ASSIGNMENT NO-1

Project Name: SmartFarmer - IoT Enabled Smart Farming Application

Batch Number: B5-51ME

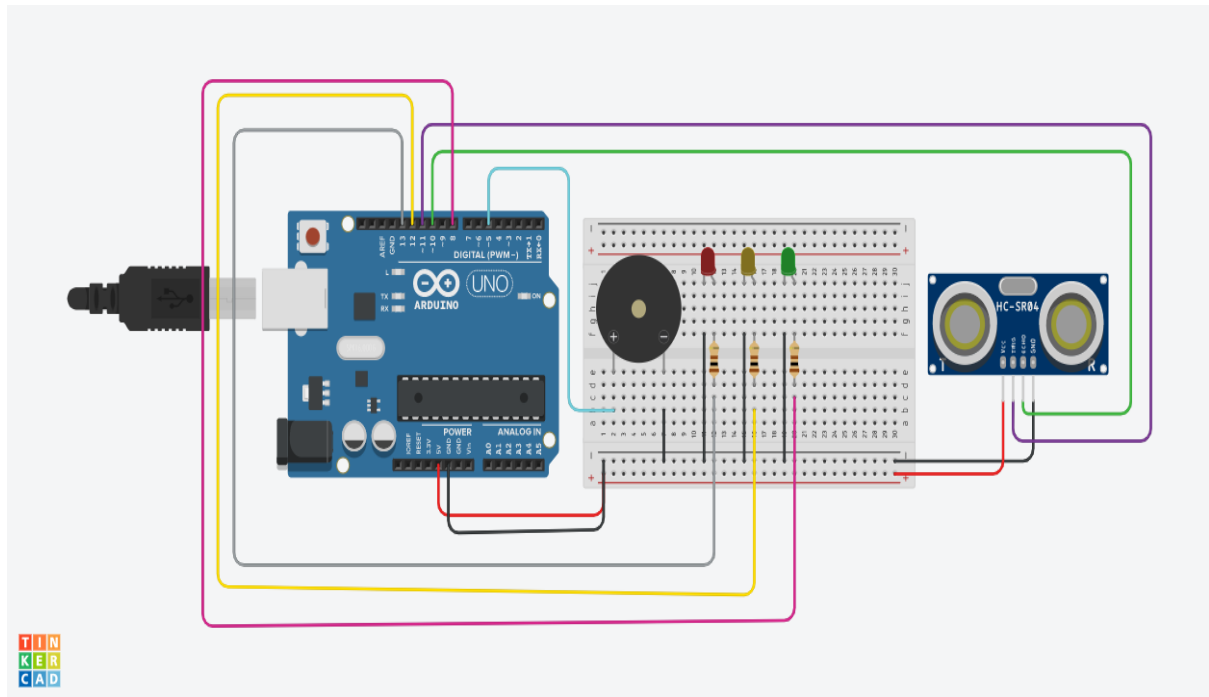**Assignment Topic**: smart home automation using sensor leds and buzzer

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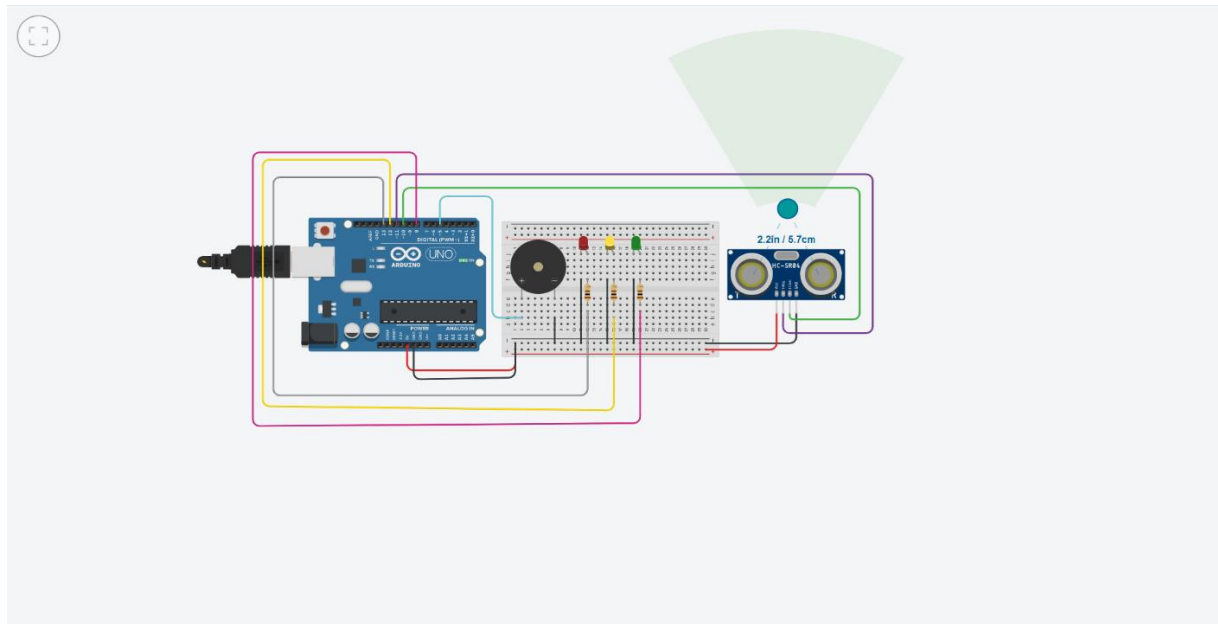
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Team Member-2: B.Harsha Kumar

Team Member-3:M.Gireesh Nag

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);
```

```
25    pinMode(13, 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  }
```