***WEEK-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*

*Check for the minimum balance, impose penalty if necessary and update the*

*balance.*

import java.util.Scanner;

import java.lang.Math;

class Account{

String customer\_name = new String();

String account\_type = new String();

int account\_number;

}

class Current extends Account{

int balance;

Scanner s = new Scanner(System.in);

Current (String type){

System.out.println("Enter customer name and account number:");

customer\_name = s.next();

account\_number = s.nextInt();

account\_type = type;

balance = 0;

}

void deposit (){

System.out.println("Enter the amount to deposit:");

balance += s.nextInt();

if (balance < 5000){

System.out.println("500 INR penalty charge. Account balance falls below minumum required balance 5000 INR");

balance-=500;

}

}

void display (){

System.out.println("\nName: "+customer\_name+"\nAccount number: "+account\_number+"\nAccount type: "+account\_type+"\nBalance: "+balance);

}

void withdraw (){

int with;

System.out.println("Enter the amount to withdraw:");

with = s.nextInt();

if (with > balance){

System.out.println("Balance is less than withdraw amount!");

}

else{

balance -= with;

}

if (balance < 5000){

System.out.println("500 INR penalty charge. Account balance falls below minumum required balance 5000 INR");

balance-=500;

}

}

}

class Savings extends Account{

double balance;

Scanner s = new Scanner(System.in);

Savings (String type){

System.out.println("Enter customer name and account number:");

customer\_name = s.next();

account\_number = s.nextInt();

account\_type = type;

balance = 0;

}

void deposit (){

System.out.println("Enter the amount to deposit:");

balance += s.nextInt();

}

void display (){

System.out.println("\nName: "+customer\_name+"\nAccount number: "+account\_number+"\nAccount type: "+account\_type+"\nBalance: "+balance);

}

void withdraw (){

int with;

System.out.println("Enter the amount to withdraw:");

with = s.nextInt();

if (with>balance){

System.out.println("Balance is less than withdraw amount!");

}

else{

balance -= with;

}

if (balance < 5000){

System.out.println("500 INR service charge. Account balance falls below minumum required balance 5000 INR");

}

}

void interest(){

int years;

double rate, total;

System.out.println ("Enter time in years:");

years = s.nextInt();

rate =6.0;

total = balance\*(Math.pow((1+(rate/100.0)), years));

System.out.println ("Interest is= "+total);

balance+=total;

}

}

class Bank{

public static void main(String[] args) {

int ch,choice, x=0;

String type = new String();

Scanner s = new Scanner(System.in);

System.out.printf("\n1:Create current account\n2:Create savings account\n");

choice = s.nextInt();

switch (choice){

case 1:type = "Current";

Current c1 = new Current(type);

while (x==0){

System.out.printf("\n1:Deposit\n2:Withdraw\n3:Display balance\n4:Chequebook facility\n5:Exit\n");

ch = s.nextInt();

switch (ch){

case 1:c1.deposit();

break;

case 2:c1.withdraw();

break;

case 3:c1.display();

break;

case 4:System.out.println("Do you want chequebook?:Y/N");

char cb=s.next().charAt(0);

if(cb=='Y')System.out.println("The chequebook will be sent to your address");break;

case 5:System.exit(0);

default:System.out.println("Enter a valid input!");

break;

}

}

break;

case 2:type = "Savings";

Savings s1 = new Savings(type);

while (x==0){

System.out.printf("\n1:Deposit\n2:Withdraw\n3:Display balance\n4:Check interest\n5:Exit\n");

ch = s.nextInt();

switch (ch){

case 1:s1.deposit();

break;

case 2:s1.withdraw();

break;

case 3:s1.display();

break;

case 4:s1.interest();

s1.display();

break;

case 5:x=1;

break;

default:System.out.println("Enter a valid input!");

break;

}

}

break;

default:System.out.println("Enter a valid input!");

}

s.close();

}

}







