Simple Banking System

An Overview of Core Operations in C Language

TEAM MEMBERS

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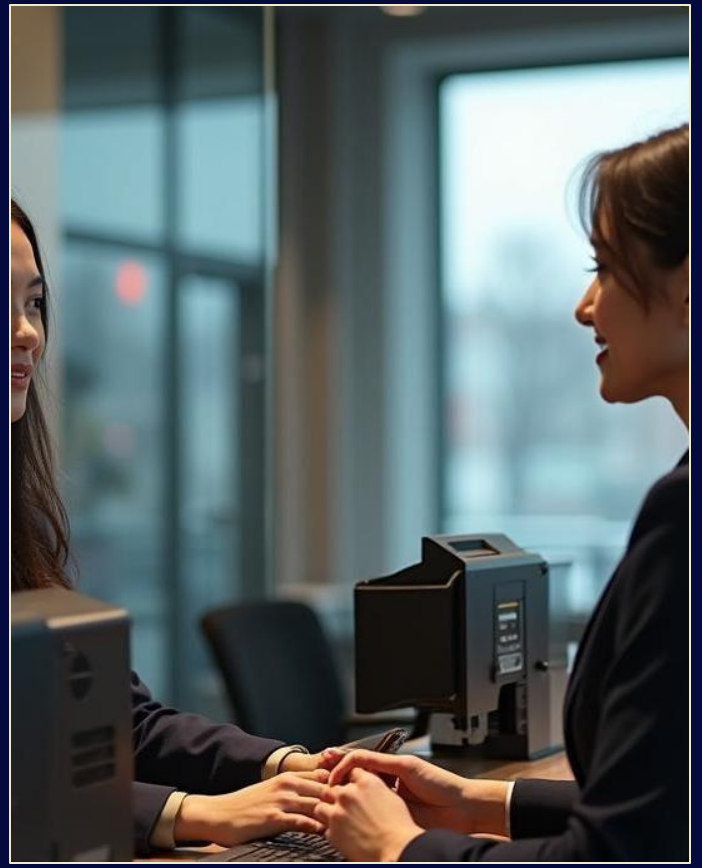
Introduction

This presentation explores the fundamental operations of a simple banking system implemented in C. We will cover account management and financial operations, focusing on the utilization of arrays and linked lists for effective data handling.

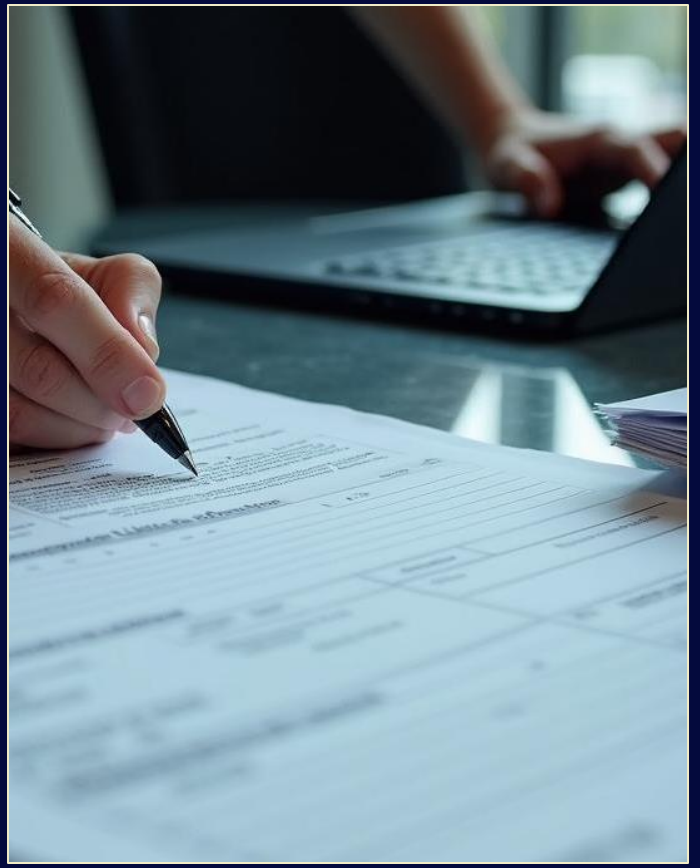


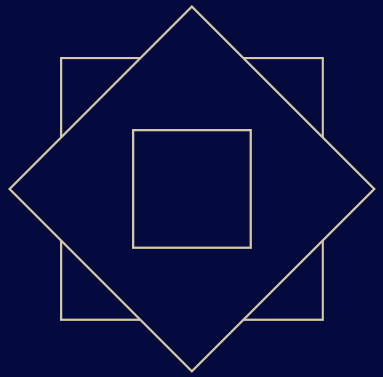
01

Account Management

Account Creation Process

The account creation process involves initializing a new account with the necessary details such as account holder's name, account number, and initial balance. An account can be added to an array or linked list structure based on the implementation choice. This process validates inputs and ensures data integrity.

