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:

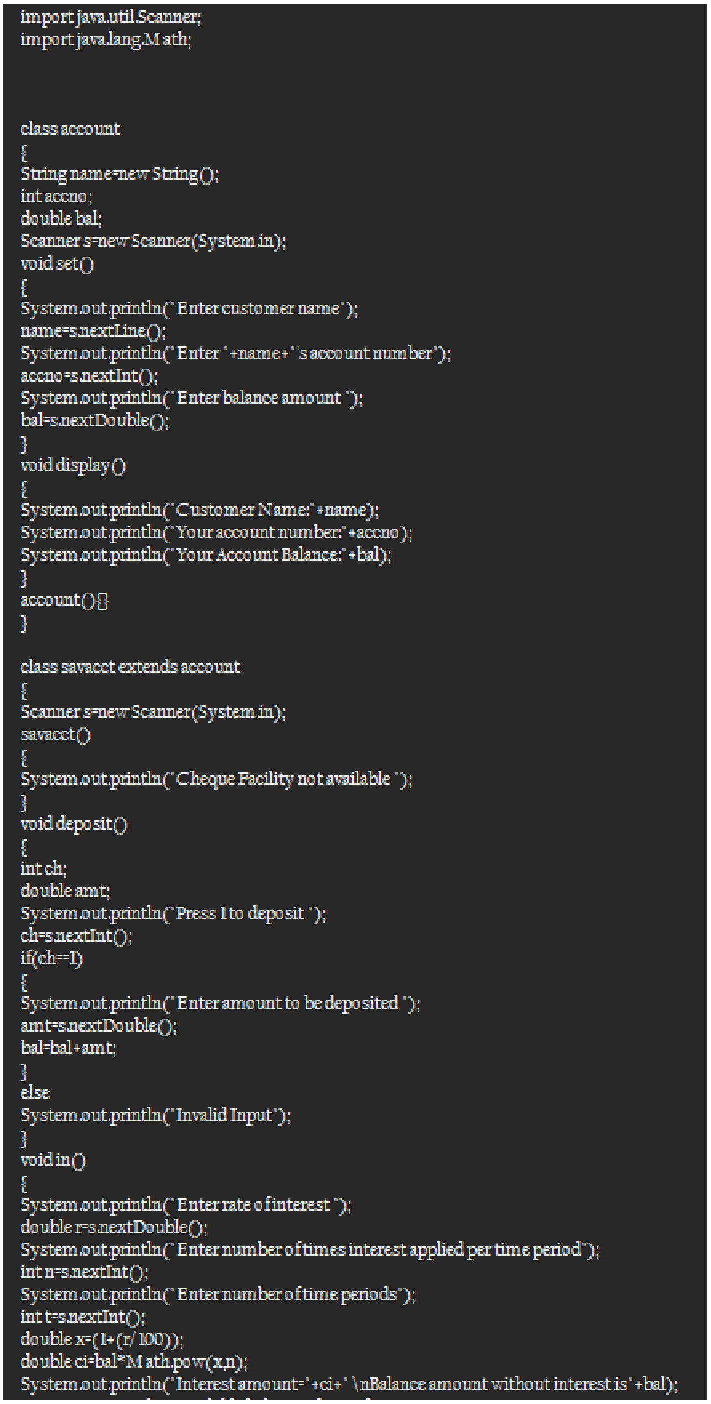
a) Accept deposit from customer and update the balance.

b) Display the balance.

