

FINANCE MANAGER – A JAVA CONSOLE APPLICATION

PROJECT SUMMARY

The **Finance Tracker** is a console-based Java program designed to help users record and monitor their financial transactions using simple text-based commands.

It allows users to log incomes and expenses, categorize them, view summaries, and store data in a relational database for persistence.

Since it runs entirely in the console, the application is lightweight, fast, and platform-independent — suitable for both personal use and as a learning project in Java database integration.

OBJECTIVES

Transaction Tracking – Record and categorize all income and expense entries.

Expense Analysis – Generate summaries to identify spending patterns.

Accessibility – Make the software easy to run and maintain without advanced technical skills.

GOAL

The goal of this project is to deliver a simple yet powerful financial tracking tool that helps users a straightforward solution to monitor and control their personal finances, leading to better money management and informed decision-making.

APPROACH

DESIGN PHASE

Planned a simple command- driven menu system.

To create a database schema with tables for users, transactions and categories.

DEVELOPMENT

Implemented core Java classes for adding, viewing and deleting transactions.

Built reporting features to show income/expenses total and balances.

TESTING

Verified correct handling of positive/negative values.

Tested invalid inputs for menu options and transaction entries.

TECH STACK

PROGRAMMING LANGUAGE: JAVA (CORE)

DATABASES: MYSQL

INTERFACE: CONSOLE/COMMAND LINE

DEVELOPMENT TOOLS: INTELLIJ IDEA, VISUAL STUDIO CODE

VERSION CONTROL: GIT & GITHUB

HOW TO RUN

OPTION 1- USING INTELLIJ IDEA

Clone the project from GitHub : <https://github.com/NaveenDevX/finance-tracker-java>

Open IntelliJ IDEA → File → Open → Select the project folder.

Set up MySQL and run the provided SQL script to create tables.

Update database credentials in `dbConfig.java`.

Run the `Main.java` file — follow the console menu prompts.

OPTION 2- USING VS CODE

Install **Java Extension Pack** from the VS Code Marketplace.

Clone the project and open the folder in VS Code.

Set up MySQL and execute the SQL script to create tables.

Update database credentials in `dbConfig.java`.

Open `Main.java` and click **Run**.

RESULTS

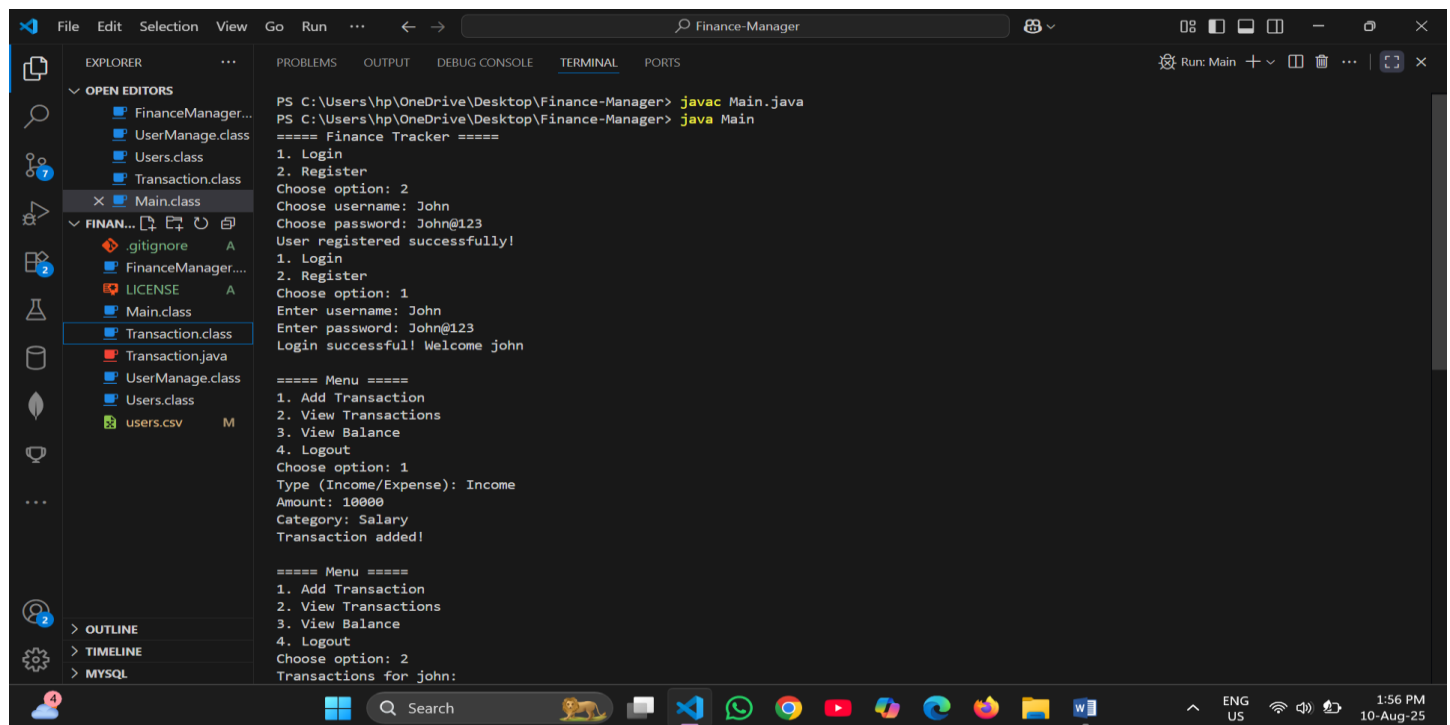
Successful User Registration & Login: New users can register and then log in successfully, with invalid login attempts correctly rejected.

