LAB_5

QUESTION:

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 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 the balance.

b) Display the balance.

c) Compute and deposit interest

d) Permit withdrawal and update the balance

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

Complete the observation and execution of both the above programs tomorrow.

LAB-5

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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:

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c) Compute and deposit interest.

d) Permit withdrawal and update the balance.

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

Compute the observer

```
import java.util.Scanner;

class Account
{
    String name;
    int type;
    long acno;
    double balance;
    void getA()
    {
        Scanner s = new Scanner(System.in);
        System.out.println("enter customer name");
        name = s.nextLine();
        System.out.println("enter account no");
        acno = s.nextLong();
        System.out.println("enter bank balance");
        balance = s.nextDouble();
    }
    void display()
    {
        System.out.println("customer name is :" +name);
        if(type==1){
            System.out.println("customer account
                type is :savings");
        }
        else{
            System.out.println("customer account
                type is :current");}
        System.out.println("customer acco
            number is :" +acno);
        System.out.println("current balan
            :" +balance);}

    void deposit()
    {   System.out.println("Enter the amo
                to be deposited:
```

```
Scanner x = new Scanner(System.in);
    double amt = x.nextDouble();
    balance += amt;
}

class sav_acct extends Account
{
    double interest;
    Scanner s = new Scanner(System.in);
    sav_acct() {
        type = 1; }
    void cinterest()
    {
        int time;
        float rate;
        System.out.println("compound Interest
            details:");
        System.out.println("enter time in years:");
        time = s.nextInt();
        System.out.println("enter rate of interest:");
        rate = s.nextFloat();
        System.out.println("Interest will be
            compounded 5 times a year");
        interest = balance * (Math.pow((1+rate/5),
            (5*time))-1);
        balance += interest;
    }
void withdraw()
    {
        System.out.println("enter the amount
            to be withdrawn =");
        double amt = s.nextDouble();
        if (balance > amt)
            {balance -= amt;}
```

```
else
{ System.out.println("Amount to be withdrawn
        greater than balance!!!"); }
    }
}

class Curr_acct extends Account
{
    double check_amt;
    Curr_acct(){
        type=2;
    }
    void cheque()
    {
        System.out.println("Enter the cheque
        amount:");
        Scanner s=new Scanner(System.in);
        check_amt=s.nextDouble();
        if(check_amt>balance-5000)
        {
            System.out.println("Rs.500
            penalty imposed.... IS it OK to
            proceed? Enter y for yes and
            n for no");
            String option.equals("y"))
            { balance=balance-check_amt;
            else {System.out.println("no
                check debited");}
        }
        else
        {
            System.out.println("Rupees"
            +check_amt+"debited");
            balance-=check_amt; }
    }
```

```
void withdraw()
{
    System.out.println("Enter the amount to
    be withdrawn:");
    Scanner s = new Scanner(System.in);
    double amt = s.nextDouble();
    if(balance>amt) { balance -= amt; }
    else
    { System.out.println("Amount to be withdrawn
      greater than balance!!!"); }
}

class Bank {
    public static void main(String ss[]){
        String opt, opt2;
        Scanner s = new Scanner(System.in);
        System.out.println("1. Savings ac
        2. current ?");
        int a;
        a = s.nextInt();
        if(a==1) {
            sav_acct st = new sav_acct();
            while(true) {
        System.out.println("Enter the choice
1. Set the values for savings acc\n 2.
display\n 3. deposit\n 4. interest\n 5. Withdraw\n
6. exit\n");
        opt = s.next();
        switch(opt)
        {
        case "1": st.set();
                  break;
        case "2": st.display(); break;
        case "3": st.deposit(); break;
```

```
case "4" : s1.(method2)(); break;
case "5" : s1.withdraw(); break;
case "6" : System.exit(0);
}
}
}
else if (a==2){
Curr_acct c1 = new Curr_acct();
while (true){
System.out.println("enter the choice:
\n 1. set the value for current account\n 2.
display\n 3. deposit\n 4. transfer check\n 5.
withdraw\n 6. exit\n");
op2 = s.nextInt();
switch(op2)
{
case 1: c1.setA();
break;
case 2 : c1.display(); break;
case 3 : c1.deposit();break;
case 4 : c1.cheque(); break;
case 5 : c1.withdraw(); break;
case 6 : System.exit(0); }}
}
```

0:

1] Savings or 2. Current ?

Enter the choice :

1] Set the values for Savings ac

2. display

3. deposit

4. Interest

5. Withdraw

6. Exit.

1

Enter customer name : ramshu

Enter bank account no: 123

Enter bank balance : 777777

3

Enter the amount to be deposited : 12000

4

Enter time in years : 1

Enter rate of interest : 7

2

customer name is : ramshu

Customer account type is : Savings

Customer account number is : 123

Current balance is : 6.36767E7

5.

Enter the amount to be withdrawn : 17

6.

1. Savings or 2. current ?

2.

Enter the choice :

1. Set the values for current account
2. display
3. deposit
4. transfercheck
5. withdraw
6. exit.

4.

Enter cheque amount : 12345678.

Rs. 500 penalty imposed ... IS it OK to proceed ?

Enter y for yes and n for no

y

2.

Customer name is : anshu

Customer account type is : current

Customer account number : 1234

Current balance is : 12111E7

3.

Enter the amount to be deposited : 12345678

5.

Enter the amount to be withdrawn :

Balance = 12345678.

6.

16/12/22

OUTPUT:

```
C:\Users\amshu\OneDrive\Desktop\Downloads\OOJ-1BM21cs019--main (2)\OOJ-1BM21cs019--main>java Bank
Enter the choice:
1a.Set the values for savings acc
1b. display
1c. deposit
1d. Interest
1e. Withdraw
1f. exit
1a
Enter customer name: amshu
Enter type of account: current
Enter account number: 12
Enter bank balance: 12000
Enter the choice:
2a.Set the values for current account
2b. display
2c. deposit
2d. minBalance
2e. Withdraw
2f. exit
2c
Enter the amount to be deposited: 12000
Enter the choice:
1a.Set the values for savings acc
1b. display
1c. deposit
1d. Interest
1e. Withdraw
1f. exit
1a
Enter customer name: amshu
Enter type of account: savings
Enter account number: 123
Enter bank balance: 12899
Enter the choice:
2a.Set the values for current account
2b. display
```

```
Enter customer name: amshu
Enter type of account: savings
Enter account number: 123
Enter bank balance: 12899
Enter the choice:
2a.Set the values for current account
2b. display
2c. deposit
2d. minBalance
2e. Withdraw
2f. exit
2b
Customer name is: null
Customer account type is: null
Customer account number is: 0
Current balance is: 12000.0
Enter the choice:
1a.Set the values for savings acc
1b. display
1c. deposit
1d. Interest
1e. Withdraw
1f. exit
1b
Customer name is: amshu
Customer account type is: savings
Customer account number is: 123
Current balance is: 12899.0
Enter the choice:
2a.Set the values for current account
2b. display
2c. deposit
2d. minBalance
2e. Withdraw
2f. exit
2d
No penalty imposed
Enter the choice:
1a.Set the values for savings acc
1b. display
```

```
2b. display
2c. deposit
2d. minBalance
2e. Withdraw
2f. exit
2d
No penalty imposed
Enter the choice:
1a.Set the values for savings acc
1b. display
1c. deposit
1d. Interest
1e. Withdraw
1f. exit
1f
```