



**CHANDIGARH
UNIVERSITY**

Discover. Learn. Empower.

UNIVERSITY INSTITUTE OF COMPUTING

PROJECT REPORT ON BANKING MANAGEMENT SYSTEM

Program Name: BCA

Subject Name/Code: Data Structures(23CAT-201)

Submitted by:

Name: Harinder Singh

UID: 23BCA10507

Section: BCA – 3 “A”

Group: 5

Submitted to:

Name: Mrs. Shilpi Mittal

Designation: Co-ordinator

ABSTRACT

Introduction:

This C++ banking application simplifies basic banking operations such as account creation, secure login, balance inquiry, and money transfers. It uses linked lists to manage user data efficiently, allowing dynamic storage and easy access to account information.

New users can register with their details, and create a unique account number, and set a password. Existing users can log in securely to check their balance or transfer money to other accounts. The application ensures secure transactions and efficient data handling, providing a streamlined and user-friendly banking experience.

Technique:

The application is developed using C++ with a focus on object-oriented programming (OOP) principles. It employs the following techniques:

1. **Object-Oriented Design:** The use of classes and objects helps in encapsulating related data and functions, making the code modular and easy to maintain.
2. **Linked List Data Structure:** Linked lists are used for dynamic storage of user accounts, allowing efficient addition, searching, and deletion operations. This structure is ideal for managing user data without the need for fixed-size arrays.
3. **Secure Authentication:** User credentials are securely stored, and password verification ensures that only authenticated users can access their accounts.
4. **File Handling:** The File Handling Functions allow to save user information (account name, password, or other details) in a file for future use.

System Configuration:

- OS: Windows 10 or Linux
- Processor: Intel Core i3 (minimum); Core i5 or higher recommended
- RAM: 4 GB (minimum); 8 GB recommended
- Development Environment: Any C++ IDE (e.g., Visual Studio, Code::Blocks) or Visual Studio Code with a C++ compiler (GCC or Microsoft C++ Compiler)

SUMMARY

Input:

Main Menu:

- The user is prompted to choose between:
 - 1: Login
 - 2: Create
 - 3: Manager Login
 - 4: Exit

For Existing Users:

- User Number: Input your user number (e.g., 1001).
- Password: Enter your password for authentication.
- After login, the following options are available:
 - 1: Withdraw
 - 2: Deposit
 - 3: Update
 - 4: Display
 - 5: Transfer Money.
 - 6: delete Account
 - 7: Exit.
- Money Transfer Process:
 - Recipient's Account Number: Enter the receiver's account number (e.g., 33330).
 - Amount: Enter the amount to transfer.
 - If balance is insufficient, then user can't send money.

