SPRINT -1

GAS LEAKAGE MONITORING AND ALERTING SYSTEM

Team ID	PNT2022TMID42672
Project Name	Gas Leakage Monitoring and Alerting System for Industries

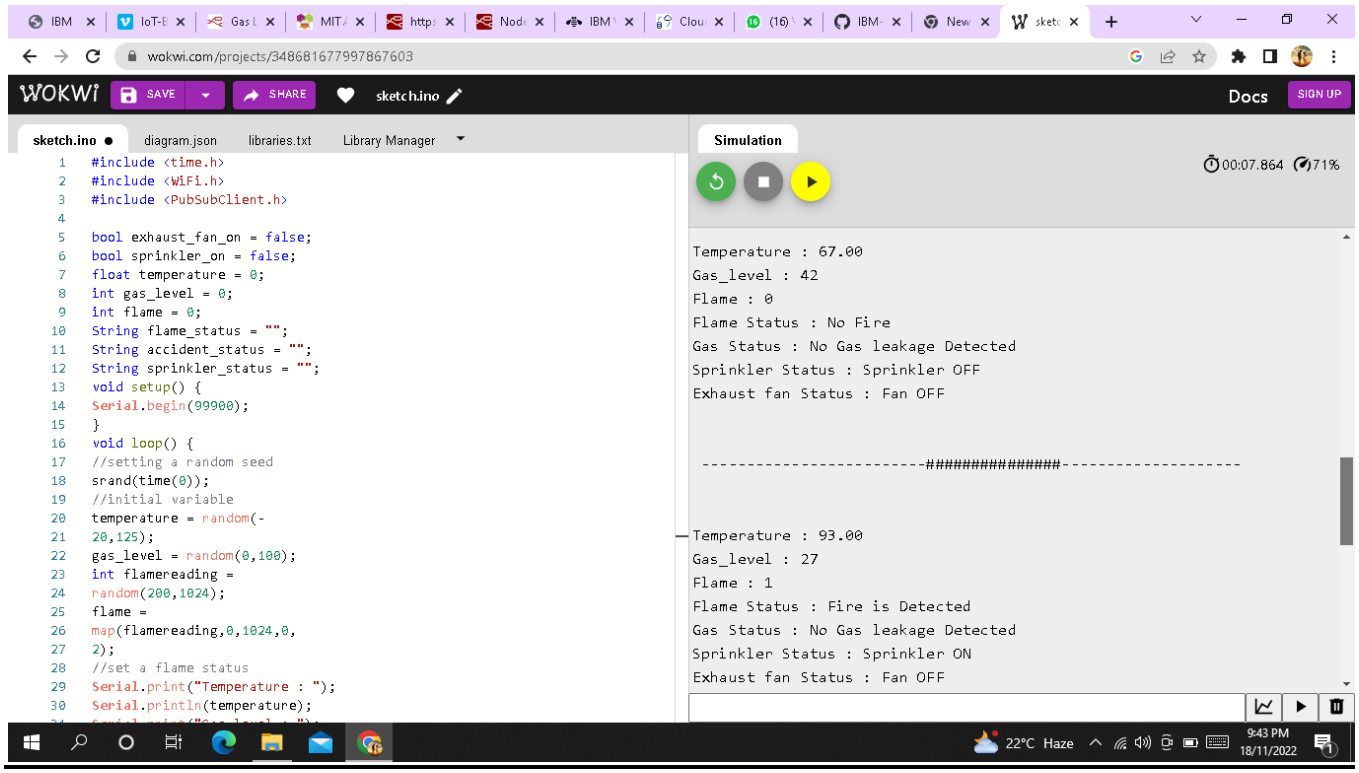
SIMULATION CREACTION USING WOKWI:

CODE:

```
#include <time.h>
#include <WiFi.h>
#include <PubSubClient.h>
bool exhaust_fan_on = false;
bool sprinkler_on = false;
float temperature = 0;
int gas_level = 0;
int flame = 0;
String flame_status = "";
String accident_status = "";
String sprinkler_status = "";
void setup() {
Serial.begin(99900);
}
void loop() {
//setting a random seed
srand(time(0));
//initial variable
temperature = random(-
20,125);
gas_level = random(0,1000);
int flamereading =
random(200,1024);
flame =
map(flamereading,0,1024,0,
2);
//set a flame status
Serial.print("Temperature : ");
Serial.println(temperature);
Serial.print("Gas_level : ");
Serial.println(gas_level);
Serial.print("Flame : ");
Serial.println(flame);
switch (flame) {
case 0:
```

