

```
#include <Wire.h>
#include "rgb_lcd.h"
#include "dht.h"
#include <VarSpeedServo.h>

// Entradas analógicas
const int pinoDHT11 = A10;
int b_jan_lat = A11;
int b_jan_sup = A12;

// Entradas digitais
int BR2_aut = 2;
int BR2_on = 3;
int BR1_aut = 4;
int BR1_on = 5;
int BF_aut = 6;
int BF_on = 7;
int BN3_aut = 8;
int BN3_on = 9;
int BN2_aut = 10;
int BN2_on = 11;
int BN1_aut = 12;
int BN1_on = 13;
int vent_on = 14;
int vent_aut = 15;
int iluminacao = 16;
int int_jan_lat = 17;
int int_jan_sup = 18;
int R_BR1 = 22;
int R_BR2 = 23;
```

```
int R_BN1 = 24;  
int R_BN2 = 25;  
int R_BN3 = 26;  
int R_BF = 27;  
int R_ilum = 28;  
int R_vent = 29;
```

// variáveis

```
rgb_lcd lcd;  
dht DHT;  
int c_jan_lat= 0;  
int c_jan_sup= 0;
```

```
void setup() {
```

```
    // Saídas  
    pinMode(R_BN1, OUTPUT);  
    pinMode(R_BN2, OUTPUT);  
    pinMode(R_BN3, OUTPUT);  
    pinMode(R_BF, OUTPUT);  
    pinMode(R_BR1, OUTPUT);  
    pinMode(R_BR2, OUTPUT);  
    pinMode(R_ilum, OUTPUT);  
    pinMode(R_vent, OUTPUT);
```

// Entradas

```
    pinMode(BN1_aut, INPUT);  
    pinMode(BN1_on, INPUT);  
    pinMode(BN2_aut, INPUT);  
    pinMode(BN2_on, INPUT);
```

```
pinMode(BN3_aut, INPUT);
pinMode(BN3_on, INPUT);
pinMode(BF_aut, INPUT);
pinMode(BF_on, INPUT);
pinMode(BR1_aut, INPUT);
pinMode(BR1_on, INPUT);
pinMode(BR2_aut, INPUT);
pinMode(BR2_on, INPUT);
pinMode(vent_aut, INPUT);
pinMode(vent_on, INPUT);
pinMode(iluminacao, INPUT);
pinMode(b_jan_lat, INPUT);
pinMode(int_jan_lat, INPUT);
pinMode(b_jan_sup, INPUT);
pinMode(int_jan_sup, INPUT);
```

```
lcd.begin(16, 2);
```

```
Serial.begin(9600);
```

```
}
```

```
void loop() {
```

```
temperatura_LCD();
```

```
interruptor_BN1();
```

```
interruptor_BN2();
```

```
interruptor_BN3();
```

```
interruptor_BF();
```

```
interruptor_BR1();

interruptor_BR2();

interruptor_iluminacao();

interruptor_vent();

}

void temperatura_LCD(){

DHT.read11(pinoDHT11);

lcd.setCursor(0, 0);
lcd.print("Temperatura:");
lcd.setCursor(12, 0);
lcd.print(DHT.temperature);
lcd.setCursor(14, 0);
lcd.print("*C ");

lcd.setCursor(0, 1);
lcd.print("humidade:");
lcd.setCursor(9, 1);
lcd.print(DHT.humidity);
lcd.setCursor(11, 1);
lcd.print("%   ");
delay(500);

}
```

```
void interruptor_BN1(){

    if( digitalRead(BN1_aut)== HIGH && digitalRead(BN1_on)== LOW){
        digitalWrite(R_BN1, LOW);
    }

    if( digitalRead(BN1_aut)== LOW && digitalRead(BN1_on)== HIGH){
        digitalWrite(R_BN1, HIGH);
    }

    if( digitalRead(BN1_aut)== LOW && digitalRead(BN1_on)== LOW){
        digitalWrite(R_BN1, LOW);
    }

}

void interruptor_BN2(){

    if( digitalRead(BN2_aut)== HIGH && digitalRead(BN2_on)== LOW){
        digitalWrite(R_BN2, LOW);
    }

    if( digitalRead(BN2_aut)== LOW && digitalRead(BN2_on)== HIGH){
        digitalWrite(R_BN2, HIGH);
    }

    if( digitalRead(BN2_aut)== LOW && digitalRead(BN2_on)== LOW){
        digitalWrite(R_BN2, LOW);
    }

}
```

```
    }

}

void interruptor_BN3(){

    if( digitalRead(BN3_aut)== HIGH && digitalRead(BN3_on)== LOW){
        digitalWrite(R_BN3, LOW);
    }

    if( digitalRead(BN3_aut)== LOW && digitalRead(BN3_on)== HIGH){
        digitalWrite(R_BN3, HIGH);
    }

    if( digitalRead(BN3_aut)== LOW && digitalRead(BN3_on)== LOW){
        digitalWrite(R_BN3, LOW);
    }
}

void interruptor_BF(){

    if( digitalRead(BF_aut)== HIGH && digitalRead(BF_on)== LOW){
        digitalWrite(R_BF, LOW);
    }

    if( digitalRead(BF_aut)== LOW && digitalRead(BF_on)== HIGH){
        digitalWrite(R_BF, HIGH);
    }
}
```

```
if( digitalRead(BF_aut)== LOW && digitalRead(BF_on)== LOW){  
    digitalWrite(R_BF, LOW);  
}  
}  
}
```

```
void interruptor_BR1(){  
  
if( digitalRead(BR1_aut)== HIGH && digitalRead(BR1_on)== LOW){  
    digitalWrite(R_BR1, LOW);  
}  
  
if( digitalRead(BR1_aut)== LOW && digitalRead(BR1_on)== HIGH){  
    digitalWrite(R_BR1, HIGH);  
}  
  
if( digitalRead(BR1_aut)== LOW && digitalRead(BR1_on)== LOW){  
    digitalWrite(R_BR1, LOW);  
}  
}
```

```
void interruptor_BR2(){  
  
if( digitalRead(BR2_aut)== HIGH && digitalRead(BR2_on)== LOW){  
    digitalWrite(R_BR2, LOW);  
}  
}
```

```
if( digitalRead(BR2_aut)== LOW && digitalRead(BR2_on)== HIGH){
    digitalWrite(R_BR2, HIGH);
}
```

```
if( digitalRead(BR2_aut)== LOW && digitalRead(BR2_on)== LOW){
    digitalWrite(R_BR2, LOW);
}
}
```

```
void interruptor_vent(){
```

```
if( digitalRead(vent_aut)== HIGH && digitalRead(vent_on)== LOW){
    digitalWrite(R_vent, LOW);
}
```

```
if( digitalRead(vent_aut)== LOW && digitalRead(vent_on)== HIGH){
    digitalWrite(R_vent, HIGH);
}
```

```
if( digitalRead(vent_aut)== LOW && digitalRead(vent_on)== LOW){
    digitalWrite(R_vent, LOW);
}
}
```

```
void interruptor_iluminacao(){
```

```
if(digitalRead(iluminacao)== HIGH){
    digitalWrite(R_ilum, LOW);
}
```

```
}

if(digitalRead(iluminacao)== LOW){
    digitalWrite(R_ilum, HIGH);
}

}
```