9/12/22

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 provids compound intrest and withdrawal facilities but no cheque book facility. The current account provides cheque book facility but no intrest Current account holders should also maintain a minimum balance and if the balance falls below this level, a service charge ~~should be~~ is inposed.

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 balance.
b) Display the balance
c) compute and deposit intrest
d) Permit withdrawal and update the balance
Check for the minimum balance, impose penalty if necessary and update the balance.

```
import java.util.Scanner;
abstract class Account
{   String name = new String();
    int accno;
    String choice;
    double bal, dep, with, min = 500, tran, ci, r, n, t, p, q;
    abstract void type(char s);
    Scanner ss = new Scanner(System.in);
    void set()
    {   System.out.println("Enter your account number");
```

```
accno = ss.nextInt();
System.out.println("Enter your Balance: ");
bal1 = ss.nextDouble();
}
void put()
{   System.out.println("Your balance is now: "+bal);
}
}
class cur_acct extends Account
{
  void type(char s)
{ if(character.compare(s,'c')) System.out.println("
  This is your current account");
}
double cqbdeposit()
{ System.out.println("Enter the amount transffered
  to your account: ");
  dep = ss.nextDouble();
  bal = bal+dep;
  return bal;
}
double cstransfer()
{ system.out.println("Enter the amount to be
  transfered: ");
  tran = ss.nextDouble();
  if ((bal-tran) < min)
{ System.out.println("This transaction will cost a
penalty of Rs50 as balance will go below minimum. \n
Do you want to go ahead with the transaction Y or
N"); choice = ss.next();
if (choice.equalsIgnoreCase("y")) { bal = bal-tran-50;}
else{system.out.println("Cancelling transaction");}
}
```

```
        else bal = bal - tran;
        return bal;
    }
}
class Sav_acct extends Account
{   void type(char s)
    {   if (Character.compare(s, 'S'))
        System.out.println("This is your Savings
            Account");  }
    double deposit()
    {   System.out.println("Enter the amount transfered
        to your account: "); dep = ss.nextDouble();
        bal = bal + dep;
        return bal;
    }
    double withdraw()
    {   System.out.println("Enter the amount to be
        withdrawed: "); with = ss.nextDouble();
        if ((bal - with) > min) { bal = bal - with; }
        else { System.out.println("Insufficient balance");
        } return bal; }
    double compoundinterest()
    {   System.out.println("Enter interest rate:");
        r = ss.nextDouble(); System.out.println("Enter
        no. of times interest offered per time period"); n = ss.nextDouble();
        System.out.println("enter the time period:");
        t = ss.nextInt(); p = (1+(r/n)); q = n*t;
        CI = bal * Math.pow(p, q); bal = bal + CI;
        return bal; }
}
class MainBank {
{   public static void main(String args[])
```

```
{ Scanner ss = new Scanner(System.in);
System.out.println("Enter type 1. Current Account 2. Saving account");
int ch, k;
char x;
ch = ss.nextInt();
if (ch == 1) {   x = 'c';
                 Cur_act c1 = new Cur_act();
                 c1.type(x); c1.set();
System.out.println("Transfer to 1. Your 2. Different");
k = ss.nextInt(); if (k == 1) c1.cabdeposit();
if (k == 2) c1.cbtransfer();
c1.put();
}
if (ch == 2)
{   x = 's';
Sav_acct s1 = new Sav_act();
s1.type(x);
s1.set();
System.out.println("Do you want to
                    1. Deposit 2. withdra
                    3 compoundInstrst");
k = ss.nextInt();
if (k == 1)
s1.deposit();
if (k == 2)
s1.withdraw();
if (k == 3)
s1.compoundintrst();
s1.put();
}
}
```

```
C:\Users\Aditi Suhrut\Documents\Aditi\Java>java MainBank
Enter the type of account to be created
1.Current Account
2.Savings Account
1
Enter your account number:
Enter your balance:
1000
1000
Do you want to transfer to 1.Your account or a 2.Different account?
2
Enter the amount to be transfered:
700
This transaction will cost a penalty of Rs.50 as the balance will go below minimun.
Do you want to go ahead with the transaction?Y or N
y
Your balance is now: 250.0

C:\Users\Aditi Suhrut\Documents\Aditi\Java>java MainBank
Enter the type of account to be created
1.Current Account
2.Savings Account
2
Enter your account number:
Enter your balance:
1000
1000
Do you want to transfer to 1.Deposit or a 2.Withdraw or get 3.Compound Intrest?
3
Enter the intrest rate:
50
Enter number of times intrest applied per time period:
2
Enter the time period:
1
Your balance is now: 677000.0
```

```
C:\Users\Aditi Suhrut\Documents\Aditi\Java>java MainBank
Enter the type of account to be created
1.Current Account
2.Savings Account
2
Enter your account number:
Enter your balance:
1000
1000
Do you want to transfer to 1.Deposit or a 2.Withdraw or get 3.Compound Intrest?
1
Enter the amount transfered to your account:
20
Your balance is now: 1020.0
```