Simple Banking System

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1. Introduction

This program simulates a simple banking system using a 2D array to store account details. It supports basic banking operations through a text-based menu.

2.Features Implemented

i) Interface: `BankOperations`

Defines the operations the bank should support:

- `createAccount()`
- `deleteAccount()`
- `deposit()`
- `withdraw()`
- `checkBalance()`

ii) Class: Bank implements `BankOperations`

Handles all the banking operations.

Fields:

- `static int nextAccNo`: To generate unique account numbers (starts from 1000).
- `static final int maxAccNo`: Max number of accounts (100).
- `static int count`: Number of current accounts.
- `String[][] accountsArray`: 2D array to store account info:
  `accountsArray[i][0]` → account holder name
  `accountsArray[i][1]` → account number
  `accountsArray[i][2]` → balance

Constructor:

- Initializes `accountsArray`.

Methods:

- **`createAccount()`**:
  Prompts for name, generates an account number, sets balance to 0, and stores the details.
- **`deleteAccount()`**:
  Removes the account with the specified account number and shifts remaining entries.

- **`deposit()`**:
  Adds a valid amount to the account balance after verifying the account.
- **`withdraw()`**:
  Deducts a valid amount from the account if sufficient balance is available.
- **`checkBalance()`**:
  Displays the balance and name for the entered account number.

iii) Class: `Main`

The entry point of the program.

Main Logic:

- Displays a menu using a `do-while` loop.
- Takes user input and calls corresponding methods in the `Bank` class.
- Exits on choice `6`.

3. Limitations

- No data is saved after the program ends (no database or file storage)

4. Possible Enhancements

- Save account details to a file or database
- GUI-based version using Swing or JavaFX

5. Conclusion

This project provides a good understanding of how Java OOP concepts can be applied in real-life applications like banking systems.