

Ques:

3) 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 & update the balance

Check for min balance. impose penalty if necessary update the balance.

```
import java.util.*;  
class Account {  
    String name;  
    int accno;  
    String type;  
    double balance;  
    Account (String name, int accno, String type,  
             double balance) {  
        this.name = name;  
        this.accno = accno;  
        this.type = type;  
        this.balance = balance;  
    }
```

```
void deposit (double amount) {  
    balance += amount;
```

```
void withdraw (double amount) {  
    if ((balance - amount) >= 0) {  
        balance -= amount;  
    } else {  
        System.out.println ("Insufficient  
balance");  
    }
```

```
void display () {
```

```
    System.out.println ("Name: " + name  
                       + "\n" + "Account NO: " + accno + "\n"  
                       + "Type: " + type + "\n" +
```

"Balance: " + balance + "\n");
3
class SavingsAccount extends Account {
private static int rate = 5;

SavingsAccount(String name, int accno, String type, double balance) {
Super(name, accno, type, balance);

void balanceWithInterest() {
balance += balance * rate / 100;
System.out.println("Balance: " + balan
ce);
3

Class CurrentAccount extends Account {
private double minbal = 500;
private double servicecharge = 50;
CurrentAccount(String name, int accno,
String type, double balance) {
Super(name, accno, type, balance);
3

void checkmin() {
if (balance < minbal) {
System.out.println("Balance is
less than min balance, Service charges
imposed: " + servicecharge);
met
"In"

balance = service charges;
System.out.println("Balance is : " +
balance);

{

Public class Bank {

{ Public static void main(String args[])

Scanner sc = new Scanner(System.in);
System.out.println("Enter your name:");
String name = sc.nextLine();

System.out.println("Enter the account type
(savings or deposit)");
String type = sc.next();

System.out.println("Enter the account
number:");

int accno = sc.nextInt();

System.out.println("Enter the initial
balance:");

double balance = sc.nextDouble();

Double amount1, amount2;

Account Acc = new Account(name, accno
+ type, balance);

Savings Account sa = new SavingsAccount
(name, accno, type, balance);

Current Account ca = new CurrentAccount
(name, accno, type, balance);

while (true) {

if (acc_type.equals ("savings")) {
System.out.println ("1. Balance -- 1");
System.out.println ("1. Deposit in 2. withdraw
case 1n 3. Compute interest 1n 4.
Display Detail in 5. Exit 1n");

System.out.print ("Enter your choice: ");

int choice = s.nextInt ();

switch (choice) {

Case 1:

System.out.print ("Enter deposit
amount: ");

amount 1 = s.nextDouble ();

sa.deposit (amount 1);

break;

Case 2:

System.out.print ("Enter withdrawal
amount: ");

amount 2 = s.nextDouble ();

sa.withdraw (amount 2);

break;

Case 3:

sa.balanceWithInterest ();

break;

Case 4:

System.out.print ("Details: ");

sa.detailsDisplay ();

break;

Case 5:

```
    return; } } }
```

System.out.println("Entered choice
is 5. Displaying withdraw amount
from account 1");

3

Else

```
System.out.println("In - > menu - In");
```

System.out.println("1. Deposit in 1.
2.

withdraw in 3. display in 4. exit 5.");

System.out.println("Enter your choice");

int choice = sc.nextInt();

switch(choice) {

case 1:

System.out.println("Enter the amount");

amount1 = sc.nextDouble();

cu.deposit(amount1);

break;

case 2:

System.out.println("Enter the withdraw
amount @ amount");

amount2 = sc.nextDouble();

cu.withdrawal(amount2);

break;

case 3:

System.out.println("Detail? ");

cu.display();

break;

Case 4:

return;

default:

System.out.println("Enter valid choice");

3

Output: Enter your name:

Sanketh

Enter the acco type.

savings

Enter the acc number:

12

Enter the initial balance:

500

- Menu -

1. Deposit

2. Withdraw

3. Compute Interest

4. Display detail

5. Exit

Enter your choice

1

Enter the deposit amount

200

--- Menu ---

1. Deposit
2. Withdraw
3. Compute Interest for S.
4. Display Details
5. Exit

Enter your choice

2

Enter the withdrawal amount.

100

--- Menu ---

1. Deposit
2. Withdraw
3. Compute Interest
4. Display Details
5. Exit

Enter your choice.

3

Balance = 630.0

--- Menu ---

1. Deposit
2. Withdraw
3. Compute Interest
4. Display Details
5. Exit

Enter your choice

4

Details of account number 1000
Name : Bank A Ltd. Account No. 1000
Account No. 1000. (1) Transaction + 1000.
Type : Savings (B) 1000 Date 3. 3. 2000
Balance : 6500.00 Date 3. 3. 2000

-- Menu

1. Deposit

2. Withdraw

3. Compute Interest (With bank interest)

4. Display Details, Date & Balance

5. Exit (Close program, Please handle)

Enter your choice

5