

**K L UNIVERSITY**  
**FRESHMAN ENGINEERING DEPARTMENT**

A Mini Project Based Lab Report

On

PROJECT TITLE: **Fire Alarm**

SUBMITTED BY:

I.D NUMBER

NAME

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UNDER THE ESTEEMED GUIDANCE OF

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**CERTIFICATE**

This is to certify that the project based laboratory report entitled **FIRE ALARM** submitted by Mr. MOHAMMAD SAMEER bearing Regd. No. 2000030639 to the **Department of Basic Engineering Sciences, KL University** in partial fulfillment of the requirements for the completion of a project based Laboratory in “Technical Skills-I(Coding)” course in I B Tech I Semester, is a bonafide record of the work carried out by him/her under my supervision during the academic year 2020– 2021.

PROJECT SUPERVISOR

BISWAJIT JENA

HEAD OF THE DEPARTMENT

Dr. M. Sridhar

## AIM:

An Automation System for FIRE ALARM Using Arduino PIEZO and TEMPERATURE SENSOR.

## APPARATUS REQUIRED:

1. LED
2. PIEZO
3. 5.6K RESISTOR
4. TEMPERATURE SENSOR
5. POWER SUPPLY
6. CONNECTING WIRES
7. ARUDINO.

## CONSTRUCTION OF CIRCUIT:

We need to collect all the components before we start the experiment. Firstly, we need to take ARUDINO board and power up the board. We need to take some extra components in the list above along with connecting wires.

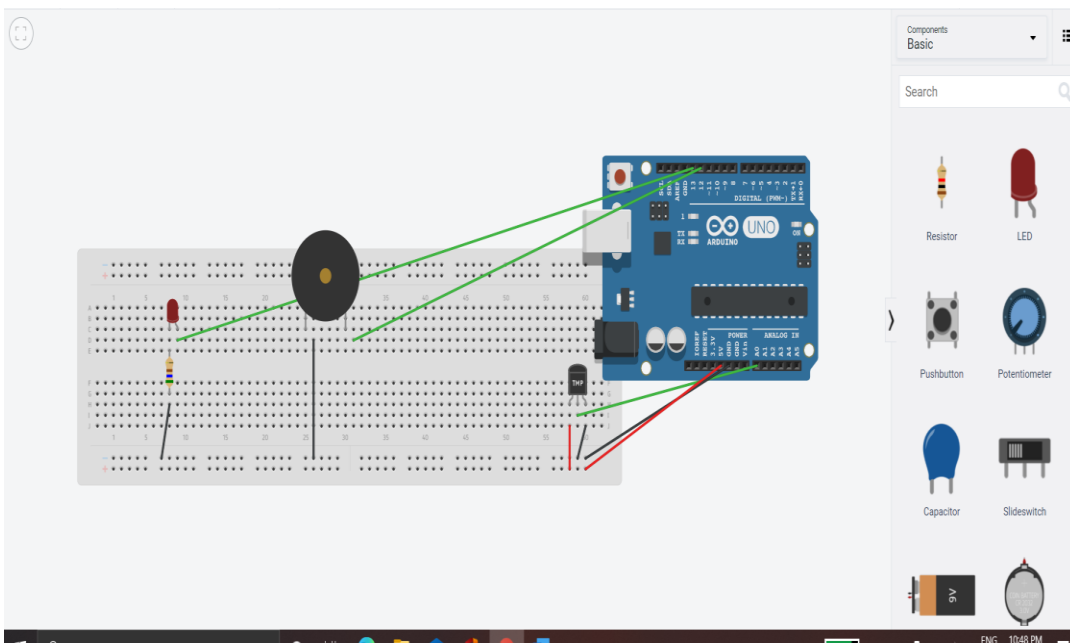


Fig: ARUDINO board.

We need to find out the ground slots and voltage slots before we start connecting and we need to connect arduino with connectors and test with led before it works.



Fig: LED

We need to make connections one by one as shown in the figure with components grabbed in TINKERCAD.

