## 1.BANK ACCOUNT

```java
import java.util.Scanner;


// Base Account class

class Account {

    protected String customerName;

    protected String accountNumber;

    protected String accountType;

    protected double balance;


    public Account(String customerName, String accountNumber, String accountType, double initialBalance) {

        this.customerName = customerName;

        this.accountNumber = accountNumber;

        this.accountType = accountType;

        this.balance = initialBalance;

    }


    public void deposit(double amount) {

        balance += amount;

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

    }


    public void displayBalance() {

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

    }
}


// Savings Account class

class Sav_acct extends Account {

    private double interestRate = 0.05; // 5% annual interest
```

```java
    public Sav_acct(String customerName, String accountNumber, double initialBalance) {

        super(customerName, accountNumber, "Savings", initialBalance);

    }


    public void computeAndDepositInterest(int years) {

        double interest = balance * Math.pow((1 + interestRate), years) - balance;

        balance += interest;

        System.out.println("Interest of ₹" + String.format("%.2f", interest) + " deposited for " + years + " years.");

    }


    public void withdraw(double amount) {

        if (amount > balance) {

            System.out.println("Insufficient funds for withdrawal.");

        } else {

            balance -= amount;

            System.out.println("Withdrawn: ₹" + amount);

        }

    }

}


// Current Account class

class Cur_acct extends Account {

    private double minimumBalance = 1000.0;

    private double serviceCharge = 100.0;


    public Cur_acct(String customerName, String accountNumber, double initialBalance) {

        super(customerName, accountNumber, "Current", initialBalance);

    }
```

```java
    public void withdraw(double amount) {

        if (amount > balance) {

            System.out.println("Insufficient funds for withdrawal.");

        } else {

            balance -= amount;

            System.out.println("Withdrawn: ₹" + amount);

            checkMinimumBalance();

        }

    }


    private void checkMinimumBalance() {

        if (balance < minimumBalance) {

            balance -= serviceCharge;

            System.out.println("Balance below minimum. Service charge of ₹" + serviceCharge + " imposed.");

        }

    }


    public void issueChequeBook() {

        System.out.println("Cheque book issued to " + customerName);

    }

}


// Main Bank class
public class week3 {

    public static void main(String[] args) {

        Scanner sc = new Scanner(System.in);


        System.out.println("Enter customer name:");

        String name = sc.nextLine();
```

```java
        System.out.println("Enter account number:");
        String accNo = sc.nextLine();


        System.out.println("Enter account type (Savings/Current):");
        String type = sc.nextLine();


        System.out.println("Enter initial deposit amount:");
        double initialDeposit = sc.nextDouble();


        if (type.equalsIgnoreCase("Savings")) {
            Sav_acct savings = new Sav_acct(name, accNo, initialDeposit);
            savings.displayBalance();
            savings.deposit(5000);
            savings.computeAndDepositInterest(2);
            savings.withdraw(3000);
            savings.displayBalance();
        } else if (type.equalsIgnoreCase("Current")) {
            Cur_acct current = new Cur_acct(name, accNo, initialDeposit);
            current.displayBalance();
            current.deposit(7000);
            current.issueChequeBook();
            current.withdraw(8000);
            current.displayBalance();
        } else {
            System.out.println("Invalid account type.");
        }


        sc.close();
    }
}
```

```
-3.3030615433009327 -32.696938456699066
PS C:\Users\naveen\java-programs>

  *  History restored

PS C:\Users\naveen\java-programs> javac wee
error: Class names, 'wee', are only accepted if annotation processing is explicitl
y requested
1 error
PS C:\Users\naveen\java-programs> javac .\week3.java
PS C:\Users\naveen\java-programs> java week3
Enter customer name:
chaithanya
Enter account number:
1234455
Enter account type (Savings/Current):
savings
Enter initial deposit amount:
10000
Current Balance: ?10000.0
Deposited: ?5000.0
Interest of ?1537.50 deposited for 2 years.
Withdrawn: ?3000.0
Current Balance: ?13537.5
PS C:\Users\naveen\java-programs>
```