LAB - 05

09/01/24

Q. Develop a JAVA program to create a class Bank that maintain two kinds of account for its customers, one called Savings account and the other current account. The savings account provide compound interest and withdrawal facilities but no cheque book facility. The current account provides check 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 store 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.

```
import java.util.*;
class Account
{
    String name;
    int accno;
    String acc_type;
    double balance;

    Account(String name, int accno, String acc_type, double balance)
    {
        this.name = name;
        this.accno = accno;
        this.acc_type = acc_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! Cannot withdraw");
    }
}

void display()
{
    System.out.println("Name: " + name + "Accno: " + accno + "Type: " + typ
        "Balance: " + balance);
}
}

class SavAccount extends Account
{
    private static double rate = 5;
    SavAccount(String name, int accno, double balance)
    {
        super(name, accno, "saving", balance);
    }
    void interest()
    {
        balance += balance * (rate)/100;
        System.out.println("Balance: " + balance);
    }
}
```

```
class curr_account extends Account

{
private double minBal = 500;
private double serviceCharges = 50;
curr_account (String name, int accno, double balance)
{
    super (name, accno, "current", balance);
}
void checkMin ()
{
    if (balance < minBalance)
    {
        System.out.println ("Balance is less than minimum, service charge is
        imposed" + serviceCharges);
        balance -= serviceCharges;
        System.out.println ("Balance is : " + balance);
    }
}
}

class Bank
{
    public static void main (String args [])
    {
        Scanner s = new Scanner (System.in);
        System.out.println ("Enter customer name");
        String name = s.next ();
        System.out.println ("Enter account number");
        int accno = s.nextInt ();
        System.out.println ("Enter the type of account - currents or savings");
        String acc_type = s.next ();
        System.out.println ("Enter the initial balance");
        double balance = s.nextDouble ();
        Account ob1 = new Account (name, accno, acc_type, balance);
```

```
Sav_account sa = new Sav_account (name, accno, balance);
Curr_account ca = new Curr_account (name, accno, balance);
while (true)
{
    if (acc_type.equals ("Savings"))
    {
        System.out.println ("Menu");
        System.out.println ("1. Deposit In 2. Withdraw 3. Compute interest
        4. Display account details 5. Exit");
        System.out.print ("Enter your choice - ");
        int choice = s.nextInt();
        switch (choice)
        {
            case 1 :
            {
                System.out.println ("Enter the amount to be deposited");
                double amt1 = s.nextDouble ();
                sa.deposit (amt1);
                break;
            }
            case 2 :
            {
                System.out.println ("Enter the amount to be withdrawn");
                double amt2 = s.nextDouble ();
                sa.withdraw (amt2);
                break;
            }
            case 3:
            {
                sa.interest ();
                break;
            }
            case 4 :
            {
                sa.display ();
                break;
            }
```

```
        case 5:
        {
            break;
        }
        default:
        {
            System.out.println("Enter valid input");
            break;
        }
    }
}

class

{
    System.out.println("Menu");
    System.out.println("1. Deposit 2. Withdraw 3. Display Account Details 4. Exit");
    System.out.println("Enter your choice");
    int choice = s.nextInt();
    switch(choice)
    {
        case 1:
        {
            System.out.println("Enter the amount to be deposited");
            double amt1 = s.nextDouble();
            ac.deposit(amt1);
            break;
        }
        case 2:
        {
            System.out.println("Enter the amount to be ~~deposited~~ withdrawn");
            double amt2 = s.nextDouble();
            ac.withdraw(amt2);
            break;
        }
        case 3:
        {
            ac.display();
            break;
```

```
case 4:
{
    break;
}
}
default:
{
    System.out.println("Enter valid input");
    break;
}
}
}
}
}
}
```

OUTPUT

```
// SAVINGS
Enter customer name
Ranjana
Enter account number
1
Enter the type of account - current or saving
Saving
Enter the initial balance 5000
Menu
1. Deposit 2. Withdraw 3. Compute Interest 4. Display Account Details 5. Ex
Enter your choice 1
Enter the amount to be deposited 3000
Menu
1. Deposit 2. Withdraw 3. Compute Interest 4. Display Account Details 5. Exit
2
Enter the amount to be withdrawn 9000
Insufficient balance ! Cannot withdraw.
Menu
1. Deposit 2. Withdraw 3. Compute Interest 4. Display Account Details 5. Exit
```

4

Name : Sanjana Account number : 1 Account type : Saving Balance : 5000.0

// CURRENT.

Enter customer name

Sanjana

SANJANA SURESH
1BM22CS239.

Enter account number

2

Enter the type - current or saving

current

Enter the initial balance

4000

Menu

1. ~~deposit~~ Deposit 2. Withdraw 3. Display Account Details 4. Exit.

Enter your choice

1

Enter the amount to be deposited 2000

Menu

1. Deposit 2. Withdraw 3. Display Account Details 4. Exit.

Enter your choice

3

Name : Sanjana Account number : 2 Account type : Current Balance : 6000.

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