GAS LEAKAGE MONITORING AND ALERTING SYSTEM

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GAS LEAKAGE DETECTION:

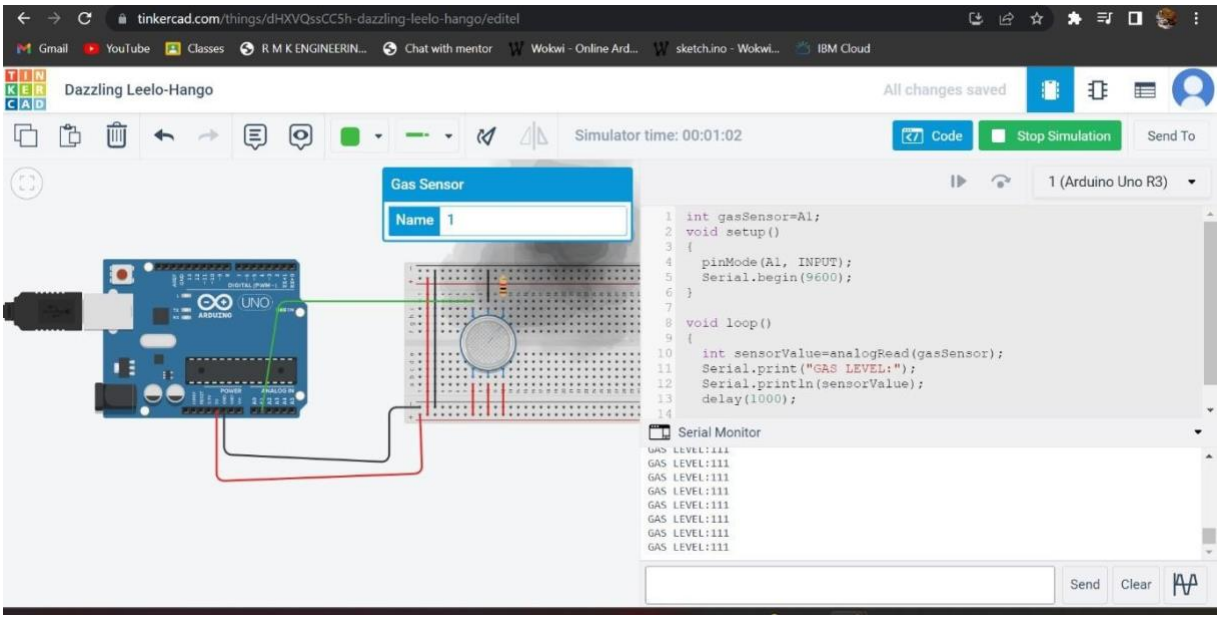
CODE FOR GAS LEAKAGE DETECTION:

```
int     gasSensor=A1;
int   buzzer=13;   int
led=12; void setup()
{

  pinMode(A1, INPUT);
  pinMode(13, OUTPUT);
  pinMode(12, OUTPUT);
  Serial.begin(9600);
}



void loop()

{

  int sensorValue=analogRead(gasSensor);
  Serial.print("GAS LEVEL:");
```

```
  Serial.println(sensorValue);
  delay(1000);
  if(sensorValue>200)
  {

    digitalWrite(buzzer,HIGH);
    digitalWrite(led,HIGH);
  }

  else

  {

    digitalWrite(buzzer,LOW);
    digitalWrite(led,LOW);
  }
}
```

