Develop a Java program to create a class Bank that maintains two kinds of account for its customers, one called savings account and the other current account. The savings account provides compound interest and withdrawal facilities but no cheque book facility. The current account provides cheque book facility but no interest. Current account holders should also maintain a minimum balance and if the balance falls below this level, a service charge is imposed. Create a class Account that stores customer name, account number and type of account. From this derive the classes Cur-acct and Sav-acct to make them more specific to their requirements. Include the necessary methods in order to achieve the following tasks: a) Accept deposit from customer and update the balance. b) Display the balance. c) Compute and deposit interest d) Permit withdrawal and update the balance Check for the minimum balance, impose penalty if necessary and update the balance.

```java
import java.util.Scanner;

class Account {

    String customerName;

    int accountNumber;

    String accountType;

    double balance;


    Account(String name, int accNo, String type, double bal) {

        this.customerName = name;

        this.accountNumber = accNo;

        this.accountType = type;

        this.balance = bal;

    }


    void deposit(double amount) {

        balance += amount;

        System.out.println("Amount Deposited: " + amount);

        System.out.println("Updated Balance: " + balance);
```

```java
    }


    void displayBalance() {

        System.out.println("Current Balance: " + balance);

    }

}


class SavAcct extends Account {

    SavAcct(String name, int accNo, double bal) {

        super(name, accNo, "Savings", bal);

    }



    void computeInterest(double rate, int time) {


        double amount = balance * Math.pow((1 + rate / 100.0), time);

        double interest = amount - balance;


        balance = amount;

        System.out.println("Interest Added: " + interest);

        System.out.println("Updated Balance After Interest: " + balance);

    }



    void withdraw(double amount) {

        if (amount > balance) {
```

```java
            System.out.println("Insufficient Balance!");
        } else {

            balance -= amount;

            System.out.println("Amount Withdrawn: " + amount);

            System.out.println("Updated Balance: " + balance);

        }

    }

}


class CurAcct extends Account {

    final double MIN_BALANCE = 500;

    final double PENALTY = 50;


    CurAcct(String name, int accNo, double bal) {

        super(name, accNo, "Current", bal);

    }



    void checkMinimum() {

        if (balance < MIN_BALANCE) {

            balance -= PENALTY;

            System.out.println("Minimum balance not maintained!");

            System.out.println("Penalty imposed: " + PENALTY);

            System.out.println("Updated Balance: " + balance);

        }

    }


    void withdraw(double amount) {
```

```java
        if (amount > balance) {

            System.out.println("Insufficient Balance!");

        } else {

            balance -= amount;

            System.out.println("Amount Withdrawn: " + amount);

            System.out.println("Balance before Minimum Check: " + balance);

            checkMinimum();

        }

    }

}


public class Bank{

    public static void main(String[] args){

        Scanner sc = new Scanner(System.in);



        SavAcct s = new SavAcct("Ram", 101, 1000);

        CurAcct c = new CurAcct("Rahul", 202, 600);


        System.out.println("\n--- Savings Account Operations ---");

        s.deposit(500);

        s.displayBalance();

        s.computeInterest(5, 2);

        s.withdraw(300);



        System.out.println("\n--- Current Account Operations ---");

        c.deposit(400);
```

```
        c.displayBalance();

        c.withdraw(800);

    }

}
```

Output:

```
PS C:\Users\n6787\OneDrive\Desktop\java> cd "c:\Users\n6787\OneDrive\Desktop\java\" ; if ($?) { javac Bank.java } ; if ($?) { java Bank }

--- Savings Account Operations ---
Amount Deposited: 500.0
Updated Balance: 1500.0
Current Balance: 1500.0
Interest Added: 153.75
Updated Balance After Interest: 1653.75
Amount Withdrawn: 300.0
Updated Balance: 1353.75

--- Current Account Operations ---
Amount Deposited: 400.0
Updated Balance: 1000.0
Current Balance: 1000.0
Amount Withdrawn: 800.0
Balance before Minimum Check: 200.0
Minimum balance not maintained!
Penalty imposed: 50.0
Updated Balance: 150.0
```