Lab program 5

Develop a java program to create a class Bank that maintains two kinds of accounts for customers Savings and ~~Checking~~ current account. The savings acc provides compound interest and withdrawal facilities but no cheque book facilities. The current account provides cheque book facility but no interest. Current account holder should 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, acc no, acc type. 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
a) Accept the deposit from customer and update the balance.
b) display the balance
c) Complete and deposit interest
d) Permit withdrawal and update balance

```
Import java.util.Scanner;
Import java.lang.Math;
class Account
{
String name, acc_type;
int acc_no
```

```
double bal, dep;
Scanner ss = new Scanner(System.in);
void detd()
{
    System.out.println("Enter your name, account number,
                        account Balance type:-");
    name = ss.next();
    acc_no = ss.nextInt();
    acc_type = ss.next();
    bal = ss.nextDouble();
}
void disp() {
    System.out.println("Name: " + name);
    System.out.println("Account Number:" + acc_no);
    System.out.println("Account type:" + acc_type);
    System.out.println("Current balance: " + bal);
}
void deposit(){
    System.out.println("Enter the amount to be
    deposited:");
    dep = ss.nextDouble();
    bal += dep;
    System.out.println("Balance amount=" + bal);
}
```

```
boolean acc(String acc_type)
& if(acc_type == "Savings")
        return true;
    else if(acc_type == "Current")
        return false;
    else
        return true;
    }
}
class Cur_acct extends Account
{
    int penal()
    { double min,pen;
      System.out.println("Enter minimum balance & penalty amount if not followed:");
      min = ss.nextDouble(); pen = ss.nextDouble();
      if(bal<min)
      {  bal -= pen;
         System.out.println("Penalty imposed for having insufficient funds");
      }
      else
         return 1;
    }
```

```
void withdrawal()
{ double sum;
  System.out.println("Enter amount to be
  withdrawn:");
 amt = ss.nextDouble(); int a = pen al();
if (a==1)
{ if (bal >=amt)
    { bal -= amt;
      System.out.println("Account balance after
        withdrawal is: "+bal); }
else
    System.out.println("The amount cant be
    withdrawn");
}
}
class sav_acct extends Account
{ void calc_interest()
{ System.out.println("Enter time and rate
  of interest");
  double t = ss.nextDouble();
  double r = ss.next Double();
  double CI = bal * math.pow((1+r)/100), t)
}
```

```
void withdrawal()
{
  double amt;
  System.out.println("Enter amount to be withdrawn");
amt=ss.nextDouble();
if(bal >=amt)
{ bal=amt;
System.out.println("Account balance after
withdrawal is :" +bal);}
}
else
  System.out.println("\n The amount cant be
withdrawn");
  }
}
class Bank
{
  public static void main(String args[])
  {
    Scanner ss=new Scanner(System.in);
    Account a1=new Account();
    a1.setdb();
    if (a1.acc(a1).acc_type)==true)
  {
```

```
sav_acct s1 = new sav_acct();
s1.name = global;
switch(ch)
{
    case 1: s1.deposit(); break;
    case 2: s1.calc_interest(); break;
    case 3: s1.withdrawal(); break;
    case 4: s1.disp(); break;
    case 5: exit(0); break;
    default: System.out.println("Invalid input");
    }
}
do
{
cur_acct c1 = new cur_acct();
c1.name = a1.name; c1.acc_no = a1.acc_no;
c1.acc_type = a1.acc_type; c1.bal = a1.bal
System.out.println("\nEnter your choice:\n1.Deposit\n2 Penalty check \n3 Withdraw\n4 Display\n5 Exit");
Switch(ch)
{ case 1: c1.deposit(); break;
  case 2: c1.penal(); break;
  case 3: c1.withdrawal(); break;
case 4: c1.disp(); break;
case 5.. exit 0); break;
default: System.out.println("Invalid");
}
}
}
```

Output:-

Enter your Account type:

1) Savings Account

2) Current Account

1.

Cheque facility not available

Enter customer name

C

Enter account number

666

Enter balance amount

60000

Customer name: C

Account number: 666

Enter interest

4

Enter no. of times interest applied

3

Enter no of time period

4

Total amount:- 68034.2720002 1

Balance amount w/o interest is 60300

Available balance after updating 68054.272

```
Enter your account type:
1. Savings account
2. Current account
1
Cheque Facility not available
Enter customer name
rrr
Enter rrr's account number
5555
Enter balance amount
60000
Customer Name:rrr
Your account number:5555
Your Account Balance:60000.0
Press 1 to deposit
1
Enter amount to be deposited
500
Enter rate of interest
4
Enter number of times interest applied per time period
3
Enter number of time periods
4
Interest amount=68054.27200000001
Balance amount without interest is60500.0
Available balance after updating is68054.27200000001
Press 1 to withdraw ammount
```