SERVERLESS IOT DATA PROCESSING

```
#include <ESP8266WiFi.h>
#include <DHT.h>

char ssid[] = "your_SSID";
char pass[] = "your_PASSWORD";

#define DHTPIN D1

#define DHTTYPE DHT11
DHT dht(DHTPIN, DHTTYPE);

void setup() {
Serial.begin(115200);

WiFi.begin(ssid, pass);
 while (WiFi.status() != WL_CONNECTED) {
  delay(1000);
  Serial.println("Connecting to WiFi...");
 }
```

```
 Serial.println("WiFi connected");
  pinMode(D2,OUTPUT);  // BULB
  pinMode(D3,OUTPUT);  // FAN
  pinMode(D6,OUTPUT);  // KITCHEN
  pinMode(D7,OUTPUT);  // AC
  pinMode(D4,OUTPUT);  // TV --R

  digitalWrite(D2,LOW);
  digitalWrite(D3,LOW);
  digitalWrite(D6,LOW);
  digitalWrite(D7,LOW);
  digitalWrite(D4,LOW);
  dht.begin();
}
```

```
void loop() {
  float h = dht.readHumidity();
  float t = dht.readTemperature();

  if (isnan(h) || isnan(t)) {
    Serial.println("Failed to read from DHT sensor!");
  } else {
    Serial.print("Humidity: ");
    Serial.print(h);
    Serial.print(" %\t Temperature: ");
    Serial.print(t);
    Serial.println(" *C");

    if (t > 25.0) {
      digitalWrite(D2, HIGH); // Turn on the bulb
    } else {
      digitalWrite(D2, LOW); // Turn off the bulb
    }

  }

  delay(2000);
}
```

Include Libraries:

#include <ESP8266WiFi.h>: This includes the library necessary for Wi-Fi communication with the ESP8266.
#include <DHT.h>: This includes the library for interfacing with the DHT temperature and humidity sensor.

Wi-Fi Credentials:

char ssid[] = "your_SSID"; and char pass[] = "your_PASSWORD";: You need to replace "your_SSID" and "your_PASSWORD" with your actual Wi-Fi network name (SSID) and password.

Pin Definitions:

#define DHTPIN D1: Defines the digital pin to which the DHT sensor is connected.
#define DHTTYPE DHT11: Specifies the type of DHT sensor being used (DHT11 in this case).

DHT Sensor Initialization:

DHT dht(DHTPIN, DHTTYPE);: This initializes the DHT sensor on the specified pin.

Setup Function:

Serial.begin(115200);: Starts serial communication for debugging at a baud rate of 115200.
WiFi.begin(ssid, pass);: Attempts to connect to the Wi-Fi network using the provided credentials.
The while loop waits until a successful connection is established.
Once connected, it prints a message indicating successful connection.

Device Pin Configuration and Initialization:

pinMode(D2, OUTPUT); to pinMode(D4, OUTPUT);: Sets the specified pins as output for controlling devices (bulb, fan, etc.).
digitalWrite(..., LOW);: Initially turns off all devices.

DHT Sensor Initialization:

dht.begin();: Initializes communication with the DHT sensor.

Loop Function:

The loop function repeatedly performs the following tasks:
Reads the humidity and temperature from the DHT sensor.
Checks if the readings are valid (not NaN, which indicates a sensor reading failure).
If the readings are valid, it prints them to the serial monitor.
It then checks the temperature reading and controls the bulb based on a condition. In this example, if the temperature is greater than 25.0°C, it turns on the bulb; otherwise, it turns it off.