Math 420, Spring 2016
First Group Homework

due Tuesday, 16 February, 2016

Exercise 1. Compute the frontiers for the risky assets in group (A), groups (A) and (B) combined, and groups (A), (B), and (C) combined using one-year histories with uniform weights and daily data for the years ending December 31 of 2010-2015. Graph these three frontiers in the $\sigma\mu$-plane along with the volatility and return means of each asset for each year, and for Markowitz portfolios that are equidistributed in each group. There should be 6 graphs — one for each year — each with three frontiers. Use different symbols to distinguish points associated with the different groups (A). Comment on any relationships you see between the objects plotted on each graph. (This will be easier to do if you use the same scales for each of the graphs. Each σ-axis should begin at $\sigma = 0$.)

Exercise 2. Give $\mathbf{f}_{\text{mv}}$ for each of the frontiers computed in Exercise 1. Comment on how these change from year to year for the same groupings of assets.