LAB - 5

4a) 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 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 the 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

Code:

```
import java.util.Scanner;
Class account
  {
    String name;
    int acc no ;
    String type;
    double balance;
    account (String name, int acc no, 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, cant withdraw");
   }
   }
void display ()
 {
 System.out.println ("name :" + name + "accno:" + accno + "type:" + type
  + "balance:") + balance);
  }
  }
  class savAcct extends account
  {
    private static double rate = 5;
     savAcct (String name, int accno, double balance).
      {
```

```
super (name, accno, "saving", balance);
}

void interest()
{
  balance += balance * (rate)/100;
  System.out.println("balance:" + balance);
}

}

class curAcct extends account
{
  private double minBal = 500;
  private double serviceCharges = 50;
  curAcct(String name, int accno, double balance)
  {
    super(name, accno, "current", balance);
  }
void checkmin()
{
  if (balance < minBal)
  {
    System.out.println("balance is less than min balance, service
      charges imposed:" + serviceCharges);
      System.out.println("balance is:" + balance);
  }
}
}
class accountMain
{
```

```
Scanner s = new Scanner(System.in);
System.out.println("Enter the name ");
String name = s.next();
System.out.println("Enter the type (current/savings) ");
String type = s.next();
System.out.println("Enter the account number ");
int accno = s.nextInt();
System.out.println("Enter the initial balance: ");
double balance = s.nextDouble();
int ch;
double amount1, amount2;
account acc = new account(name, accno, type, balance);
SavAcct sa = new savAcct(name, accno, balance);
CurAcct ca = new curAcct(name, accno, balance);
while(true)
{
if(acc.type.equals("savings"))
{
System.out.println("\n Menu\n 1. deposit 2. withdraw 3. display
4. display");
System.out.println("Enter the choice");
ch = s.nextInt();
switch(ch)
{
case 1: System.out.println("Enter the amount:");
amount1 = s.nextInt();
sa.deposit(amount1);
break;
```

```
case 2: System.out.println("Enter the amount");
amount2 = s.nextInt();
sa.withdraw(amount2);
break;
case 3: sa.interest();
break;
case 4: sa.display();
break;
case 5: System.exit(0);
default: System.out.println("invalid input");
break;
}
}
else
{
System.out.println("\n Menu\n 1.deposit 2.withdraw 3.display");
System.out.println("Enter the choice");
ch = s.nextInt();
switch(ch)
{
case 1: System.out.println("Enter the amount:");
amount1 = s.nextInt();
ca.deposit(amount1);
break;
case 2: System.out.println("Enter the amount:");
amount2 = s.nextInt();
ca.withdraw(amount2);
ca.checkmin();
break;
```

```
case 3: ca.display();
break;
case 4: System.exit(0);
default: System.out.println("invalid input");
break
}
}
}
}
```

Output:

```
Enter the name: sohan
Enter the type (current/savings):
current
Enter the account number:
121776
Enter the initial balance:
10000
Menu
1. deposit 2. withdraw 3 display
enter the choice:
3
name: sohan accno: 121776 type: current balance: 9800.0 menu
1. deposit 2. withdraw 3. display
enter the choice:
```

Enter the name: sohan

Enter the type (current / savings) : saving

Enter the account number: 122222

Enter the initial balance: 1500

Menu

1. deposit 2. withdraw 3. compute interest 4. display

Enter the choice

2

Enter the amount:

600

Menu

1. deposit 2. withdraw 3. compute interest 4. display

Enter the choice:

3

balance: 1890

Menu

1 - deposit 2. withdraw 3. compute interest 4. display enter the choice:

name : sohan acc no : 122222 type : savings balance : 1890.0

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