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| **SPRINT4**   |  |  | | --- | --- | | DATE | 14 November 2022 | | TEAM ID | PNT2022TMID36766 | | PROJECT NAME | Industry - specific intelligent fire managementsystem |   #include <WiFi.h>  #include <Wire.h>  #include <SPI.h>  #include "ThingSpeak.h" #include <WiFiClient.h>  unsigned long myChannelNumber = 2;  const char \* myWriteAPIKey = "25V40ZAPI6KIZFGY"; int LED\_PIN = 32; const int mq2 = 4; int value = 0;  int flame\_sensor\_pin = 10; lame\_pin = HIGH;  char ssid[] = "NALAIYA"; char pass[]= "NALAIYATHIRAN";  WiFiClient client;  #define PIN\_LM35 39  #define ADC\_VREF\_mV 3300.0  #define ADC\_RESOLUTION 4096.0  #define RELAY\_PIN 17 #define RELAY\_PIN1 27  void setup(){  **Serial**.begin(115200);  pinMode(RELAY\_PIN, OUTPUT);  pinMode(RELAY\_PIN1, OUTPUT);  **Serial**.print("Connecting to ");  **Serial**.println(ssid); WiFi.begin(ssid, pass); int wifi\_ctr = 0; while (WiFi.status() != WL\_CONNECTED){ delay(1000); **Serial**.print(".");  }  **Serial**.println("WiFi connected"); ThingSpeak.begin(client);  pinMode(LED\_PIN, OUTPUT); pinMode(mq2, INPUT); pinMode ( flame\_sensor\_pin , INPUT ); pinMode(BUZZER\_PIN, OUTPUT); } |

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| void temperature(){  int adcVal = analogRead(PIN\_LM35);  float milliVolt = adcVal \* (ADC\_VREF\_mV / ADC\_RESOLUTION); float tempC = milliVolt / 10;  **Serial**.print("Temperature: ");  **Serial**.print(tempC); **Serial**.print("°C"); if(tempC > 60){  **Serial**.println("Alert");  digitalWrite(BUZZER\_PIN, HIGH);  } else{  digitalWrite(BUZZER\_PIN, LOW);  } int x = ThingSpeak.writeField(myChannelNumber,1, tempC, myWriteAPIKey);  }  void GasSensors(){  int gassensorAnalogmq2 = analogRead(mq2);  **Serial**.print("mq2 Gas Sensor: ");  **Serial**.print(gassensorAnalogmq2);  **Serial**.print("\t");  **Serial**.print("\t");  **Serial**.print("\t");  if (gassensorAnalogmq2 > 1500){  **Serial**.println("mq2Gas"); **Serial**.println("Alert");  digitalWrite(RELAY\_PIN1, HIGH);  } else{  **Serial**.println("No mq2Gas"); digitalWrite(RELAY\_PIN1, LOW); delay(100);  } int a = ThingSpeak.writeField(myChannelNumber,4, gassensorAnalogmq2, myWriteAPIKey);  }  void flamesensor(){  flame\_pin = digitalRead( flame\_sensor\_pin );  if (flame\_pin == LOW ){  **Serial**.println ( " ALERT: FLAME IS DETECTED" ); digitalWrite (BUZZER\_PIN,HIGH ) ;  } else{  **Serial**.println ( " NO FLAME DETECTED " ); digitalWrite (BUZZER\_PIN , LOW );  }  int value = digitalRead(flame\_sensor\_pin);  if (value ==LOW) {  **Serial**.print("FLAME");  digitalWrite(RELAY\_PIN, HIGH);  } else {  **Serial**.print("NO FLAME"); digitalWrite(RELAY\_PIN, LOW); }  } void loop() {  temperature(); GasSensors(); flamesensor();  } |