Introduction:

The air pollution monitoring device developed in this project is based Arduino Uno. The sensor used for monitoring the air pollution is MQ135 gas sensor and MQ9 CO sensor. The sensor data is displayed on the graph (using python). the sensing of data and sending it is managed by the Arduino sketch. The Arduino Sketch is written, compiled and loaded to the Arduino.

```
int air, co;
int tmp;
void setup () {
 // put your setup code here, to run once:
 Serial. Begin (9600);
 pinMode (A0, INPUT);
 pinMode (A1, INPUT);
}
void loop () {
 // put your main code here, to run repeatedly:
 tmp = analog read(A0)
 air = analog Read(tmp,0,1023,0,1000);
```

```
print ("Available ports: \nPort\t Hardwere")
for i in range (len (ports. comports ())):
        print (ports. comports () [i])

inputPort = input ("\nEnter Ardiuno Port number: ")
try:
   p = plot. pyanalysis (inputPort, os. path.dirname(__file__))
   p. genrateLineAnalysis ()
except:
   print ("An error is occurred while plotting the graph. Probable reason may be:")
   print ("1. You are running app in read only memory.")
   print ("2. Check your hardware port (COM port).")
   print ("3. Wrong port assignment.")
```

Component:

1.Arduino UNO

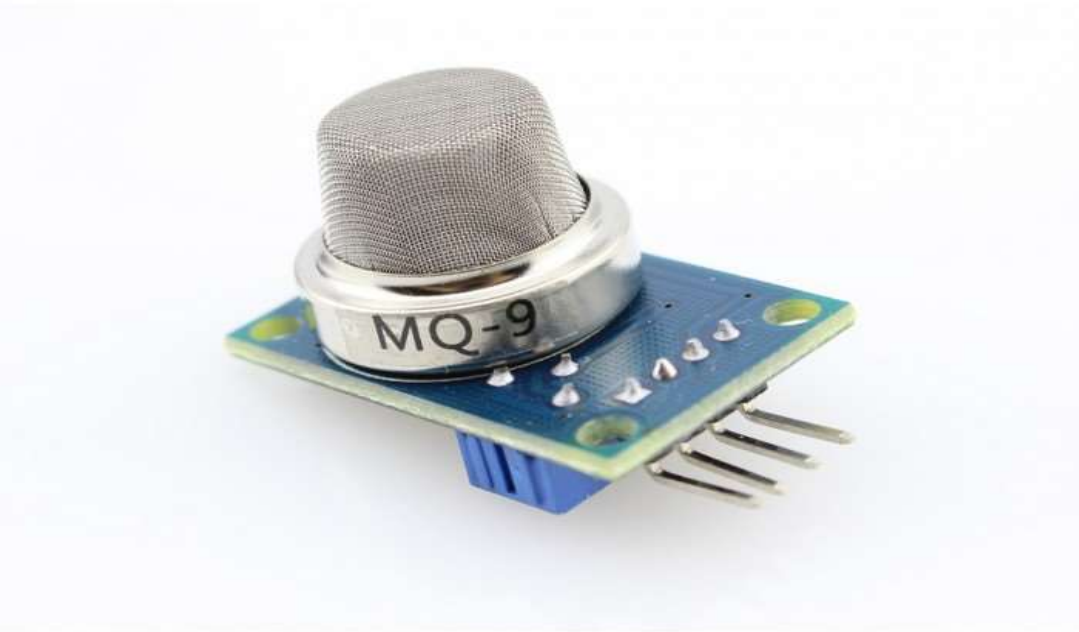
Arduino UNO is one of the most popular prototyping boards.it is small in size and packed with rich features. The board come with built-in Arduino boot loader.it is an Amiga 328 based controller board which has 14 GPIO Pins,6 analog input.

2.MQ135

MQ135 gas sensor is SnO2, which with lower conductivity in clean air. When the target combustible gas exist, MQ135 gas sensor has high sensitivity smoke, ammonia, Sulphur and other harmful gases.

