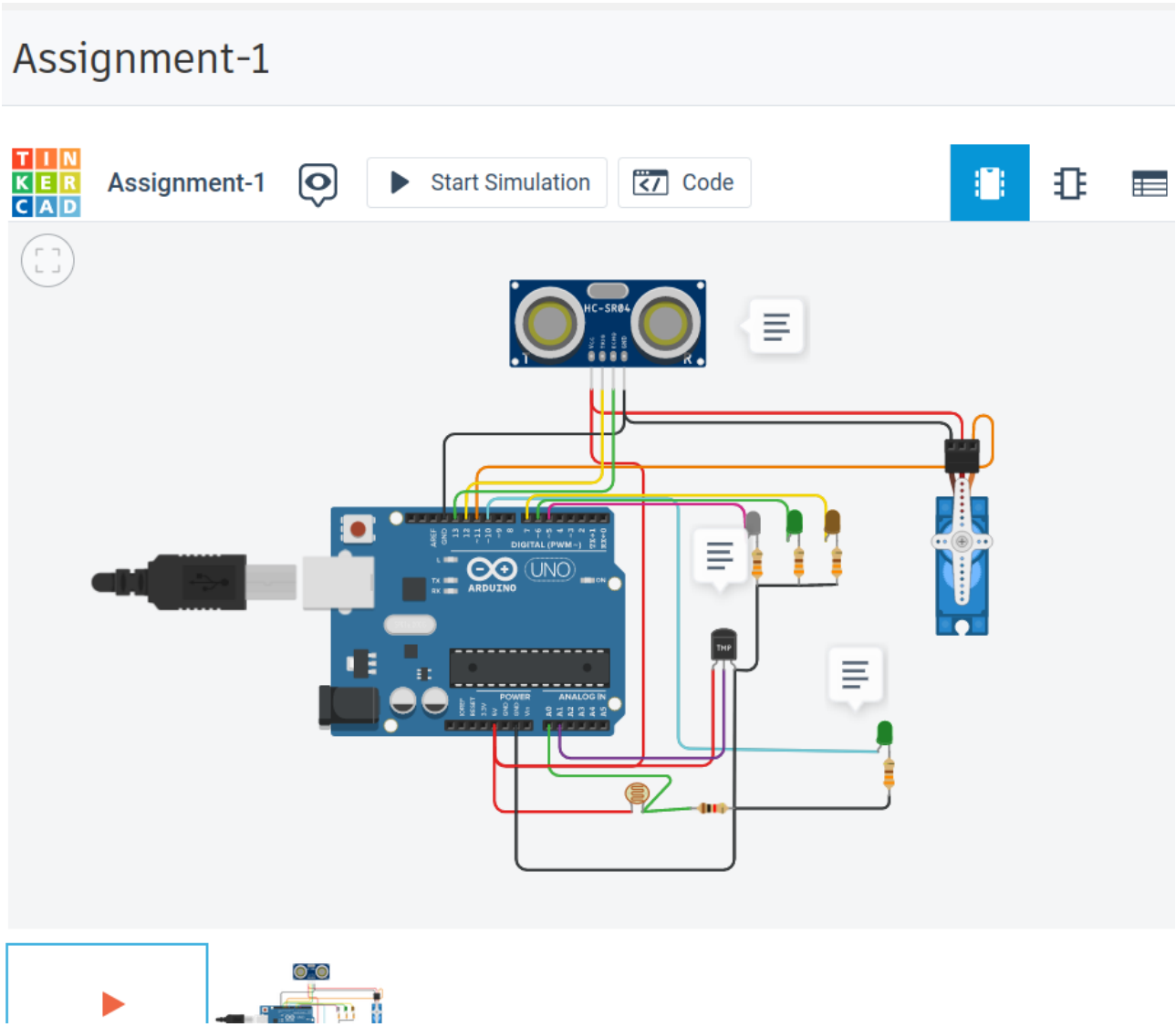
Assignment-1

Link to project:

https://www.tinkercad.com/things/aprDJDqBnZu

Schematic:



Arduino Code:

```
#include <Servo.h>

#define sensorPin A1

int trigPin = 12;
int echoPin = 13;
int servoPin = 11;
int ledPin=10;

Servo servo;
long duration;
int distance;
```

```
void setup()
{
  pinMode(trigPin,OUTPUT);
  pinMode(echoPin,INPUT);
  pinMode(servoPin,OUTPUT);
  pinMode(5,OUTPUT);
  pinMode(6,OUTPUT);
  pinMode(7,OUTPUT);

  servo.attach(servoPin);
  pinMode(ledPin,OUTPUT);
  Serial.begin(9600);
}

void loop()
{
  // smart door
  digitalWrite(trigPin,LOW);
  delayMicroseconds(2);
  digitalWrite(trigPin,HIGH);
  delayMicroseconds(10);
  digitalWrite(trigPin,LOW);

  duration = pulseIn(echoPin,HIGH);
  distance= duration*0.034/2;

  if(distance<100)
  {
    servo.write(90);
  }
  else
  {
    servo.write(0);
  }

  // smart light
  int value = analogRead(A0);
  Serial.println(value);
  if(value<400)
  {
    digitalWrite(ledPin,HIGH);
  }
  else
  {
    digitalWrite(ledPin,LOW);
  }


  // smart temp alert
  int reading = analogRead(sensorPin);
  float voltage = reading * (5.0 / 1024.0);
```

```
 float temperatureC = voltage * 100;
 if(temperatureC<25.00)
 {
  digitalWrite(5,HIGH);
  digitalWrite(6,LOW);
  digitalWrite(7,LOW);
 }
 if(25.00<temperatureC && temperatureC<30.00)
 {
  digitalWrite(5,LOW);
  digitalWrite(6,HIGH);
  digitalWrite(7,LOW);
 }
 if(30.0<temperatureC)
 {
  digitalWrite(5,LOW);
  digitalWrite(6,LOW);
  digitalWrite(7,HIGH);
 }

 Serial.println(temperatureC);
 // delay
 delay(500);

}
```

Simulation Result: