Report-by Mihir Singh Chouhan

Project Report: ATM Interface

1. Introduction The ATM Interface is a console-based Java application designed to simulate the core functions of an Automated Teller Machine (ATM). This project serves as a practical example of object-oriented programming, data encapsulation, and user interaction through the command line.

2. Implementation Details

- **Class Design:** The project uses five classes, with each class likely handling a specific aspect of the system (e.g., User, Account, ATM, Transaction, and a main class to handle the user interface).
- **User Interface:** A simple, menu-driven interface is used. The user navigates by entering numerical choices corresponding to the desired operation.
- **Data Handling:** User and account data are likely stored in variables within the classes. For a simple demo, a hard-coded user ID and PIN might be used.
- **Error Handling:** The application should include basic error handling, such as checking for insufficient funds during a withdrawal or transfer.

3. Functionality Breakdown

- **Authentication:** The main program loop begins with a login prompt. If the credentials are correct, the main menu is displayed.
- **Transaction History:** A List or ArrayList is used to store transaction records. Each time a transaction occurs, a new entry is added to this list.
- **Withdrawal/Deposit:** These operations directly modify the account balance variable.
- **Transfer:** This operation involves a withdrawal from the current user's account and a deposit into another account (which would need to be identified by an account number).

4. Future Enhancements

- Implement a database connection to store user data persistently instead of using in-memory variables.
- Add security features like a PIN attempt limit.
- Enhance the transaction history to include timestamps.
- Expand the number of functionalities, such as changing the PIN or checking the account balance.