3.MQ9

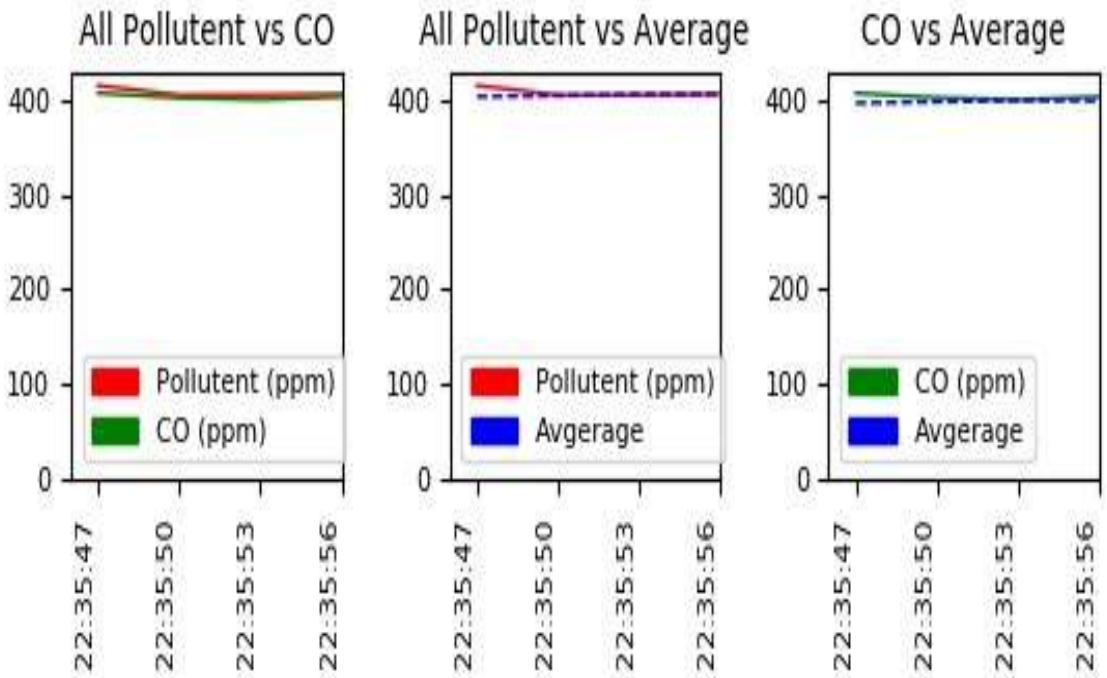
MQ9 gas sensor has high sensitivity to carbon monoxide, Methane and LPG.the sensor could be used to detect different Gases containts CO and combustible gases.

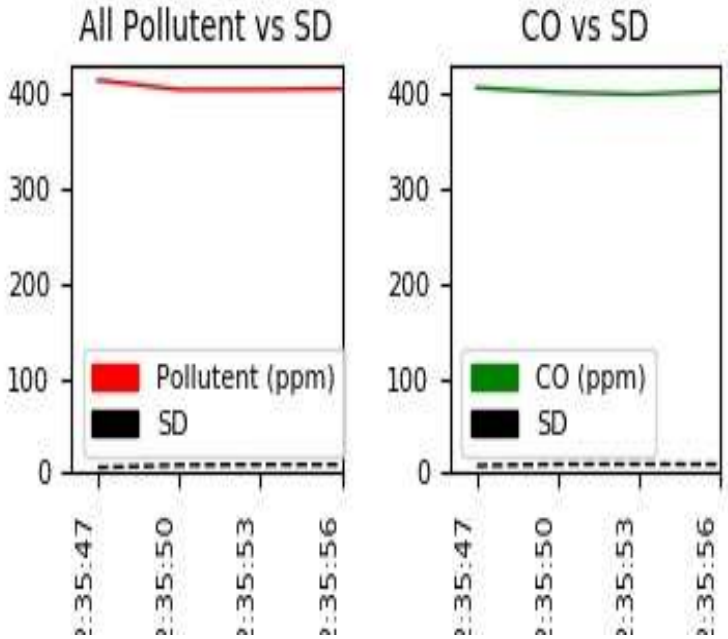


4.LM7805

LM7805 is a voltage regulator integrated circuit.the voltage regulator IC maintains the output voltage at a constant value.

Graph:





Status
Time : 22:35:56
Air Quality (ppm): 406
CO (ppm) : 403
Avg Air Quility : 405.6
Avg CO : 398.9
SD Air Quility : 8.21
SD CO : 8.61