

```
1 import java.util.Scanner;
2
3 class Account {
4     String customerName;
5     String accountNumber;
6     double balance;
7
8     Account(String customerName, String accountNumber, double balance) {
9         this.customerName = customerName;
10        this.accountNumber = accountNumber;
11        this.balance = balance;
12    }
13
14    void deposit(double amount) {
15        balance += amount;
16        System.out.println("Deposit of Rs" + amount + " successful");
17    }
18
19    void displayBalance() {
20        System.out.println("Account Number: " + accountNumber + "\nBalance: " + balance);
21    }
22 }
23
24 class SavingsAccount extends Account {
25     SavingsAccount(String customerName, String accountNumber, double balance) {
26         super(customerName, accountNumber, balance);
27     }
28
29     void addInterest(double years) {
30         double interestRate=5;
31         if (years<=0){
32             System.out.println("No time passed, no interest added.");
33             return;
34         }
35         double r = interestRate/ 100;
36         balance += balance * r * years;
37     }
38 }
39
40 class CurrentAccount extends Account {
41     double minimumBalance = 1000;
42
43     CurrentAccount(String customerName, String accountNumber, double balance) {
44         super(customerName, accountNumber, balance);
45     }
46
47     void withdraw(double amount) {
48         if (balance-amount >= minimumBalance) {
49             balance -= amount;
50             System.out.println("Withdrawal of" + amount + " successful.");
51         }else{
52             System.out.println("Insufficient funds. Service charge applied.");
53             imposePenalty();
54         }
55     }
56 }
```

```
57     void imposePenalty(){
58         double penalty=200;
59         balance -= penalty;
60         System.out.println("Penalty of Rs" + penalty + "imposed.");
61     }
62 }
63
64 class Bank {
65     Run main | Debug main
66     public static void main(String[] args) {
67         Scanner sc = new Scanner(System.in);
68         System.out.println("Enter 1 for Current Account or 2 for Savings Account.");
69         int choice = sc.nextInt();
70         Account acc;
71
72         if (choice==1){
73             acc = new CurrentAccount("Alice","1234",3000);
74         }else{
75             acc = new SavingsAccount("James","234",4000);
76         }
77
78         while(true){
79             System.out.print("\nMenu: \n1. Deposit\n2. Withdraw\n3. DisplayBalance\n4. Compute Interest(Savings Account only)\n5. Exit");
80             System.out.println("\nEnter your Choice: ");
81             int choice2 = sc.nextInt();
82             switch(choice2){
83                 case 1:
84                     System.out.println("Enter amount to deposit: ");
85                     double amount = sc.nextInt();
86                     acc.deposit(amount);
87                     break;
88                 case 2:
89                     if (acc instanceof SavingsAccount){
90                         System.out.println("Withdraw not allowed for Savings Account.");
91                     }else{
92                         System.out.println("Enter amount to withdraw: ");
93                         amount = sc.nextDouble();
94                         ((CurrentAccount) acc).withdraw(amount);
95                     }
96                     break;
97                 case 3:
98                     acc.displayBalance();
99                     break;
100                case 4:
101                    if (acc instanceof SavingsAccount){
102                        ((SavingsAccount) acc).addInterest(2);
103                    }else{
104                        System.out.println("Interest computation not applicable for Current Account.");
105                    }
106                    break;
107                case 5:
108                    System.exit(0);
109                default:
110                    System.out.println("Invalid choice.");
111            }
112        }
113    }
}
```

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

```
1
```

```
Menu:
```

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

```
Enter your Choice:
```

```
1
```

```
Enter amount to deposit:
```

```
200
```

```
Deposit of Rs200.0 successful
```

```
Menu:
```

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

```
Enter your Choice:
```

```
2
```

```
Enter amount to withdraw:
```

```
2000
```

```
Withdrawal of 2000.0 successful.
```

```
Menu:
```

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

```
Enter your Choice:
```

```
3
```

```
Account Number: 1234
```

```
Balance: 1200.0
```

```
Menu:
```

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

```
Enter your Choice:
```

```
5
```

```
PS C:\Users\student\Desktop\1BM24CS336> █
```

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

```
2
```

```
Menu:
```

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

```
Enter your Choice:
```

```
1
```

```
Enter amount to deposit:
```

```
200
```

```
Deposit of Rs200.0 successful
```

```
Menu:
```

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

```
Enter your Choice:
```

```
2
```

```
Withdrawl not allowed for Savings Account.
```

```
Menu:
```

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

```
Enter your Choice:
```

```
3
```

```
Account Number: 234
```

```
Balance: 4200.0
```

```
Menu:
```

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

```
Enter your Choice:
```

```
4
```

```
Menu:
```

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

```
Enter your Choice:
```

```
5
```

```
PS C:\Users\student\Desktop\1BM24CS336> █
```