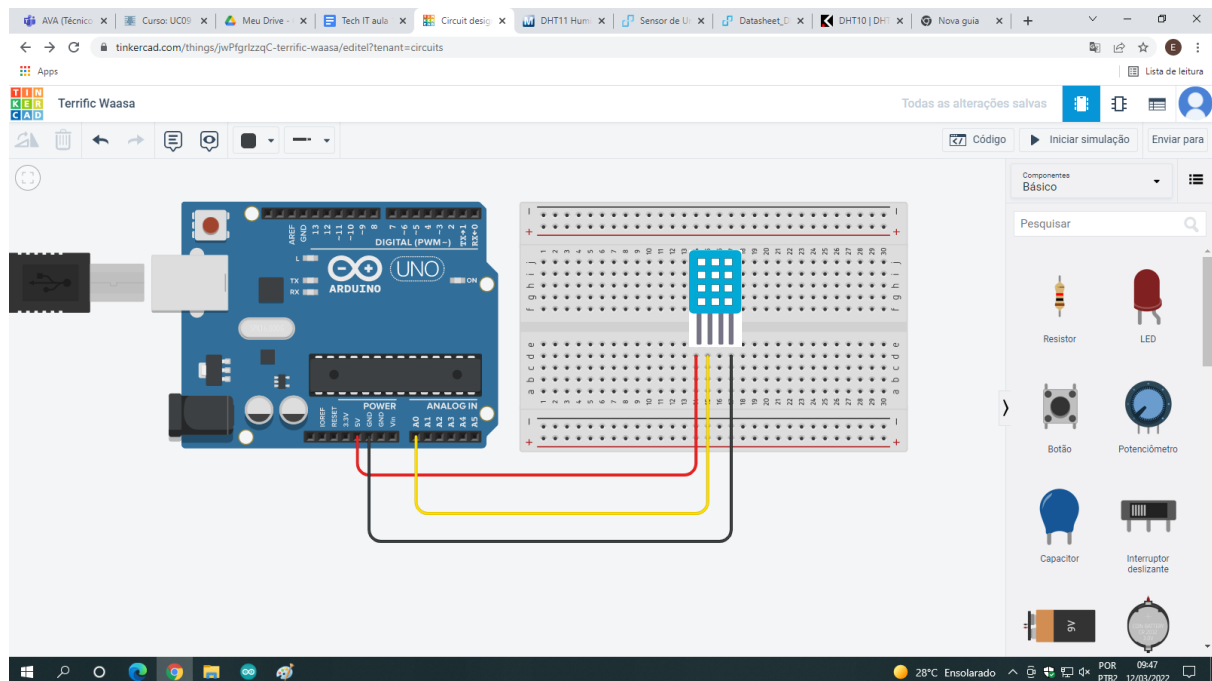


Aula 2  
data: 12/03/2022

## Thinker cad

Datasheet sensor de umidade e temperatura

<https://www.mouser.com/datasheet/2/758/DHT11-Technical-Data-Sheet-Translated-Version-1143054.pdf>

