

Python Coding Interview

Given:

A folder containing multiple csv files with the same format but different entries. These contain data on various trades conducted in the market.

Task:

The task is divided into 3 parts, which need to be completed in order.

- 1) Use pandas to read the data from the csvs **only** if they have 'closePosition' in their name. The important columns needed are : ['Key', 'ExitTime', 'Symbol', 'EntryPrice', 'Quantity', 'Pnl']. Add an additional column in the dataframe called 'Date', where the values should be the dates extracted from the 'ExitTime' column. Save the data in a pandas dataframe, and append the data from each csv into the existing data. The final dataframe should have entries from all the csvs merged together.

Save this dataframe as a csv file with the name 'combined_closePosition.csv'.

- 2) Using the combined dataframe, calculate the following values.
 - a) Total trades - The total number of entries in the final dataframe
 - b) Unique days - The number of unique dates in the 'Date' column
 - c) Average trades - Total trades / Unique Days
 - d) Total Pnl - Sum of the Pnl column
 - e) Profit Trades - Number of entries where Pnl > 0
 - f) Loss Trades - Number of entries where Pnl <= 0

Save these values in a txt file named 'combined_stats.txt', with the respective names given above.

3) Using the combined dataframe , now calculate the top n winning/losing streaks. First, ensure the dataframe is sorted by the 'ExitTime' column.

A winning streak is defined as the number of consecutive trades in which the Pnl > 0. Similarly, a losing streak is defined as the number of consecutive trades in which the Pnl < 0. Calculate all such streaks, and then sort by the total Pnl in each individual streak. The top winning streak will be the one where the total Pnl of all trades in the streak is the highest, whereas the top losing streak will be the one where the total Pnl of all trades is the lowest.

The value of n should be input from the terminal, and then the top n winning/losing streaks should be saved in a txt file named combined_winning_losing.txt with the following format -

Top n winning streaks

1) No. of Trades	Start Date - End Date	Pnl of Streak
2) No. of Trades	Start Date - End Date	Pnl of Streak

Top n losing streaks

1) No. of Trades	Start Date - End Date	Pnl of Streak
2) No. of Trades	Start Date - End Date	Pnl of Streak

5 Trades	2020-09-08 10:32:00	to	2020-10-29 09:59:00	Profits = 14188.75
----------	---------------------	----	---------------------	--------------------