Transaction Management: Users can add expense or income entries with type, amount, and category — confirmed by “Transaction added!” messages.

Seamless Menu Navigation: The menu reappears after each action, enabling smooth navigation for adding, viewing, and checking balances without restarting.

SCREENSHOTS

FINANCE TRACKER (LOGIN, REGISTER)

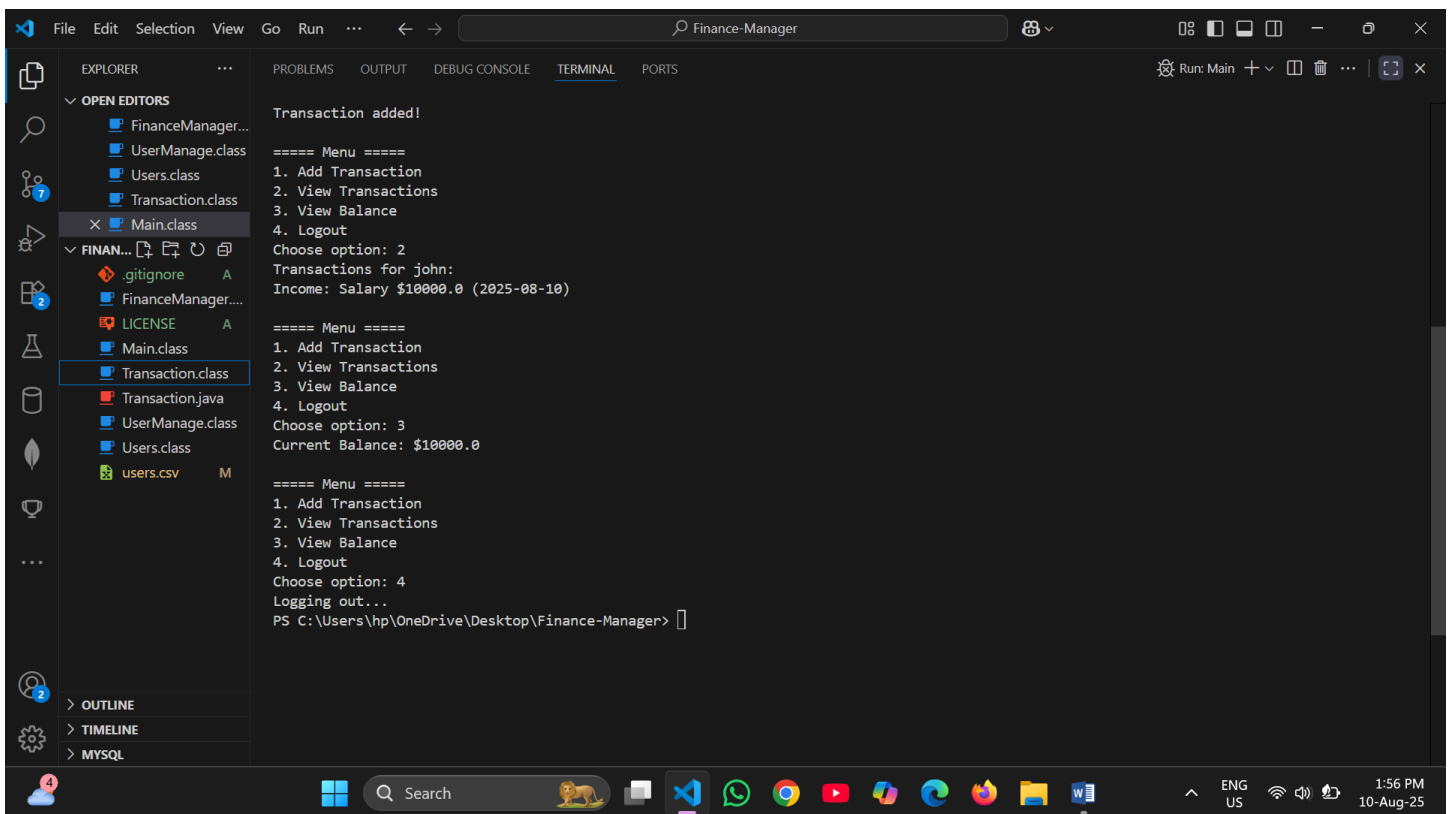


```
PS C:\Users\hp\OneDrive\Desktop\Finance-Manager> javac Main.java
PS C:\Users\hp\OneDrive\Desktop\Finance-Manager> java Main
===== Finance Tracker =====
1. Login
2. Register
Choose option: 2
Choose username: John
Choose password: John@123
User registered successfully!
1. Login
2. Register
Choose option: 1
Enter username: John
Enter password: John@123
Login successful! Welcome john

===== Menu =====
1. Add Transaction
2. View Transactions
3. View Balance
4. Logout
Choose option: 1
Type (Income/Expense): Income
Amount: 10000
Category: Salary
Transaction added!

===== Menu =====
1. Add Transaction
2. View Transactions
3. View Balance
4. Logout
Choose option: 2
Transactions for john:
```

