Project Report Submission(Task-2)

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Task Title: ATM Interface Program in Java

Task Description: Implement an ATM interface program in Java that allows users to log in, check balance, withdraw money, deposit money, and exit the system.

Steps Taken:

1. **User Class:**
- Created a User class to represent each user with attributes like userID, userPIN, and accountBalance.
- Implemented getters and setters for accessing and modifying user information.
2. **ATM Class:**
- Developed an ATM class to manage the ATM functionalities and user authentication.
- Initialized a userDatabase (HashMap) with a sample user for testing.
- Implemented methods for user authentication, displaying the menu, checking balance, withdrawing money, and depositing money.
3. **User Authentication:**
- Utilized the Scanner class to take user input for userID and PIN.
- Validated the credentials against the userDatabase.
4. **Menu Display:**
- Created a menu with options to check balance, withdraw money, deposit money, and exit.
- Implemented a loop to keep the menu active until the user chooses to exit.
5. **Balance Check:**
- Implemented a method to display the current account balance.

6. **Withdraw Money:**
   - Allowed users to input the withdrawal amount, validating against available funds.
   - Updated the user's account balance upon a successful withdrawal.
7. **Deposit Money:**
   - Enabled users to input the deposit amount, updating the account balance accordingly.

Challenges Faced:

- Understanding user authentication flow.
- Handling user input for numeric values.

Solutions Implemented:

- Implemented a step-by-step user authentication process with clear instructions.
- Utilized appropriate exception handling and validation for user input.

Learnings:

- Improved understanding of Java classes and object-oriented programming.
- Enhanced skills in user input validation and exception handling.

Project Update:

The ATM interface program is successfully implemented with core functionalities. The user authentication, menu display, and transaction processes are working as intended.

Project Git Hub Report: https://github.com/rahulkumar524/ATM-Interface-in-java