/*Develop a Java program to create a class Bank that maintains two kinds of account for its customers, one called savings account and the other current account. The savings account provides compound interest and withdrawal facilities but no cheque book facility. The current account provides cheque book facility but no interest. Current account holders should also maintain a minimum balance and if the balance falls below this level, a service charge is imposed. Create a class Account that stores customer name, account number and type of account. From this derive the classes Cur-acct and Sav-acct to make them more specific to their requirements. Include the necessary methods in order to achieve the following tasks: a) Accept deposit from customer and update the balance. b) Display the balance. c) Compute and deposit interest d) Permit withdrawal and update the balance Check for the minimum balance, impose penalty if necessary and update the balance. */

```
import java.util.*;
class Account {
   String name, accNo, type;
   double balance;

   Account(String name, String accNo, String type) {
      this.name = name;
      this.accNo = accNo;
      this.type = type;
   }

   void deposit(double amt) {
      balance += amt;
```

```
        System.out.println("Deposited: Rs. " + amt);
    }

    void displayBalance() {
        System.out.println("Balance: Rs. " + balance);
    }
}

class SavAcct extends Account {
    final double rate = 0.05;   // 5% interest

    SavAcct(String name, String accNo) {
        super(name, accNo, "Savings");
    }

    void computeInterest() {
        double interest = balance * Math.pow((1 + rate), 1) - balance;
        balance += interest;
        System.out.println("Interest added: Rs. " + interest);
    }

    void withdraw(double amt) {
        if (amt <= balance) {
            balance -= amt;
            System.out.println("Withdrawn: Rs. " + amt);
```

```
        } else {
            System.out.println("Insufficient balance!");
        }
    }
}

class CurAcct extends Account {
    final double minBalance = 1000;
    final double penalty = 200;

    CurAcct(String name, String accNo) {
        super(name, accNo, "Current");
    }

    void withdraw(double amt) {
        if (amt <= balance) {
            balance -= amt;
            System.out.println("Withdrawn: Rs. " + amt);

            // Check minimum balance
            if (balance < minBalance) {
                balance -= penalty;
                System.out.println("Penalty imposed: Rs. " + penalty);
            }
        } else {
```

```
            System.out.println("Insufficient balance!");
        }
    }
}

public class bank {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);

        System.out.print("Enter customer name: ");
        String name = sc.nextLine();
        System.out.print("Enter account number: ");
        String acc = sc.nextLine();

        System.out.print("1. Savings  2. Current : ");
        int choice = sc.nextInt();

        Account account;
        if (choice == 1)
            account = new SavAcct(name, acc);
        else
            account = new CurAcct(name, acc);

       while (true) {
```

```
   System.out.println("\n1.Deposit  2.Withdraw  3.Show Balance  4.Add Interest (Savings)  5.Exit");
   int c = sc.nextInt();

   switch (c) {
      case 1:
         System.out.print("Amount: ");
         account.deposit(sc.nextDouble());
         break;

      case 2:
         System.out.print("Amount: ");
         double amt = sc.nextDouble();

         if (account instanceof SavAcct)
            ((SavAcct) account).withdraw(amt);
         else
            ((CurAcct) account).withdraw(amt);

         break;

      case 3:
         account.displayBalance();
         break;
```

