SQL and EXCEL Project on

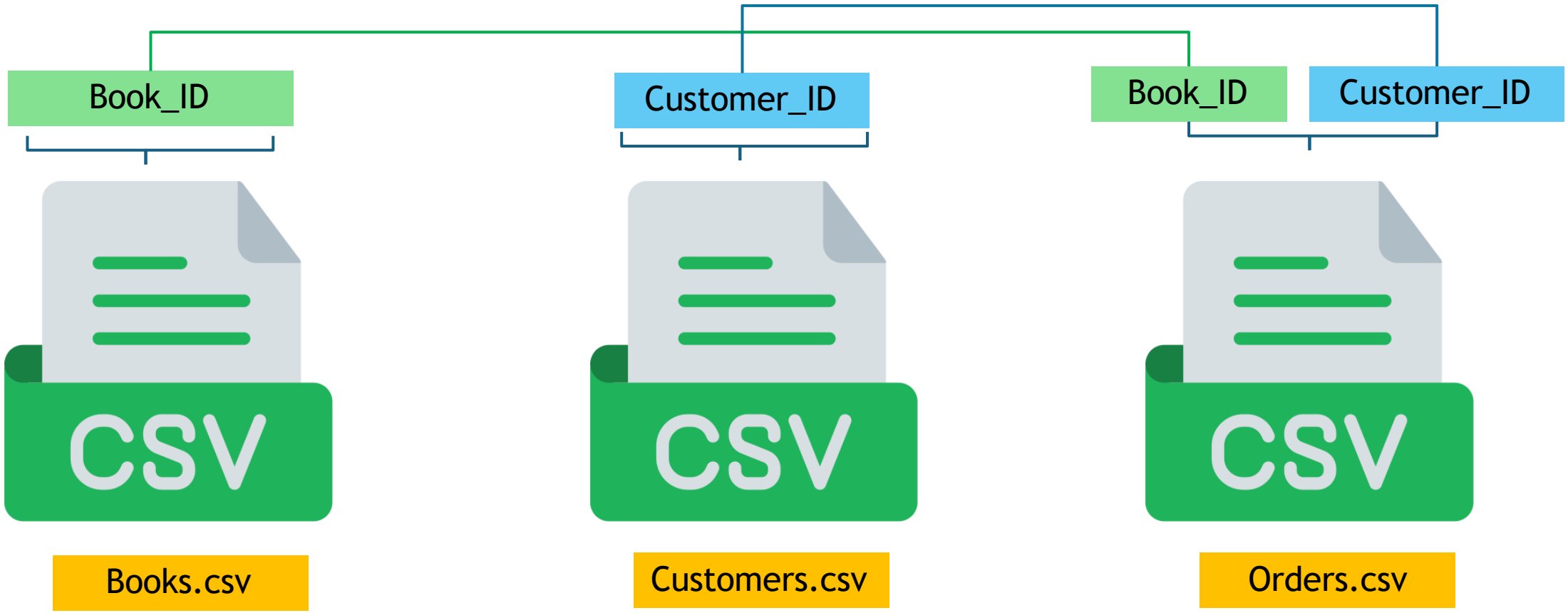
Online Book Store

Project Overview

This project aims to analyze an **online bookstore's sales performance**, customer behavior, and profitability using **Excel and SQL**. The goal is to extract meaningful insights that can help in **sales optimization, inventory management, and customer retention**.

3 CSV Files

Tables must have at least one common column with same column name and same data type



Problem Statement

An online book store needs to optimize its operations by analyzing sales performance, customer behavior, and inventory trends. The key challenges include:

- Identifying the **most profitable books** and genres to improve inventory management.
- Recognizing **top customers** and their purchasing patterns to enhance customer engagement.
- Analyzing **yearly revenue trends** to understand growth and seasonal variations.
- Detecting **stock shortages** to prevent loss of sales opportunities.
- Evaluating **order patterns** to optimize pricing strategies and promotional campaigns.

