JAVA LAB PROGRAM-5

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

e) Check for the minimum balance, impose penalty if necessary and update the balance.

Code:

```
import java.util.Scanner;
class Account{
   String customername;
   String accountnum;
   double balance;
   public Account(String customername,String accountnum,double balance){
      this.customername=customername;
      this.accountnum=accountnum;
      this.balance=balance;
   }
   public void deposit(double amount){
      if(amount>0){
         balance+=amount;
         System.out.println("Deposited:"+amount);
      }
```

```
        else{
            System.out.println("Invalid amount");
        }
    }
    public void withdraw(double amount){
        if(amount>0 && amount<=balance){
            balance-=amount;
            System.out.println("Withdrawn:"+amount);
        }
        else{
            System.out.println("The balance is:"+balance);
        }
    }
    public void display(){
        System.out.println("The balance is: "+balance);
    }
}
class savacc extends Account{
    double interestrate;
    public savacc(String customername,String accountnum,double balance,double
interestrate){
        super(customername,accountnum,balance);
        this.interestrate=interestrate;
    }
    public void compoundinterest(){
        double interest=balance*(interestrate/100);
        deposit(interest);
        System.out.println("Interest compounded :"+interest);
    }
}
class curracc extends Account{
    static final double min_bal=1000;
```

```
    static final double service_charge=100;
    public curracc(String customername,String accnum,double balance){
        super(customername, accnum, balance);
    }
    public void withdraw(double amount){
        if(amount>0 && amount<=balance){
            balance-=amount;
            System.out.println("Withdrew:"+amount);
            checkminbalance();
        }
        else{
            System.out.println("Withdraw amount is greater than balance");
        }
    }
    public void checkminbalance(){
        if(balance<min_bal){
            balance-=service_charge;
            System.out.println("Minimum balance is not maintained.Service charge
imposed:"+service_charge);
        }
    }
}
public class Bank{
    public static void main(String args[]){
        Scanner sc=new Scanner(System.in);
        System.out.println("Enter  customer name for savings account:");
        String savname=sc.nextLine();
        System.out.println("Enter account number for savings account:");
        String savacc=sc.nextLine();
        System.out.println("Enter initial balance for savings account:");
        double savbalance=sc.nextDouble();
        System.out.println("Enter interest rate for savings account:");
```

```
        double savinterestrate=sc.nextDouble();
        savacc savings=new savacc(savname,savacc,savbalance,savinterestrate);
        savings.display();
        System.out.println("Enter the amount to withdraw from savings account:");
        savings.withdraw(sc.nextDouble());
        System.out.println("Enter the amount to deposit from savings account:");
        savings.deposit(sc.nextDouble());
        savings.display();
        savings.display();
        System.out.println("Enter customer name for current account:");
        String currname=sc.nextLine();
        System.out.println("Enter account number for current account:");
        String curraccnum=sc.nextLine();
        System.out.println("Enter initial balance for current account:");
        double currbalance=sc.nextDouble();
        curracc current=new curracc(currname,curraccnum,currbalance);
        current.display();
        System.out.println("Enter the amount to withdraw from current account:");
        current.withdraw(sc.nextDouble());
        System.out.println("Enter the amount to deposit in current account:");
        current.deposit(sc.nextDouble());
        current.display();
        sc.close();
    }
}
```

Output:

```
Enter  customer name for savings account:
Akshay
Enter account number for savings account:
101
Enter initial balance for savings account:
10000
Enter interest rate for savings account:
5
The balance is: 10000.0
Enter the amount to withdraw from savings account:
9500
Withdrawn:9500.0
Enter the amount to deposit from savings account:
500
Deposited:500.0
The balance is: 1000.0
The balance is: 1000.0
Enter customer name for current account:
Enter account number for current account:
Arpith 102
Enter initial balance for current account:
20000
The balance is: 20000.0
Enter the amount to withdraw from current account:
15000
Withdrew:15000.0
Enter the amount to deposit in current account:
2000
Deposited:2000.0
The balance is: 7000.0
```