```
#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);

}
```