

Exercise Description:

You are required to design and implement a basic banking system that includes different types of accounts (regular accounts, checking accounts, and savings accounts). The system should also include functionality for a bank to manage multiple accounts.

Details:

1. Account Class (**Account.java**):

- This is a base class for different types of bank accounts.
- It should have attributes such as:
 - `balance` (double): Represents the balance of the account.
 - `name` (String): The account holder's name.
- Provide methods for:
 - Depositing funds (`deposit`).
 - Printing account details (`printData`).
- It serves as the base class for other account types.

2. Checking Account Class (**CheckingAccount.java**):

- Inherits from the `Account` class and represents a checking account.
- It should have an additional attribute to track the number of transactions.
- If more than three transactions occur, apply a fee.
- Override the `deposit` method to increase the transaction count and apply the fee if necessary.
- Print the account details, including the transaction count.

3. Savings Account Class (**SavingsAccount.java**):

- Inherits from the `Account` class and represents a savings account.
- Includes an `interestRate` attribute.
- Provide a method to add interest to the balance.
- Ensure that the account details include the interest rate when printed.

4. Bank Class (**Bank.java**):

- Represents a bank that manages multiple accounts.
- Use an `ArrayList` to store the accounts.
- Provide methods for adding accounts and printing the details of all accounts.

5. Main Program (**Main.java**):

- Create a main class that demonstrates the creation and usage of different accounts.
- Instantiate different types of accounts (regular, checking, and savings).
- Perform operations such as deposits, applying interest, and printing account information.
- Demonstrate transaction fee application for checking accounts after multiple deposits.

Goal:

- Implement a functional banking system that handles different account types, manages multiple accounts in a bank, and processes transactions with appropriate business logic (such as interest for savings accounts and transaction fees for checking accounts).
- Test and demonstrate the features by printing out the state of various accounts after performing operations.

This would be the general outline for the exercise based on the provided files.