

Internship Interview Question

Using any language but preferably python, please solve/write out the program for these questions: (Time allotted: 90 minute)

- 1) Given Commodity data for two commodities AG and RB. Which one of these commodities data will you use and why?
- 2) For the chosen commodity:
 - a. Please create a time series for that period with frequency increments of 500ms.
 - b. Merge the commodity data and eliminate weekends and hours of non trade.
 - c. Fill the NaN with previous data.
- 3) With the given data, resample the data into 1) 1minute intervals and 2) 30min intervals.
- 4) With the 1 minute interval data. Conduct a dual moving average crossover strategy with one MA(5) and one MA(15)
 - a. Identify crossover as a Buy if MA(5) crosses above MA(15)
 - b. Identify crossover as Sell if MA(5) crosses below MA(15)

Bonus

- 5) Calculate results: PNL, sharpe ratio, calmar ratio, max drawdown