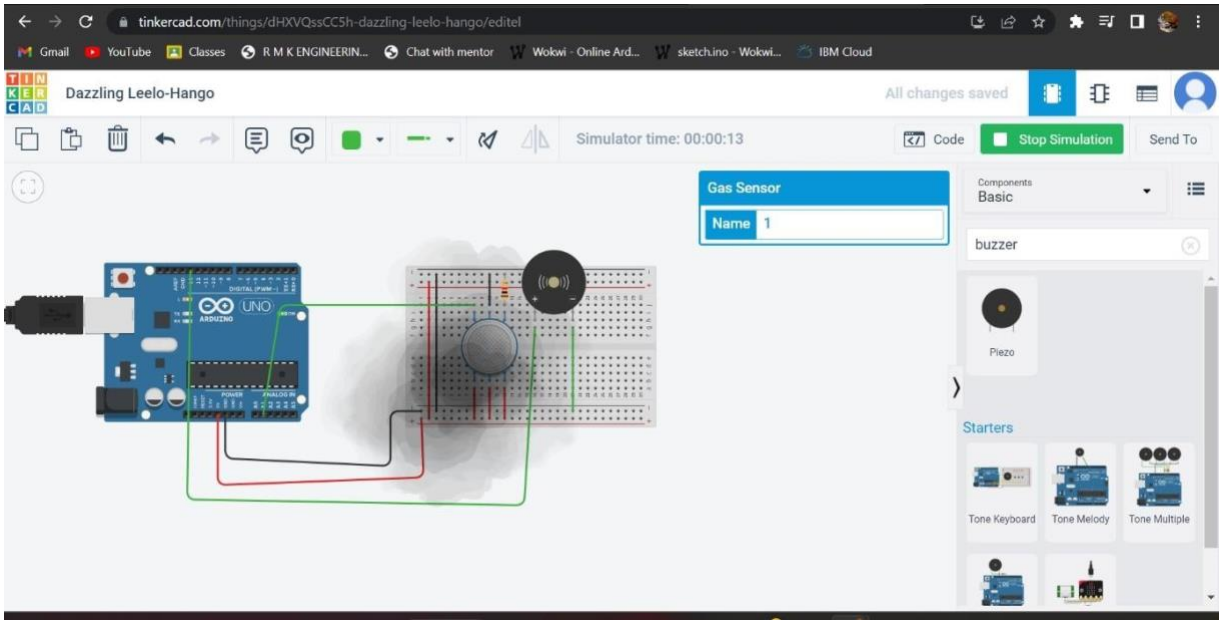
Step 1:

Gas leakage is detected by the gas sensor



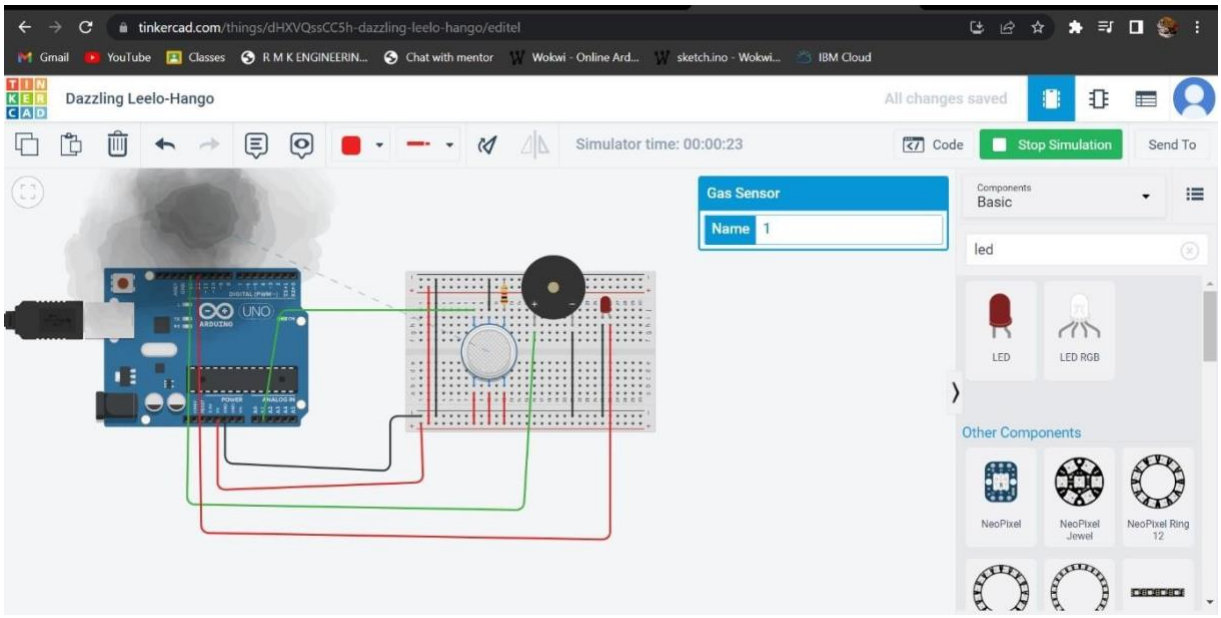
Step2:

Buzzer is attached in order to get buzzer sound when the gas exceeds its level



Step 3:

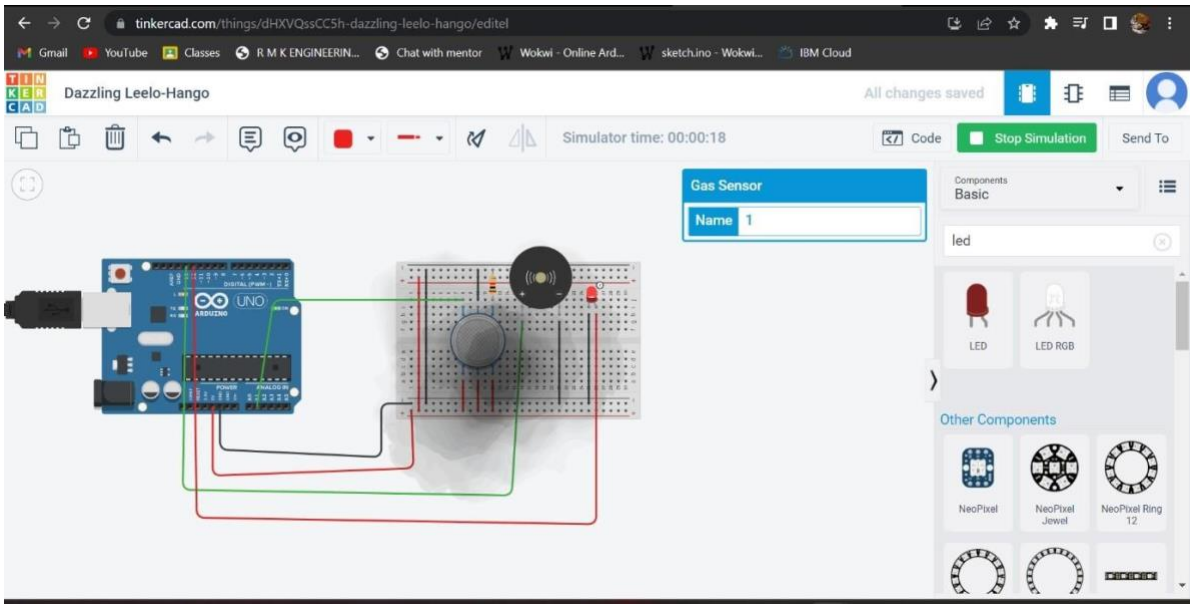
1. Led is attached
2. The LED is not on when there is no leakage i.e it does not exceeds its value



Step 4:

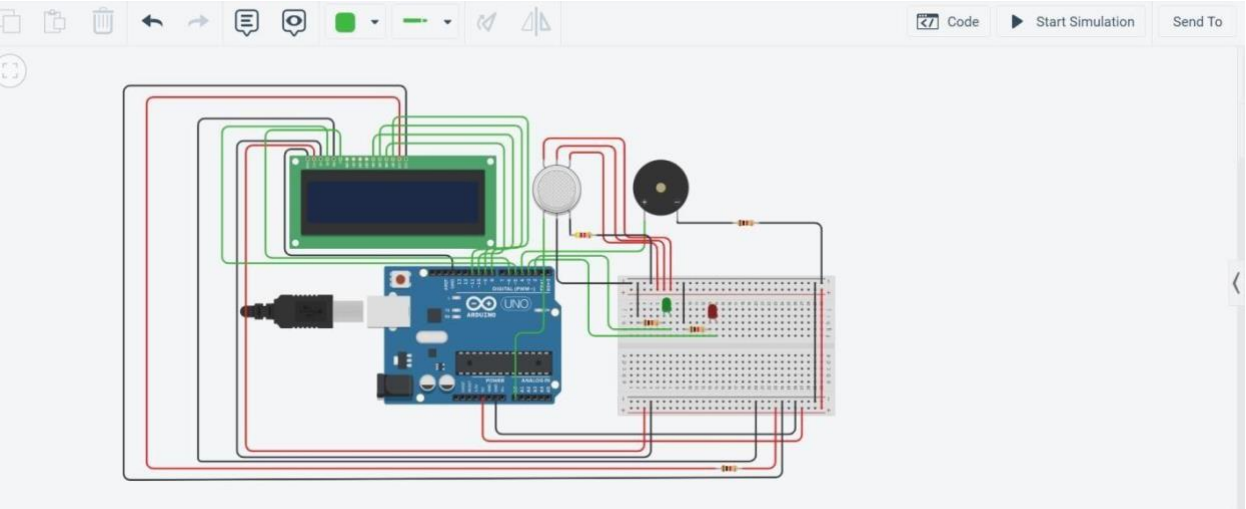
1. LED gets ON.

2. When there is a gas leakage, LED gets on and the buzzer gives the alert by sound.



Step1:

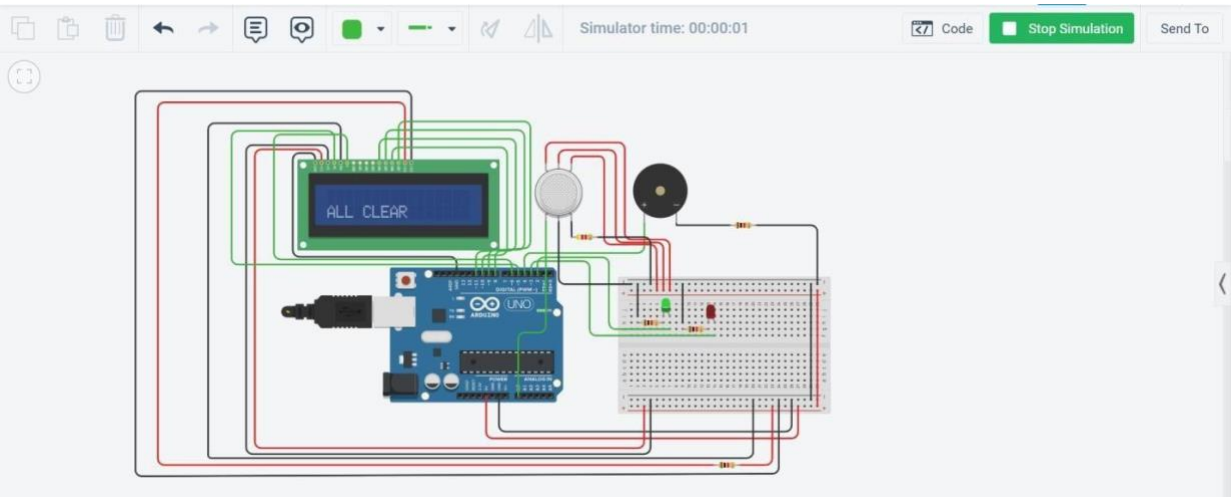
Circuit is designed for Gas leakage Monitoring and Alerting.



Step 2:

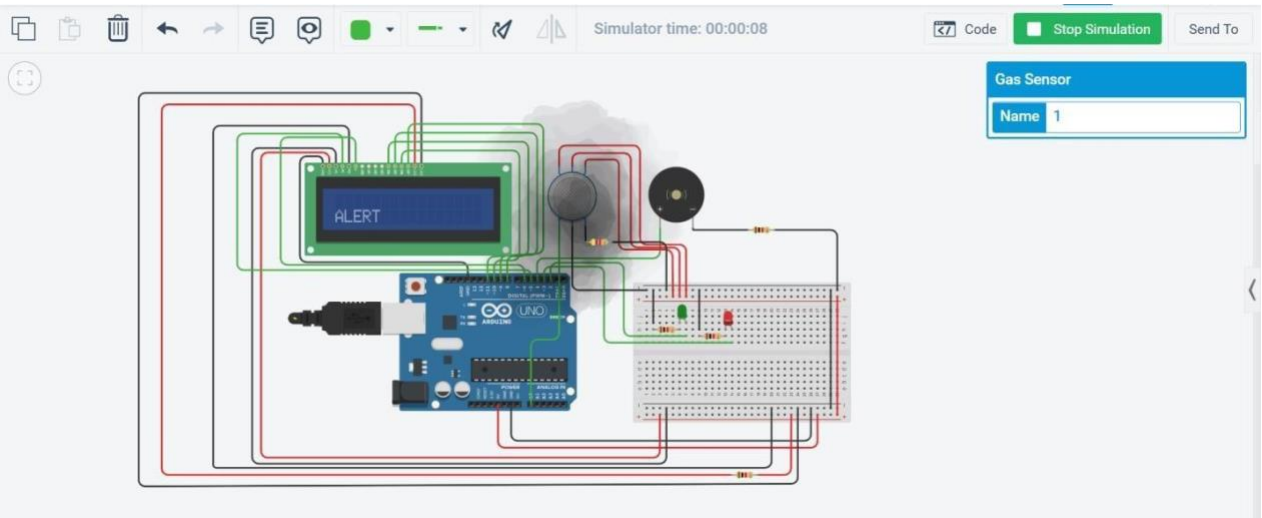
i. Simulate the circuit.

