ASSIGNMENT -1

SMART HOME

Assignment Date	16 September 2022
Student Name	E.B. Surendharan
Student Roll Number	311019205042
Maximum Mark	2 Marks

PROGRAM

```
/*Smart Home system with Temperature level indication LED,
Door opening Servo motor and High Temperature alarm*/
#include <Servo.h>
Servo s;

void setup()
{
  Serial.begin(9600);
  pinMode(13,OUTPUT);
  pinMode(12,OUTPUT);
  pinMode(11,OUTPUT);
  pinMode(10,OUTPUT);
  s.attach(3);
}
void loop()
{
  noTone(13);
  digitalWrite(10,0);
  digitalWrite(11,0);
```

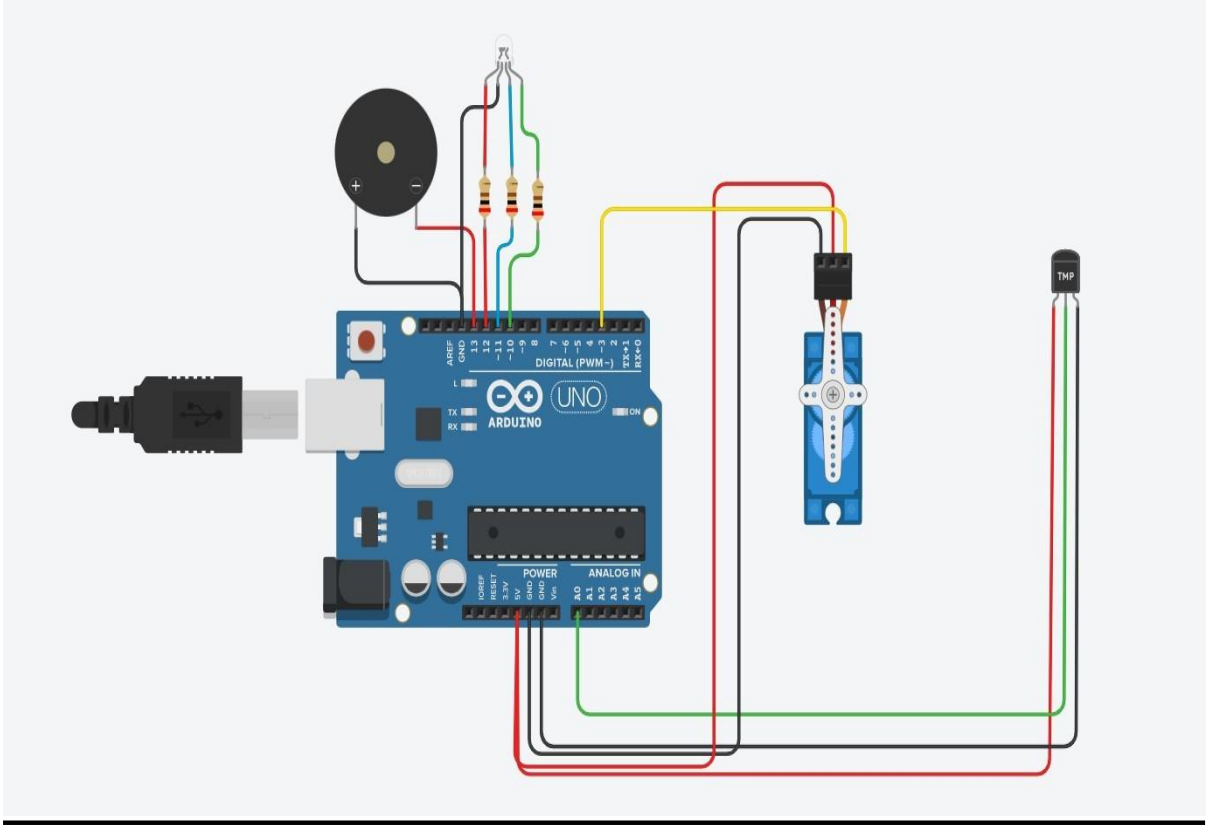
```
 digitalWrite(12,0);
 digitalWrite(10,1);//Green light will be ON to indicate normal temperature
 double a = analogRead (A0);
 double t = (((a/1024)*5)-0.5)*100;
 Serial.print("Temperature value in Celsius:");
 Serial.println(t);
 if (t >= 50 & t < 80){
  Serial.print("High Temperature ");
  digitalWrite(12,1);//Yellow light will indicate HIGH temperature
 }
 if (t>=80){
  Serial.println("Critical Temperature ");
  digitalWrite(11,0);
  digitalWrite(10,0);
  digitalWrite(12,1);//Red light indicates CRITICAL temperature
  tone(13,131);//At 80 degree celsius the alarm will start

        {
  for (int i = 0; i <= 180; i++)
  {
    s.write(i);// The Servo motor will also start to open the doors to get out
    delay(10);
  }
  for (int i = 180; i >= 0; i--)
  {
    s.write(i);
    delay(10);
  }
  }}
 delay(1000);
}
```

LIST OF COMPONENT USED

Name	Quantity	Component
U1	1	Arduino Uno R3
U2	1	Temperature Sensor [TMP36]
PIEZO2	1	Piezo
SERVO1	1	Positional Micro Servo
D3	1	LED RGB
R2 R3 R4	3	200 Ω Resistor

SCREENSHOT



SCHEMATIC VIEW