ASSIGNMENT NO-1

Project Name: **SmartFarmer - IoT Enabled Smart Farming Application**

Batch Number: B12-6A2E

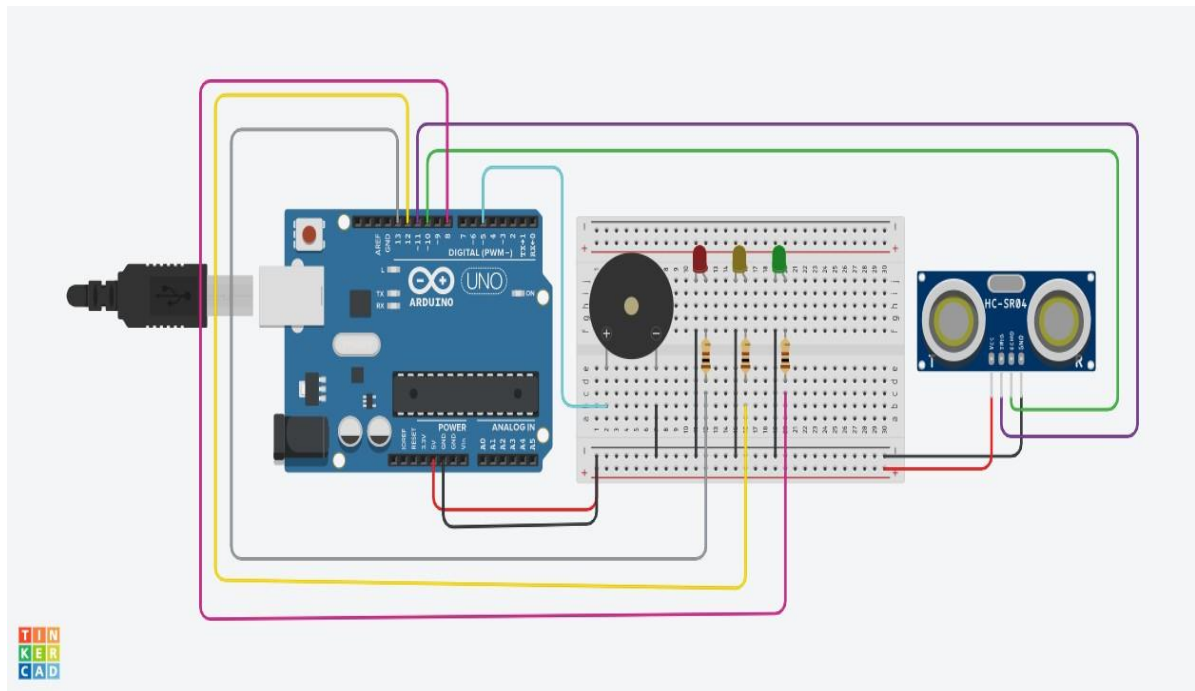**Assignment Topic**: Smart home automation using sensor leds and buzzer

Team Lead   : Satishwaran M
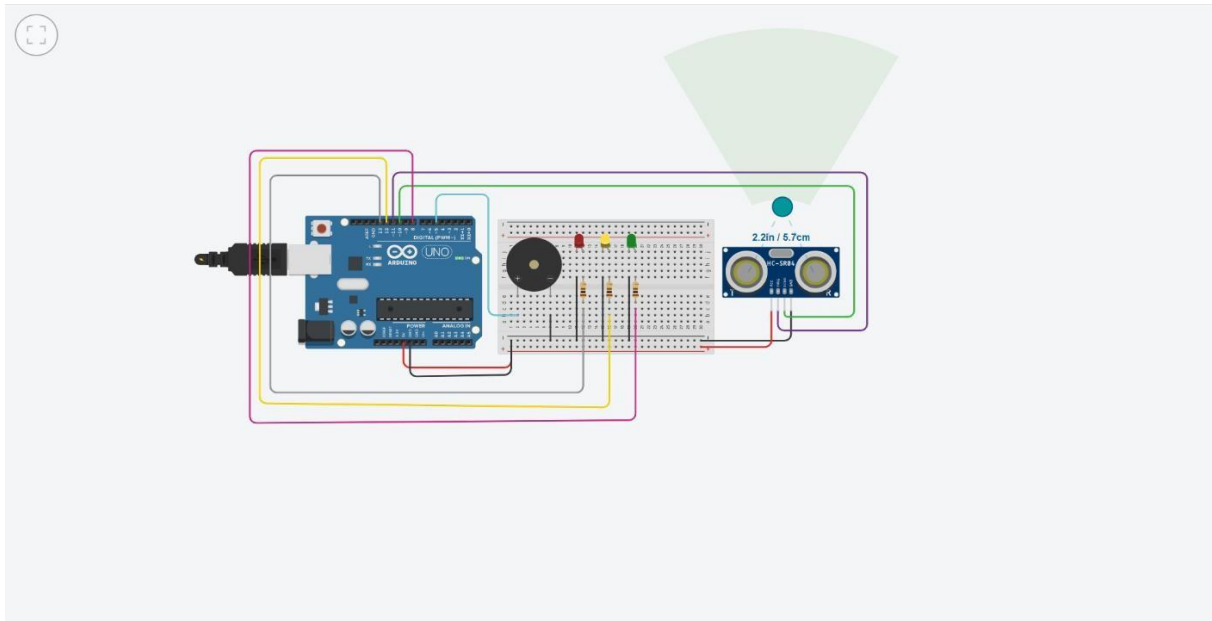
Team Member-1: Selvabharathi CT

Team Member-2: Rishikkumar D

Team Member-3: Balasurya S

Before Simulation

After Simulation

Code:

```cpp
// C++ code
//
int distancia = 0;

int i = 0;

long readUltrasonicDistance(int triggerPin, int echoPin)
{
  pinMode(triggerPin, OUTPUT);  // Clear the trigger
  digitalWrite(triggerPin, LOW);
  delayMicroseconds(2);
  // Sets the trigger pin to HIGH state for 10 microseconds
  digitalWrite(triggerPin, HIGH);
  delayMicroseconds(10);
  digitalWrite(triggerPin, LOW);
  pinMode(echoPin, INPUT);
  // Reads the echo pin, and returns the sound wave travel time i
  return pulseIn(echoPin, HIGH);
}

void setup()
{
  pinMode(8, OUTPUT);
  pinMode(12, OUTPUT);
  pinMode(13, OUTPUT);
  pinMode(5, OUTPUT);
```

```arduino
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
```

```arduino
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   }
```