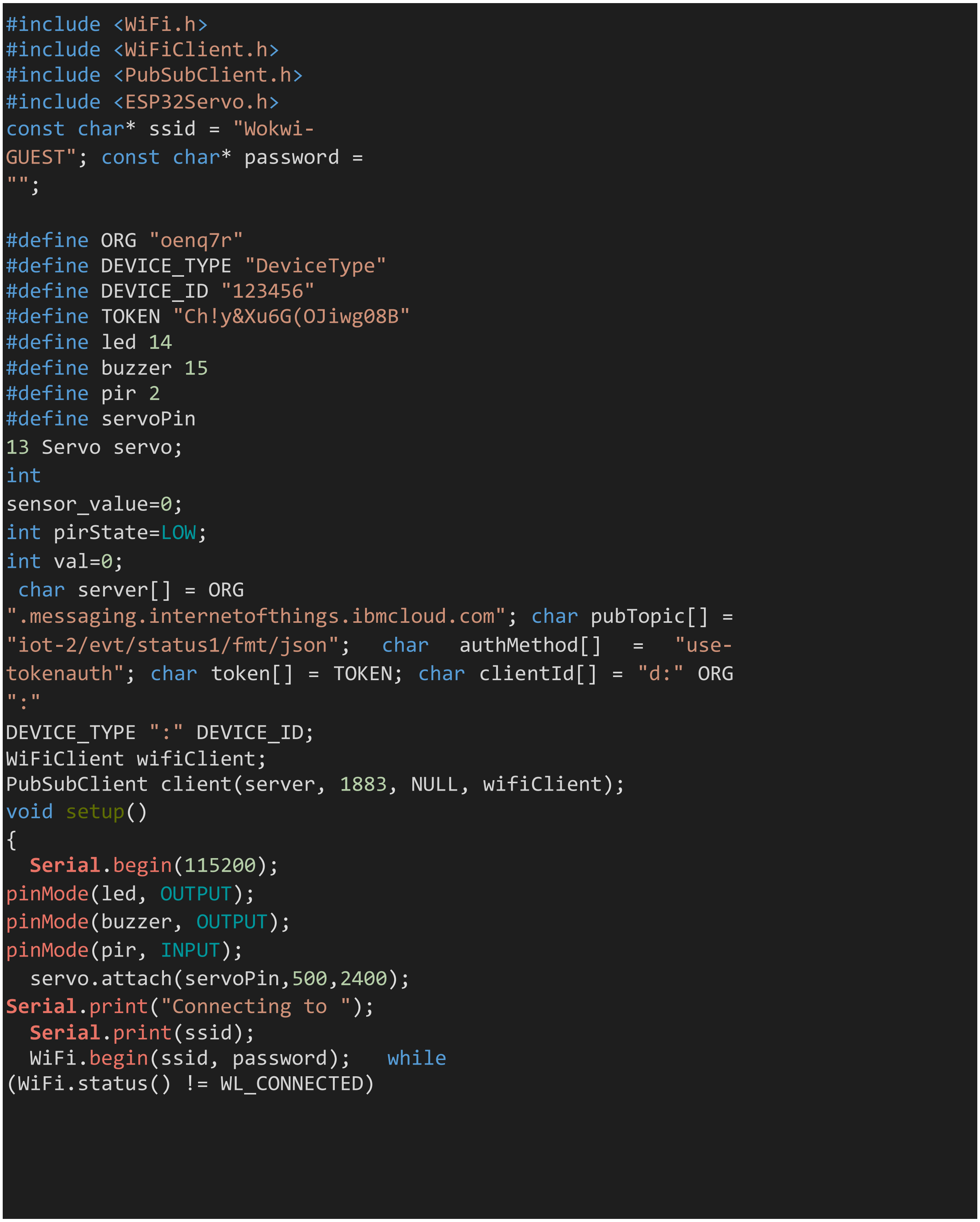
FINAL CODE

PROJECT NAME :GAS LEAKAGE MONITORING & ALERTING SYSTEM FOR INDUSTRIES

TEAM ID. : PNT2022TMID49266

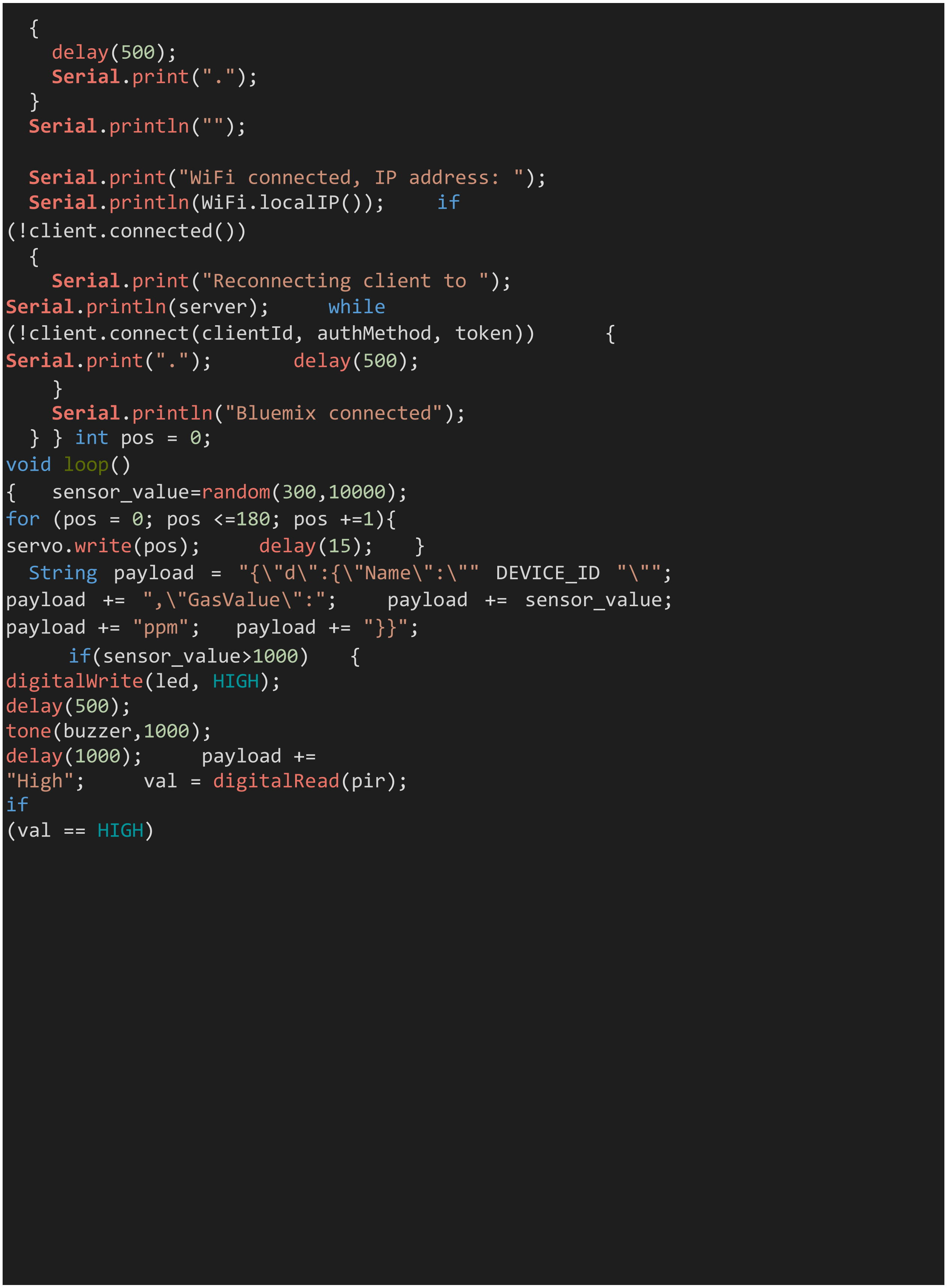
DATE : 18/11/2022

Program



```
#include <WiFi.h>
#include <WiFiClient.h>
#include <PubSubClient.h>
#include <ESP32Servo.h>
const char* ssid = "Wokwi-
GUEST"; const char* password =
"";

#define ORG "oenq7r"
#define DEVICE_TYPE "DeviceType"
#define DEVICE_ID "123456"
#define TOKEN "Ch!y&Xu6G(OJiwg08B"
#define led 14
#define buzzer 15
#define pir 2
#define servoPin
13 Servo servo;
int
sensor_value=0;
int pirState=LOW;
int val=0;
 char server[] = ORG
".messaging.internetofthings.ibmcloud.com"; char pubTopic[] =
"iot-2/evt/status1/fmt/json";   char   authMethod[]   =   "use-
tokenauth"; char token[] = TOKEN; char clientId[] = "d:" ORG
":"
DEVICE_TYPE ":" DEVICE_ID;
WiFiClient wifiClient;
PubSubClient client(server, 1883, NULL, wifiClient);
void setup()
{
  Serial.begin(115200);
pinMode(led, OUTPUT);
pinMode(buzzer, OUTPUT);
pinMode(pir, INPUT);
  servo.attach(servoPin,500,2400);
Serial.print("Connecting to ");
  Serial.print(ssid);
  WiFi.begin(ssid, password);   while
(WiFi.status() != WL_CONNECTED)
```



