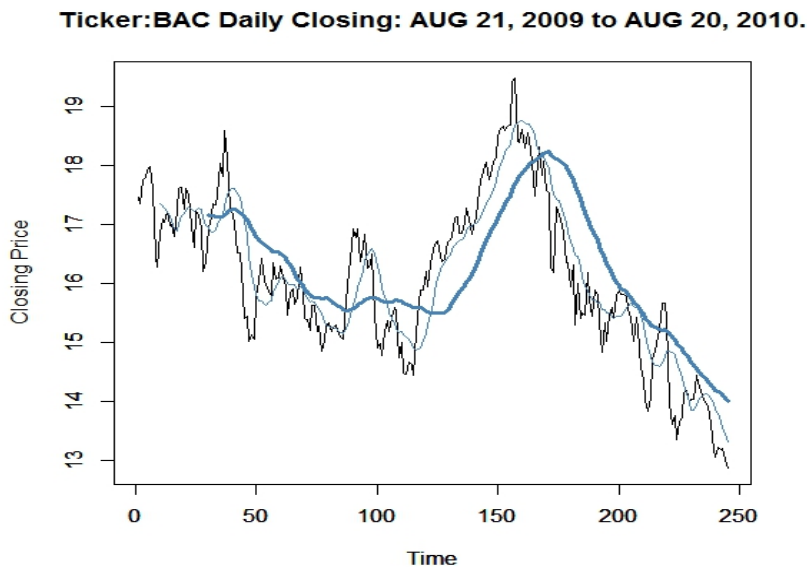# FE570 Homework Assignment #3

Due Date: In class on Nov. 13 (Tuesday).

Data Files: Datasets are available from the course website on Moodle.

Problem 1   Consider the daily stock close price for Back of America (BAC) from August 21, 2009 to August 20, 2010 in the file sp500hst.txt.

Ticker:BAC Daily Closing: AUG 21, 2009 to AUG 20, 2010.

(1) Build a momentum trading strategy based on the Moving Average Convergence/Divergence (MACD) method. Note that you need to use the fast EMA (11 days) and the slow EMA (22 days) for this assignment.

(2) Build a momentum trading strategy based on the Relative Strength Index (RSI) method. Note that you need to use N=14 days for this assignment, and use overbought and oversold market parameter of 80 and 20 respectively.

(3) Compare and contrast the differences of these two strategies. Write your analysis and recommendation.

Problem 2 Consider the daily stock close price for Alcoa (AA) from August 21, 2009 to August 20, 2010 in the file sp500hst.txt.

Ticker:AA Daily Closing: AUG 21, 2009 to AUG 20, 2010.
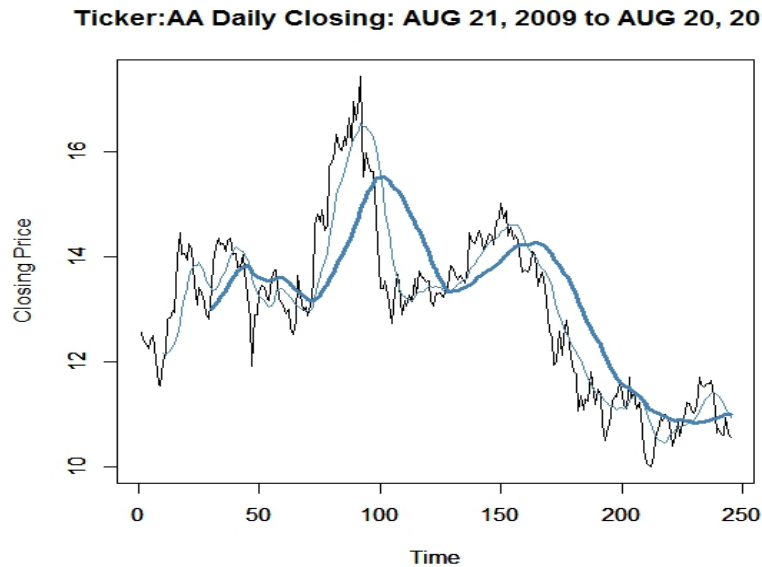
Note that prices presented in the dataset represent a geometric pattern, *head-and-shoulder pattern*, that we have learned in the Technical Analysis Trading Strategies section. For this assignment, you need to do the following:

(1) Write R code to identify this pattern based on the five consecutive extreme values: $E1, E2, E3, E4, and E5$.

(2) Compute the neckline using R code.

(3) Describe your trading strategy accordingly and compute your price objective.

Homework Honor Policy: You are allowed to discuss the problems between yourselves, but once you begin writing up your solution, you must do so independently, and cannot show one another any parts of your written solutions. The HW is to be pledged (that it adheres to this).