

Home assignment 1

Answering questions 1-3, do not use LLMs!

1. Describe the notions of value investors, technical traders, rational investors, and arbitrageurs.

Describe the differences between dealers and brokers.

2. Describe the differences between market orders, limit orders, short sell orders, and stop orders.

3. Consider LOB below:

Order	Price	Size
Ask2	10.35	200
Ask1	10.30	200
Bid1	10.25	100
Bid2	10.23	200

Draw the LOB tables for each case a) – d).

a) How will be matched market buy order of size 300?

b) What to do if you want to buy 500 units?

How will LOB look and how the bid/ask spread will change if you place

c) B3 = 150@10.27

d) B3 = 250@10.24

e) B3 = 180@10.23

4. Implement your own version of `get_prices.r` that checks the presence of a file with prices for a given list of securities in your computing environment and downloads prices from `yahoo.finance.com` if the file is not present.

5. Choose a unique security (not AAPL or MSFT), put its ticker into Class List, and download four years of adjusted closing prices from *finance.yahoo.com*. Calculate returns and their statistics: mean, sigma (standard deviation), skewness, and kurtosis. Draw the distribution of returns and compare it with the Normal distribution with the same mean and sigma.

Consult with: <https://stackoverflow.com/questions/2564258/plot-two-graphs-in-same-plot-in-r>