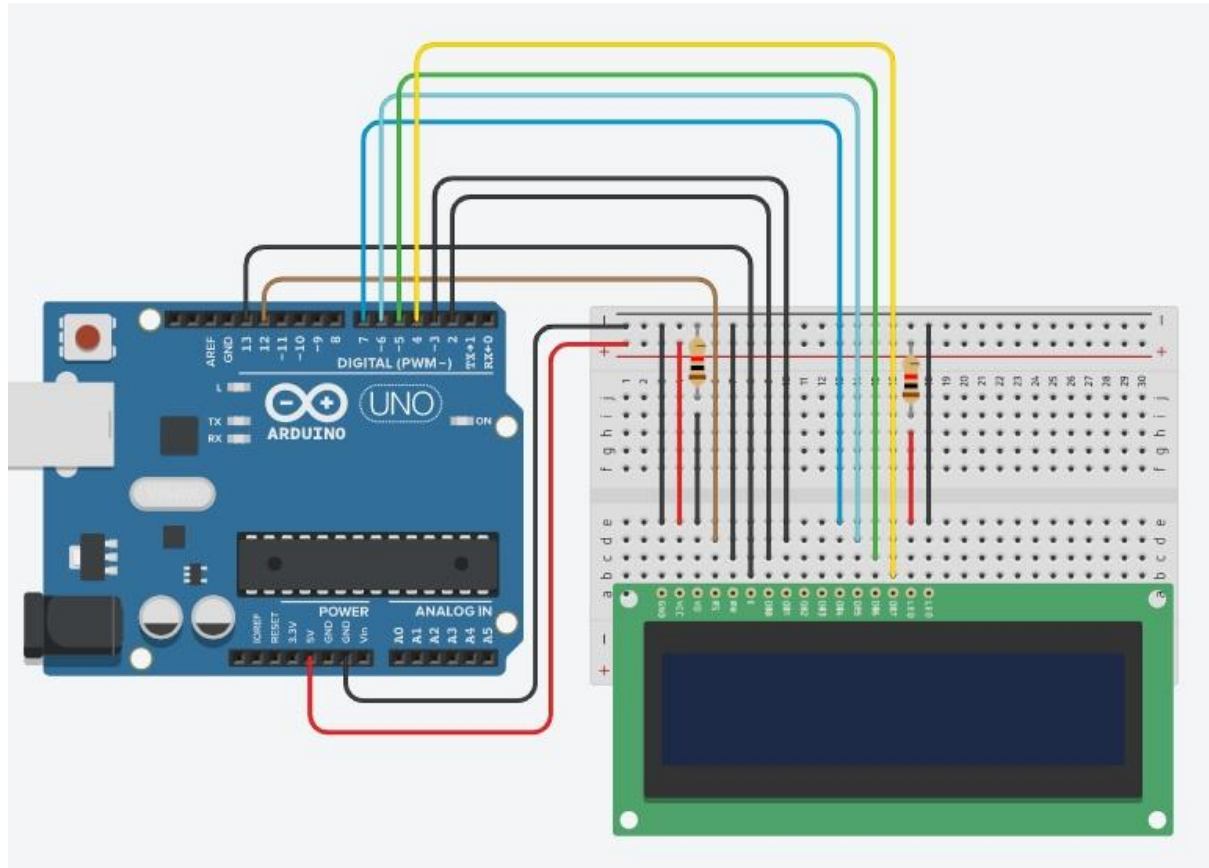


## Código Arduino sensor de umidade e temperatura

```
#include <Wire.h>
#include <LiquidCrystal_I2C.h>
#include <dht.h> //INCLUSÃO DE BIBLIOTECA
const int pinoDHT11 = A1; //PINO ANALÓGICO UTILIZADO PELO DHT11
dht DHT; //VARIÁVEL DO TIPO DHT
//Inicializa o display no endereço 0x3f
LiquidCrystal_I2C lcd(0x3f,16,2);
void setup()
{
  lcd.init();
  Serial.begin(9600); //INICIALIZA A SERIAL
  delay(2000); //INTERVALO DE 2 SEGUNDO ANTES DE INICIAR
}
void loop()
```

```
{  
  DHT.read11(pinoDHT11); //LÊ AS INFORMAÇÕES DO SENSOR  
  lcd.clear();  
  lcd.setBacklight(HIGH);  
  lcd.setCursor(0,0);  
  lcd.print("Humidade: ");  
  lcd.setCursor(10,0);  
  lcd.print(DHT.humidity);  
  lcd.setCursor(15,0);  
  lcd.print("%");  
  lcd.setCursor(0,1);  
  lcd.print("Temperatura:");  
  lcd.setCursor(13,1);  
  lcd.print(DHT.temperature, 0);  
  lcd.setCursor(15,1);  
  lcd.print("C");  
  delay(1000);  
}
```

## Código Arduino com display



## Datasheet placa de LCD 16x2

<https://www.sparkfun.com/datasheets/LCD/ADM1602K-NSW-FBS-3.3v.pdf>

```
#include <LiquidCrystal.h>
LiquidCrystal lcd (12,13,7,6,5,4);
```

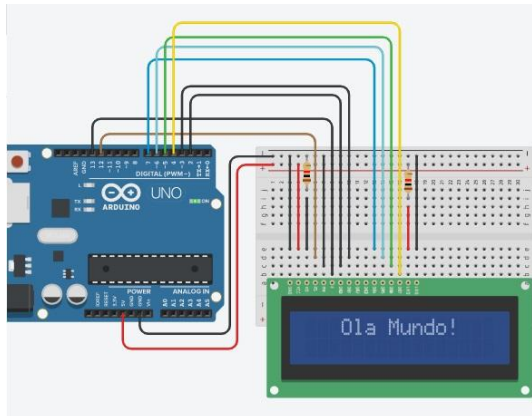
```
void setup() {  
  lcd.begin (16,2);  
}
```

```
void loop() {  
  lcd.clear();  
  lcd.setCursor(2,0); //define o ponto 0 da escrita  
  lcd.print("Teste Display");  
  lcd.setCursor(2,1);  
  lcd.print("* SENAI IOT *");  
  delay(5000);  
}
```

