Test Plan Document: Banking System

1. Test Plan Overview

Project Name: XYZ Bank - Banking System
Developed By: First Semester Students
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Date: 10/06/2025
Objective: Ensure correctness, functionality, and usability of the student-developed Banking System implemented in C using file handling and structures.

2. Scope

The scope of this testing plan covers functional and boundary-level testing of the following:
- Account creation
- Transactions (deposit and withdrawal)
- Account listing, editing, deletion
- Monthly and global report generation
- Validation checks (blank fields, minimum balance, etc.)

3. Testing Strategy

Type of Testing: Black Box Testing
Environment: Windows/Linux terminal, compiled using GCC
Tools: Manual execution, file inspection (INITIAL.dat, BANKING.dat)

4. Features to be Tested

Feature	Function Name	Description
Open new account	new_account()	Auto-generates account number and appends valid details
List of accounts	display_list()	Displays all accounts with current balance
Individual account	display_account()	Shows account statement by acc_no
Transaction	transaction()	Processes

		deposit/withdrawal with balance updates
Edit Account	modify_account()	Modify name, address, or close/delete account
Reports	month_report() / display_account()	Displays monthly/global statement

5. Test Case Template

TC ID | Test Scenario | Input | Expected Result | Actual Result | Pass/Fail

6. Sample Test Cases

TC ID	Scenario	Input	Expected Result
TC01	Create new account with valid data	Name: Ravi, Address: Bengaluru, Deposit: 1000	Account created, acc_no generated
TC02	Create account with blank name	Name: (blank)	Reject input and prompt user
TC03	Create account with < ₹500 deposit	400	Error: Initial deposit must be ≥ ₹500
TC04	Deposit transaction	acc_no: 1001, Type: Cash, Amount: 500	Balance updated correctly
TC05	Withdrawal with sufficient balance	acc_no: 1001, Type: Cheque, Amount: 200	Balance reduced correctly
TC06	Withdrawal with insufficient balance	acc_no: 1001, Amount: > balance	Error shown, transaction denied
TC07	Modify account address	acc_no: 1001, new address: Mysuru	Address updated in INITIAL.dat
TC08	Close account	acc_no: 1001	Account removed from both .dat files
TC09	View global report	acc_no: 1001	All transactions shown with totals
TC10	View monthly report	acc_no: 1001, date: 03-06-2025	Shows only current month's transactions

7. Validation Test Cases

TC ID	Validation Rule	Description
V01	Account number must be unique	Ensure auto-generation logic in last_accno()
V02	No blank name/address	Check user input validation
V03	Date must match system date	Match transaction date with system date
V04	Balance cannot be negative	Prevent withdrawal if balance insufficient

8. Test Deliverables

- Test Plan Document (this document)
- Test Case Document (can be used as a checklist)
- Summary Report (after student testing)
- Screenshots of outputs (optional)

9. Entry and Exit Criteria

Entry Criteria: Program must compile successfully, main menu accessible.
Exit Criteria: All test cases passed, and .dat files reflect accurate data.

10. Traceability Matrix

Requirement	Function	Test Cases
Account Creation	new_account()	TC01, TC02, TC03, V01, V02
Transaction	transaction()	TC04, TC05, TC06, V04
View Accounts	display_list()	TC07
Edit Account	modify_account()	TC07, TC08
Reports	display_account(), month_report()	TC09, TC10