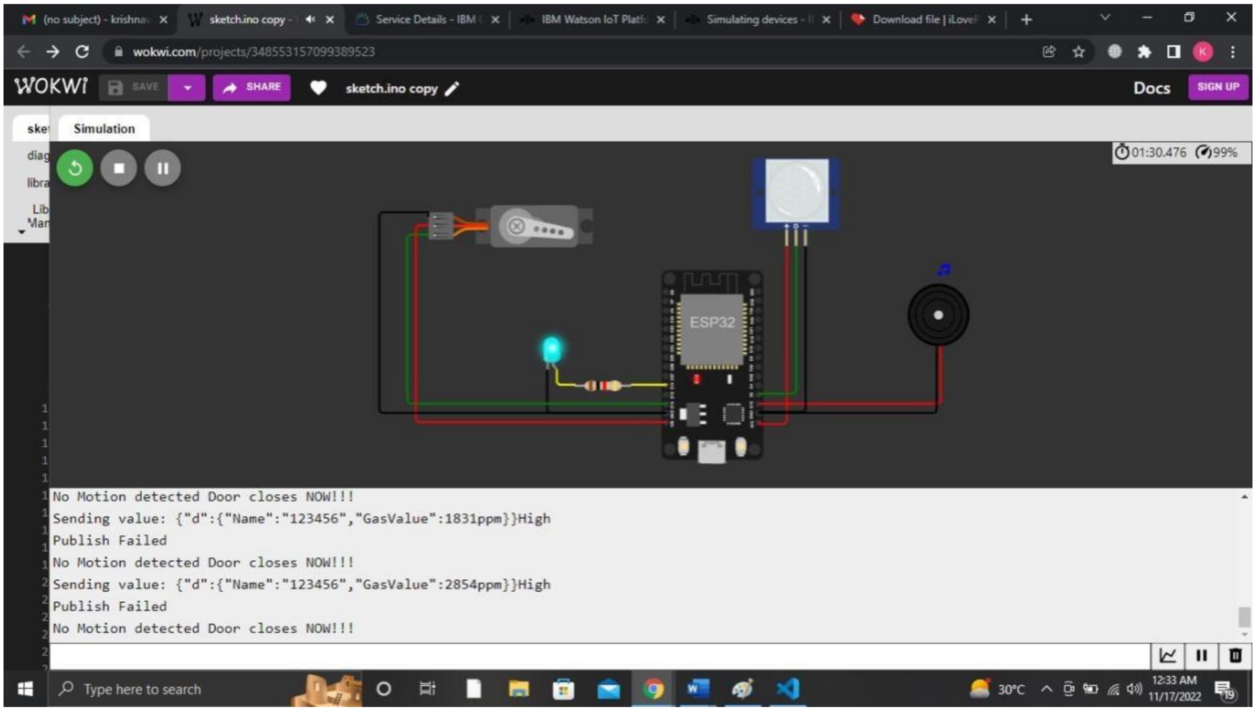
```
  {
    delay(500);
    Serial.print(".");
  }
  Serial.println("");

  Serial.print("WiFi connected, IP address: ");
  Serial.println(WiFi.localIP());     if
(!client.connected())
  {
    Serial.print("Reconnecting client to ");
Serial.println(server);     while
(!client.connect(clientId, authMethod, token))      {
Serial.print(".");       delay(500);
    }
    Serial.println("Bluemix connected");
  } } int pos = 0;
void loop()
{   sensor_value=random(300,10000);
for (pos = 0; pos <=180; pos +=1){
servo.write(pos);     delay(15);    }
  String payload = "{\"d\":{\"Name\":\"" DEVICE_ID "\"";
payload += ",\"GasValue\":";     payload += sensor_value;
payload += "ppm";   payload += "}}";
      if(sensor_value>1000)    {
digitalWrite(led, HIGH);
delay(500);
tone(buzzer,1000);
delay(1000);     payload +=
"High";     val = digitalRead(pir);
if
(val == HIGH)
```

