Bank Management System Documentation

1. Introduction

The Bank Management System is a Java-based application designed to manage various operations within a bank, including deposit and withdrawal transactions, loan management, client data, and more. This document outlines the main classes and functionalities of the system.

2. Main Classes

2.1 Bank Class

- **Attributes:**

    - None specific to mention.

- **Methods:**

    - **main()**: Main method to run the program.

    - Initialization, user authentication, and main menu display.

2.2 User Class (Base Class for Client and Employee)

- **Attributes:**

    - **ID**

    - **FirstName**

    - **LastName**

- **Methods:**

    - **getFullName()**

    - Other methods as needed.

2.3 Client Class (inherits from User)

- **Attributes:**

    - **AccountNumber** (unique)

    - **Username**

    - **Password**

    - **TelephoneNumber**

- **AccountState** (Active or Closed)

- **TypeOfAccount**

- **Balance**

- **Methods:**

  - **editPersonalInformation()**

  - **displayAccountDetails()**

  - **transferMoney()**

  - **showTransactionHistory()**

  - **takeDeposit()**

  - Other methods as needed.

2.4 Employee Class (inherits from User)

- **Attributes:**

  - **Address**

  - **Position**

  - **GraduatedCollege**

  - **YearOfGraduation**

  - **TotalGrade** (Excellent, V.Good, …)

- **Methods:**

  - **editPersonalInformation()**

  - **createClientAccount()**

  - **editClientAccount()**

  - **searchClient()**

  - **deleteClientAccount()**

  - Other methods as needed.

2.5 Account Class

- **Attributes:**

  - **AccountNumber** (unique)

- **Balance**

- **Type** (Savings or Current)

- **Methods:**

  - Methods related to account-specific functionalities.

2.6 Transaction Class

- **Attributes:**

  - **Date**

  - **Client**

  - **Employee**

  - Other relevant attributes based on transaction details.

2.7 BankManagementSystem Class

- Contains the main logic for managing clients, employees, accounts, and transactions.

- Implements file handling for reading and writing data.

3. File Handling

- Functions for reading and writing data to files (e.g., clients.txt, employees.txt, transactions.txt).

- Read data at the beginning of the program and save data at the end.

4. User Authentication

- Implement a login system with unique IDs and passwords for each user type.