

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 Curr-acct and Sav-acct to make them more specific to their requirements. Include the necessary methods in order to achieve the following tasks: • Accept deposit from customer and update the balance. • Display the balance. • Compute and deposit interest • 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,type;
    int acc_no;
    double amount;
    Scanner in=new Scanner(System.in);
    void type(int choice)
    {
        if(choice==1)
            type="Savings Account";
        if(choice==2)
            type="Current Account";
    }
    void input()
    {
        System.out.println("Enter the Name,Account number and Balance:");
        name=in.next();
        acc_no=in.nextInt();
        amount=in.nextDouble();
    }
    void deposit()
    {
        System.out.println("Enter the amount to be deposited:");
        double x=in.nextDouble();
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        amount=amount+x;
    }
    void display()
    {
        System.out.println("Name:"+name);
        System.out.println("Account number:"+acc_no);
        System.out.println("Type:"+type);
        System.out.println("balance:"+amount);
    }
}
class Savings_acc extends Account
{
    double a,cinterest;
    int r,t;
    Scanner in=new Scanner(System.in);
    void withdrawal()
    {
        System.out.println("Enter amount to be withdrawn:");
        double amtw=in.nextDouble();
        if(amtw<=amount)
            amount=amount-amtw;
        else
            System.out.println("Invalid amount");
    }
    void cmp_interest()
    {
        System.out.println("Enter the rate and time:");
        r=in.nextInt();
        t=in.nextInt();
        a=amount* Math.pow(1 + (r *0.01),t);
        cinterest= a - amount;
    }
    void display()
    {
        super.display();
        System.out.println("Compound Interest after " + t + " years: "+cinterest);
        System.out.println("Amount after " + t + " years: "+a);
    }
}
class Current_acc extends Account
{

```

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double min=10000;
void input()
{
    super.input();
}
void service_charge()
{
    if(amount<min)
        amount=amount-500;
}
void display()
{
    super.display();
}
}
class bankdemo
{
    public static void main(String args[])
    {
        Scanner in=new Scanner(System.in);
        System.out.println("Choose type of account.");
        System.out.println("1.Savings account.");
        System.out.println("2.Current account.");
        int choice=in.nextInt();

        if(choice==1)
        {
            Savings_acc b=new Savings_acc();
            b.type(choice);
            b.input();
            System.out.println("Do you want to deposit or
withdraw?\n1.Deposit.\n2.Withdraw\n");
            int ch=in.nextInt();
            if(ch==1)
                b.deposit();
            else if(ch==2)
                b.withdrawal();
            else
                System.out.println("Invalid choice");
            b.cmp_interest();
            b.display();
        }
    }
}

```

```

        else if(choice==2)
        {
            Current_acc b=new Current_acc();
            b.type(choice);
            b.input();
            b.deposit();
            b.service_charge();
            b.display();
        }
        else
            System.out.println("Invalid choice");
    }
}

```

```

Microsoft Windows [Version 10.0.18363.1139]
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C:\Users\shivani>cd desktop
C:\Users\shivani\Desktop>cd JA
C:\Users\shivani\Desktop\JA>javac bankdemo.java
C:\Users\shivani\Desktop\JA>java bankdemo
Choose type of account.
1. Savings account.
2. Current account.
1
Enter the Name,Account number and Balance:
Shivani
78924567
8975666
Do you want to deposit or withdraw?
1. Deposit.
2. Withdraw
1
Enter the amount to be deposited:
50000
Enter the rate and time:
6
8
Name:Shivani
Account number:78924567
Type:Savings Account
Balance:9925666.0
Compound Interest after 8 years: 5894337.642536247
Amount after 8 years: 1.5820003642536247E7

C:\Users\shivani\Desktop\JA>cd JA
The system cannot find the path specified.

C:\Users\shivani\Desktop\JA>javac bankdemo.java
C:\Users\shivani\Desktop\JA>java bankdemo
Choose type of account.
1. Savings account.
2. Current account.
2
Enter the Name,Account number and Balance:
Sachin
89789768
67998
Enter the amount to be deposited:
5000
Name:Sachin
Account number:89789768
Type:Current Account
Balance:73668.0

C:\Users\shivani\Desktop\JA>

```