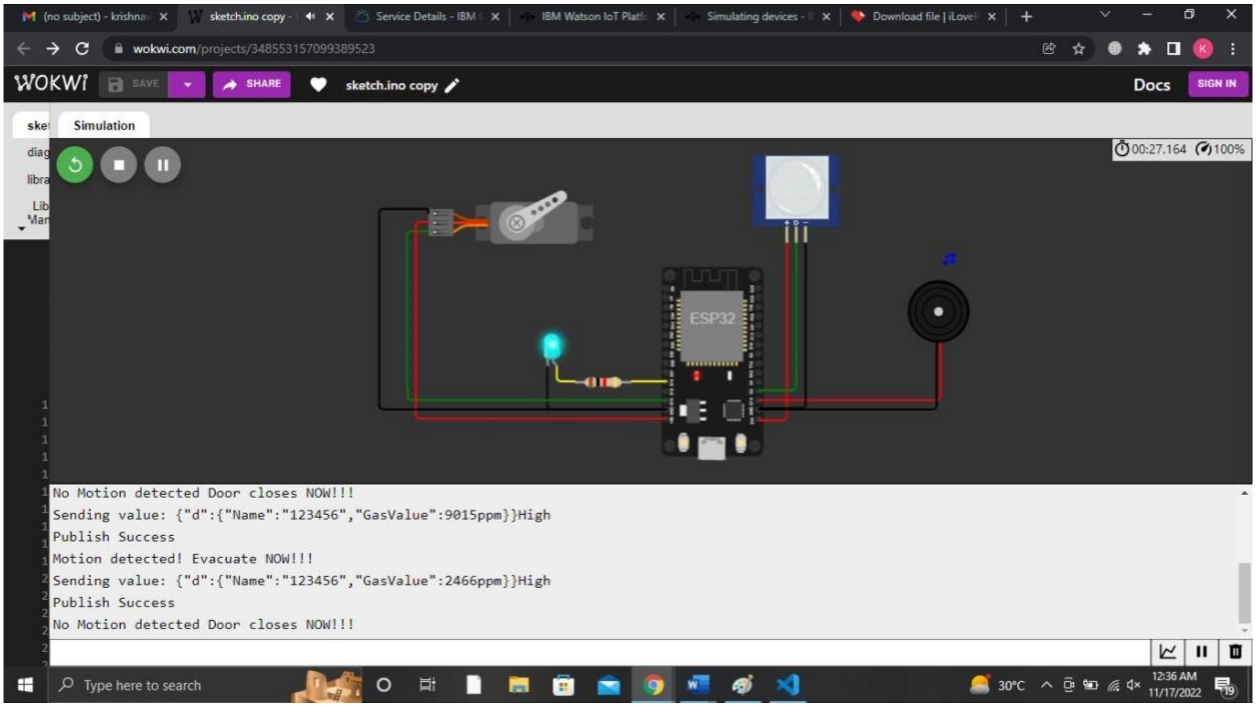
```
    {       if (pirState
== LOW)
      {
        Serial.println("Motion detected! Evacuate NOW!!!");
      }
}
else
  {
    Serial.println("No Motion detected Door closes
NOW!!!");       for (pos =180; pos >=0; pos -=1){
servo.write(pos);       delay(15);
    }
  }
  }

  Serial.print("Sending value: ");
Serial.println(payload);   if (client.publish(pubTopic,
(char*) payload.c_str()))
  {
    Serial.println("Publish Success");
  }
else
  {
    Serial.println("Publish Failed");
  }
  delay(100);
}
```

Output:



```
No Motion detected Door closes NOW!!!
Sending value: {"d":{"Name":"123456","GasValue":1831ppm}}High
Publish Failed
No Motion detected Door closes NOW!!!
Sending value: {"d":{"Name":"123456","GasValue":2854ppm}}High
Publish Failed
No Motion detected Door closes NOW!!!
```



```
No Motion detected Door closes NOW!!!
Sending value: {"d":{"Name":"123456","GasValue":9015ppm}}High
Publish Success
Motion detected! Evacuate NOW!!!
Sending value: {"d":{"Name":"123456","GasValue":2466ppm}}High
Publish Success
No Motion detected Door closes NOW!!!
```