**Q**.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.\*;

import java.lang.Math;

class Account{

String name,type,acc\_num;

Account(String n,String t,String a){

name=n;

type=t;

acc\_num=a;

}

}

class Savings extends Account{

double balance=0,r=0.02,n=2,t,compound,update,withdraw;

Savings(String n,String t,String a){

super(n,t,a);

}

void update(){

Scanner in=new Scanner(System.in);

System.out.print("Enter the Amount to be added to your balance:");

update=in.nextDouble();

balance=balance+update;

System.out.print("Updated Balance in your Savings Account:"+balance);

}

void withdrawal(){

Scanner out=new Scanner(System.in);

System.out.print("Enter the Amount to be withdrawed from your account:");

withdraw=out.nextDouble();

balance=balance-withdraw;

System.out.print("Updated Balance in your Savings Account:"+balance);

}

void display(){

System.out.println("Name of the account Holder:"+name);

System.out.println("Account no:"+acc\_num);

System.out.println("Type of Account:"+type);

System.out.println("Balance in your Savings Account:"+balance);

}

void calc\_compound(){

Scanner sc=new Scanner(System.in);

System.out.print("Enter the Time period upto which you'd like to receive compound Interest:");

t=sc.nextDouble();

compound=balance\*(Math.pow(1+(r/n),n\*t));

balance=balance+compound;

System.out.print("Updated Balance in your Savings Account:"+balance);

}

}

class Current extends Account{

private double min=5000,penalty=1000;

double checque\_in,checque\_out,balance=0,update,withdraw;

Current(String n,String t,String a){

super(n,t,a);

}

void update(){

Scanner in=new Scanner(System.in);

System.out.print("Enter the Amount to be added to your balance:");

update=in.nextDouble();

balance=balance+update;

System.out.print("Updated Balance in your Current Account:"+balance);

if(balance<min)

{

System.out.print("Your balance is less than the minimum balance required:"+balance+"\nMin Balance required(penalty will be levied when you withdraw):"+min);

}

}

void display(){

System.out.println("Name of the account Holder:"+name);

System.out.println("Account no:"+acc\_num);

System.out.println("Type of Account:"+type);

System.out.print("Balance in your Account:"+balance);

}

void withdrawal(){

Scanner out=new Scanner(System.in);

System.out.print("Enter the Amount to be withdrawed from your account:");

withdraw=out.nextDouble();

balance=balance-withdraw;

System.out.print("Updated Balance in your Account:"+balance);

if(balance<min)

{

System.out.print("\nYour balance is less than the minimum balance required:"+balance+"\nMin Balance required:"+min+"\nBalance after levying Penalty:"+(balance-penalty));

balance=balance-penalty;

}

}

void checque\_in(){

Scanner cha=new Scanner(System.in);

System.out.print("Enter the Amount to be added from checque:");

update=cha.nextDouble();

balance=balance+update;

System.out.print("Updated Balance in your Current Account:"+balance);

if(balance<min)

{

System.out.print("\nYour balance is less than the minimum balance required:"+balance+"\nMin Balance required(penalty will be levied when you withdraw):"+min);

}

}

void checque\_out(){

Scanner ch=new Scanner(System.in);

System.out.print("Enter the Amount to be withdrawed from your account:");

checque\_in=ch.nextDouble();

if(balance>checque\_in)

{

if(balance-checque\_in>min)

{

System.out.print("Updated Balance in your Savings Account:"+(balance-checque\_in));

balance=balance-checque\_in;

}

else if((balance-checque\_in<min)&&(balance-checque\_in>=0))

{ System.out.print("\nYour balance is less than the minimum balance required:"+balance+"\nMin Balance required:"+min+"\nBalance after levying Penalty:"+(balance-penalty));

balance=balance-checque\_in-penalty;

}

else if(balance<min){

System.out.print("Checque has been Bounced");

}

}

}

}

class Main

{

public static void main(String args[])

{

int input,another;

Scanner choice=new Scanner(System.in);

Current C=new Current("Nishanth","Current","1109873425");

Savings S=new Savings("Nach Nach","Savings","11789883405");

while(true)

{

System.out.print("\n--MENU--\n");

System.out.print("1.Savings\n2.Current\n");

input=choice.nextInt();

switch(input)

{

case 1:

