**Exercise 1**: Try to understand and run the SAS code contained in class slides

**Exercise 2**: Find one real data file with missing values or generate data from some statistical models. Perform the process of missing data analysis including: (a). Choose multiple study variables with missing values and covariates; (b). Determine the research questions of interest; (c). Examine missing data pattern; (d). Find MLE by using EM approach; (e). Conduct SMICE approach and produce multiple imputed values; (f). Perform statistical inference related to the research questions; (g). Interpret the results and compare the results with and without imputation.

**Reading assignment**:

1. Yuan YC. Multiple imputation for missing data: concepts and new developments. Proceedings of the Twenty-Fifth Annual SAS Users Group International Conference, Paper 267, 2000.

http://facweb.cdm.depaul.edu/sjost/csc423/documents/multipleimputation.pdf

1. T. E. Raghunathan, J. M. Lepkowski, J. VanHoewyk, and P. Solenberger (2001). A multivariate technique for multiply imputing missing values using a sequence of regression models. *Survey Methodology*, 27:85–95.
2. J. Zhu and T. E. Raghunathan (2015). Convergence properties of a sequential regression multiple imputation algorithm*. JASA*, 110, 1112-1124.