# ASSIGNMENT -1

## SMART HOME IN TINKERCAD WITH MULTIPLESENSORS

# 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 COMPONENTS 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<br>R3<br>R4 | 3 | 200 Ω Resistor |

# SCREENSHOT OF THE SYSTEM: