

For Carbon Dioxide detection in air

This code communicates with the MQ135 air quality sensor with the help of the [MQ135.h library](#). The sensor is supposed to preheat for 24 hours before taking readings. Once the code runs, it prints out the concentration of detected gases in ppm on a serial monitor and the results are displayed on an LCD screen. An alarm system (LED light) is also set to glow if the CO₂ values cross a threshold value of 1000ppm.

Detailed explanation is given in the [video tutorial](#)

```
#include "MQ135.h"
#include <Wire.h>
#include <LiquidCrystal_I2C.h> //Header file for LCD

LiquidCrystal_I2C lcd(0x27,16,2); //set the LCD address to x27 for a 16 chars
and 2 line display

#define led 9 //led on pin 9
const int gas_pin = A0; //analog feed from MQ135
MQ135 gasSensor = MQ135(gas_pin);

void setup(){

    lcd.init(); // initialize the lcd
    lcd.begin(16,2); // consider 16 chars + 2 lines lcd
    lcd.backlight(); // illuminate to produce visible reading
    lcd.clear(); // clear lcd
    lcd.setCursor(4,0); //set cursor of lcd to 1st row and 5th
column
    lcd.print("Group L"); // print as a sentence on lcd

    pinMode(gas_pin,INPUT); //MQ135 analog feed set for input
    pinMode(led,OUTPUT); //led set for output
    Serial.begin(9600); //serial comms for debugging
}

void loop(){
    float ppm = gasSensor.getPPM();
    Serial.println(ppm); // print ppm on serial monitor
    delay(1000);
    lcd.clear(); // clear lcd
    lcd.setCursor(0,0); // set cursor of lcd to 1st row and 1st
column
    lcd.print("Air Quality: "); // print as a sentence on lcd
    lcd.print(ppm); // print value of MQ135
    if(ppm>999){ //if co2 ppm > 1000
        digitalWrite(led,HIGH); //turn on led
        lcd.setCursor(2,1); // set cursor of lcd to 2nd row and 3rd
column
        lcd.print("AQ Level BAD"); //print as a sentence on lcd
    }
}
```

```
    }
else{
    digitalWrite(led,LOW);           //turn off led
    lcd.setCursor(1,1);            // set cursor of lcd to 2nd row and 2nd
column
    lcd.print ("AQ Level Good");   // print as a sentence on lcd
}

}
```

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