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# Coding Challenge – Data Visualisation Dashboard

In this question, you are required to build a simple web-based system to help analyse procurement, sales, and inventory history for an imaginary retail client.

## Background

Currently, the client maintains inventory, procurement and sales data in Excel sheets. The client wants to import this data into a system and visualise it, to allow them to understand purchase trends, sales trends, and price changes over a few days.

## Data Example (Excel Input)

The Excel file will include columns such as:

- Product ID
- Product Name
- Opening Inventory on Day 1
- Procurement Quantity and Price on Day 1, 2, 3
- Sales Quantity and Price on Day 1, 2, 3

# Core Requirements

#### 1. A Dashboard for Data Visualisation

- For each product, display procurement history, sales history, and inventory history in the same line chart (with a chart library of your choice).
- Inside the chart, show **three curves**:
  - Inventory for each day
  - Procurement Amount (Qty \* Price)
  - Sales Amount (Qty \* Price)
- The chart should allow the user to compare values over several consecutive days.
- Preferably, the system should be flexible enough to allow the user to select products to compare

### 2. User Login function

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- The dashboard should have a basic login page and log in the user by username and password.
- It should be done with your own database. Try not to use commercial Authentication services (e.g. Auth0, Clerk)

### 3. Import Excel to a database

- The system should provide a page and API to allow the user to upload an Excel file with procurement and sales history.
- After uploading, the data should be parsed and stored for visualisation.
- Use an ORM library of your choice

## 4. Deployment

 If possible, deploy your site to a hosting platform of your choice and provide the link to the site.

### Deliverables

- A working prototype of the system (deployed or locally runnable).
- A link to the repository
- A **short document** describing:
  - Your understanding of the requirements.
  - The chosen structure of the system (data flow, backend, frontend, database, etc.).
  - Any assumptions or limitations.

### Recommended Tech Stack

(Here are some tech stacks that might be useful. You are not required to use them.)

- NextJS
- React
- TypeORM/Prisma

## Timeline

- Delivery expected within **1 week**.

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# **Evaluation Criteria**

#### We want to see:

- How clearly you analyse requirements.
- How you organise data and design the system.
- Your ability to deliver a working solution and explain your thought process.

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