**Project Title: Sales & Revenue Analysis for a Small Business**

**Problem Statement (Through Storytelling)**

Imagine **TrendMart**, a small retail business struggling to **boost sales and maximize revenue**. Despite having a **diverse product range and a loyal customer base**, they face challenges such as:

* **Fluctuating sales trends** – Some products perform well while others struggle.
* **Customer spending patterns** – Some customers buy frequently, while others rarely make purchases.
* **Revenue optimization issues** – Discounts and promotions impact profitability, but their effectiveness is unknown.

The business owner wants a **data-driven strategy** to:

1. **Analyze sales trends** across different product categories.
2. **Identify customer purchasing behavior** and segment them based on spending patterns.
3. **Predict future sales trends** to make informed inventory decisions.
4. **Optimize pricing and promotions** based on revenue insights.

**Your Mission**

As a **Data Analyst**, your task is to build a **Sales & Revenue Analytics System** using:

* **SQL** – To manage and query sales transactions and customer data.
* **Python** – For data analysis, forecasting, and revenue insights.
* **ETL Pipeline** – To extract, clean, and load sales and customer data into a structured database.
* **Data Warehousing** – To store and consolidate sales and revenue data.
* **Tableau** – For interactive dashboards on revenue trends, product performance, and customer segmentation.

**Project Requirements**

1. **Data Integration & Processing**
   * Merge **sales transaction data** with **customer spending patterns**.
2. **ETL & SQL Queries**
   * Extract, clean, and store sales and customer data for structured reporting.
3. **Sales & Customer Analysis**
   * Identify **top-selling products and low-performing categories**.
   * Analyze **customer segments** (high-value, frequent buyers, occasional buyers).
4. **Predictive Modeling**
   * Forecast **future sales trends** using Python’s ML libraries.
   * Predict **customer lifetime value (CLV)** to optimize marketing efforts.
5. **Visualization & Insights**
   * Create **Tableau dashboards** for:
     + Sales trends across months
     + Best-performing product categories
     + Customer purchase patterns and segmentation
     + Revenue impact of discounts and promotions

**Dataset (Sample Data Provided)**

📂 **Sales Transaction Data** – Includes transaction details, products, prices, and payment methods.  
📂 **Customer Information Data** – Contains customer demographics, spending habits, and locations.

**Expected Outcome**

Your solution will help **TrendMart**:

* **Optimize inventory management** based on demand forecasts.
* **Personalize customer offers** to drive repeat purchases.
* **Maximize revenue** by adjusting pricing and promotional strategies.
* **Make data-driven business decisions** to stay competitive.