancia <= 10) {
47     digitalWrite(8, LOW);
48     digitalWrite(12, HIGH);
49     digitalWrite(13, LOW);
50     digitalWrite(5, HIGH);
51     delay(200); // Wait for 200 millisecond(s)
52
```

```
51     delay(200); // Wait for 200 millisecond(s)
52     digitalWrite(5, LOW);
53     delay(200); // Wait for 200 millisecond(s)
54   } else {
55     digitalWrite(12, LOW);
56     digitalWrite(5, LOW);
57   }
58
59   distancia = 0.01723 * readUltrasonicDistance(11, 10);
60   if (distancia <= 5) {
61     digitalWrite(8, LOW);
62     digitalWrite(12, LOW);
63     digitalWrite(13, HIGH);
64     digitalWrite(5, HIGH);
65     delay(100); // Wait for 100 millisecond(s)
66     digitalWrite(5, LOW);
67     delay(100); // Wait for 100 millisecond(s)
68   } else {
69     digitalWrite(13, LOW);
70     digitalWrite(5, LOW);
71   }
72 }
```