PROJECT DEVELOPMENT PHASE

SPRINT - I

DATE	11 NOVEMBER 2022
TEAM ID	PNT2022TMID07157
PROJECT NAME	INDUSTRY-SPECIFIC INTELLIGENT
	FIRE MANAGEMENT SYSTEM
MAXIMUM MARKS	8 MARKS

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("");
```

```
delay(3000);
}
```

OUTPUT:

```
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                                                                                                        Simulation
                                                                                                       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 = "";
                                                                                                     Flame Status : Fire is Detected
Gas Status : Gas leakage Detected
Sprinkler Status : working
Exhaust fan Status : Working
          void setup() {
    Serial.begin(99900);
}
          void loop() {
             //setting a random seed
             srand(time(0));
             //initial variable
                                                                                                     Gas Status : Gas leakage Detected
Sprinkler Status : not working
Exhaust fan Status : Working
             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";
                                                                                                                                                                                             W > 0
```