Assignment 2
Learning and Computational Intelligence in Economics and Finance (CF963-7-AU)
2011-2012

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1. Introduction:

This is an assignment on optimization. This assignment accounts for 15% of your total marks in this course. This assignment should be submitted electronically. The deadline of this assignment is ***11:59:59am, Monday 12 December 2011***.

2. Objective:

The objective of this assignment is to help you explore different methods for portfolio optimization, and to test your ability to find good portfolios

3. Your tasks:

The spreadsheet associated to this assignment contains prices (in £s), returns and variances of a number of shares, plus the correlations between them. Following are your tasks:

i. Report the best portfolio that you can find with a capital of £100,000. Your portfolio must contain no more than 5 stocks, and contain integer number of shares only. You may use any method of your choice.
ii. Clearly describe the method that you use to find the best portfolio.
iii. Analyse the strength and weakness of your method.

4. Submission requirements:

Submit a spreadsheet that shows your answers in point i. The spreadsheet should clearly show the portfolio that you have chosen, plus the return, risk and Sharpe ratio of your portfolio assuming that the risk free rate is a constant at 2%. Submit a report of strictly no more than 1,000 words to address points ii and iii. You may submit appendices to supplement your analysis. If you write any programs for this assignment, then please submit your executable code as well as the source codes. You may use any programming language that is supported by the computers in our labs.

5. Assessment criteria for this assignment:

The quality of your portfolio will account for 20% of your marks. 20% will be marked on the appropriateness of the method that you use. 60% of your mark will reflect the quality of your description and analysis. In other words, it is crucial that you describe your method clearly and evaluate the strength and weakness of your method. This is a demanding task.

6. Old Mutual Asset Managers Prize:

The best portfolio submitted will win an Old Mutual Asset Managers Prize. The Prize comprises a certificate, a bottle of wine (donated personally by Dr Alentorn) and a visit to Old Mutual (expenses paid for) to gain an insight of how they work. Dr Alentorn is open for an MSc project should a topic be agreeable to both sides.

7. Please refer to the Student's handbook on the Departmental Policy on Plagiarism and Late Submission