```
#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);



}
```