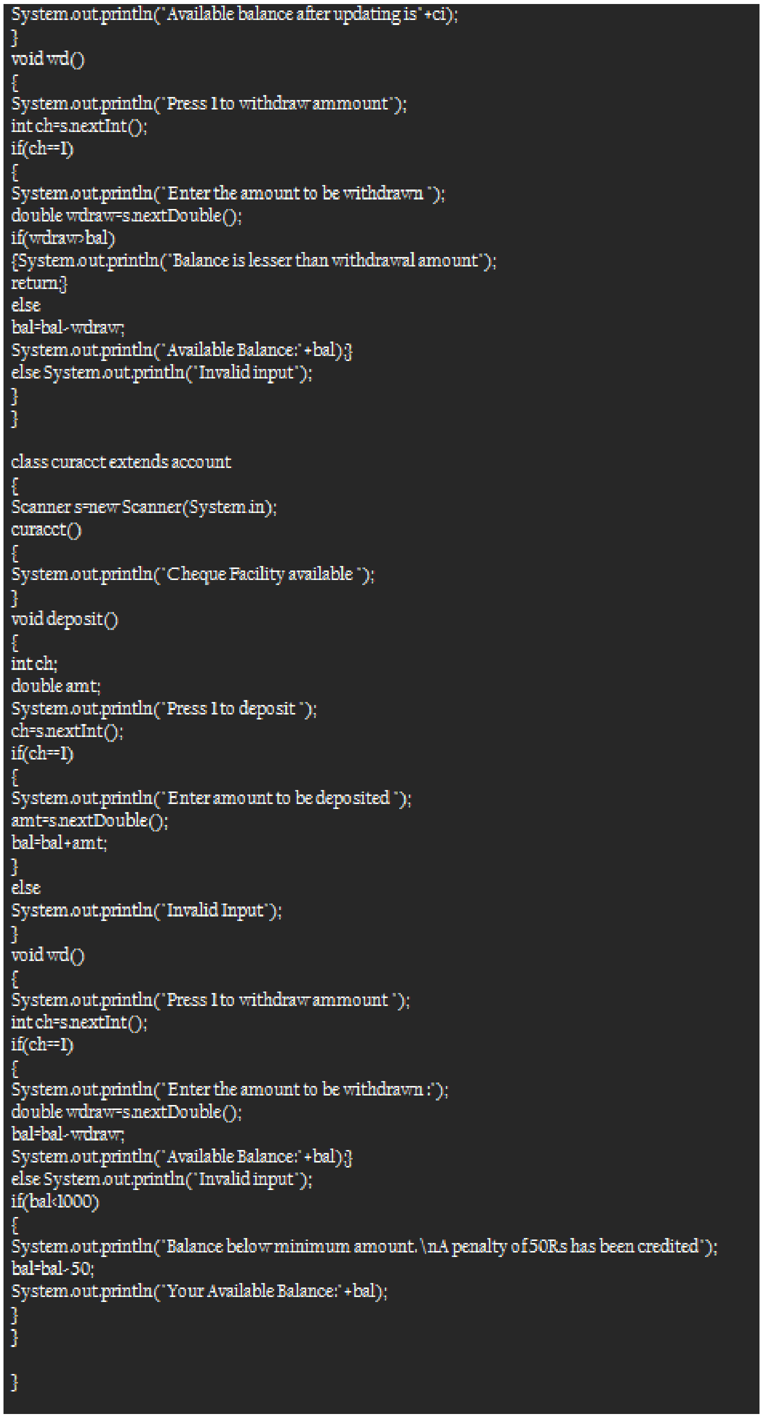
c) Compute and deposit interest

d) Permit withdrawal and update the balance

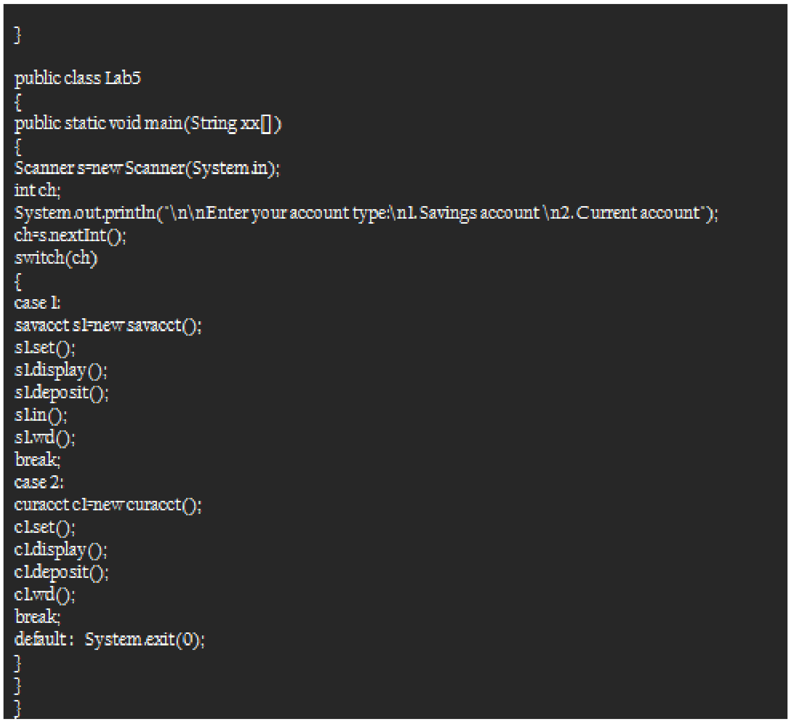
Check for the minimum balance, impose penalty if necessary and update the balance.



```
import java.util.Scanner;
import java.lang.Math;



class account
{
String name=new String();
int accno;
double bal;
Scanner s=new Scanner(System.in);
void set()
{
System.out.println("Enter customer name");
name=s.nextLine();
System.out.println("Enter "+name+"'s account number");
accno=s.nextInt();
System.out.println("Enter balance amount ");
bal=s.nextDouble();
}
void display()
{
System.out.println("Customer Name:"+name);
System.out.println("Your account number:"+accno);
System.out.println("Your Account Balance:"+bal);
}
account(){}
}

class savacct extends account
{
Scanner s=new Scanner(System.in);
savacct()
{
System.out.println("Cheque Facility not available ");
}
void deposit()
{
int ch;
double amt;
System.out.println("Press 1 to deposit ");
ch=s.nextInt();
if(ch==1)
{
System.out.println("Enter amount to be deposited ");
amt=s.nextDouble();
bal=bal+amt;
}
else
System.out.println("Invalid Input");
}
void in()
{
System.out.println("Enter rate of interest ");
double r=s.nextDouble();
System.out.println("Enter number of times interest applied per time period");
int n=s.nextInt();
System.out.println("Enter number of time periods");
int t=s.nextInt();
double x=(1+(r/100));
double ci=bal*Math.pow(x,n);
System.out.println("Interest amount="+ci+"\nBalance amount without interest is"+bal);
```



```
System.out.println("Available balance after updating is"+ci);
}
void wd()
{
