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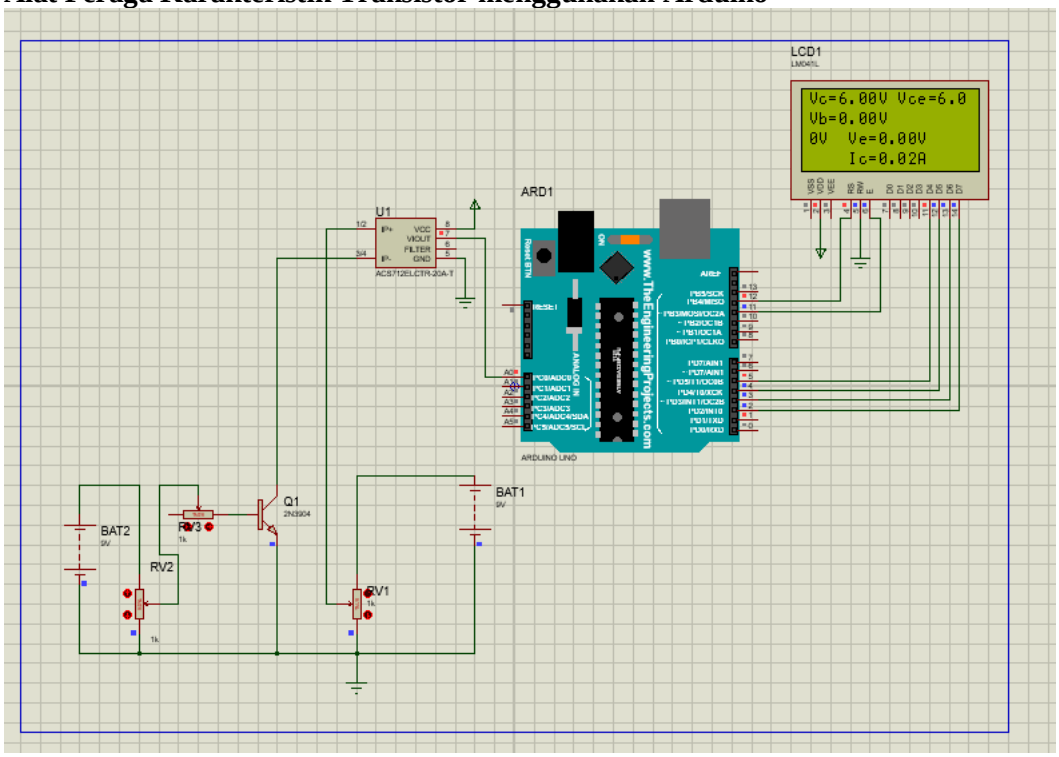
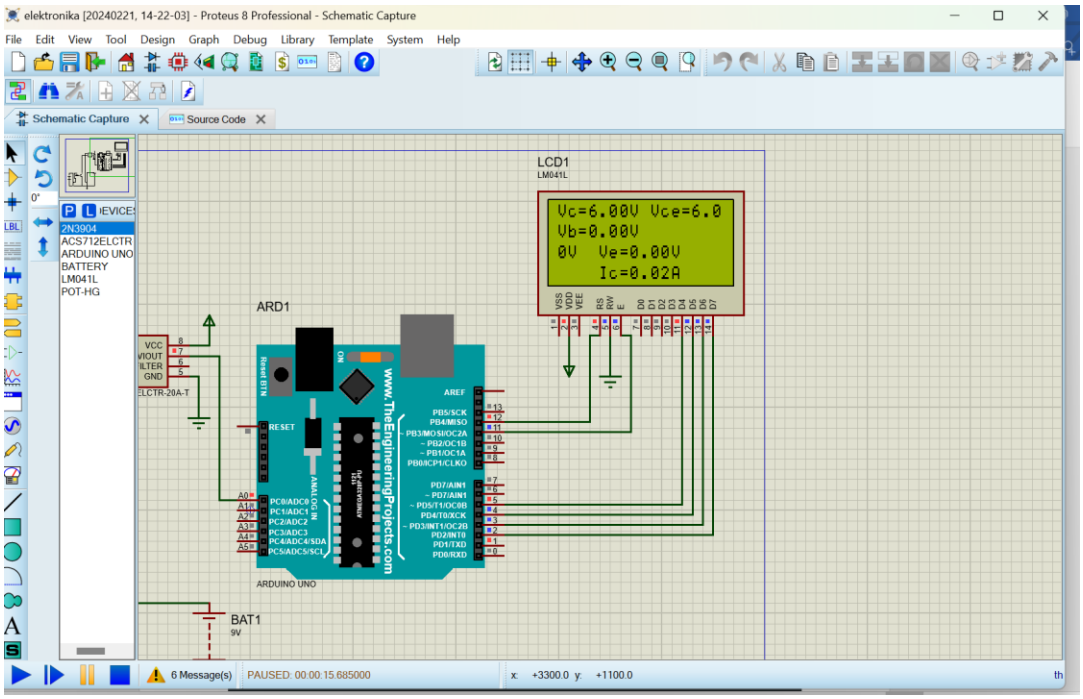
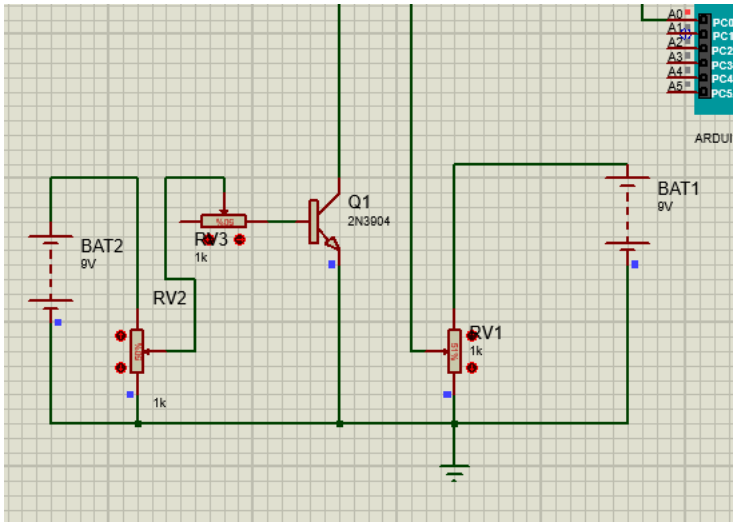
TUGAS 3
Alat Peraga Karakteristik Transistor menggunakan Arduino







Codingannya :

```
void setup() {
  // put your setup code here, to run once:

}
#include <LiquidCrystal.h> // library "LCD 20X4"

LiquidCrystal lcd(12, 11, 5, 4, 3, 2); // inisialisasi pin-pin antarmuka

float Vc = 0.0; // inisialisasi tegangan dc kolektor
float Vb = 0.0; // inisialisasi tegangan dc basis float Ve = 0.0; // inisialisasi tegangan dc emitor float Vce =
0.0; //
float Ve = 0.0;
float Vce = 0.0;
float Vcc = 12.0; //
float Ic = (Vcc-Vce)/(390);
#include <Wire.h>
int Volt1;
int Volt;

const int analogIn = A0;
double mVperAmp = 185;
double RawValue = 0;
double ACSoffset = 2500;
double Voltage = 0;
double Amps = 0;

// inisialisasi
void setup() {
Serial.begin(9600);
lcd.begin(20,4);
//setting LCD 2 baris dua kolom:
lcd.clear();
```

```
}

void loop() {
int analog_Vc = analogRead(A0);  // membaca analog pin A0, variabel analog_Vc
int analog_Vb = analogRead(A1); // membaca analog pin A1, variabel analog_Vb
