

ME 461 Prelab #9
Fall 2016
Due at the beginning of class on 11/16/2016

Suggested Reading:

Review ADC10 Chapter in [MSP430x2xx user's guide](#), especially the section on using the DTC.

[Lab 9 manual](#)

1. Comment on the ADC10SA register used by the DTC? What information does it communicate to the DTC?
2. In your own words, describe the ADC10 Data Transfer Controller (DTC). Where does it store conversion results? Give an example.
3. What bit (and in what register) controls whether the conversion sequence completes automatically once triggered or whether each channel in the sequence requires triggering?
4. Suppose you wish to convert ADC channels A1, A3 and A5 in a sequence and store the results using the DTC. To what should the INCHx bits be set? To what should ADC10DTC1 be set? To what should the ADC10AEx bits be set, assuming A1, A3 and A5 are the only channels connected to analog inputs? Assuming you use a global array to store conversion results, what is the minimum number of elements it should contain? In which element of that array are the conversion results of each channel (A1, A3, A5) stored? Where in your program is the best place to read those results?