```c
#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);



}
```