Sensors used:

1. Photoresistor
2. DHT11

Photoresistor sensor will detect the amount of light present and turn on the LED if the amount of light is less than the threshold value

Similarly, DHT11 sensor will sense the temperature around, and turn on the DC MOTOR (which can be converted to fan) if the temperature reaches the threshold value.

Components required are available in excel sheet attached.

#include "DHT.h"

#define DHTPIN 2

#define DHTTYPE DHT11

DHT dht(DHTPIN, DHTTYPE);

int sensorPin = 1;

int sensorValuePhotoresistor = 0;

void setup() {

Serial.begin(9600);

dht.begin(); // initialize the sensor

pinMode(4, OUTPUT);

pinMode(6, OUTPUT);

pinMode(2,INPUT);

dht.begin();

}

void loop() {

// digitalWrite(4, HIGH);

sensorValuePhotoresistor = analogRead(sensorPin);

Serial.println(sensorValuePhotoresistor);

if(sensorValuePhotoresistor<4)

{ digitalWrite(6, HIGH);

}

else{

digitalWrite(6, LOW);

}

int tempC = dht.readTemperature();

// check if any reads failed

if (isnan(tempC)) {

Serial.println("Failed to read from DHT sensor!");

} else {

Serial.print("Temperature: ");

Serial.println(tempC);

if(tempC<29)

{

digitalWrite(4, LOW);

}

else{

digitalWrite(4, HIGH);

}

}

}

**using DHT11 sensor**

// include the library code:

#include <LiquidCrystal.h>

// initialize the library with the numbers of the interface pins

LiquidCrystal lcd(12, 11, 5, 4, 3, 2);

int tempPin = 0;

int sensor=6; //The output of PIR sensor connected to pin 7

int sensor\_value; //variable to hold read sensor value

int motorPin = 9;

int sensorPin = 1;

int sensorValuePhotoresistor = 0;

void setup() {

// set up the LCD's number of columns and rows:

lcd.begin(16, 2);

Serial.begin(9600);

// Print a message to the LCD.

lcd.print("TEMPERATURE = ");

pinMode(motorPin, OUTPUT);

pinMode(7, OUTPUT);

pinMode(sensor,INPUT);

}

void loop() {

lcd.setCursor(0, 0);

**using temperature sensor**

double temp = analogRead(tempPin);

temp = temp \* 0.48828125;

temp=temp-49.5266;

Serial.print("TEMPERATURE=");

lcd.setCursor(0, 1);

lcd.print(temp);

lcd.print("\*C");

lcd.println();

Serial.println(temp);

//--------------------

sensorValuePhotoresistor = analogRead(sensorPin);

if(sensorValuePhotoresistor<100)

{ digitalWrite(7, HIGH);

}

else{

digitalWrite(7, LOW);

}

if(temp<30)

{

analogWrite(motorPin, 0);

}

else{

analogWrite(motorPin, 255);

}

//analogWrite(motorPin, temp);

//lcd.println(sensorValuePhotoresistor);

}

Refer this for including library :

https://randomnerdtutorials.com/complete-guide-for-dht11dht22-humidity-and-temperature-sensor-with-arduino/#:~:text=Open%20your%20Arduino%20IDE%20and,the%20DHT%20library%20from%20Adafruit.