

SPRINT -1

Date	8 NOV 2022
Team ID	PNT2022TMID35909
Project Name	Project - Gas Leakage Monitoring and Alerting Systems for Industries

SIMULATION :

```
#include "DHT.h"
#include <LiquidCrystal.h>
#define DHTPIN 2
#define DHTTYPE DHT22
DHT dht(DHTPIN, DHTTYPE);
LiquidCrystal lcd(6,7,8,9,10,11);
int ThreshHold = 60;
void setup() {
    Serial.begin(9600);
    dht.begin();
    lcd.begin(16,2);
    pinMode(4, OUTPUT);
}
void loop() {

    delay(2000);

    float h = dht.readHumidity();
    float t = dht.readTemperature();

    // Check if any reads failed and exit early (to try again).
    if (isnan(h) || isnan(t)) {
        Serial.println(F("Failed to read from DHT sensor!"));
        return;
    }

    Serial.print(F("Humidity: "));
    Serial.print(h);
    Serial.print(F("%   Temperature: "));
    Serial.print(t);
```

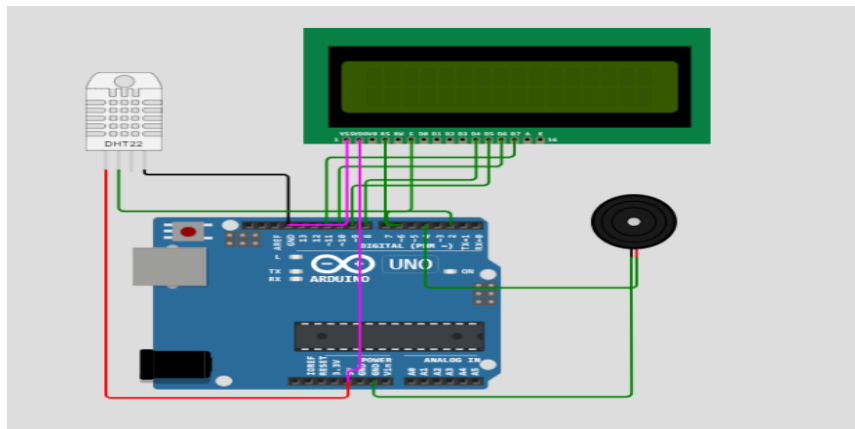
```
Serial.print(F("°C "));
Serial.println();

int gassensor=random(0,100);
Serial.print(F("Gas Concentration: "));
Serial.println(gassensor);

if (gassensor>ThreshHold)
{
    Serial.println(F("GAS LEAKED ALERT!"));
    Serial.println();
    lcd.clear();
    lcd.print ("GAS LEAKAGE :(");
    tone(4,31);
    delay (1000);
    lcd.clear();
    lcd.print ("ALERT!!!");
    delay(1000);
    noTone(4);
}

else
{
    Serial.println(F("SAFE!"));
    Serial.println();
    lcd.clear();
    lcd.print ("ALL GOOD :)");
    delay(1000);
    lcd.clear();
    lcd.print ("SAFE!");
    delay(1000);
}
}
```

CIRCUIT DIAGRAM :



RESULT :

