BANK MANAGEMENT SYSTEM

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INTRODUCTION

The Bank Management System project is designed to provide an efficient and secure digital platform for managing banking operations such as account creation, deposits, withdrawals, transfers, and transaction history. Built using C++, this system leverages Object-Oriented Programming (OOP) principles to enhance modularity, security, and maintainability. The implementation ensures ease of use for customers while providing robust mechanisms for secure handling of sensitive data.

APPLICATION OF OOPS

The Bank Management System demonstrates key OOP principles:

- Encapsulation: Sensitive information, such as account details and passwords, is securely managed using private class members, ensuring restricted access and data protection.
- Inheritance: Though not implemented, the design supports future extensions like specialized account types (e.g., savings or current accounts)

APPLICATION OF OOPS

- Polymorphism: Uniform interfaces handle diverse operations like deposits, withdrawals, and transfers.
- Abstraction: High-level methods (deposit, withdraw, transfer) simplify complex operations, enhancing usability and maintainability.
- Reusability: Modular classes like Account and Transaction ensure consistent functionality and ease of code management.

OUTPUTS

```
1. Create Account
2. Deposit
3. Withdraw
4. Transfer
5. View Transactions
6. Exit
Choose an option: 1
Enter account number: 12345678
Set your password: qwerty
Account 12345678 created successfully.
1. Create Account
2. Deposit
3. Withdraw
4. Transfer
5. View Transactions
6. Exit
Choose an option: 2
Enter account number: 12345678
Enter amount to deposit: 50000
```

OUTPUTS

```
1. Create Account
2. Deposit
3. Withdraw
4. Transfer
5. View Transactions
6. Exit
Choose an option: 3
Enter account number: 12345678
Enter amount to withdraw: 800
1. Create Account
2. Deposit
3. Withdraw
4. Transfer
5. View Transactions
6. Exit
Choose an option: 1
Enter account number: 1234
Set your password: qwer
Account 1234 created successfully.
```

OUTPUTS

```
1. Create Account
2. Deposit
3. Withdraw
4. Transfer
5. View Transactions
6. Exit
Choose an option: 4
Enter your account number: 12345678
Enter recipient account number: 1234
Enter amount to transfer: 7000
1. Create Account
2. Deposit
3. Withdraw
4. Transfer
5. View Transactions
6. Exit
Choose an option: 5
Enter account number: 12345678
Enter your password for verification: qwerty
Transactions for account 12345678:
Timestamp: Deposit of $50000
Timestamp: Withdrawal of $800
Timestamp: Withdrawal of $7000
Timestamp: Transfer of $7000
Remaining balance: $42200
1. Create Account
2. Deposit
3. Withdraw
4. Transfer
5. View Transactions
6. Exit
Choose an option: 6
Exiting...
```

CONCLUSION

The Bank Management System effectively demonstrates the utility of Object-Oriented Programming in solving real-world problems by providing a secure, modular, and user-friendly solution for banking operations. With its C++ implementation, the project ensures reliable handling of financial transactions while maintaining data security and system efficiency. Future enhancements can build upon the current design by incorporating additional features like online banking and mobile app integration, leveraging the scalability of the OOP framework.

THANK YOU