

```

#include <OneWire.h>
#include <DallasTemperature.h>

// Data wire is plugged into port 2 on the Arduino
#define ONE_WIRE_BUS 2

// Setup a oneWire instance to communicate with any OneWire devices
OneWire oneWire(ONE_WIRE_BUS);

// Pass our oneWire reference to Dallas Temperature.
DallasTemperature sensors(&oneWire);

// Addresses of 2 DS18B20s
uint8_t sensor1[8] = { 0x28, 0xFC, 0x42, 0x77, 0x91, 0x0F, 0x02, 0x72 };
uint8_t sensor2[8] = { 0x28, 0xC9, 0x4E, 0x77, 0x91, 0x0B, 0x02, 0x6E };
//

float AIT = 0; // actual inside air temperature
float AOT = 0; // actual outside air temperature
float DIFF = 0;
float DIFFON = 6;
float DIFFOFF = 3;
int in1 = 7;

void setup(void)
{
  Serial.begin(9600);
  sensors.begin();
  pinMode(in1, OUTPUT);
  digitalWrite(in1, LOW);
}

void loop(void)
{
  sensors.requestTemperatures();

  AIT = sensors.getTempC(sensor1); // actual inside air temperature
  AOT = sensors.getTempC(sensor2); // actual outside air temperature

  // Serial.print("Sensor 1: ");
  // printTemperature(sensor1);
  Serial.print("INSIDE TEMP: ");
  Serial.print(AIT);

  // Serial.print("Sensor 2: ");

```

```

// printTemperature(sensor2);
  Serial.print(" OUTSIDE TEMP: ");
  Serial.print(AOT);

// Serial.print("Sensor 3: ");
// printTemperature(sensor3);
  Serial.println();
//
  DIFF = (AIT-AOT);
  Serial.print(" DIFFERENCE ");
  Serial.print(DIFF);
  if (DIFFON < DIFF) {
    Serial.print(" FAN TURNS ON: ");
    digitalWrite(in1, HIGH);
  }
  if (DIFFOFF > DIFF){
    Serial.print(" NOW FAN TURNS OFF: ");
    digitalWrite(in1, LOW);
  }
  Serial.println();
  delay(2000);
}

void printTemperature(DeviceAddress deviceAddress)
{
  float tempC = sensors.getTempC(deviceAddress);
  Serial.print(tempC);
  Serial.print((char)176);
  Serial.print("C | ");
  Serial.print(DallasTemperature::toFahrenheit(tempC));
  Serial.print((char)176);
  Serial.println("F");
}

```