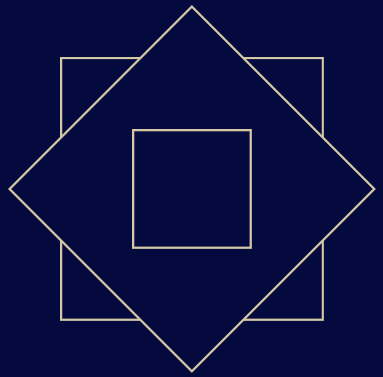




Data Structures Used (Arrays & Linked Lists)

- Arrays allow for static allocation of account data, making access time efficient but limiting flexibility as the number of accounts grows. In contrast, linked lists provide dynamic memory allocation, allowing for easier insertion and deletion of accounts at any position without compromising performance. Each approach has its advantages depending on the expected usage scenario.

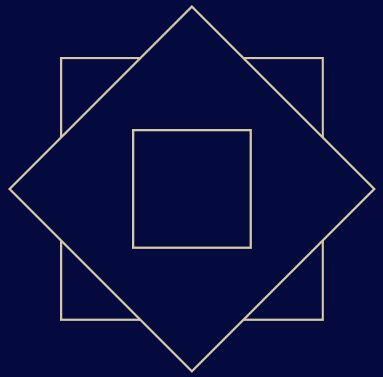
Managing Account Details



- Managing account details encompasses updating user information, retrieving account balances, and modifying account settings when necessary. It ensures that all account information is accurate and reflects the current state of the account. This is typically done using functions that can traverse the array or linked list structure to locate the relevant account.

02

Financial Operations

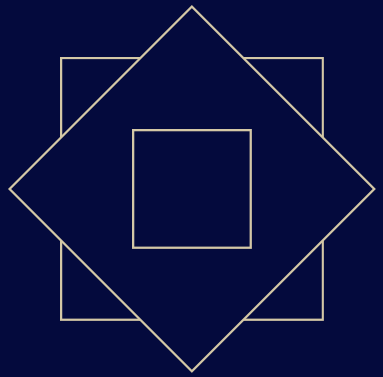


Deposit Handling

- Deposit handling involves accepting funds into a specified account. The process requires verifying the account's validity and then adding the deposit amount to the current balance. This operation may also include recording the transaction for future reference, ensuring that all deposits are accurately logged in the system.

