

Name –Shreya Laddha

Program No. – 09

Program Title – Fire Alarm using flame Sensor

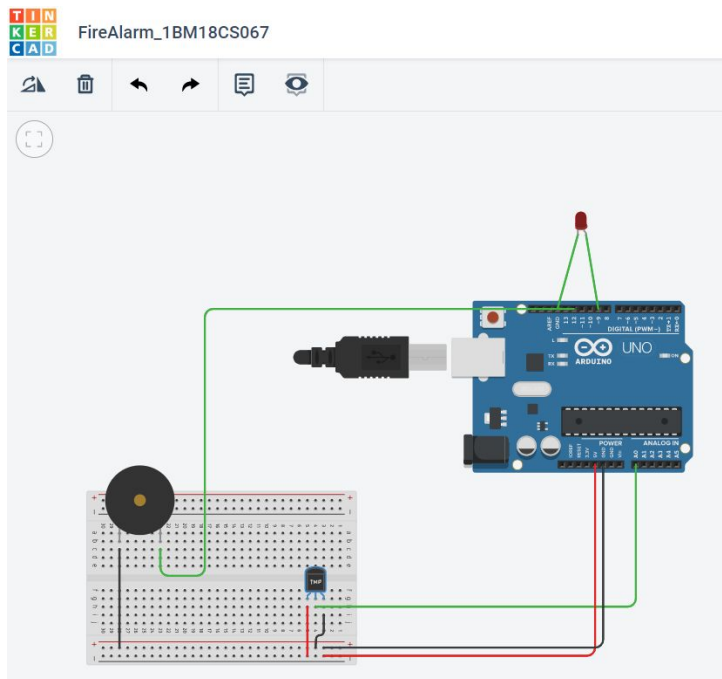
AIM

Design an alert system using a flame sensor.

HARDWARES REQUIRED

- Arduino Board
- Piezo
- Temperature Sensor
- Breadboard small

CIRCUIT DIAGRAM



WRITE-UP

PFA

CODE

```
const int temperaturePin = 0;

int buzzer = 12;

void setup()
{
  Serial.begin (9600);
  pinMode(buzzer, OUTPUT);
  pinMode(9, OUTPUT);
}

void loop()
{
  float voltage, degreesC;
  voltage = getVoltage(temperaturePin);
  degreesC = (voltage-0.5)*100.0;

  if(degreesC < 37)
```

```
{  
  Serial.print(degreesC);  
    Serial.println(" SAFE!");  
}
```

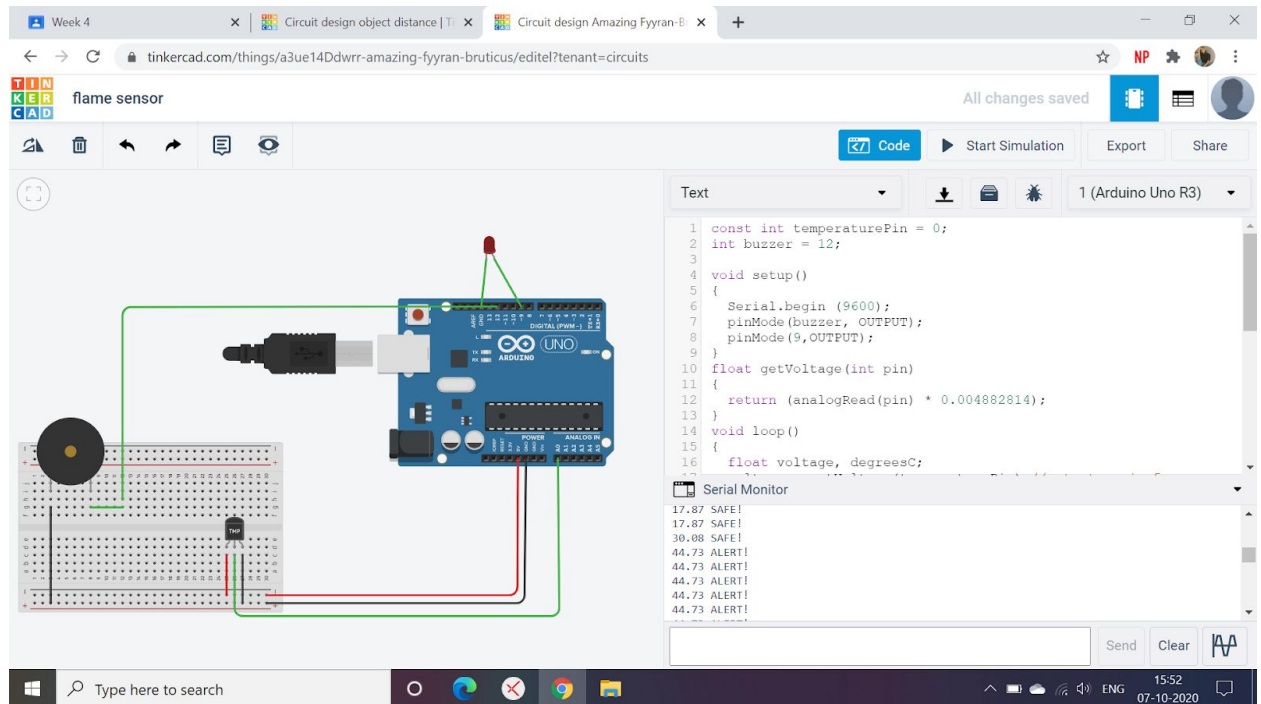
```
if(degreesC > 37)  
{  
  Serial.print(degreesC);  
  Serial.println("FIRE !!!");  
  digitalWrite(9, HIGH);  
  digitalWrite(buzzer, LOW);  
  tone(12, 10000,100);  
  delay(100);  
}
```

```
}
```

```
float getVoltage(int pin)  
{  
  return (analogRead(pin) * 0.004882814);  
}
```

OUTPUT

Designed an alert system using flame sensor.



The screenshot displays a Tinkercad workspace for a project titled "flame sensor". The workspace includes an Arduino Uno R3 board connected to a breadboard. A flame sensor is connected to the breadboard, and a buzzer is connected to the Arduino's digital pins. The code on the right is as follows:

```
1 const int temperaturePin = 0;
2 int buzzer = 12;
3
4 void setup()
5 {
6   Serial.begin (9600);
7   pinMode(buzzer, OUTPUT);
8   pinMode(9, OUTPUT);
9 }
10 float getVoltage(int pin)
11 {
12   return (analogRead(pin) * 0.004882814);
13 }
14 void loop()
15 {
16   float voltage, degreesC;
```

The Serial Monitor shows the following output:

```
17.87 SAFE!
17.87 SAFE!
30.08 SAFE!
44.73 ALERT!
44.73 ALERT!
44.73 ALERT!
44.73 ALERT!
44.73 ALERT!
```