**Lecture 2: More Work with Market Data, Simulation**

1. Create a series of Monte Carlo simulations, scaled at the minute level as in the lecture
   1. High annualized volatility (> 20%), small drift
   2. High annualized volatility (> 20%), large drift
   3. Small annualized volatility (< 5%), small drift
   4. Small annualized volatility (< 5%), large drift
   5. Run each of the scenarios above 98280 (or 390 minutes x 252 days) times
   6. Calculate the average cumulative return over the period
2. Recreate the MACD simple stock simulation with **minute** bar data instead of daily.
   1. Select a stock of your choice and acquire data using the alphavantage API or the method of your choice.
   2. Include chart of stock price and MACD (you will need to install the library mpl\_finance)
   3. Recreate the basic simulation as in class
   4. Explore improvements to the trading strategy: are there other aspects of the signal that can help you cut losses earlier and/or maximize positive P&L?