System.out.print("\n--MENU--\n");

System.out.print("1.Update\n2.Withdraw\n3.Interest\n4.Display\n5.Exit\n");

another=choice.nextInt();

switch(another)

{

case 1:S.update();

break;

case 2:S.withdrawal();

break;

case 3:S.calc\_compound();

break;

case 4:S.display();

break;

case 5:System.exit(0);

}

break;

case 2:

System.out.print("\n--MENU--\n");

System.out.print("1.Update\n2.Withdraw\n3.Checque\_IN\n4.Checque\_Out\n5.Display\n6.Exit\n");

another=choice.nextInt();

switch(another)

{

case 1:C.update();

break;

case 2:C.withdrawal();

break;

case 3:C.checque\_in();

break;

case 4:C.checque\_out();

break;

case 5:C.display();

break;

case 6:System.exit(0);

}

break;

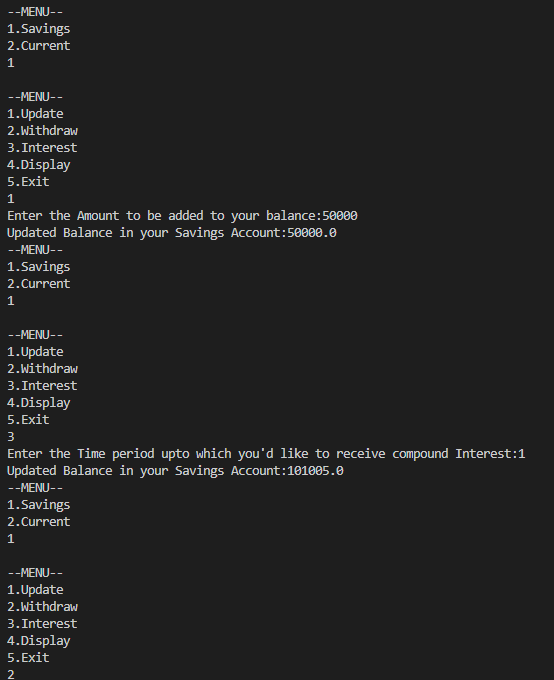
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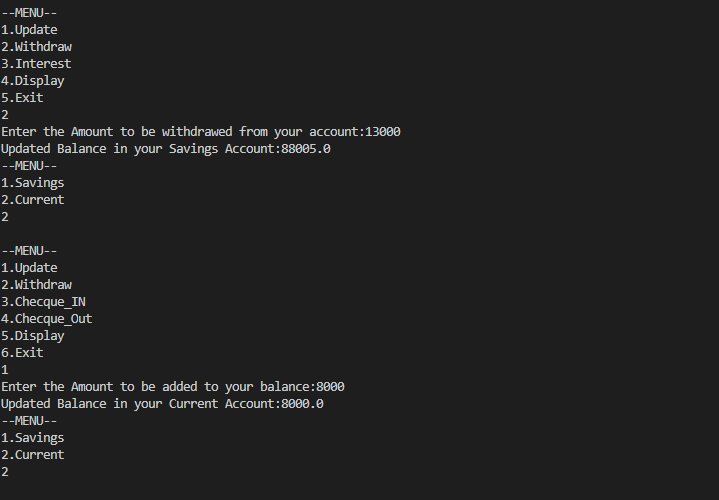
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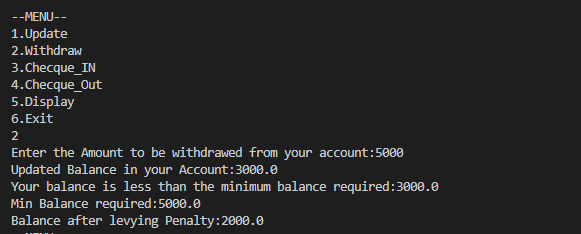
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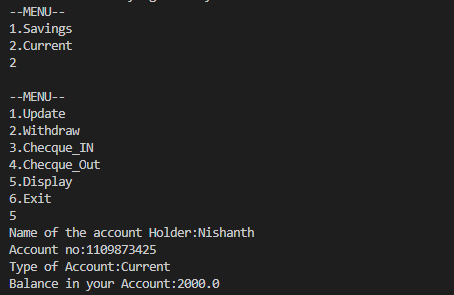
}

**OUTPUT:**

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