ASSIGNMENT -1 SMART HOME

Assignment Date	16 September 2022	
Student Name	A.A. Alameen	
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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);
}

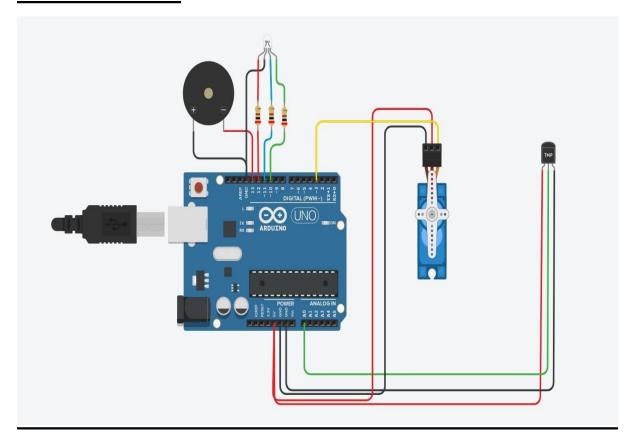
void loop()
{
    noTone(13);
    digitalWrite(10,0);
    digitalWrite(11,0);
```

```
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 \ge 50 \& t < 80)
 Serial.print("High Temperature ");
 digitalWrite(12,1);//Yellow light will indicate HIGH temperature
}
if (t \ge 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 \le 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 \ge 0; i - 0)
   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
SERV01	1	Positional Micro Servo
D3	1	LED RGB
R2 R3 R4	3	200 Ω Resistor

SCREENSHOT



SCHEMATIC VIEW

