CLI-Based Banking Management System

# 1. Project Overview

This is a Command-Line Interface (CLI) based Banking Management System developed in Java using JDBC and MySQL. The system supports basic banking functionalities for users and administrators.

# 2. Features Implemented

## 2.1 User Features

- Register and login using email and password

- View account balance and status

- Deposit and withdraw money

- Transfer funds to other accounts

- Apply for loans (Regular and Balloon types)

- View transaction history (formatted)

- Repay loans manually

- Auto EMI deduction upon login (for Regular loans)

- Logout and Exit feature

## 2.2 Admin Features

- Admin login (Username: Banked, Password: ProjectDone)

- View all registered users

- View all loan applications

- Update account status (ACTIVE/BLOCKED/SUSPICIOUS)

- Approve or reject loan applications

- Logout and Exit feature

# 3. Features Planned for Future Releases

- PDF generation of bank statements and transaction history

- GUI version of the system using Java Swing or JavaFX

- Email notifications for loan approvals and account updates

- Interest calculations on deposits and loans

- Fixed Deposits and Complaint handling modules

# 4. Database Schema

## 4.1 users

Columns: id (INT, PK), name (VARCHAR), email (VARCHAR, UNIQUE), password (VARCHAR), pan\_or\_aadhaar (VARCHAR)

## 4.2 accounts

Columns: id (INT, PK), user\_id (INT, FK → users.id), balance (DOUBLE), status (VARCHAR)

## 4.3 transactions

Columns: id (INT, PK), account\_id (INT, FK → accounts.id), type (VARCHAR), amount (DOUBLE), timestamp (TIMESTAMP)

## 4.4 loans

Columns: id (INT, PK), user\_id (INT, FK → users.id), amount (DOUBLE), type (VARCHAR), status (VARCHAR), start\_date (DATE), duration\_months (INT), emi (DOUBLE), remaining\_amount (DOUBLE)

# 5. ER Diagram

The following diagram represents the relationships between the database tables used in this system:

