

```
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
69         System.out.println("Enter 1 for Current Account or 2 for Savings Account.");
70         int choice = sc.nextInt();
71         Account acc;
72
73         if (choice==1){
74             acc = new CurrentAccount("Alice","1234",3000);
75         }else{
76             acc = new SavingsAccount("James","234",4000);
77         }
78
79         while(true){
80             System.out.print("\nMenu: \n1. Deposit\n2. Withdraw\n3. DisplayBalance\n4. Compute Interest(Savings Account only)\n5. Exit");
81             System.out.println("\nEnter your Choice: ");
82             int choice2 = sc.nextInt();
83             switch(choice2){
84                 case 1:
85                     System.out.println("Enter amount to deposit: ");
86                     double amount = sc.nextInt();
87                     acc.deposit(amount);
88                     break;
89                 case 2:
90                     if (acc instanceof SavingsAccount){
91                         System.out.println("Withdrawal not allowed for Savings Account.");
92                     }else{
93                         System.out.println("Enter amount to withdraw: ");
94                         amount = sc.nextDouble();
95                         ((CurrentAccount) acc).withdraw(amount);
96                     }
97                     break;
98                 case 3:
99                     acc.displayBalance();
100                     break;
101                 case 4:
102                     if (acc instanceof SavingsAccount){
103                         ((SavingsAccount) acc).addInterest(2);
104                     }else{
105                         System.out.println("Interest computation not applicable for Current Account.");
106                     }
107                     break;
108                 case 5:
109                     System.exit(0);
110             default:
111                 System.out.println("Invalid choice.");
112             }
113         }
114     }
115 }

```

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 of2000.0 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

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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

Withdrawal 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

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