📘 BANKING SYSTEM - SCHEMA EXPLANATION

This document explains the schema design of the SQL-based Banking System created as part of the internship project under Celebal Technologies.

1. BRANCHES

Stores branch details like name, location and IFSC code.

- BranchID (PK): INT, auto-incremented

- BranchName: VARCHAR(100)

- BranchCode: VARCHAR(10), unique

- City: VARCHAR(50)

- State: VARCHAR(50)

- IFSCCode: VARCHAR(11), unique

2. CUSTOMERS

Stores customer personal information.

- CustomerID (PK): INT, auto-incremented

- FirstName, LastName: VARCHAR(50)

- Email: VARCHAR(100), unique

- Phone: VARCHAR(15)

- DateOfBirth: DATE

- Gender: CHAR(1) ['M', 'F', 'O']

- Address: VARCHAR(255)

- CreatedAt: DATETIME

3. ACCOUNTS

Holds customer accounts associated with branches.

- AccountID (PK): INT, auto-incremented

- CustomerID (FK): INT → Customers.CustomerID

- BranchID (FK): INT → Branches.BranchID

- AccountType: VARCHAR(20) ['Savings', 'Current', 'Salary']

- Balance: DECIMAL(18,2)

- Status: VARCHAR(10) ['Active', 'Frozen', 'Closed']

- OpenedOn: DATETIME

4. TRANSACTIONS

Logs all types of transactions.

- TransactionID (PK): INT, auto-incremented

- AccountID (FK): INT → Accounts.AccountID

- TransactionType: VARCHAR(20) ['Deposit', 'Withdraw', 'Transfer-In', 'Transfer-Out']

- Amount: DECIMAL(18,2)

- TransactionDate: DATETIME

- ReferenceAccountID: INT (nullable)

- Description: VARCHAR(255)

5. LOANAPPLICATIONS

Handles customer loan requests.

- LoanID (PK): INT, auto-incremented

- CustomerID (FK): INT → Customers.CustomerID

- AccountID (FK): INT → Accounts.AccountID

- LoanType: VARCHAR(30) ['Home', 'Education', 'Personal']

- AmountRequested: DECIMAL(18,2)

- DurationMonths: INT

- InterestRate: DECIMAL(5,2)

- Status: VARCHAR(20)

- AppliedOn: DATETIME

6. AUDITLOG

Tracks system-level operations.

- LogID (PK): INT, auto-incremented

- ActionPerformed: VARCHAR(100)

- PerformedBy: VARCHAR(50)

- Details: VARCHAR(255)

- ActionTime: DATETIME

7. ACCOUNTFREEZERECORDS

Logs account freezing events.

- FreezeID (PK): INT, auto-incremented

- AccountID (FK): INT → Accounts.AccountID

- Reason: VARCHAR(255)

- FrozenAt: DATETIME

- UnfrozenAt: DATETIME (nullable)

8. USERROLES (optional scalability)

To support future role-based control.

- UserID (PK): INT, auto-incremented

- Username: VARCHAR(50)

- Role: VARCHAR(20) ['Admin', 'Manager', 'Customer']