

Project Title: Management System for Cash Transactions

Abstract:

This project explores the application of fundamental data structures—linked lists, stacks, and queues—in managing cash transactions among clients in a financial system. The objective is to design a robust system that supports various client operations, including deposits, withdrawals, credit transfers, request handling, transaction viewing, and undo functionality. Additionally, administrative functions such as client management and transaction oversight will be implemented.

Objectives:

1. Client Operations:

- **Deposit:** Enable clients to deposit funds into their accounts.
- **Withdraw:** Allow clients to withdraw funds from their accounts.
- **Transfer Credit:** Facilitate credit transfers between clients.
- **Request Money:** Permit clients to request funds from others.
- **Accept Requests:** Allow clients to accept or decline money requests.
- **Show Transactions:** Display a list of transactions in reverse chronological order.
- **Show Requests:** List money requests in chronological order.
- **Undo Last Transaction:** Implement functionality to revert the most recent transaction.

2. Administrative Functions:

- **Add Client:** Admins can add new client profiles.
- **Remove Client:** Admins can delete existing client profiles.
- **Edit Client Info:** Admins can modify client details.
- **Show All Clients:** Admins can view detailed information of all clients.
- **Show All Transactions:** Admins can access transaction histories across all clients.

Data Structures Utilized:

- **Linked List:** Manage client profiles and transaction records efficiently.
- **Stack:** Implement undo functionality to revert the last transaction.
- **Queue:** Handle and organize transaction requests.

Methodology:

The system will be implemented using a combination of linked lists to handle dynamic client data and transactions, stacks for undo operations, and queues for managing request orders. The design will ensure optimal performance for transaction operations and administrative tasks. The project will also include a user interface for both clients and administrators to interact with the system effectively.

ANY COPY OR AI GENERATED CODE WILL BE GRADED ZERO