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Final Project Summary

For the project the requirements to program the arduino to be a voltmeter were 3 resistors (100KΩ, 10KΩ, and 330Ω), and a 10KΩ potentiometer, and an LCD Display. The LCD display usually requires 2 potentiometers, one for the contrast and one for the brightness, but the one that controls the brightness can be replaced with a 330 ohm resistor directly on the positive power pin/lead. The “Vin” reader is essentially a voltage divider with “R1” being the 100KΩ resistor and “R2” being the 10KΩ resistor in order to bring the voltage down by 91%. In order for the arduino to read the voltage correctly, the resistors must be taken into account and in the loop() a line of code makes it so the read voltage is divided by the ratio in order to make the arduino output the correct voltage with a small percent discrepancy. Within the code first I initialized the necessary variables; Vin for the incoming voltage, Vout as an identifier to display the correct voltage, R1 the 100KΩ resistor, and R2 the 10KΩ resistor, and activating the manipulation of the LCD Display with creating an LCD object and stating the pins that are connected to the Register select pin, enable pin, and the four data pins, and specifying that the LCD display is a 16x2 display and to print the voltage to the LCD display.