FINANCE TRACKER MENU (TRANSACTIONS- ADD, VIEW, BALANCE)



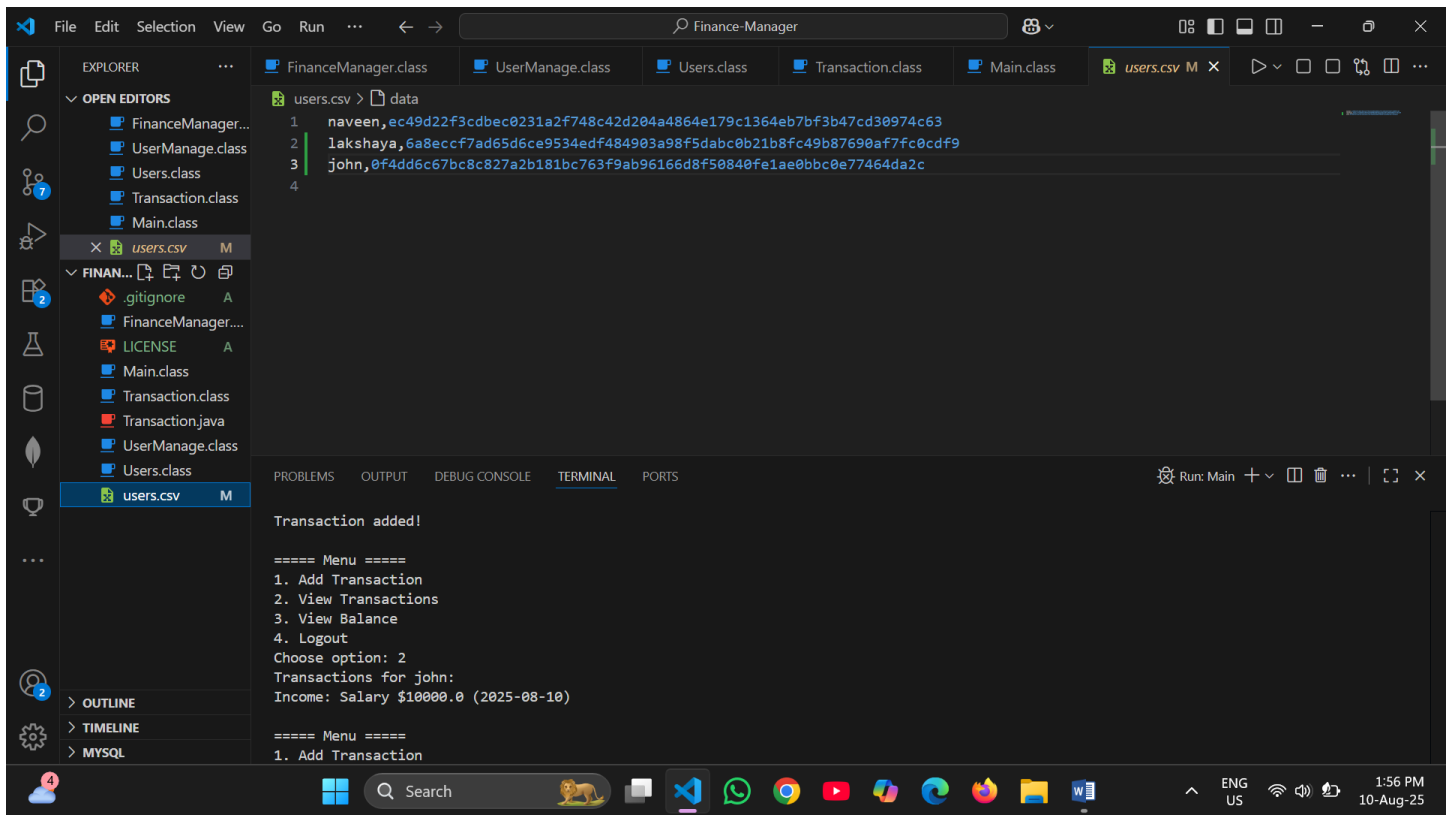
```
Transaction added!

===== Menu =====
1. Add Transaction
2. View Transactions
3. View Balance
4. Logout
Choose option: 2
Transactions for john:
Income: Salary $10000.0 (2025-08-10)

===== Menu =====
1. Add Transaction
2. View Transactions
3. View Balance
4. Logout
Choose option: 3
Current Balance: $10000.0

===== Menu =====
1. Add Transaction
2. View Transactions
3. View Balance
4. Logout
Choose option: 4
Logging out...
PS C:\Users\hp\OneDrive\Desktop\Finance-Manager>
```

TO HASH THE PASSWORD USING SH-256 AND STORE IT IN CSV FILE



The screenshot shows an IDE with the following components:

- EXPLORER:** Lists files including `FinanceManager.class`, `UserManage.class`, `Users.class`, `Transaction.class`, `Main.class`, `users.csv`, `.gitignore`, `LICENSE`, `Main.class`, `Transaction.class`, `Transaction.java`, `UserManage.class`, `Users.class`, and `users.csv`.
- OPEN EDITORS:** Shows `users.csv` and `Main.class`.
- users.csv:** Contains three rows of data:

```
1 naveen,ec49d22f3cdbec0231a2f748c42d204a4864e179c1364eb7bf3b47cd30974c63
2 lakshaya,6a8eccf7ad65d6ce9534edf484903a98f5dabc0b21b8fc49b87690af7fc0cdf9
3 john,0f4dd6c67bc8c827a2b181bc763f9ab96166d8f50840fe1ae0bbc0e77464da2c
4
```
- TERMINAL:** Displays the following output:

```
Transaction added!

===== Menu =====
1. Add Transaction
2. View Transactions
3. View Balance
4. Logout
Choose option: 2
Transactions for john:
Income: Salary $10000.0 (2025-08-10)

===== Menu =====
1. Add Transaction
```

GITHUB LINK

<https://github.com/NaveenDevX/finance-tracker-java>

CONCLUSION

The **Finance Tracker** project demonstrates strong fundamentals in Java programming, database integration with MySQL, and software design for real-world use.

Its console-based interface ensures simplicity while still delivering valuable functionality for managing personal finances.