**IOT ASSIGNMENT 3**

**1)GET THE TEMPERATURE,HUMIDITY, FROM THE DHT11 SENSOR.**

#include "DHT.h"

#define DHTPIN 4

#define DHTTYPE DHT11

DHT dht(DHTPIN, DHTTYPE);

void setup() {

Serial.begin(9600);

Serial.println(F("DHTxx test!"));

dht.begin();

}

void loop() {

delay(2000);

float h = dht.readHumidity();

float t = dht.readTemperature();

float f = dht.readTemperature(true);

if (isnan(h) || isnan(t) || isnan(f)) //isnan=is not a number

{

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

return;

}

float hif = dht.computeHeatIndex(f, h);

float hic = dht.computeHeatIndex(t, h, false);

Serial.print(F("Humidity: "));

Serial.print(h);

Serial.print(F("% Temperature: "));

Serial.print(t);

Serial.print(F("°C "));

Serial.print(f);

Serial.print(F("°F Heat index: "));

Serial.print(hic);

Serial.print(F("°C "));

Serial.print(hif);

Serial.print(F("°F"));

}

**2)GET THE LIGHT INTENSITY FROM LDR.**

void setup() {

Serial.begin(9600);

}

void loop() {

int a=analogRead(15);

Serial.println("the LDR value is");

Serial.println(a);

delay(2000);

}

**3)DISPLAY THE LIGHT INTENSITY, TEMPERATURE , HUMIDITY VALUES ON THE OLED DISPLAY.**

**4)CONTROL THE LIGHTS BASED ON LIGHT INTENSITY.**

void setup() {

pinMode(2,OUTPUT);

Serial.begin(9600);

}

void loop() {

int a=analogRead(15);

Serial.println("the LDR value is");

Serial.println(a);

if(a>=3000)

{

digitalWrite(2,HIGH);

Serial.println("the LED is ON");

delay(1000);

}

else

{

digitalWrite(2,LOW);

Serial.println("the LED is OFF");

delay(1000);

}

}

**5)CONTROL THE FAN BASED ON TEMPERATURE AND HUMIDITY PARAMETERS.**

#include "DHT.h"

#define DHTPIN 4

#define DHTTYPE DHT11

DHT dht(DHTPIN, DHTTYPE);

void setup() {

pinMode(2,OUTPUT);

Serial.begin(9600);

Serial.println(F("DHTxx test!"));

dht.begin();

}

void loop() {

float h = dht.readHumidity();

float t = dht.readTemperature();

float f = dht.readTemperature(true);

if (isnan(h) || isnan(t) || isnan(f))

{

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

return;

}

float hif = dht.computeHeatIndex(f, h);

float hic = dht.computeHeatIndex(t, h, false);

Serial.print(F("Humidity: "));

Serial.print(h);

Serial.print(F("% Temperature: "));

Serial.print(t);

Serial.print(F("°C "));

Serial.print(f);

Serial.print(F("°F Heat index: "));

Serial.print(hic);

Serial.print(F("°C "));

Serial.print(hif);

Serial.print(F("°F"));

if(h<50||t<30) //if(t<40||h<60)

{

digitalWrite(2,HIGH);

delay(1000);

digitalWrite(5,LOW);

}

else

{

digitalWrite(5,HIGH);

delay(1000);

digitalWrite(2,LOW);

}

}