

# Loan Management System

## Features/Abstract:

The Loan Management System is a console-based application designed to simplify and automate loan processing for both administrators and customers. It provides secure login and registration, automated loan approval workflows, and real-time payment tracking. The system ensures accurate management of loan records, payment histories, and user accounts.

- Admin can approve or reject user registrations
- Admin can review, approve, or reject loan applications
- Admin can view customer payment history and loan status
- Customers can request loans and view their records
- Customers can make loan payments and track balances

## Entities

- User
  - “ *userID (PK) Unique ID for each user; u\_name Full name of the user; u\_email User email (used for login); u\_contact Contact number (11 digits)*
  - “ *u\_type Either 'Admin' or 'Customer'; u\_status 'Pending', 'Approved', or 'Rejected'; u\_pass User password (to be hashed for security)*
- Loan
  - “ *loanID (PK) Unique loan identifier; userID (FK) References the user who owns the loan; u\_email User's email for quick lookup;*
  - “ *L\_amount Principal loan amount; L\_interest Interest rate applied (in %); L\_totalLoan Total loan amount with interest;*
  - “ *L\_term Number of months to pay; L\_mpay Monthly payment amount; L\_status 'Pending', 'Approved', 'Active', or 'Completed'*
- Payments
  - “ *paymentID (PK) Unique ID for each payment record; loanID (FK) References the corresponding loan; userID (FK) References the user who made the payment; p\_amount Payment amount; p\_balance Remaining loan balance after payment; p\_mpay Updated monthly payable amount; p\_date Date of payment*

## ENTITY-RELATIONSHIP DIAGRAM

Loan	
🔑 loan_id	INTEGER
user_id	INTEGER
l_amount	DECIMAL(10,2)
l_term	INTEGER
l_mpay	DECIMAL(10,2)
l_balance	DECIMAL(10,2)
l_status	TEXT(20)
l_date	DATE

User	
🔑 user_id	INTEGER
u_name	TEXT(100)
u_email	TEXT(100)
u_password	TEXT(255)
u_type	TEXT(20)
u_status	TEXT(20)

Payment	
🔑 payment_id	INTEGER
loan_id	INTEGER
user_id	INTEGER
p_amount	DECIMAL(10,2)
p_date	DATE
p_balance	DECIMAL(10,2)
p_term_left	INTEGER

## FLOWCHART (DRAFT)

