Personal Finance Tracker

Introduction

Managing money isn't always easy, especially when you're trying to keep track of where it all goes each month. That's why I built a Personal Finance Tracker using SQL. The goal of this project was simple: to create a system where users can enter their income and expenses, see how much they're spending (and on what), and understand how their budget looks at the end of each month.

Abstract

This project uses a SQL-based approach to build a personal budgeting system. I created a database with four main parts — users, income, expenses, and spending categories. Then, using SQL queries, I could:

- Track how much money each user earns and spends
- Group expenses by category (like groceries or rent)
- Calculate a monthly balance to see what's left after spending

I also created SQL views that make reporting easier and allow quick exports of monthly summaries. This project simulates how backend systems for finance apps work.

Tools Used

- MySQL– To store and manage financial data
- MySQL Workbench – As the interface to interact with the database
- Spreadsheet (CSV or Excel) – For exporting reports like monthly balances and category summaries

Steps Involved in Building the Project

Step 1: Planning the Database

I started by designing a clean and simple schema:

- Users: who is using the tracker
- Income: how much money they earn, and when
- Expenses: how much they spend, what for, and when
- Categories: the type of expense (rent, food, entertainment, etc.)

Step 2: Adding Sample Data

To test the system, I created sample records like:

- 2 users: Alice and Bob
- Income sources like salary
- Expenses like groceries, rent, and movies
- This made the tracker feel realistic and useful.

Step 3: Writing Useful Queries

I wrote SQL queries to:

- Get total expenses per month

- Show how much is spent in each category
- Find monthly income and subtract expenses to calculate savings

Step 4: Creating Views

I created a Monthly Balance view to automatically show:

- Total income
- Total expenses
- Final monthly balance
- This view is super helpful when generating reports without rewriting queries.

Step 5: Exporting Reports

- Finally, I exported the results (like monthly summaries) as CSV files. These can be opened in Excel or Google Sheets for budgeting and planning.

Conclusion

This project helped me understand how powerful SQL can be in solving real-life problems like money management. With just a few tables and the right queries, you can build a smart system to track income, monitor expenses, and plan your finances better. This could even be used as the backend for a budgeting app — it's simple, scalable, and customizable. Plus, it was fun to build!