The goal of this project is to leverage **SQL-based data analysis** to extract insights that drive **data-driven decision-making** for improved sales, better inventory planning, and higher customer retention.

📌 Data Preparation & Cleaning

✅ Using SQL for Data Processing :

•Imported data from multiple tables (Books, Orders, Customers).
•Used SQL queries to check for duplicate records, null values, and missing data.
•Standardized data formats (e.g., date formats, price calculations).
•Built relationships between tables using JOIN operations.

✅ Using Excel for Data Modeling :

•Loaded cleaned SQL data into Excel using Power Query.
•Created a Data Model in Power Pivot to establish relationships.
•Used DAX formulas for advanced calculations.

Data Analysis and Key Insights :

📊 **1. Sales Trends Analysis-**

•Identified peak sales months using **PivotTables & Line Charts**.

•Seasonal trends: **High sales in 2023 May and 2024 Jan**.

📊 **2. Genre Performance Analysis-**

•Used SQL **GROUP BY queries** to find **best-selling genres**.

•Created a **Pie Chart in Excel** to visualize sales distribution by genre.

📊 **3. Customer Purchase Behavior-**

•Used SQL **window functions (LAG)** to calculate the **average time gap between repeat purchases**.

•Identified **high-value customers** contributing **40%+ of total revenue**.

📊 **4. Year Performance -**

- **Using Excel pie chart in Online book store data 2023 and 2024 is highest selling revenue compare to 2022 sales revenue.**

📊 **5. Top best-selling books –**

In a Book store compare 500 books top 10 books are highly sales. That was increase the sales growth in 60%.

SQL Basic Queries :

1) Retrieve all books in the "Fiction" genre
2) Find books published after the year 1950
3) List all customers from the Canada
4) Show orders placed in November 2023
5) Best-Selling Author?
6) Which book has generated the highest total revenue?
7) Show all customers who ordered more than 1 quantity of a book
8) Which genre contributes the most to overall sales?
9) List all genres available in the Books table
10) Find the book with the lowest stock
11) Calculate the total revenue generated from all orders

Advance Queries

1) Retrieve the total number of books sold for each genre.
2) Find the average price of books in the "Fantasy" genre.
3) List customers who have placed at least 2 orders.
4) Find the most frequently ordered book.
5) Show the top 3 most expensive books of 'Fantasy' Genre.
6) Retrieve the total quantity of books sold by each author.
7) List the cities where customers who spent over $30 are located.
8) Find the customer who spent the most on orders.
9) Calculate the stock remaining after fulfilling all orders.

10. What is the total revenue generated by the online book store?
11. What is the average order value in the store?
12. What is the trend of monthly revenue over time?
13. What is the trend of Yearly revenue over time?
14. Effect of Published Year on Sales.
15. What is the highest quantity of books purchased in a single order?
16. What percentage of orders contain more than one book?
17. Which day of the week has the highest number of orders?
18. What is the most common order size (in terms of quantity)?
19. How many unique books have been sold in total?
20. What are the seasonal trends in book sales?
21. How do different genres perform in different months?
22. What is the average time gap between repeat purchases by a customer?

CONCLUSION

The SQL analysis of the online book store provided valuable insights into sales trends, customer preferences, and inventory management. The key findings include:

- The **total revenue** generated by the store is **₹75,629**
- The **best-selling book** is *Realigned multi-tasking installation*.
- The **most active customer** is *Carrie Perez*, who placed the highest number of orders.
- **Mystery** is the **most popular genre**, contributing the most to sales.
- **Yearly revenue trends** show fluctuations, highlighting the need for **seasonal promotions**.
- Some books are **low in stock**, indicating a need for restocking to meet demand.

By implementing **data-driven strategies** based on these insights, the book store can:

✓ Optimize inventory by restocking high-demand books.
✓ Personalize marketing efforts for top customers.
✓ Adjust pricing based on sales trends.
✓ Plan seasonal promotions to boost revenue.