ATM Machine Console-Based Project

# 1. Problem Statement

The goal of this project is to develop a console-based ATM machine simulation in Java. The system allows users to securely log in with their account number and PIN to perform transactions such as balance inquiry, deposit, and withdrawal. The project emphasizes proper input validation, event handling, error handling, and adherence to modular programming practices.

# 2. Tools Used

- Programming Language: Java  
- IDE: VS Code / IntelliJ IDEA  
- Libraries: Java Standard Library

# 3. Implementation

The project is structured using three primary Java classes:  
  
• Account.java: Represents individual bank accounts with account number, PIN, and balance.  
• ATM.java: Contains the ATM logic including login, transaction handling, error processing.  
• Main.java: Entry point to run the application.

# 4. Screenshots of Execution

(Screenshots attached in the "sample-output" folder of the project repository.)

# 5. Results

• Successfully handles account login with validation.  
• Allows deposits and withdrawals with balance verification.  
• Rejects invalid inputs and handles errors gracefully.  
• Provides clear output for all user interactions.

# 6. Conclusion

This console-based ATM simulation fulfills the requirements for console-based projects as per the provided rubric. The modular, object-oriented structure allows for future enhancements such as database integration or GUI-based interaction.