LAB-5

Develop a Java program to create class Bank that maintains two kinds of account for its customers, one called savings and other current account. The savings account provides compound interest and withdrawal facilities but no cheque book facility. Current account provides cheque book facility but no interest. Current account holders should also maintain min. balance and if balance below this service charge is imposed.

Create a class Account that stores customer name, account number and type of account. From this derive classes Cur-acct and Sav-acct to make more specific to their requirement. Include necessary method to achieve:

a) Accept deposit from customer and update the balance
b) Display the balance
c) Compute and deposit interest
d) Permit withdrawal and update balance

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

```
class Account
{
String customername;
int accountnumber;
String accounttype;
double balance;

public Account (String customername, int accountn
String accounttype, double balance)
}
```

```
this.customername = customername;
this.accountnumber = accountnumber;
this.accounttype = accounttype;
this.balance = balance;
}
public void deposit (double amount)
{
if (amount > 0)
balance = balance + amount
System.out.println ("New balance : " + balance);
}
public void withdraw (double amt)
{
if (balance >= amt)
{
balance = balance - amt;
System.out.println ("New balance : " + balance);
}
else {
System.out.println ("Insufficient balance");
}
}
class Sav-Acct extends Amount
{ public Sav-Acct (String customername, int accountnumber,
double balance, String accounttype, double rate);
private double rate;
public void setInterest (double rate) super (customername,
{ accountnumber,
this.rate = rate; balance, accountype);
}
public void computeInterest (int years)
balance *= Math.pow (1 + rate), years);
System.out.println ("New balance : " + balance);
}
```

```
public void withdraw(double amount)
{
  if (balance >= amt)
  {
  balance = balance -amt;
   System.out.println("New balance : " +balance);
  }
  else {
  System.out.println ("Insufficient balance");
  }

public Cur-Acct extends Account {

private double minbalance;
private double penamt;

public Cur-Acct (String customername, int accountn-
umber, double balance, String accounttype,
 double minbalance, double penamt);
{
super(customername, accountnumber, balance, accounttype)
{
 this.minbalance = minbalance;
  this.penaltyamt = penamt;
}
public void withdraw (double amount)
{ if (balance >= amount)
  balance- =amount;
  System.out.println ("Amount withdrawn");
  if (balance < minbalance) {
   balance - =penamt;
  System.out.println ("Penalty amt: "+penamt);
}
}
else
  System.out.println ("Insufficient balance");
```

```
y
public class Bank
{
public static void main (String args[])
{
Scanner sc = new Scanner (System.in);
System.out.println ("Enter name : ");
String name = sc.nextLine();
System.out.println (" Enter acc number:");
int accountnumber = sc.nextInt();
System.out.println ("Enter balance : ");
double balance = sc.nextDouble();
System.out.println ("Enter account type : ");
String accounttype = sc.nextline();
switch (accounttype);
{
case "saving" : System.out.println ("Enter rate:");
                double rate = sc.nextDouble();

                Sav-Acct s=new Sav-Acct (System.in)
                s.deposit (1000);
                s.display();
                s.withdraw (500);
                s.computeInterest ();
                break;

case 'Current'': System.out.println ("Enter min balance
                                and penalty");
                double minbalance = sc.nextDouble()
double
```

```
y
public class Bank
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System.out.println ("Enter name : ");
String name = sc.nextLine();
System.out.println (" Enter acc number:");
int accountnumber = sc.nextInt();
System.out.println ("Enter balance : ");
double balance = sc.nextDouble();
System.out.println ("Enter account type : ");
String accounttype = sc.nextline();
switch (accounttype);
{
case "saving" : System.out.println ("Enter rate : ");
                double rate = sc.nextDouble();

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                s.withdraw (500);
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                break;

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                                      and penalty");
                double minbalance = sc.nextDouble()
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}
public class Bank
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public static void main (String args[])
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System.out.println("Enter name :");
String name = sc.nextLine();
System.out.println("Enter acc number:");
int accountnumber =sc.nextInt();
System.out.println("Enter balance:");
double balance = sc.nextDouble();
System.out.println("Enter account type:");
String accounttype=sc.nextline();

switch (accounttype);
{
case "saving": System.out.println("Enter rate:");
               double rate = sc.nextDouble();

               Sav-Acct s=new Sav-Acct(System.in)
               s.deposit(1000);
               s.display();
               s.withdraw(500);
               s.computeInterest();
               break;

case 'current': System.out.println("Enter min balance
                                    and penalty");
                double minbalance =sc.nextDouble()
                double penalty = sc.nextDouble();
```

```
Cur-Acct c = new Cur-Acct (System.in);
    c.deposit (2000);
    c.display ();
    c.withdraw (500);
    break;
default : System.out.println ("Invalid choice");
```

y

99.10

proceed

Output:

Enter customer name:
ABC
Enter account number:
123
Enter intial value:
400
Enter account type

1. Deposit
2. Withdraw
3. Display
4. Compute and Deposit
5. Exit

Enter your choice: 1
Enter amount to deposit : 1000
New balance : 1400.0

1. Deposit
2. Withdraw
3. Display
4. Compute and deposit
5. Exit

Enter your choice : 2
Enter amount : 500
New balance : 900.0

1. Deposit
2. withdraw
3. Display
4. Compute and deposit
5. End

Enter your choice : 3
Current balance : 900.0