SPRINT 2

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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("");

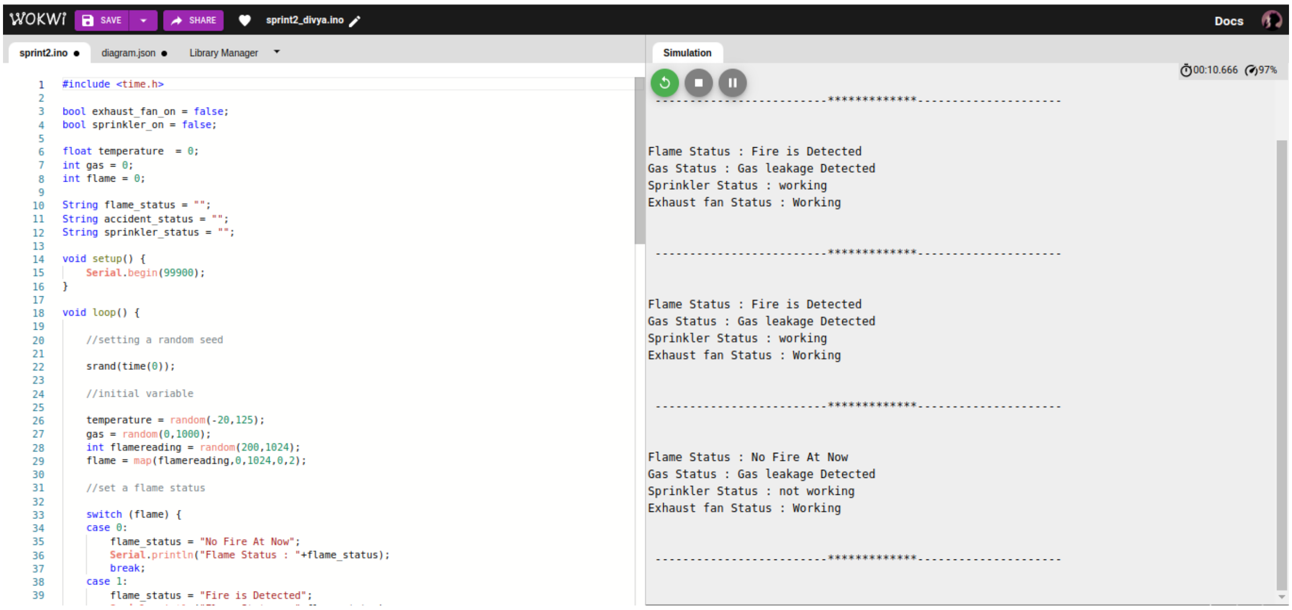

delay(3000);


}
```

Diagram.json:

```
{
"version": 1,
"author": "Divya Selvakumar",
"editor": "wokwi",
"connections": []
}
```

Simulation Output:



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    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 At Now";
        Serial.println("Flame Status : "+flame_status);
        break;
    case 1:
        flame_status = "Fire is Detected";
```

```
 -------------------------*************---------------------


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


 -------------------------*************---------------------


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


 -------------------------*************---------------------


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


 -------------------------*************---------------------
```