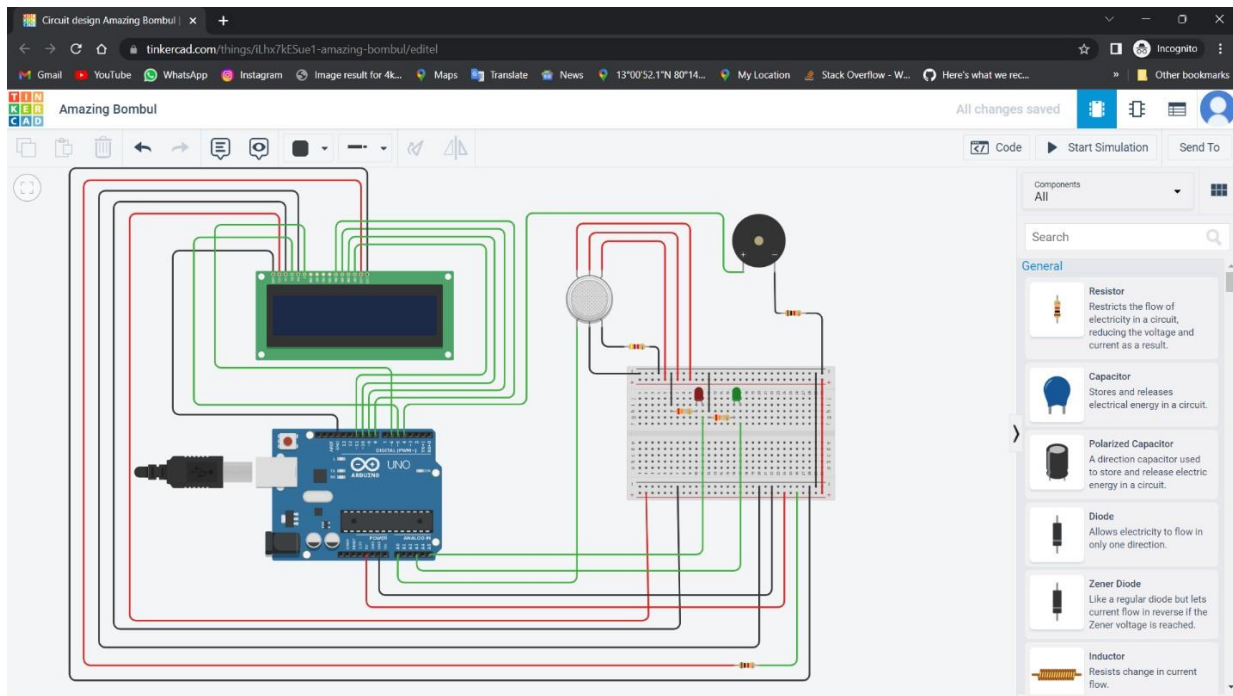


SPRINT-I SIMULATON CREATION

Date	16 NOVEMBER 2022
Team ID	PNT2022TMID14037
Project Name	Gas Leakage Monitoring and Alerting System

Connect Sensor with Python Code:



CODE:

```
#include <LiquidCrystal.h>
LiquidCrystal lcd(5,6,8,9,10,11);

int redled = A5;
int greenled = A3;
int buzzer = 4;
int sensor = A0;
int sensorThresh = 400;

void setup()
{
  pinMode(redled, OUTPUT);
  pinMode(greenled,OUTPUT);
  pinMode(buzzer,OUTPUT);
  pinMode(sensor,INPUT);
  Serial.begin(9600);
  lcd.begin(16,2);
}

void loop()
{
  int analogValue = analogRead(sensor);
  Serial.println(analogValue);
  if(analogValue>sensorThresh)
  {
    digitalWrite(redled,HIGH);
    digitalWrite(greenled,LOW);
    tone(buzzer,1000,10000);
    lcd.clear();
    lcd.setCursor(0,1);
    lcd.print("ALERT");
    Serial.print("ALERT");
  }
}
```

```
    delay(1000);
    lcd.clear();
    lcd.setCursor(0,1);
    lcd.print("EVACUATE");
    Serial.println(" -- EVACUATE");
    delay(1000);
}
else
{
    digitalWrite(greenled,HIGH);
    digitalWrite(redled,LOW);
    noTone(buzzer);
    lcd.clear();
    lcd.setCursor(0,0);
    lcd.print("SAFE");
    Serial.print("SAFE");
    delay(1000);
    lcd.clear();
    lcd.setCursor(0,1);
    lcd.print("ALL CLEAR");
    Serial.println(" -- ALL CLEAR");
    delay(1000);

}

}
```