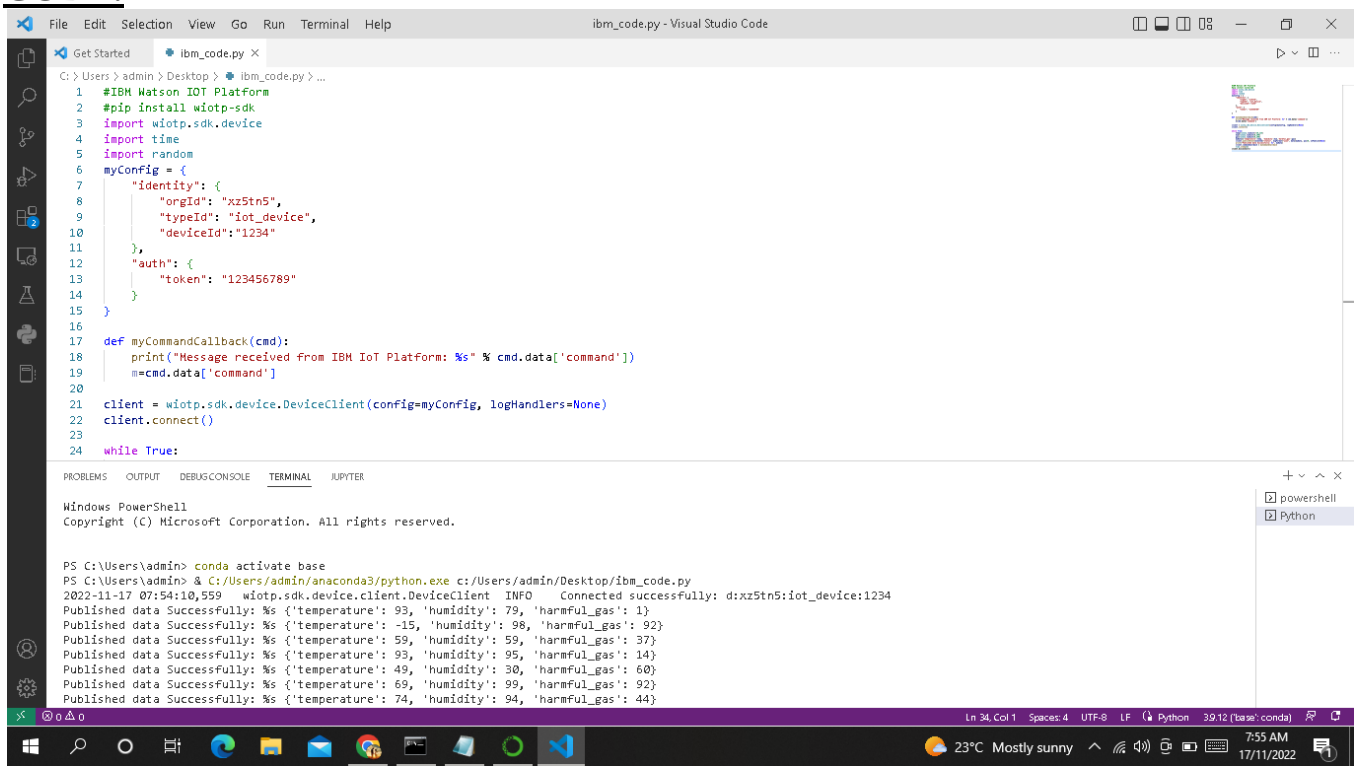
```
flame_status = "No Fire";
Serial.println("Flame Status : "+flame_status);
break;
case 1:
flame_status = "Fire is Detected";
Serial.println("Flame Status : "+flame_status);
break;
}
//Gas Detection
if(gas_level > 100){
Serial.println("Gas Status : Gas leakage Detected");
}
else{
exhaust_fan_on = false;
Serial.println("Gas Status : No Gas leakage Detected");
}
//send the sprinkler status
if(flame){
sprinkler_status =
"Sprinkler ON";
Serial.println("Sprinkler Status : "+sprinkler_status);
}
else{
sprinkler_status = "Sprinkler OFF";
Serial.println("Sprinkler Status : "+sprinkler_status);
}
//toggle the fan according to gas
if(gas_level > 100){
exhaust_fan_on = true;
Serial.println("Exhaust fan Status : Fan ON");
}
else{
exhaust_fan_on = false;
Serial.println("Exhaust fan Status : Fan OFF");
}
Serial.println("");
Serial.println("");
Serial.println(" -------------------------################----------------------");
Serial.println("");
Serial.println("");
delay(1000);
}
```

SIMULATION OUTPUT:



CONNECTING IBM CLOUD USING PYTHON CODE:

CODE:



OUTPUT IN IBM CLOUD: