In-class exercise: DAC, ADC

1. Wire up the circuit in the unit 5d write-up. Connect an MCP4725 DAC to an Adalogger, and write (or modify) a code to have the DAC ramp up its voltage output in integer steps, from 0 to 4095.
    - Keep repeating this ramp over and over again. It's OK to make the ramp go as fast as possible. Get an oscilloscope and display the DAC output voltage ramp and show it off to your instructors.

2. Have the Adalogger's ADC tell you the value of the trimpot center pin voltage and also, from time to time, the DAC output voltage.
    - Recall that you can check voltages using your multimeter.

Homework (due 11/6) : SAR Emulator

12-bit SAR DAC of an unknown voltage (from the trimpot). To digitize the voltage from an adjustible trimpot, use the MCP4725 DAC and an Adalogger's ADC input pin to code up a 12-bit successive approximation ADC algorithm by defining a 12-bit SAR, as described, and setting or clearing various bits as you hunt for the DAC voltage that's closest to the voltage on the trimpot center pin.