Financial Management System (SQL Project)

- Designed and developed a relational database system to manage personal financial activity, including users, accounts, budgets, transactions, vendors, and recurring payments. Implemented a fully normalized 10-table schema with proper primary/foreign key relationships to support secure, scalable, and structured data operations.
- Built SQL queries covering CRUD operations, joins, views, subqueries, window functions, and stored procedures to enable efficient financial tracking and reporting. The system supports categorizing income/expenses, allocating budgets, Analyzing, spending patterns, and generating summary reports.

Key Contributions:

- Designed a 10-table normalized ER model (Users, Accounts, Transactions, Budgets, Categories, Payment Methods, Vendors, Budget Items, Recurring Transactions, Account Types).
- Developed 30+ SQL queries including aggregation, pattern matching, joins, subqueries, views, functions, and window functions.
- Implemented features such as income/expense tracking, budget allocation, recurring payment monitoring, vendor analysis, and real-time financial reporting.
- Created views and stored procedures for reusable business logic and optimized data retrieval.
- Ensured data consistency and integrity using well-defined constraints, PK–FK relationships, and indexing choices.

Tech Stack: MySQL / SQL, ER Diagram.