System.out.println("Press 1to withdraw ammount");
int ch=s.nextInt();
if(ch==1)
{
System.out.println("Enter the amount to be withdrawn ");
double wdraw=s.nextDouble();
if(wdraw>bal)
{System.out.println("Balance is lesser than withdrawal amount");
return;}
else
bal=bal-wdraw;
System.out.println("Available Balance:"+bal);}
else System.out.println("Invalid input");
}
}

class curacct extends account
{
Scanner s=new Scanner(System.in);
curacct()
{
System.out.println("Cheque Facility available ");
}
void deposit()
{
int ch;
double amt;
System.out.println("Press 1to deposit ");
ch=s.nextInt();
if(ch==1)
{
System.out.println("Enter amount to be deposited ");
amt=s.nextDouble();
bal=bal+amt;
}
else
System.out.println("Invalid Input");
}
void wd()
{
System.out.println("Press 1to withdraw ammount ");
int ch=s.nextInt();
if(ch==1)
{
System.out.println("Enter the amount to be withdrawn :");
double wdraw=s.nextDouble();
bal=bal-wdraw;
System.out.println("Available Balance:"+bal);}
else System.out.println("Invalid input");
if(bal<1000)
{
System.out.println("Balance below minimum amount. \nA penalty of 50Rs has been credited");
bal=bal-50;
System.out.println("Your Available Balance:"+bal);
}
}

}
```



```
}

public class Lab5
{
public static void main(String xx[])
{
Scanner s=new Scanner(System.in);
int ch;
System.out.println("\n\nEnter your account type:\n1. Savings account \n2. Current account");
ch=s.nextInt();
switch(ch)
{
case 1:
savacct s1=new savacct();
s1.set();
s1.display();
s1.deposit();
s1.in();
s1.wd();
break;
case 2:
curacct c1=new curacct();
c1.set();
c1.display();
c1.deposit();
c1.wd();
break;
default :   System.exit(0);
}
}
}
```