**Project Title: BikeStore - SQL-Powered Retail Performance System**

**Overview**

In this challenge, you’ll demonstrate your ability to build a **Business Intelligence system** using SQL Server. You'll start with real-world datasets representing a **bike retail chain**, build a **normalized schema**, import and transform data from .csv files, and then generate business insights using **views**, **stored procedures**, and **automated jobs**.

This task mirrors what BI developers and analysts do in real-world retail environments: combining SQL expertise with business understanding to provide decision-ready metrics.

❗ **Important Note:**  
You must complete this task independently. AI tools (e.g., ChatGPT, Claude, Gemini) are **not permitted** for generating queries or automation. You may use official documentation, books, or lectures.

**Business Scenario**

BikeStore is a fast-growing retail chain with multiple branches, thousands of bikes, accessories, and customers. The company collects data about:

* Orders, Customers, Products
* Store Locations, Staff, Inventory
* Product Categories, Brands

The leadership team wants **automated reports and actionable KPIs** to make better decisions. They've hired you to:

* Load their **CSV-based system** into SQL Server
* Automate ingestion using SQL Server Agent + BULK INSERT
* Create reusable **views**, **stored procedures**
* Focus heavily on **BI KPIs** like sales performance, profit margins, inventory turnover

**Provided Data**

You will receive the following .csv files -:

* products.csv, orders.csv, order\_items.csv
* stores.csv, stocks.csv, staffs.csv
* customers.csv, brands.csv, categories.csv

Your first task is to load these into SQL Server, normalize them, and begin modeling for analytics.

**Your Tasks**

**1. First download data from** [**here**](https://drive.google.com/drive/folders/1JGGpwlH-tdjGMIkuln0gS3wMjHHiJVIJ?usp=drive_link)

**2. Ingest & Transform**

* Create a **clean schema** with proper keys, types, and constraints
* Use **BULK INSERT** or **OPENROWSET** to load all .csv files into staging tables
* Normalize and transfer data into final tables using INSERT INTO ... SELECT logic…

**3. Views (Minimum 6)**

Create views that serve as **automated reports** for business users:

* vw\_StoreSalesSummary: Revenue, #Orders, AOV per store
* vw\_TopSellingProducts: Rank products by total sales
* vw\_InventoryStatus: Items running low on stock
* vw\_StaffPerformance: Orders and revenue handled per staff
* vw\_RegionalTrends: Revenue by city or region
* vw\_SalesByCategory: Sales volume and margin by product category

Each view should be **reusable, clean, and production-grade**

**3. Stored Procedures (Minimum 4)**

Build procedures that **automate insights or workflows**, such as:

* sp\_CalculateStoreKPI: Input store ID, return full KPI breakdown
* sp\_GenerateRestockList: Output low-stock items per store
* sp\_CompareSalesYearOverYear: Compare sales between two years
* sp\_GetCustomerProfile: Returns total spend, orders, and most bought items

**5. Business KPIs**You must define and calculate the following KPIs using your Views and SPs:

| **KPI** | **Business Insight** |
| --- | --- |
| Total Revenue | Company-wide performance |
| Average Order Value (AOV) | Customer spending behavior |
| Inventory Turnover | Efficiency of stock flow |
| Product Return Rate | (if applicable) – Quality issues? |
| Revenue by Store | Identifies top/weak branches |
| Gross Profit by Category | High/low margin areas |
| Sales by Brand | Vendor effectiveness |
| Staff Revenue Contribution | Productivity tracking |

Explain **each KPI's importance** from a business perspective and how it is implemented (via view, SP, or both).  
  
**P.s. You can add your own KPIs or Logics**

**6. Automation**

* Create a SQL Agent Job that:
  + Loads .csv files from a folder daily/weekly
  + Runs at least **2 stored procedures**
  + Saves results in audit or reporting tables
* Include a .txt of your SQL Agent job configuration steps or screenshots

**Submission Guidelines**

Your final submission must include:

* .sql file with all scripts (tables, views, SPs)
* Screenshots (.png) or .pdf of SQL Agent, query results, and Database Diagram

**|** Note: *Make a documentation after completing the project (research how to documented your work***!**

**Evaluation Criteria:**

* **Critical Thinking**: How well did you interpret the business problem and address it with data?
* **Technical Execution**: Quality of your data transformations and metric definitions.
* **Clarity**: Are your insights and recommendations well-articulated and actionable?

**Creativity**: Innovative approaches to solving the problem or presenting data