

```
4 import java.util.Scanner;
5 class Account {
6     String customerName;
7     String accountNumber;
8     double balance;
9
10    Account(String customerName, String accountNumber) {
11        this.customerName = customerName;
12        this.accountNumber = accountNumber;
13        this.balance = 0.0;
14    }
15
16    void deposit(double amount) {
17        balance += amount;
18        System.out.println("Deposit of Rs " + amount + " successful.");
19    }
20
21    void displayBalance() {
22        System.out.println("Account Number: " + accountNumber + ", Balance: Rs " + balance);
23    }
24 }
25 class SavingsAccount extends Account {
26    SavingsAccount(String customerName, String accountNumber) {
27        super(customerName, accountNumber);
28    }
}
```

```
30+ void addInterest(double years) {
31-     if (years <= 0) {
32-         System.out.println("No time passed, no interest added.");
33-         return;
34-     }
35-     double interestRate = 7.0; // 7% annual interest
36-     double interest = balance * interestRate / 100 * years;
37-     balance += interest;
38-     System.out.println("Interest of Rs " + interest + " added.");
39- }
40
41+ void withdraw(double amount) {
42-     if (balance >= amount) {
43-         balance -= amount;
44-         System.out.println("Withdrawal of Rs " + amount + " successful.");
45-     } else {
46-         System.out.println("Insufficient funds for withdrawal.");
47-     }
48- }
49 }
50+ class CurrentAccount extends Account {
51-     double minimumBalance = 1000;
52
53+     CurrentAccount(String customerName, String accountNumber) {
54-         super(customerName, accountNumber);
55+     }
56 }
```

```
57  void withdraw(double amount) {
58      if ((balance - amount) >= minimumBalance) {
59          balance -= amount;
60          System.out.println("Withdrawal of Rs " + amount + " successful.");
61      } else {
62          System.out.println("Insufficient funds. Service charge applied.");
63          imposePenalty();
64      }
65  }
66  void imposePenalty() {
67      double penalty = 200;
68      balance -= penalty;
69      System.out.println("Penalty of Rs " + penalty + " imposed.");
70  }
71 }
72 class Main {
73     public static void main(String[] args) {
74         Scanner sc = new Scanner(System.in);
75         System.out.println("Enter 1 for Current Account or 2 for Savings Account:");
76         int choice1 = sc.nextInt();
77         Account acc;
78
79         if (choice1 == 1) {
80             acc = new CurrentAccount("Alice", "1234");
81         } else {
82             acc = new SavingsAccount("James", "2345");
83         }

```

```
85 -     while (true) {
86 -         System.out.println("\nMenu:");
87 -         System.out.println("1. Deposit");
88 -         System.out.println("2. Withdraw");
89 -         System.out.println("3. Display Balance");
90 -         System.out.println("4. Compute Interest (Savings Account only)");
91 -         System.out.println("5. Exit");
92 -         System.out.print("Enter your choice: ");
93 -         int choice2 = sc.nextInt();
94 -
95 -         switch (choice2) {
96 -             case 1:
97 -                 System.out.print("Enter amount to deposit: ");
98 -                 double depositAmount = sc.nextDouble();
99 -                 acc.deposit(depositAmount);
100 -                break;
101 -            case 2:
102 -                if (acc instanceof SavingsAccount) {
103 -                    System.out.print("Enter amount to withdraw: ");
104 -                    double withdrawAmount = sc.nextDouble();
105 -                    ((SavingsAccount) acc).withdraw(withdrawAmount);
106 -                } else {
107 -                    System.out.print("Enter amount to withdraw: ");
108 -                    double withdrawAmount = sc.nextDouble();
109 -                    ((CurrentAccount) acc).withdraw(withdrawAmount);
110 -                }
111 -                break;
```

```
112         case 3:  
113             acc.displayBalance();  
114             break;  
115         case 4:  
116             if (acc instanceof SavingsAccount) {  
117                 System.out.print("Enter number of years: ");  
118                 double years = sc.nextDouble();  
119                 ((SavingsAccount) acc).addInterest(years);  
120             } else {  
121                 System.out.println("Interest computation not applicable for Current Account.");  
122             }  
123             break;  
124         case 5:  
125             System.out.println("Thank you for using the bank system.");  
126             System.exit(0);  
127         default:  
128             System.out.println("Invalid choice.");  
129     }  
130 }  
131 }  
132 }  
133 }
```

```
Enter 1 for Current Account or 2 for Savings Account:
```

```
1
```

```
Menu:
```

- 1. Deposit
- 2. Withdraw
- 3. Display Balance
- 4. Compute Interest (Savings Account only)
- 5. Exit

```
Enter your choice: 1
```

```
Enter amount to deposit: 5000
```

```
Deposit of Rs 5000.0 successful.
```

```
Menu:
```

- 1. Deposit
- 2. Withdraw
- 3. Display Balance
- 4. Compute Interest (Savings Account only)
- 5. Exit

```
Enter your choice: 2
```

```
Enter amount to withdraw: 3000
```

```
Withdrawal of Rs 3000.0 successful.
```

```
Enter 1 for Current Account or 2 for Savings Account:  
2
```

Menu:

- 1. Deposit
- 2. Withdraw
- 3. Display Balance
- 4. Compute Interest (Savings Account only)
- 5. Exit

```
Enter your choice: 1
```

```
Enter amount to deposit: 5000
```

```
Deposit of Rs 5000.0 successful.
```

Menu:

- 1. Deposit
- 2. Withdraw
- 3. Display Balance
- 4. Compute Interest (Savings Account only)
- 5. Exit

```
Enter your choice:
```

```
2
```

```
Enter amount to withdraw: 3000
```

```
Withdrawal of Rs 3000.0 successful.
```

```
Menu:  
1. Deposit  
2. Withdraw  
3. Display Balance  
4. Compute Interest (Savings Account only)  
5. Exit
```

Enter your choice: 3

Account Number: 1234, Balance: Rs 2000.0

```
Menu:  
1. Deposit  
2. Withdraw  
3. Display Balance  
4. Compute Interest (Savings Account only)  
5. Exit
```

Enter your choice:

4

Interest computation not applicable for Current Account.

```
Menu:  
1. Deposit  
2. Withdraw  
3. Display Balance  
4. Compute Interest (Savings Account only)  
5. Exit
```

Enter your choice: 5

Thank you for using the bank system.

```
Menu:  
1. Deposit  
2. Withdraw  
3. Display Balance  
4. Compute Interest (Savings Account only)  
5. Exit  
Enter your choice: 3  
Account Number: 2345, Balance: Rs 2000.0
```

```
Menu:  
1. Deposit  
2. Withdraw  
3. Display Balance  
4. Compute Interest (Savings Account only)  
5. Exit  
Enter your choice: 4  
Enter number of years: 5  
Interest of Rs 700.0 added.
```

```
Menu:  
1. Deposit  
2. Withdraw  
3. Display Balance  
4. Compute Interest (Savings Account only)  
5. Exit  
Enter your choice: 3  
Account Number: 2345, Balance: Rs 2700.0
```