Homework #3 Into to Auto Trading Systems

Due date: February 25, 2019 (in class)

Important Note: All home works should be handed in hard copies. No late homework will be accepted. *Answers should contain both the Matlab program, PLUS screen snap shorts to demonstrate correct running of the program.*

Problem 1. Redo Problem 1 in HW2 thoroughly. Your program should contain the following steps (better implemented in functions):

- (1). Download the historical data;
- (2). Computing the MA(m) and MA(n) series.
- (3). Computing the trading signal using upcrossing and downcrossing and record the time index and buy/sell decisions.
- (4). Compute the profit and loss (or cumulative returns) of your portfolio that trades according to (3);
- (5). Graph your strategy profit and loss (or cumulative returns).
- (6). Graph your historical data and the two moving averages and visually check the correctness of your trading signal produced in (3).

For the above, you can just use a particular (m, n) you see appropriate. This is a very good exercise on how to write functions and call functions. Read relevant part of Matlab document on functions.

Problem 2. Do the same Steps as in Problem 1 but for a strategy that buy when the $\%K$ line upcross 20 from below, and sell when it downcross 80 from above. You can choose a appropriate window for computing $\%K$, say 14.

Note: Show your program and how it runs. Provide all necessary information — do not just give me your code.