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**
   o Merge **sales transaction data** with **customer spending patterns**.
2. **ETL & SQL Queries**
   o Extract, clean, and store sales and customer data for structured reporting.
3. **Sales & Customer Analysis**
   o Identify **top-selling products and low-performing categories**.
   o Analyze **customer segments** (high-value, frequent buyers, occasional buyers).
4. **Predictive Modeling**
   o Forecast **future sales trends** using Python's ML libraries.
   o Predict **customer lifetime value (CLV)** to optimize marketing efforts.
5. **Visualization & Insights**
   o 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.