int analog_Ve = analogRead(A3); // membaca analog pin A2, variabel analog_Ve
Vc = ((analog_Vc * 5.0)/1024.0)*2.4; // angka 2.4 untuk pengukuran tegangan maks = 12 volt
Vb = ((analog_Vb * 5.0)/1024.0)*2.4; //
Ve = ((analog_Ve * 5.0)/1024.0)*2.4;
Vce = Vc - Ve;

// tampilan tegangan Vc pada LCD

lcd.setCursor(0, 0); // posisi cursor pada kolom 0 baris 0
lcd.print("Vc="); // print Tegangan
lcd.print(Vc);
lcd.print("V");

// tampilan tegangan Vb pada LCD

lcd.setCursor(0, 1); // posisi cursor pada kolom 0 baris 0
lcd.print("Vb="); // print Tegangan
lcd.print(Vb);
lcd.print(" volt");
delay(500);

// tampilan tegangan Vb pada LCD

lcd.setCursor(0, 2); // posisi cursor pada kolom 0 baris 0 lcd.print("Ve="); // print Tegangan
lcd.print("Ve=");
lcd.print(Ve);
lcd.print(" volt");
delay(500);

// tampilan tegangan Vce pada LCD

lcd.setCursor(9, 0); // posisi cursor pada kolom 0 baris 0
lcd.print("Vce="); // print Tegangan
lcd.print(Vce);
lcd.print("V");
lcd.print(";");
delay(500);

// tampilan Ic

lcd.setCursor(0, 4); // posisi cursor pada kolom 0 baris 0 lcd.print("Ic="); // print Arus
lcd.print(Ic);
lcd.print("A");
```

```
lcd.print(";");
delay(500);

}
void loop() {
  // put your main code here, to run repeatedly:

}
```