OUTPUT:

The screenshot shows the Tinkercad web interface for a project named 'Amazing Bombul'. The circuit includes an Arduino Uno R3, a Gas Sensor (Name 1), a buzzer, a green LED, a red LED, and an LCD screen. The LCD screen displays 'ALL CLEAR'. The code on the right is as follows:

```
1 #include <LiquidCrystal.h>
2 LiquidCrystal lcd(5,6,8,9,10,11);
3
4 int redled = A5;
5 int greenled = A3;
6 int buzzer = 4;
7 int sensor = A0;
8 int sensorThresh = 400;
9
10 void setup()
11 {
12   pinMode(redled, OUTPUT);
13   pinMode(greenled, OUTPUT);
14   pinMode(buzzer, OUTPUT);
15   pinMode(sensor, INPUT);
16   Serial.begin(9600);
17   lcd.begin(16,2);
18 }
19
20 void loop()
21 {
22   int sensorValue = analogRead(sensor);
23   if (sensorValue > sensorThresh)
24   {
25     digitalWrite(redled, HIGH);
26     digitalWrite(greenled, LOW);
27     digitalWrite(buzzer, HIGH);
28     lcd.print("ALERT -- EVACUATE");
29     delay(3000);
30     digitalWrite(redled, LOW);
31     digitalWrite(greenled, HIGH);
32     digitalWrite(buzzer, LOW);
33     lcd.print("SAFE -- ALL CLEAR");
34     delay(3000);
35   }
36 }
```

The Serial Monitor shows the following output:

```
685
685
685 ALERT -- EVACUATE
306
306 SAFE -- ALL CLEAR
306
306 SAFE -- ALL CLEAR
306
306 SAFE -- ALL CLEAR
306
306 SAFE -- ALL CLEAR
306
306 SAFE -- ALL CLEAR
306
306 SAFE -- ALL CLEAR
```

The screenshot shows the Tinkercad web interface for the same project 'Amazing Bombul'. The circuit components are the same as in the first screenshot. The LCD screen now displays 'EVACUATE'. The code on the right is identical to the first screenshot:

```
1 #include <LiquidCrystal.h>
2 LiquidCrystal lcd(5,6,8,9,10,11);
3
4 int redled = A5;
5 int greenled = A3;
6 int buzzer = 4;
7 int sensor = A0;
8 int sensorThresh = 400;
9
10 void setup()
11 {
12   pinMode(redled, OUTPUT);
13   pinMode(greenled, OUTPUT);
14   pinMode(buzzer, OUTPUT);
15   pinMode(sensor, INPUT);
16   Serial.begin(9600);
17   lcd.begin(16,2);
18 }
19
20 void loop()
21 {
22   int sensorValue = analogRead(sensor);
23   if (sensorValue > sensorThresh)
24   {
25     digitalWrite(redled, HIGH);
26     digitalWrite(greenled, LOW);
27     digitalWrite(buzzer, HIGH);
28     lcd.print("ALERT -- EVACUATE");
29     delay(3000);
30     digitalWrite(redled, LOW);
31     digitalWrite(greenled, HIGH);
32     digitalWrite(buzzer, LOW);
33     lcd.print("SAFE -- ALL CLEAR");
34     delay(3000);
35   }
36 }
```

The Serial Monitor shows the following output:

```
685
685
685 ALERT -- EVACUATE
306
306 SAFE -- ALL CLEAR
685
685 ALERT -- EVACUATE
685
685 ALERT -- EVACUATE
685
685 ALERT -- EVACUATE
685
685 ALERT -- EVACUATE
685
685 ALERT -- EVACUATE
```