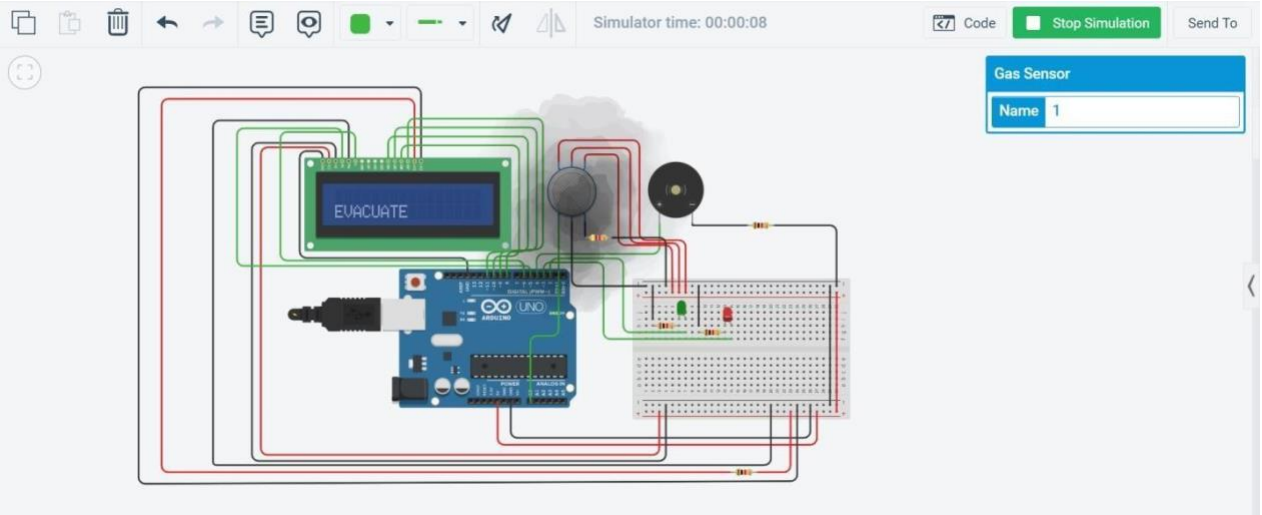
ii. After the simulation the circuit shows a message “ALL CLEAR” in LCD Display. iii. It significantly shows that the harmful gas is not Emitted and the place is Safe.



Step 3:

I. When Harmful gas is emitted in the Industry.
II. The Gas Sensor will detect the harmful gas leakage.
III. Then the LCD Display will show a “ALERT” Message and also shows “Evacuate”.





Code FOR GAS LEAKAGE MONITORING & ALERTING :

```
#include <LiquidCrystal.h>
```

```
LiquidCrystal lcd(5,6,8,9,10,11);



//pin
variables
int redled =
3; int
greenled =
2; int buzzer = 4; int
sensor = A0; int
sensorThresh = 400;
void setup()
{
pinMode(redled,OUTP
UT);
pinMode(greenled,OUT
PUT);
pinMode(buzzer,OUTP
UT); pinMode(sensor,INPUT
); Serial.begin(9600);
lcd.begin(16,2);
}
void loop()
{
int analogValue =
analogRead(sensor);
Serial.print(analogValue)
; //gas concenteration
condition
if(analogValue>sensorT
hresh)
{
digitalWrite(redled,HI
GH);
```

```
digitalWrite(greenled,
LOW);
tone(buzzer,1000,100
00); lcd.clear();

//to print on LCD
lcd.setCursor(0,1);
lcd.print("ALERT");
delay(1000);
lcd.clear();
lcd.setCursor(0,1);
lcd.print("EVACUA
TE"); delay(1000);
  }
else
{
digitalWrite(greenled,H
IGH);
digitalWrite(redled,LO
W);  noTone(buzzer);
lcd.clear();
lcd.setCursor(0,
   1);
   lcd.print("ALL
   CLEAR");
   delay(1000);
  }
 }
```

Result:

The Gas Leakage is Monitored and Alerting Message is Successfully Send.