

Report on Finance

The report is due Thursday Oct 2. The report should be just the answers to the following questions. The answers should be understandable for a nonspecialist.

I) (10) Explain briefly what is day trading with stocks. Include a discussion of short selling.

II) (20) Describe the algorithm which produces a bet for a given stock used during our project. Include a discussion of

- trend (or slope) of a stock
- bull/bear probabilities
- how to use the trend and bull /bear probabilities to produce a bet for a given stock
- describe the involved parameters.

III) (10) Describe five criteria to evaluate the result of a simulation.

IV) (10) Do simulations with the five individual stocks in the basket over one year (250 days). Use `singlestock.ods` Which choices of the parameters are optimal for each of the five stocks in the basket? In particular, produce for each stock the following table:

Choose your favourite regressionblock and favourite probability threshold. Vary the history from 50, 25, 20, 15, 10, 5 days and record for each stock the results. Evaluate the results with the criteria in III. What is your favourite history?

V) (10) Describe a problem of the algorithm for one stock. Explain how it can be improved and is used in the second part of our project.

VI) (10) Do simulations with the five stocks in the basket simultaneously over one year (250 days). Use `blended.ods`. Which choices of the parameters are optimal for the overall result? In particular, produce the following table:

Choose your favourite regressionblock and favourite probability threshold. Vary the history from 50, 25, 20, 15, 10, 5 days and record the results. Evaluate the results with the criteria in III. What is your favourite history?

VII) (10) Describe a problem of the algorithm for the stock simultaneous. Explain how it can be improved and is used in the third part of our project.

VIII) (10) Do simulations with the five stocks in the basket simultaneously over one year (250 days). Use `basket.ods`. Which choices of the parameters are optimal for the overall result? In particular, produce the following table:

Choose your favourite regression block and favourite probability threshold. Vary the history from 50, 25, 20, 15, 10, 5 days and record the overall results. Evaluate the results with the criteria in III. What should be the range of the history? What is your favourite history?

IX) (10) What is your conclusion. Give motivation.

The numbers between parenthesis are the points you can get for the question.

Often math majors use these reports to satisfy their writing requirements (MAT459). If you want to do so you have to register for MAT459. At the end of the semester let me know whether you want to use your reports for this purpose.