**Assignment 2: Implementation assignment – MACD trading system specification**

**Implementation Specification:**

MACD trend reversal model using the exponential Moving average for Long and Short can be used within the MACD trend reversal model.

Based on your design in assignment 1, implement the MACD trading model

using the S and P 500 daily closed data set provided as an excel file.

The following are to be used:

* S-MA = 12 days
* L-MA = 26 days
* Commission = 1/8 percent per trade.
* Initial capital = US$100,000.00
* Consider cumulative investment at each trade where profit is reinvested in

full.

* Duration of trading is over the period of the whole S and P 500 dataset

provided. (Excel file)

* Compute the BUY and SELL pair through the trading cycle with a

commission at each trade done during each of the trend reversal

BUY/SELL position.

* Assume all the holdings are bought or sold with all the accumulated funds. The stock series is stored in a text or excel file.
* Also, in your design compare your profit/loses against a simple BUYHOLD-SELL position over the entire period of the trend reversal trading

Prepare a report 5-6 pages on the design and implementation of such a

trading system with block diagram using flow chart and pseudo code

and highlighting key functions and data structures

Readability and maintainability of your code is a key component in the

assessment

**Include** a script of the run of your code which allows one to select which

financial excel data file to be used – generality of code.

It should include the following in the summary computed in the run:

* total number of trades made using MACD
* average return per trade using MACD
* relative gain/loss against the long term Buy-Hold-Sell strategy

using the MACD model with SSMA and EMA models.