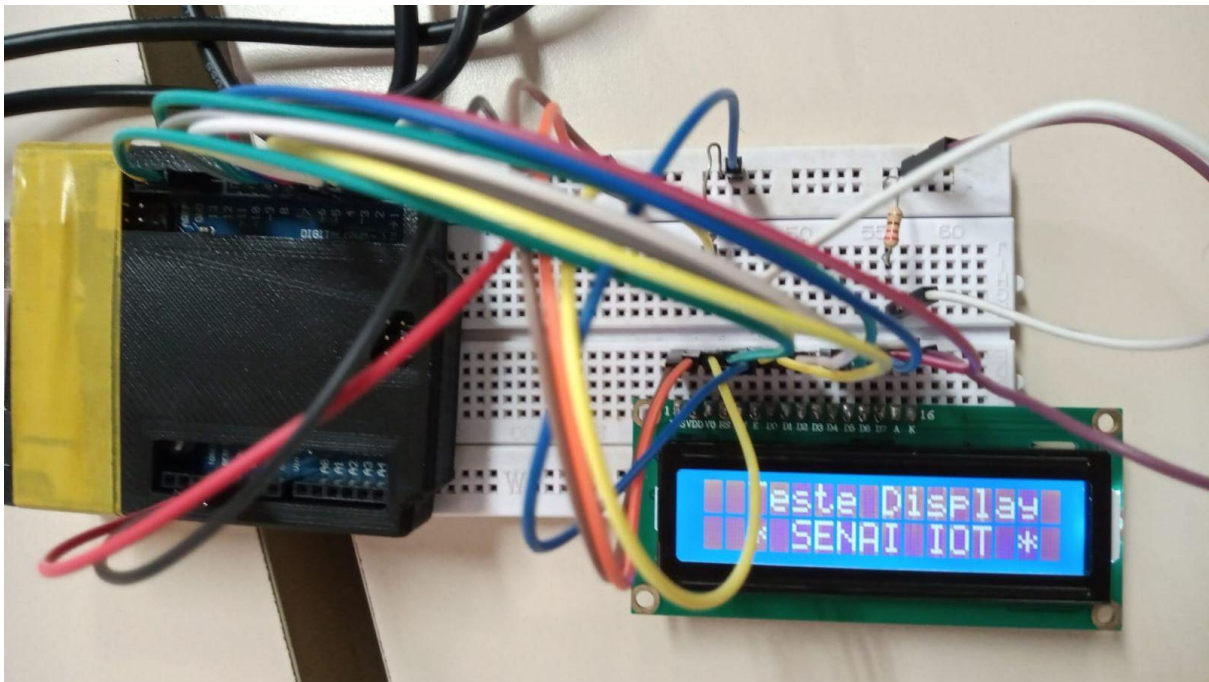
```
lcd.clear(); //linha pra limpar as escritas do display
lcd.setCursor(3,0);
lcd.print("Ola Mundo!");
```

```
delay(5000);
```

```
}
```



```
1 #include <LiquidCrystal.h>
2 LiquidCrystal lcd (12,13,7,6,5,4);
3
4 void setup() {
5   lcd.begin (16,2);
6 }
7
8 void loop() {
9   lcd.clear();
10  lcd.setCursor(2,0); //define o ponto 0 da escrita
11  lcd.print("Teste Display");
12  lcd.setCursor(2,1);
13  lcd.print("* SENAI IOT *");
14  delay(5000);
15
16  lcd.clear(); //linha pra limpar as escritas do display
17  lcd.setCursor(3,0);
18  lcd.print("Ola Mundo!");
19  delay(5000);
20
21 }
```



# Código Arduino com display e Módulo I2C

primeiro fazer um scan

```
#include <Wire.h>

void setup() {
  Wire.begin();

  Serial.begin(9600);
  Serial.println("\nI2C Scanner");
}

void loop() {
  byte error, address;
  int nDevices;
  Serial.println("Scanning...");

  nDevices = 0;

  for(address = 1; address < 127; address++) {
    {
      Wire.beginTransmission (address);
      error = Wire.endTransmission();
      if (error == 0)
      {
        Serial.print("I2C achei esse address 0x");
        if (address<16)
          Serial.print ("0");
        Serial.print (address, HEX);
        Serial.println(" !");

        nDevices++;
      }
    }
    else if (error == 4)
    {
      Serial.print ("Deu ruim no address 0x");

      if (address<16)
        Serial.print("0");
      Serial.print(address, HEX);
    }
  }
  if (nDevices == 0)
    Serial.print("Nao achei nada\n");
  }
```

```
else  
Serial.println("Deu boa\n");  
  
delay(5000);  
}
```

