Top 5 SQL Projects to Boost Your Portfolio

1. **E-commerce Sales Data Analysis**

Dataset – https://www.kaggle.com/datasets/thedevastator/unlock-profits-with-e-commerce-sales-data

Purpose: Analyze sales, customer behavior, and product performance

Key Tasks -

- Create tables for customers, product, orders, and transaction.
- Write queries to calculate total sales, average order value, and customer Lifetime value.
- Identify best-selling products and trends over time.

2. **Library Management System**

Dataset: Create a fictional dataset or use

https://www.kaggle.com/code/sanketgangwani/library-management-system

Purpose: Design a system to manage book inventory, memberships, and borrowing Records

Key Tasks:

- Create normalized tables for books, members, icons, and staff.
- Write SQL queries for overdue book reports and most borrowed titles.
- Implement constraints and triggers to automate due-date updates.

3. **Hospital Database Management**

Dataset: https://www.kaggle.com/datasets/blueblushed/hospital-dataset-for-practice

Purpose: Manage patient, doctor, and treatment records for a healthcare setup

Key Tasks:

- Create tables for patient demographics, treatments, and billing information.

- Query the database to identify the most common treatments and doctor Workloads.
- Use SQL joins to analyze patient histories across multiple visits.

4. **Employee Performance and Payroll System**

Dataset: https://www.kaggle.com/datasets/anshika2301/hr-analytics-dataset

Purpose. Build a system to manage employee performance, payroll and leave records.

Key Tasks:

- Design relational tables for employees, departments, salaries, and leaves.
- Write queries to calculate bonuses, tax deductions, and net salaries.
- Use subqueries to identify top performers in each department.

5. **Movie Rating and Recommendation System**

Dataset: https://www.kaggle.com/datasets/grouplens/movielens-20m-dataset

Purpose: Create a database to analyze user ratings and recommend movies.

Key Tasks:

- Create tables for users, movies, genres, and ratings.
- Write SQL queries to find the highest-rated movies and frequent users.
- Use aggregate functions to calculate average ratings per genre.

Bonus Resources:

W3Schools SQL Practice: Interactive exercises for SQL basics.

LeetCode Database Problems: Practice real-world SQL scenarios.

Mode Analytics SQL Tutorial: Offers datasets and guides for SQL. Exploration.