Bastion

Bastion Trading Data & Python Assignment

Assessment Criteria

You can complete the task at your own pace, but we expect it to be **submitted within 3 days** from the time it was assigned. Your submission will be evaluated based on the following criteria:

1. Exploratory Data Analysis & Insights
   - Ability to identify trends, patterns, and relationships
   - Use of appropriate statistical and mathematical techniques
   - Clear explanation of findings
2. Methodology & Justification
   - Thoughtful selection of techniques and models
   - Justification for chosen approaches
   - Effective handling of high-dimensional time-series data
3. Code Quality & Documentation
   - Clean, readable, and well-structured code
   - Proper documentation and comments
   - Effective use of Jupyter Notebook features
4. Visualisation & Communication
   - Clear and meaningful visual representations
   - Concise explanation of insights
   - Logical flow of the notebook
5. Python Programming Problem
   - Accuracy of the solution
   - Compliance with problem requirements
   - Code efficiency and optimization

Confidentiality Notice

All interview details, including assessment tasks, are strictly confidential. Sharing or discussing them with any third party—including other candidates, external entities, or on social media—is strictly prohibited. Any unauthorized disclosure may result in disqualification and potential legal action.

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Annex 1: High-Dimensional Time-Series Data Analysis

Attached is an anonymised high-dimensional time-series dataset (*TEST_Trader_Quant_dataset.csv*). We would like you to utilise and demonstrate your data analysis skills to extract meaningful insights.

This can include, but is not limited to:

- Identifying key features, trends, and patterns
- Detecting predictive or casual relationships between features using suitable mathematical and statistical techniques
- Applying machine learning models (if applicable) to enhance insight generation

The depth of the analysis is up to you. No additional information will be provided.

Please ensure your work is presentable and professional. Remove unnecessary output cells and error logs, avoid generating numerous unexplained graphs, and ensure all visualisations and conclusions are clearly supported by your analysis. Submissions containing generic or LLM-generated content will be discounted.

Deliverables

A Jupyter Notebook exported as an HTML file containing:

- Code
- Findings
- Visualisations
- Conclusions

The exported file must be named using the following format: Firstname_Lastname.html (e.g., *John_Doe.html*)

Please submit only the .html file.

Annex 2: Python Programming Task

Attached is a Python programming problem (*Python.zip*). Please refer to the README file for detailed requirements and expectations.

Deliverables

- A completed Python script that meets the outlined requirements
- Well-documented code following best practices

If your submission to Annex 2 includes multiple files, please compress them into a single ZIP folder named using the following format: Firstname_Lastname.zip (e.g., *John_Doe.zip*)