paperism

Lab Program 5 Date:

Develop a Java program to create a class Bank that maintains two kinds of account for its customers, one called saving account and the other current account. The savings account provide 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 req. 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 deposite interest
d) Permit withdrawal and update 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, acctype;
    int acc_no;
    double bal, dep;
    Scanner ss = new Scanner(System.in);
    void setd()
```

```
{
    System.out.println("Enter your
                name");
    name = ss.next();
    System.out.println("Enter your
            account no:");
    acc_no = ss.nextInt();
    System.out.println("Enter your
        account type (Saving/Current):");
    acc_type = ss.next();
    System.out.println("Enter the
        account balance:");
    acc_bal = ss.nextDouble();
}

void disp() {
    System.out.println("Name:" + name);
    System.out.println("Account no" + acc_no);
    System.out.println("Account type" + acc_type);
    System.out.println("Account balance" +
                acc_bal);
}

void deposite() {
    System.out.println("Enter the
        amount which has to be deposited:");
    dep = ss.nextDouble();
    bal += dep;
    System.out.println("Balance amount:"
                + acc_bal);

}
```

```
boolean acc ( String acc_type)
{
  if ( acc_type == "Saving")
       return true;
  else if (acc_type == "current")
       return false;
  else
       return true;
  }
class cur_acct extends Account
{
     int penalty()
     {
       double min,pen;
       System.out.println("Enter minimum balance");
min 5000;  pen = min * 0.05;
       min = ss.nextDouble();
       pen = if( bal < min)
{
   bal -= pen;
   System.out.println("Penalty imposed for having insufficient balance"); return 0;}
   else
        { System.out.println("No penalty");
return 1; }
   void withdrawal()
   {
      double amt;
   System.out.println("Enter the amount to be withdrawn");
     amt = ss.nextDouble();
      int a= penal();
      if (a==1)
```

```
{
   if (bal >= amt)
      { bal = bal - amt;
   System.out.println(" ~~Amount~~ Account Baland
   after withdrawal is : " + bal); }
   }
   else
       System.out.println (" The amount
   can't be withdrawn");
     }
}
class Sav_acct extends Account
{
   void dlc_interest()
{
   System.out.println(" Enter time in years
      and Rate of interest");
   double t = scan.nextDouble();
   double r = scan.nextDouble();
   double CI = bal * Math.pow((1+r/100),t);
   System.out.println(" Account balance &
        Compound interest : "+ bal);
   }
    void withdrawal ()
    {
      double amt;
      System.out.println (" Enter amount to
          be withdrawn:");
      amt = scan.nextInt();
      if (bal >= amt)
                  {bal = bal - amt;
    System.out.println (" Account Balance
      after withdrawal is :"+bal);}
    else
```

```
System.out.println("The amount can't be
                    withdrawn");
            }
        }
Class Bank
{
    public static void main (String arg[])
    {
    Scanner ss = new Scanner (System.in);
    Account b1 = new Account();
    b1.getd();
    if( b1.acc_type.equals("Savings"))
    {
     Sav_acct s1 = new Sav_acct();
    s1.name = b1.name; s1.acc_no = b1.accno;
    s1.acc_type = b1.acc_type; s1.bal = b1.bal;
    while (true)
{
    System.out.println("Enter your choice: \n1.Deposit
                        \n2.Calculate interest \n3.Withdraw
                        \n4.Display \n5.Exit");
     int choice = ss.nextInt();
     switch (choice)
{
     case 1:  s1.deposit();  break;
     case 2:  s1.calc_interest(); break;
     case 3:  s1.withdrawal(); break;
     case 4:  s1.disp(); break;
     case 5:  System.exit(0);
     default : System.out.println("Invalid
                                   input");
     }
    }
    }
```

