Fire Safety System Code:

```
#define GAS_SENSOR A0
#define TEMP_SENSOR A1
#define LED_PIN 2
#define BUZZER_PIN 8
#define MOTOR_PIN 9

void setup() {
  pinMode(GAS_SENSOR, INPUT);
  pinMode(TEMP_SENSOR, INPUT);
  pinMode(LED_PIN, OUTPUT);
  pinMode(BUZZER_PIN, OUTPUT);
  pinMode(MOTOR_PIN, OUTPUT);

  Serial.begin(9600);
  Serial.println("🔥 Fire Safety System Initialized");
  Serial.println("System is in standby... waiting for sensor trigger.");
}

void loop() {
  int gasValue = analogRead(GAS_SENSOR);
  int tempValue = analogRead(TEMP_SENSOR);
```

```
float voltage = (tempValue * 5.0) / 1023.0;
float temperature = (voltage - 0.5) * 100.0;

Serial.print("Gas: ");
Serial.print(gasValue);
Serial.print(" | Temp: ");
Serial.print(temperature);
Serial.println(" °C");

if (gasValue > 300 || temperature > 50.0) {
  Serial.println("🚨 Fire or Gas Leak Detected!");
  Serial.println("🔔 Buzzer ON");
  Serial.println("🔴 LED Blinking");
  Serial.println("⚙️ Motor Running (Opening Emergency Gate)");

  digitalWrite(BUZZER_PIN, HIGH);
  digitalWrite(MOTOR_PIN, HIGH);


  for (int i = 0; i < 3; i++) {
    digitalWrite(LED_PIN, HIGH);
    delay(300);
    digitalWrite(LED_PIN, LOW);
    delay(300);
```

```
    }
  } else {
    Serial.println(" Environment Safe. System on standby.");
    digitalWrite(LED_PIN, LOW);
    digitalWrite(BUZZER_PIN, LOW);
    digitalWrite(MOTOR_PIN, LOW);
  }

  delay(1000);
}
```