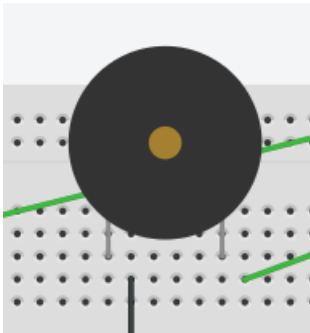
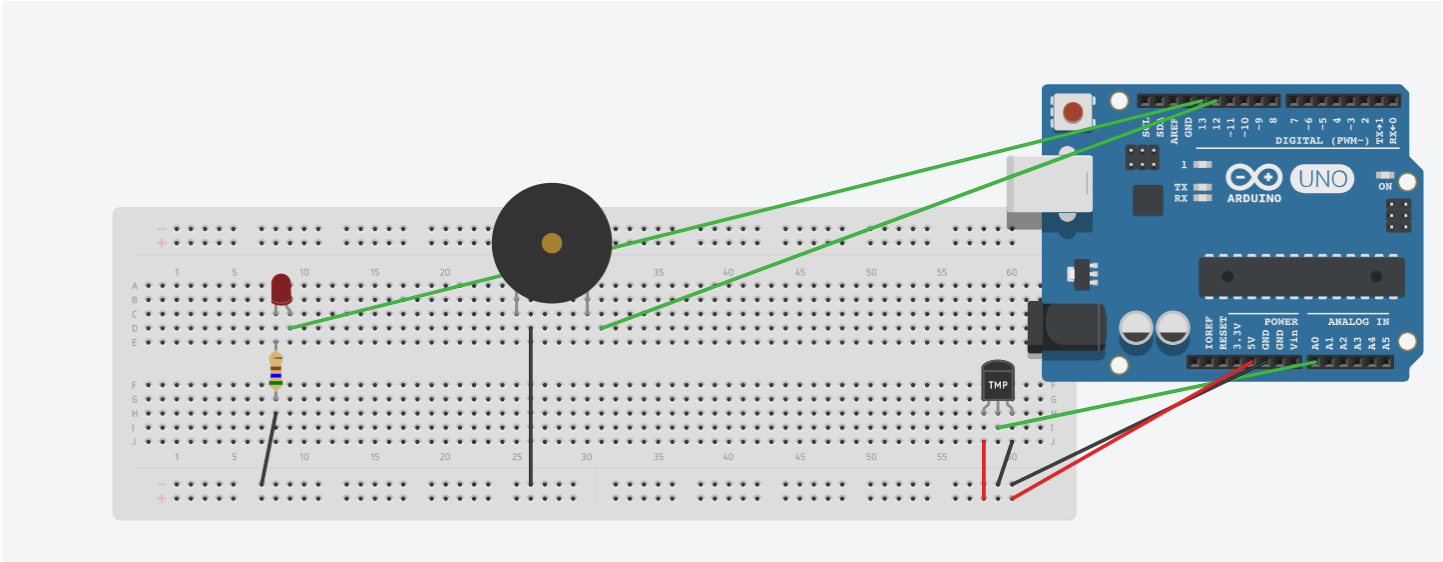


FIG : BUZZER

Fig: Complete circuit drawn in TINKERCAD



Circuit diagram of project

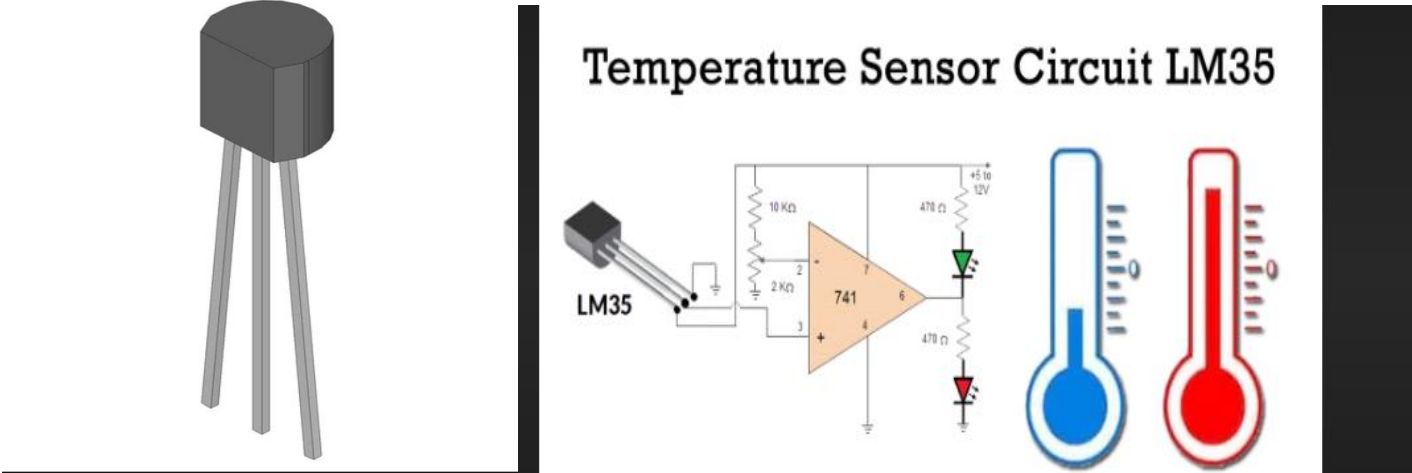


Fig: Working principal of our project

```
CODE:

const int temperaturePin = 0;

int led = 13;

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);

  Serial.print(" deg C: ");

  Serial.print(degreesC);

  Serial.print(" deg F: ");

  Serial.println(degreesF);

if(degreesC>26)

{

  digitalWrite(led, HIGH); // turn the LED on (HIGH is the voltage level)

  delay(1000);           // wait for a second

  digitalWrite(led, LOW); // turn the LED off by making the voltage LOW

  delay(500);           // wait for a second

  tone(12, 10000, 200);

}

}

float getVoltage(int pin)

{

  return (analogRead(pin) * 0.004882814);

}

```

#### CONCLUSION:

circuit design of fire-alarm system based on object detection using Arduino temperature sensor, with DIM light capability. In this scenario, the buzzer blows only with the detection of fire accident otherwise the lights will remain OFF at rest of the time, and DIM at night-time. It can be used to promote security in urban areas and to increase the quality of life by artificially extending the hours in which it is light so that activity can take place.

\*\*\*\*\*THANK YOU\*\*\*\*\*