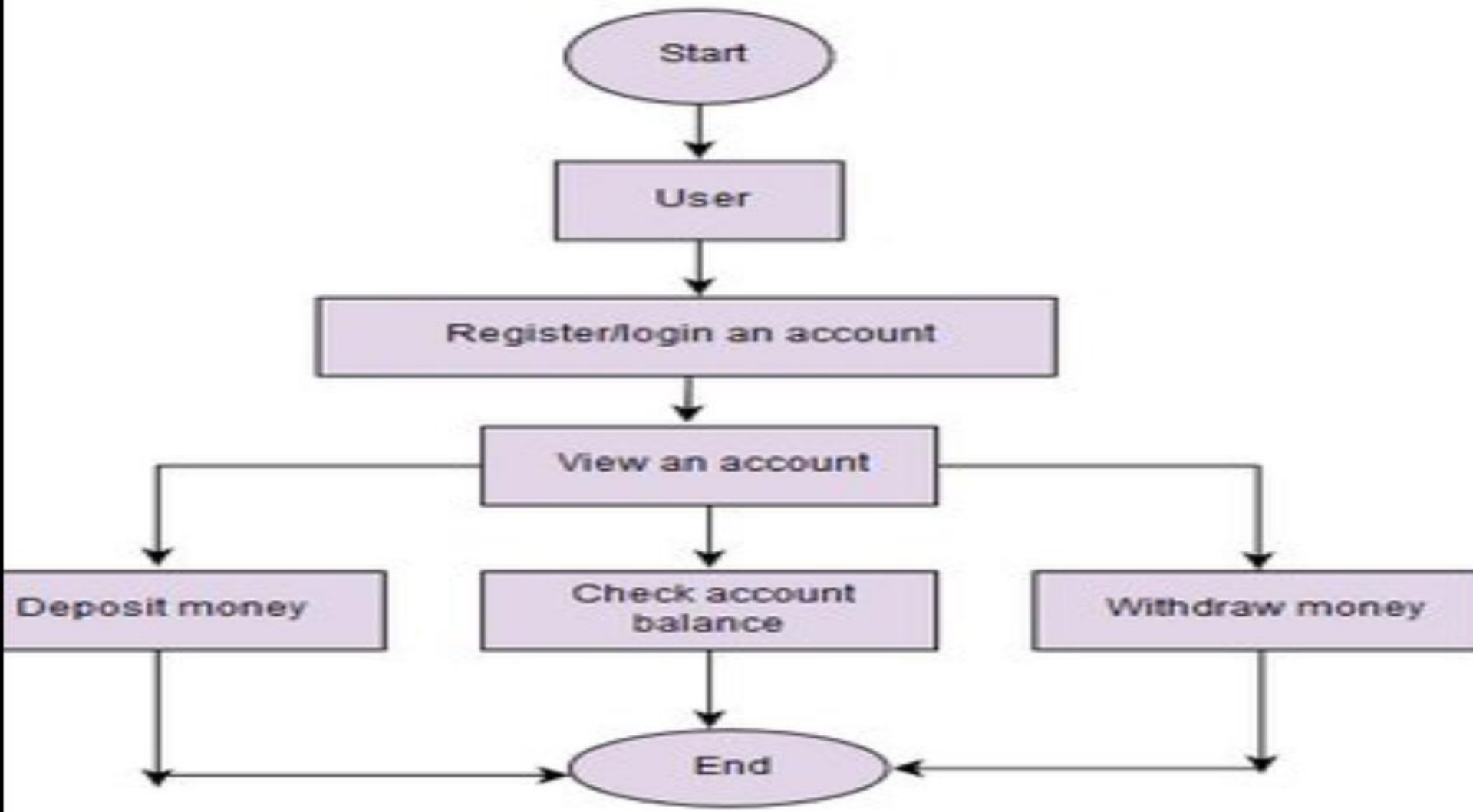
Withdrawal Procedures

Withdrawal procedures require validating the account's balance to ensure sufficient funds are available. Once validated, the withdrawal request is processed by deducting the amount from the account balance. This operation should handle edge cases, such as overdrafts, and log each transaction for transparency.



Generating Transaction Statements

- Generating transaction statements involves compiling all transactions made on an account within a specified timeframe. This includes deposits, withdrawals, and any fees incurred. The statement provides a clear overview of account activity, ensuring that users can track their financial history accurately.


Start
User
Register/login an account
View an account
Deposit money
Check account balance
Withdraw money
End

```
--- Banking System Menu ---
1. Create Account
2. Deposit
3. Withdraw
4. Mini Statement
5. Exit
Enter your choice: 1
Enter name: sivaji
Account created successfully! Account Number: 1000

--- Banking System Menu ---
1. Create Account
2. Deposit
3. Withdraw
4. Mini Statement
5. Exit
Enter your choice: 2
Enter account number: 1000
Enter amount to deposit: 5000
Deposit successful. New balance: 5000.00

--- Banking System Menu ---
1. Create Account
2. Deposit
3. Withdraw
4. Mini Statement
5. Exit
Enter your choice:
```

```
--- Banking System Menu ---
1. Create Account
2. Deposit
3. Withdraw
4. Mini Statement
5. Exit
Enter your choice: 3
Enter account number: 1000
Enter amount to withdraw: 2000
Withdrawal successful. New balance: 3000.00

--- Banking System Menu ---
1. Create Account
2. Deposit
3. Withdraw
4. Mini Statement
5. Exit
Enter your choice: 4
Enter account number: 1000

Mini Statement for sivaji (Account No: 1000)
Current Balance: 3000.00
Transactions:
Withdraw: 2000.00
Deposit: 5000.00
```

```
Mini Statement for sivaji (Account No: 1000)
Current Balance: 3000.00
Transactions:
Withdraw: 2000.00
Deposit: 5000.00

--- Banking System Menu ---
1. Create Account
2. Deposit
3. Withdraw
4. Mini Statement
5. Exit
Enter your choice: 5
Thank you!


...Program finished with exit code 0
Press ENTER to exit console.
```

Conclusions

In summary, the simple banking system effectively utilizes arrays and linked lists to manage accounts and financial operations. By implementing structured processes for account management, deposits, withdrawals, and transaction statements, we ensure a reliable and efficient banking experience.

Thank you!

Do you have any questions?