**Question 1.1 (10 points): Please calculate the temperature (assuming a reference temperature of 25 ̊C) based on the readings of voltage value. (Hint: First find the B and R0 under 25 ̊C in the thermistor’s specifications: https://components101.com/resistors/ntc-thermistor-10k ). Write down the results and give an explanation.**

B = 3950

V = 2.97

T = 16.88 C

Question 1.2: (10 points) Please modify the code in step 1.1.4 (code 2), let Arduino directly print via serial the temperature value in degrees Celsius.

Question 1.3: (10 points) Measure the voltage value of thermistor using the Analog Discovery 2 and compare the readings from Arduino. Give some comments on any difference or similarity.

Text

Description automatically generated

Ad2 is measuring 2.926V, Arduino is measuring 2.95 V, so its off by 0.024

Graphical user interface, application, table, Word

Description automatically generated

Ad2 is measuring 2.804, Arduino is measuring 2.83, so its off by 0.026

Question 1.4: (10 points) Combine section 1.1 (Basic Thermistor Circuit) and section 1.2 (Arduino LCD), design a circuit and create Arduino code which can directly show the temperature value on the LCD screen.

Q3.1: Note down the Arduino monitor reading under these three cases:

1. Light a flashlight directly on the LDR: 182

2. Block the LDR from light source: 0

3. Room light: 140