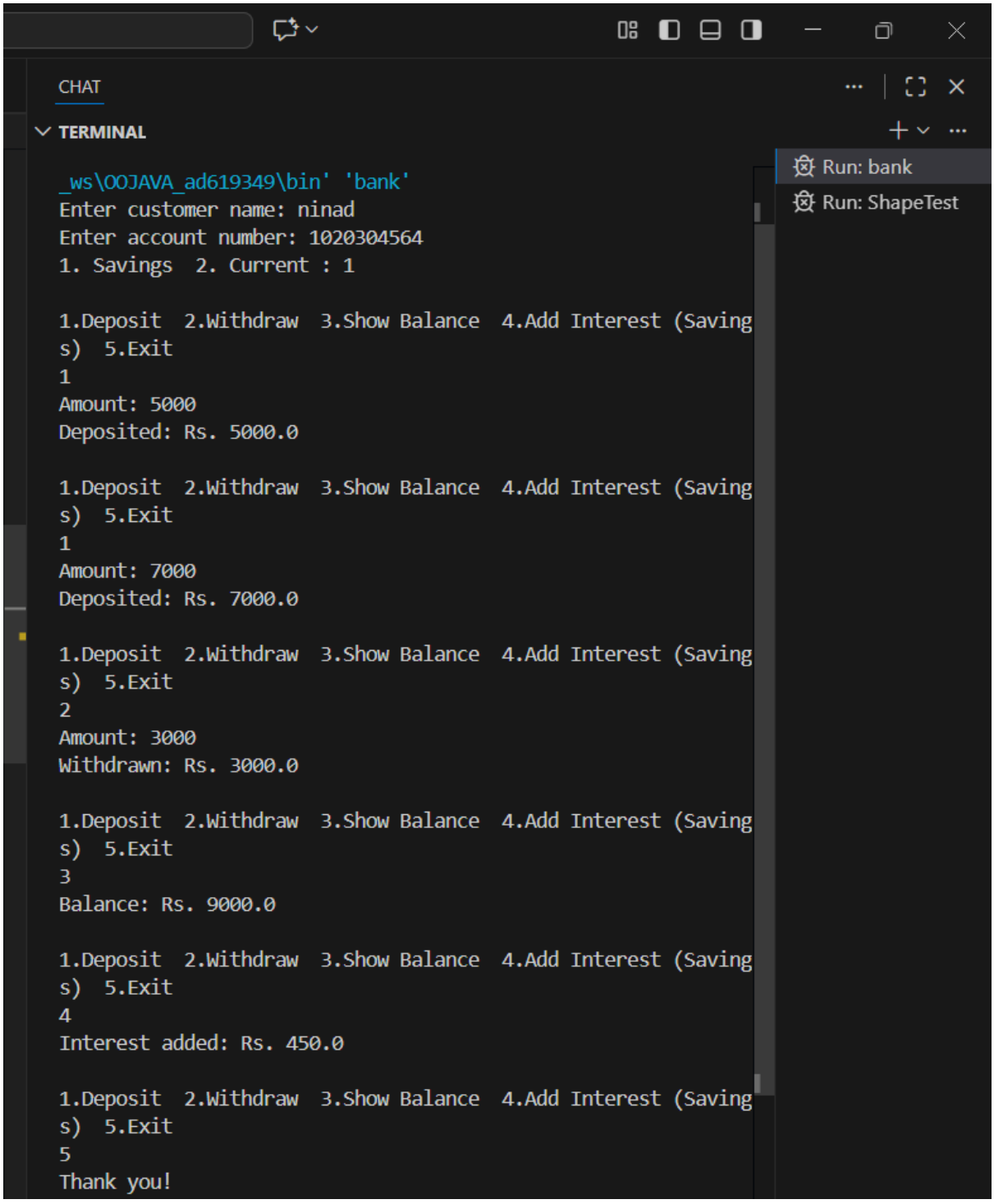
```
        case 4:
            if (account instanceof SavAcct)
                ((SavAcct) account).computeInterest();
            else
                System.out.println("No interest for current accounts.");
            break;

        case 5:
            System.out.println("Thank you!");
            return;

        default:
            System.out.println("Invalid choice!");

            }
        }
    }
}
```

OUTPUT:-


CHAT
TERMINAL
Run: bank
Run: ShapeTest
_ws\OOJAVA_ad619349\bin' 'bank'
Enter customer name: ninad
Enter account number: 1020304564
1. Savings 2. Current : 1
1.Deposit 2.Withdraw 3.Show Balance 4.Add Interest (Savings) 5.Exit
1
Amount: 5000
Deposited: Rs. 5000.0
1.Deposit 2.Withdraw 3.Show Balance 4.Add Interest (Savings) 5.Exit
1
Amount: 7000
Deposited: Rs. 7000.0
1.Deposit 2.Withdraw 3.Show Balance 4.Add Interest (Savings) 5.Exit
2
Amount: 3000
Withdrawn: Rs. 3000.0
1.Deposit 2.Withdraw 3.Show Balance 4.Add Interest (Savings) 5.Exit
3
Balance: Rs. 9000.0
1.Deposit 2.Withdraw 3.Show Balance 4.Add Interest (Savings) 5.Exit
4
Interest added: Rs. 450.0
1.Deposit 2.Withdraw 3.Show Balance 4.Add Interest (Savings) 5.Exit
5
Thank you!