

Program no : 9

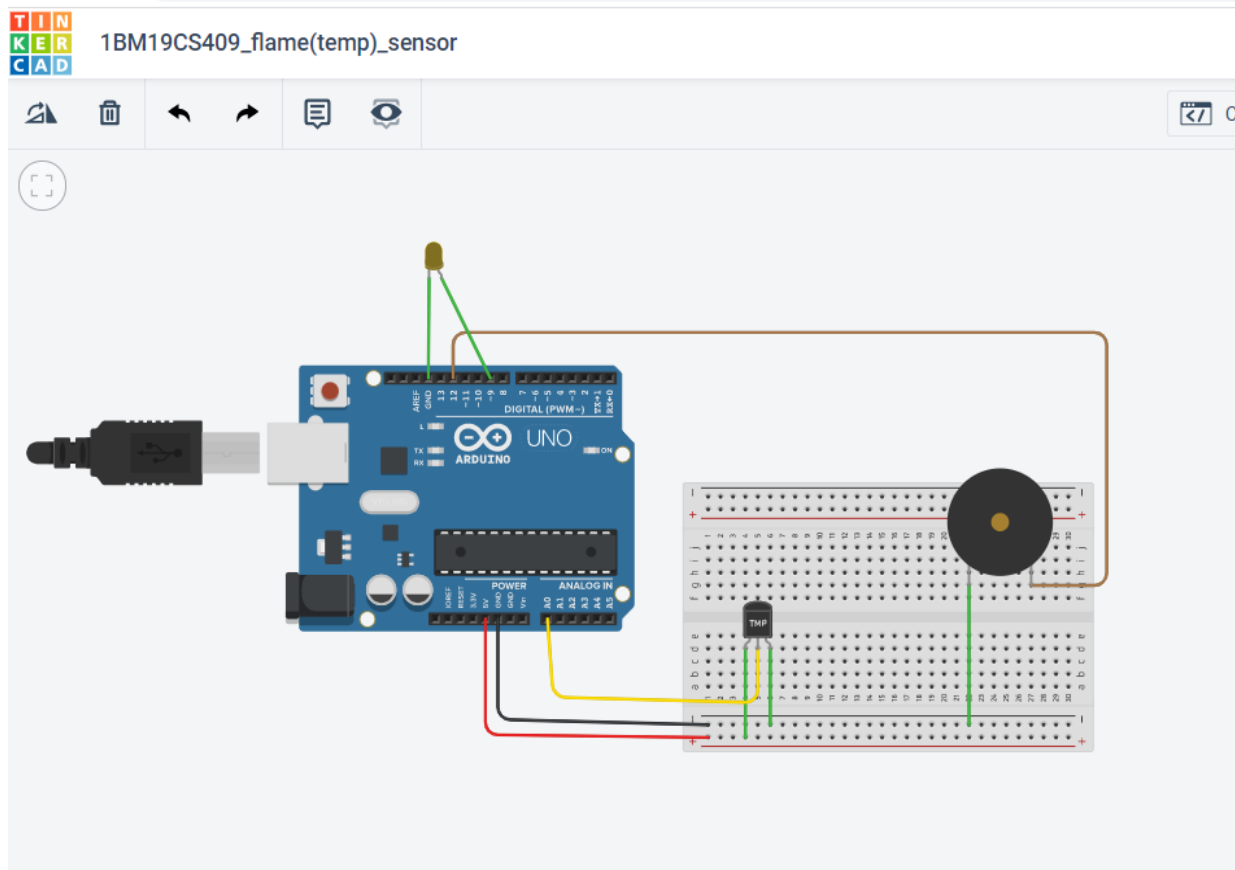
Program Title : Flame (Temp) Sensor

Aim : To turn on the LED and make sound using piezo buzzer upon the temperature alert.

Hardware Required

- Arduino Board
- Breadboard
- Wires
- LED
- Piezo
- Temp Sensor

Circuit Diagram :



Code:

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Program - 9
Flame or Temp Sensor

```
const int temperaturePin = 0;
int led = 9;
int usa = 12;
void setup()
{
  pinMode(led, OUTPUT);
  pinMode(usa, OUTPUT);
  Serial.begin(9600);
}

void loop()
{
  float voltage, degreesC, degreesF;
  voltage = getVoltage(temperaturePin);
  degreesC = (voltage - 0.5) * 100.0;
  degreesF = degreesC * (9.0/5.0) + 32.0;
  Serial.print("voltage: ");
  Serial.print(voltage);
```

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```
Serial.print(" deg C: ");
Serial.print(degreesC);
Serial.print(" deg F: ");
Serial.print(degreesF);
if (degreesC > 26)
{
  digitalWrite(led, HIGH);
  delay(1000);
  digitalWrite(led, LOW);
  delay(500);
  tone(12, 10000, 200);
}
}

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

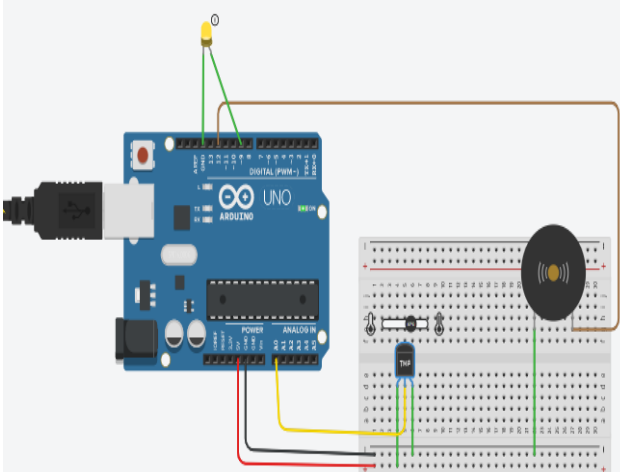
Observation /Output :

TIN KER CAD 1BM19CS409_flame(temp)_sensor Saved

Simulator time: 00:00:09.955

Code Stop Simulation Export Share

Temperature Sensor [TMP36]
Name 2



```
1 const int temperaturePin = 0;
2 int led = 9;
3 int usa = 12;
4 void setup()
5 {
6   pinMode(led, OUTPUT);
7   pinMode(usa, OUTPUT);
8   Serial.begin(9600);
9 }
10 void loop()
11 {
12   float voltage, degreesC, degreesF;
13   voltage = getVoltage(temperaturePin);
14   degreesC = (voltage - 0.5) * 100.0;
15   degreesF = degreesC * (9.0/5.0) + 32.0;
16   Serial.print("voltage: ");
```

Serial Monitor

voltage: 0.75	deg C: 24.71	deg F: 76.47
voltage: 0.75	deg C: 24.71	deg F: 76.47
voltage: 0.87	deg C: 36.91	deg F: 98.45
voltage: 1.62	deg C: 111.62	deg F: 232.92
voltage: 1.62	deg C: 111.62	deg F: 232.92
voltage: 1.62	deg C: 111.62	deg F: 232.92
voltage: 1.17	deg C: 66.70	deg F: 152.06
voltage: 1.17	deg C: 66.70	deg F: 152.06

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