WOKWI SAVE SHARE DHT_Tester.ino copy Docs SIGN IN

DHT_Tester.ino diagram.json libraries.txt

Library Manager

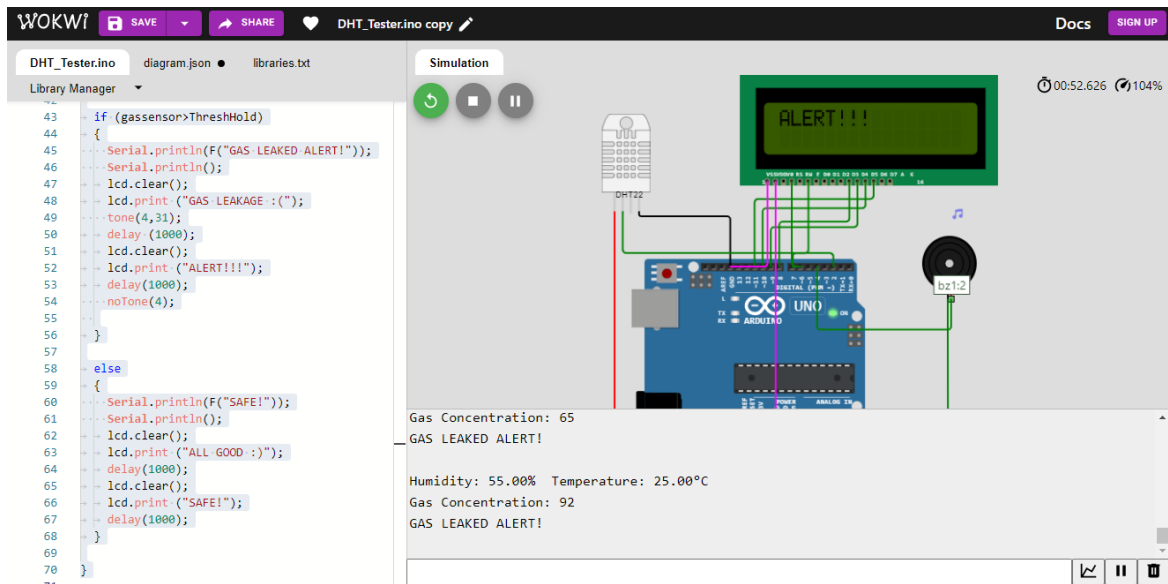
```
43 if (gassensor>ThreshHold)
44 {
45   Serial.println(F("GAS LEAKED ALERT!"));
46   Serial.println();
47   lcd.clear();
48   lcd.print ("GAS LEAKAGE :");
49   tone(4,31);
50   delay(1000);
51   lcd.clear();
52   lcd.print ("ALERT!!!");
53   delay(1000);
54   noTone(4);
55 }
56
57
58 else
59 {
60   Serial.println(F("SAFE!"));
61   Serial.println();
62   lcd.clear();
63   lcd.print ("ALL GOOD :");
64   delay(1000);
65   lcd.clear();
66   lcd.print ("SAFE!");
67   delay(1000);
68 }
69
70 }
```

Simulation

00:15.531 100%

Gas Concentration: 73
GAS LEAKED ALERT!

Humidity: 55.00% Temperature: 25.00°C
Gas Concentration: 58
SAFE!



LINK: <https://wokwi.com/projects/347772124486697554>

DEVELOP A PYTHON CODE:

```
import random
while(True):
```

```
    temp=random.uniform(92,110)
    Humid=random.uniform(60,100)
    ThreshHold = 60
    gassensor = random.uniform(0,100)
    print("Temperature : {:.2f}°C Humidity :
{:.2f}%".format(temp,Humid))
    print("Gas Concentration: {:.2f}".format(gassensor))
    if(gassensor>=ThreshHold):
        print("GAS LEAKAGE ALERT!!")
        print("BUZZER ON")
    else:
        print("ALL GOOD SAFE!")
        print("BUZZER OFF")
    print()
```

RESULT:

Temperature : 105.29°C Humidity : 82.65%
Gas Concentration: 54.03
ALL GOOD SAFE!
BUZZER OFF

Temperature : 99.26°C Humidity : 70.87%
Gas Concentration: 69.01
GAS LEAKAGE ALERT!!
BUZZER ON

Temperature : 96.67°C Humidity : 97.06%
Gas Concentration: 7.47
ALL GOOD SAFE!
BUZZER OFF

Temperature : 97.92°C Humidity : 96.80%
Gas Concentration: 59.38
ALL GOOD SAFE!
BUZZER OFF

Temperature : 94.32°C Humidity : 78.68%
Gas Concentration: 77.14
GAS LEAKAGE ALERT!!
BUZZER ON

Temperature : 93.49°C Humidity : 81.80%
Gas Concentration: 39.00
ALL GOOD SAFE!
BUZZER OFF

Temperature : 103.38°C Humidity : 73.10%
Gas Concentration: 11.77
ALL GOOD SAFE!
BUZZER OFF

Temperature : 95.96°C Humidity : 88.03%
Gas Concentration: 6.27
ALL GOOD SAFE!