```
else if (bl.acc_type.equals("Current"))
{
  Cur_acct c1 = new Cur_acct();
c1.name= bl.name;
c1.acc_no = bl.accno;
c1.acc_type = bl.acc_type;
c1.bal = bl.bal;
while(true)
{
System.out.println("Enter your choice:
 \n :Deposite \n 2. Penalty Checle \n3. Withdra
\n 4. Display \n 5. Exit");
int choice = ss.next();
switch(choice)
{
case 1: c1.deposite(); break;
case 2: c1.penal(); break;
case 3: c1.withdrawal(); break;
case 4: c1.disp(); break;
case 5: system.exit(0);
default : System.out.println("Invalid
                    input");
}
}
}
else
   System.out.println("Invalid Account
     type");
}
}
```

Output

Enter your Name:
Aisha

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Date.

Enter account number:
12345678
Enter your account type: (saving/current)
Savings
Enter the Bank Balance:
123456
Enter your choice:
1. Deposite
2. Calculate interest
3. Withdrawal
4. Display
5. Exit
1
Enter the amount to be deposited
1000
Balance amount : 124456.0
Enter your choice:
1. Deposit
2. Calculate interest
3. Withdraw
4. Display
5. Exit
2
Enter time in years and Rate of intrest
23
2

ACCONT BALANCE and compound interest 124456
Enter your choice:
1. Deposite
2. Calculate interest
3. Withdraw
4. Display
5. Exit

4

Name : Aisha
Account number : 12345678
Account Type : Savings
Current balance is 124456.0
Enter your choice :
1. Deposit
2. Calculate interest
3. Withdraw
4. Display
5. Exit
5.

16/12/22

```
C:\Windows\System32\cmd.e
Microsoft Windows [Version 10.0.22621.963]
(c) Microsoft Corporation. All rights reserved.

C:\Users\Aisha Taffazul\Desktop\notes\3rd sem\java programs\bank> javac bank_program.java

C:\Users\Aisha Taffazul\Desktop\notes\3rd sem\java programs\bank>java Bank
Enter your Name:
aisha
Enter your Account Number:
0932
Enter your Account type: (Savings/Current)
Savings
Enter the Bank Balance:
2344
Enter your choice:
1.Deposit
2.Penalty Check
3.Withdraw
4.Display
5.Exit
1
Enter the amount to be deposited:
23
BALANCE AMOUNT: 2367.0
```

```
C:\Users\Aisha Taffazul\Desktop\notes\3rd sem\java programs\bank>java Bank
Enter your Name:
aisha
Enter your Account Number:
2342
Enter your Account type: (Savings/Current)
Current
Enter the Bank Balance:
234234
Enter your choice:
1.Deposit
2.Penalty Check
3.Withdraw
4.Display
5.Exit
4
Name: aisha
Account Number: 2342
Account Type: Current
Current balance is: 234234.0

C:\Users\Aisha Taffazul\Desktop\notes\3rd sem\java programs\bank>
```

```
C:\Users\Aisha Taffazul\Desktop\notes\3rd sem\java programs\bank>java Bank
Enter your Name:
aisha
Enter your Account Number:
23423
Enter your Account type: (Savings/Current)
Current
Enter the Bank Balance:
23434
Enter your choice:
1.Deposit
2.Penalty Check
3.Withdraw
4.Display
5.Exit
5

C:\Users\Aisha Taffazul\Desktop\notes\3rd sem\java programs\bank>
```

```
C:\Users\Aisha Taffazul\Desktop\notes\3rd sem\java programs\bank>java Bank
Enter your Name:
aisha
Enter your Account Number:
98665
Enter your Account type: (Savings/Current)
Current
Enter the Bank Balance:
234
Enter your choice:
1.Deposit
2.Penalty Check
3.Withdraw
4.Display
5.Exit
2
Enter Minimum balance & penalty amount if not followed:
234
34
No penalty

C:\Users\Aisha Taffazul\Desktop\notes\3rd sem\java programs\bank>
```

```
C:\Users\Aisha Taffazul\Desktop\notes\3rd sem\java programs\bank>java Bank
Enter your Name:
aisha
Enter your Account Number:
8732
Enter your Account type: (Savings/Current)
Current
Enter the Bank Balance:
12334
Enter your choice:
1.Deposit
2.Penalty Check
3.Withdraw
4.Display
5.Exit
3
Enter amount to be withdrawn:
2344
Enter Minimum balance & penalty amount if not followed:
1233
23
No penalty
Account Balance after withdrawal is:9990.0
```