# Day 23 – SQL Practice: Banking Transactions & Fraud Analysis

## 🏦 Dataset Overview

This dataset mimics a real-world banking system used for analyzing customer transactions, account types, and potential fraudulent activities. Focus areas include user behavior, transaction trends, high-value monitoring, and detecting anomalies based on amount, frequency, and account history.

## 📁 Tables and Sample Data

1. Customers

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| CustomerID | FullName | Email | Phone | Country |
| 1 | Ananya Sharma | ananya@example.com | 9876543210 | India |
| 2 | Rahul Mehta | rahul@example.com | 8765432109 | India |
| 3 | Liam Smith | liam@example.com | 9988776655 | USA |
| 4 | Emma Jones | emma@example.com | 8877665544 | UK |

2. Accounts

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| AccountID | CustomerID | AccountType | Balance | OpenDate |
| 101 | 1 | Savings | 25000.00 | 2022-01-15 |
| 102 | 1 | Current | 5000.00 | 2023-03-10 |
| 103 | 2 | Savings | 18000.00 | 2021-10-05 |
| 104 | 3 | Savings | 15000.00 | 2022-06-25 |
| 105 | 4 | Current | 7000.00 | 2022-08-01 |

3. Transactions

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| TransactionID | AccountID | TransactionDate | Amount | TransactionType |
| 1001 | 101 | 2023-01-10 | 2000.00 | Credit |
| 1002 | 101 | 2023-01-11 | 1000.00 | Debit |
| 1003 | 102 | 2023-03-15 | 3000.00 | Credit |
| 1004 | 103 | 2023-04-01 | 1500.00 | Debit |
| 1005 | 104 | 2023-06-05 | 4000.00 | Credit |
| 1006 | 105 | 2023-07-10 | 700.00 | Debit |
| 1007 | 105 | 2023-07-15 | 1300.00 | Debit |

## 🧠 Practice Questions

1) List all customers with their account types and current balances.

2) Show total credits and debits per account.

3) Identify accounts with more than 2 transactions in July 2023.

4) Find the average transaction amount per account and highlight those above the overall average.

5) Display customers who never made a debit transaction.

6) List top 2 highest single transactions for each account.

7) Count number of transactions per customer and their total credited amount.

8) Show customers with at least one transaction greater than 3000.

9) Identify customers whose savings account has a lower balance than the average of all current accounts.

10) Detect potential fraud: list accounts with more than 2 debit transactions in the same week.

🎯 Bonus:

Rank customers by total transaction volume (credit + debit) and return top customer(s) per country.