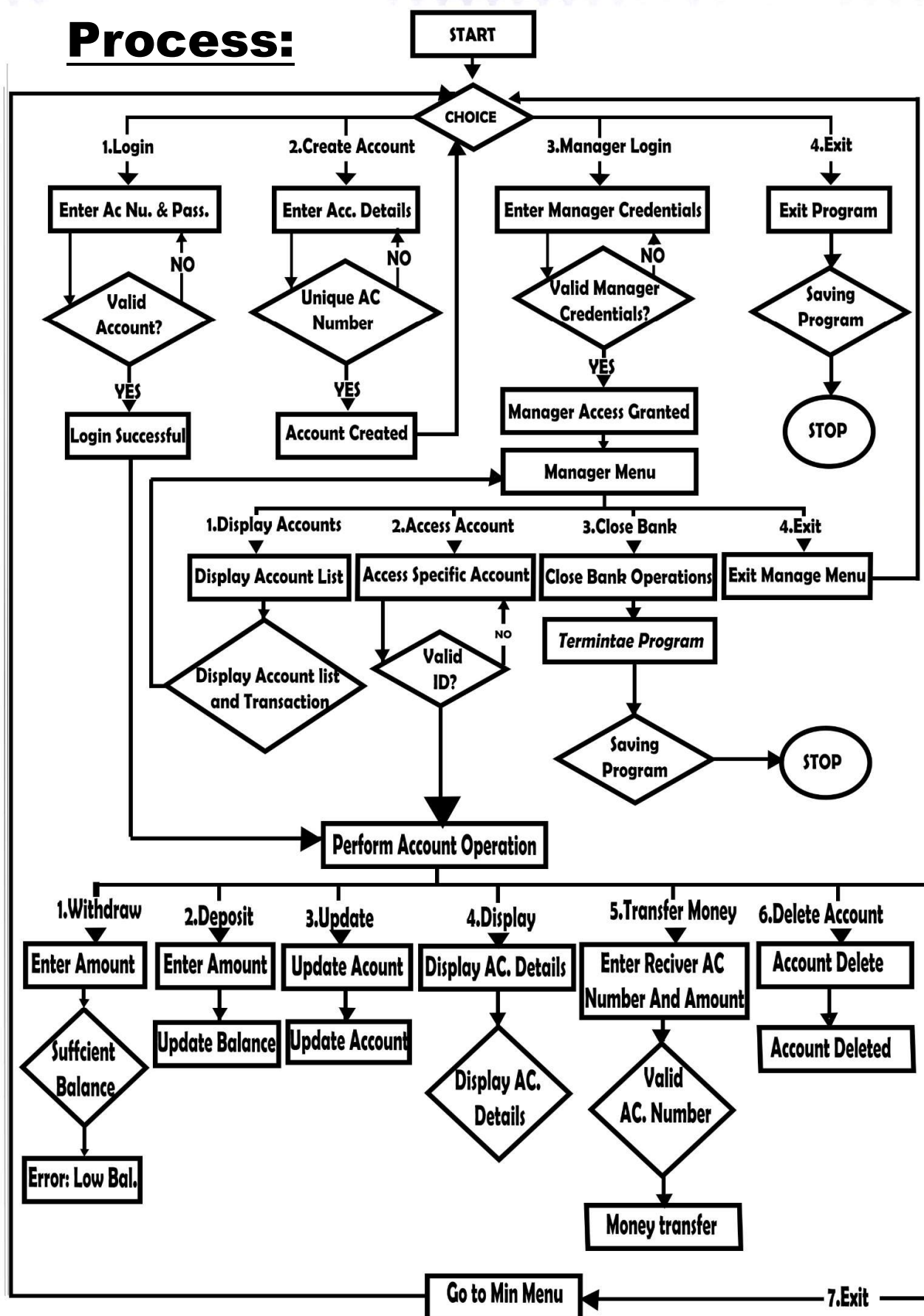
For New Users:

- Full Name: Create new user Account Number:
- Password: Create a password.
- Address: Enter your city.
- After confirming the details, the system generates a new user number and account number.

For manager :

- Enter deatils: Enter a name of manager:
- Password: Enter Password.
- Then manager can access all account without nay Authentication

Process:





Output:

Main Menu:

- ```
1. Login
2. Create Account
3. Manager Login
4. Exit
```

### Existing User Login:

```
Enter your choice: 1

Welcome to Login
Enter user Account Number(in numbers): 1002
Enter password: secure123
Login successful!
```

### Service Menu:

- ```
1. Withdraw
2. Deposit
3. Modify
4. Display
5. Transfer Money
6. Delete
7. Exit
```

Check Balance:

```
Enter your choice: 4
Displaying account details...
Name: Sunny
City: Kamali
Balance: $1500
Transaction: Deposit          500
Transaction: Deposit          6000
Transaction: Sende            5000
```

Manager Access :

```
Enter your choice: 3
Manager Login
Enter manager name: Sunny
Enter password: Singh
Manager access granted.
1. Display Accounts
2. Access Account
3. Close Bank
4. Exit
Enter your choice: █
```

New Account Creation:

```
Welcome to Create Account
You Have To maintain 500$ amount in your bank
Create new user Account Number(in numbers): 1002
Enter name: Jane
Enter password: secure123
Enter city: Los Angeles
Account created successfully!
```

Money Transfer:

```
Enter your choice: 5
Enter a bank account number where you want to send money: 507
Enter a ammount: 5000
You have withdrawn: $5000
You have Total: $1500
```