

## Project development phase

### Sprint - I

Date	29 October 2022
Team ID	PNT2022TMID13566
Project Name	Industry-specific intelligent fire management system
Maximum Marks	8 Marks

**Link:** <https://wokwi.com/projects/348056600261427796>

### **OUTPUT:**

```
1 #include <time.h>
2
3 bool exhaust_fan_on = false;
4 bool sprinkler_on = false;
5
6 float temperature = 0;
7 int gas = 0;
8 int flame = 0;
9
10 String flame_status = "";
11 String accident_status = "";
12 String sprinkler_status = "";
13
14 void setup() {
15     Serial.begin(99900);
16 }
17
18 void loop() {
19     //setting a random seed
20
21     srand(time(0));
22
23     //initial variable
24
25     temperature = random(-20,125);
26     gas = random(0,1000);
27     int flamereading = random(200,1024);
28     flame = map(flamereading,0,1024,0,2);
29
30     //set a flame status
```

Simulation

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Flame Status : Fire is Detected  
Gas Status : Gas leakage Detected  
Sprinkler Status : working  
Exhaust fan Status : Working

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Flame Status : No Fire  
Gas Status : Gas leakage Detected  
Sprinkler Status : not working  
Exhaust fan Status : Working

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## **CODE:**

```
#include <time.h> bool
exhaust_fan_on = false; bool
sprinkler_on = false; float
temperature = 0; int gas =
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 =
    random(0,1000); int flamereading =
    random(200,1024); flame =
    map(flamereading,0,1024,0,2);
    //set a flame status
    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 > 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 = "working";
        Serial.println("Sprinkler Status : "+sprinkler_status);
    }
}
```

```
    else{
        sprinkler_status = "not working";
        Serial.println("Sprinkler Status : "+sprinkler_status);
    }
    //toggle the fan according to gas
    if(gas > 100){
exhaust_fan_on = true;
        Serial.println("Exhaust fan Status : Working");
    }
    else{
        exhaust_fan_on = false;
        Serial.println("Exhaust fan Status : Not Working");
    }
    Serial.println("");
    Serial.println("");
    Serial.println(" -----*****-----");
    Serial.println("");
    Serial.println("");
    delay(3000);
}
```