# JAYPEE INSTITUTE OF INFORMATION TECHNOLOGY, NOIDA

## B. TECH III SEMESTER

## REPORT FOR MINOR PROJECT IN DATA STRUCTURES


**TITLE OF PROJECT**

## *'CASH FLOW MINIMSER'*


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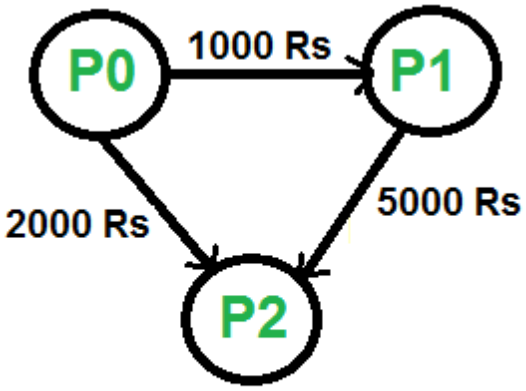
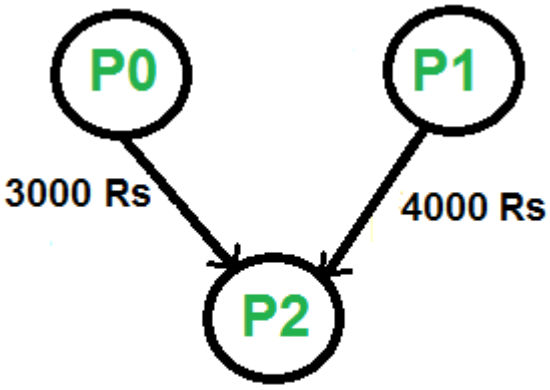
# PROJECT REPORT

***PROBLEM STATEMENT:*** Transactions refer to the lending / borrowing of money between individuals and organizations. They are an important part of everyday life and carrying out multiple of them can be a tedious task. To solve this problem, a banking management system has been developed to carry out the transactions in an efficient and minimal way.

## *FLOWCHART FOR CASH FLOW MINIMISER*




P0 has to pay 1000 Rs to P1
P0 also has to pay 2000 Rs to P2
P1 has to pay 5000 Rs to P2.

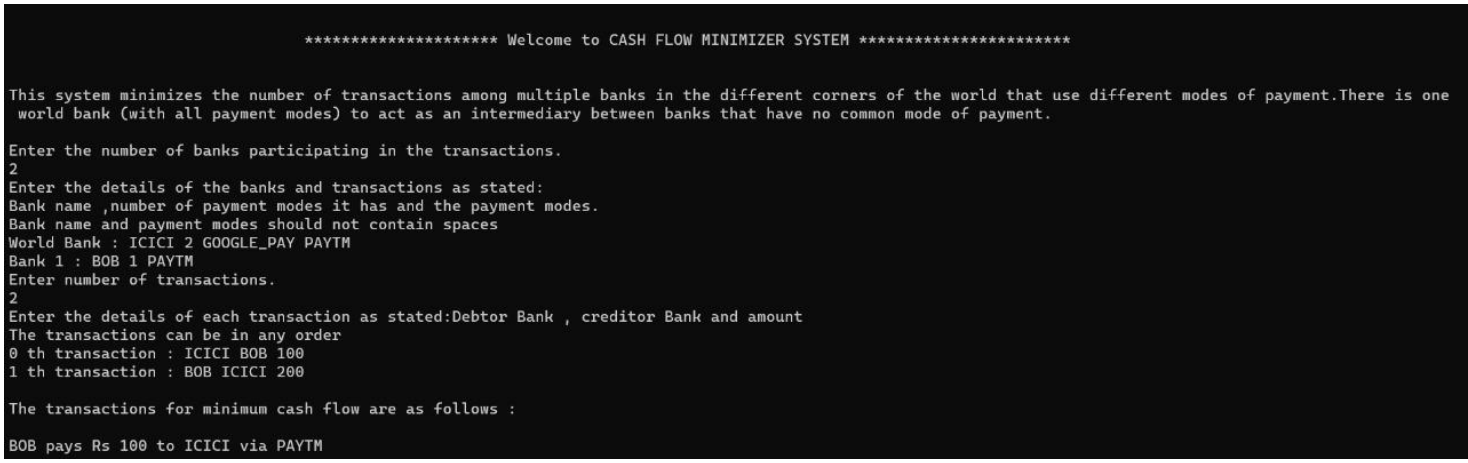



P1 pays 4000 Rs to P2
P0 pays 3000 Rs to P2

## ***DATA STRUCTURES USED:***

1. Graphs
2. Queues
3. STL(Vectors and Unordered Maps)

**Cash Flow Minimizing Transaction**




## ***FUTURE SCOPE***

To make this project more competent for industry level use and meet the growing demand of the users, the following are some potential future scope areas.

- Multi-Currency Support: Extend the system to support multiple currencies for international transactions.
- Cloud Integration: Allow users to store and access their cash flow data on the cloud for seamless multi-device synchronization.
- Advanced Analytics: Incorporate advanced analytics tools for in-depth financial analysis.
- Generate customizable reports and visualizations to help users gain insights into their financial data.
- Expense Tracking: Expand the application to include expense tracking features, helping users to identify areas for cost-cutting.
- Integration with Financial Institutions: Allow users to integrate the system with their bank accounts for automatic transaction updates and reconciliation.

- Mobile Application: Develop a mobile application to provide users with on-the-go access to their cash flow data.

- Implement a notification system to alert users about important account activities, such as low balance or suspicious transactions.

- Customer Relationship Management (CRM): Integrate CRM features to help banks manage and analyze
- customer interactions, improving customer service and satisfaction.

## ***CONCLUSION***

In conclusion, this Cashflow Minimizer project in C++ offer robust solutions to address financial management and banking needs. This project is designed to enhance user experience, streamline processes, and provide valuable insights into financial activities. Users can create their accounts, edit and update the accounts and amount, and find the ways (minimum transactions) to settle debts between themselves. This is helpful since monetary transactions play an important role in our daily life.

## ***REFERENCES***


- https://www.geeksforgeeks.org/vector-in-cpp-stl/

- https://www.geeksforgeeks.org/graph-and-its-representations/

- https://www.geeksforgeeks.org/minimize-cash-flow-among-given-set-friends-borrowed-money/