

```
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