

ДОДАТОК А

Лістинг програми у Wokwi

```
#include <OneWire.h>
#include <DallasTemperature.h>

#define MQ2_1 A0
#define MQ2_2 A1
#define TEMP1 2
#define TEMP2 3
#define BUTTON 4
#define RELAY 5
#define LED 6
#define BUZZER 7

const int smokeThreshold = 500;
const float tempThreshold = 60;
OneWire oneWire1(TEMP1);
OneWire oneWire2(TEMP2);
DallasTemperature sensor1(&oneWire1);
DallasTemperature sensor2(&oneWire2);

bool alarm = false;
unsigned long alarmResetTime = 0;
const unsigned long alarmDelay = 30000;

void setup() {
  pinMode(BUTTON, INPUT);
  pinMode(RELAY, OUTPUT);
  pinMode(LED, OUTPUT);
  pinMode(BUZZER, OUTPUT);

  digitalWrite(RELAY, LOW);
```

```
digitalWrite(LED, LOW);
digitalWrite(BUZZER, LOW);

sensor1.begin();
sensor2.begin();

Serial.begin(9600);
}

void loop() {
  int smoke1 = analogRead(MQ2_1);
  int smoke2 = analogRead(MQ2_2);

  sensor1.requestTemperatures();
  sensor2.requestTemperatures();
  float temp1 = sensor1.getTempCByIndex(0);
  float temp2 = sensor2.getTempCByIndex(0);

  Serial.print("Smoke1: "); Serial.print(smoke1);
  Serial.print(" | Smoke2: "); Serial.print(smoke2);
  Serial.print(" | Temp1: "); Serial.print(temp1);
  Serial.print(" | Temp2: "); Serial.println(temp2);

  bool smokeDetected = (smoke1 > smokeThreshold || smoke2 > smokeThreshold);
  bool tempDetected = (temp1 > tempThreshold || temp2 > tempThreshold);

  if (millis() > alarmResetTime) {
    alarm = smokeDetected && tempDetected;
  }
```

```
if (digitalRead(BUTTON) == LOW) {  
    alarm = false;  
    alarmResetTime = millis() + alarmDelay;  
    Serial.println(" Кнопка натиснута — тривога скинута на 30 секунд ");  
}  
  
digitalWrite(RELAY, alarm ? HIGH : LOW);  
digitalWrite(LED, alarm ? HIGH : LOW);  
  
if (alarm) {  
    tone(BUZZER, 1000);  
} else {  
    noTone(BUZZER);  
}  
  
delay(1000);  
}
```

ДОДАТОК Б
Демонстраційний матеріал

[illegible]