Date: / /

Lab - 5

Q) Develop a Java program to create a class Bank Account that maintains two kinds of account for its customers, one called saving account & the other current account. The saving account provides compound interest and withdrawal facilities but no cheque book facilities. The current account provides cheque book facilities but no interest. Current account holder should also maintain a min balance & if balance falls below level, a service charge is imposed. Create a class Account that stores customer names, account number and type of account. From this derive the classes cur-acct & Sav-acct to make them more specific to their requirement.

Soln:-

```
import java.util.Scanner;

abstract class Account {
    String c_name, acc_type;
    int acc_num;
    double balance;
    int minbalance = 2000;
    Account ( String c_name, int acc_num, double balance) {
        this.c_name = c_name;
        this.acc_num = acc_num;
        this.balance = balance;
        this.acc_type = acc_type;
    }

    abstract void addbal (double amount);
```

RAJDHANI

Scanned with CamScanner

Date: / /

```
    abstract void display();
    abstract void withdrawal(double amount);
}

class curr_acct extends Account {
    curr_acct(String c_name, int acc_num, double
                                        balance) {
        super(c_name, acc_num, balance);
        System.out.println("Details of the customer:");
        System.out.println("Customer name: " + c_name
        "\t Account number: " + acc_num + "\t Balance:" +
        balance + "Account Type: Current");
}

void addbal(double amount) {
    this.balance += amount;
}

void display() {
    System.out.println("The balance is: " + this.balance);

void withdrawal() {
    if (this.balance < amount) {
        System.out.println("Insufficient funds");
        System.out.println("Your balance is: " + this.balance);
        return;
    }
    this.balance = this.balance - amount;
    if (this.balance < minbalance) {
        this.balance = this.balance - amount;
        System.out.println("Balance is: " + this.balance);
    this.balance = this.balance + this.balance * 0.5;
```

RAJDHANI

Scanned with CamScanner

Date: / /

```
System.out.println("A penalty of Rs." + this.balance*0.5 +
"has been charged as minimum balance is not satisfied");
System.out.println("Updated Balance:" + this.balance);
System.out.println("Cannot withdraw.");
}
else if (balance > minbalance) {
    this.balance = this.balance - amount;
    System.out.println("Balance is:" + this.balance);
}
}
}

class Sav_acct extends Account {
    Sav_acct(String c_name, int acc_num, double balance)
    {
        super(c_name, acc_name, balance);
        System.out.println("customer name:" + cname +
        "\t Account number:" + acc_num + "\t Balance:" + balance
        + "Account type: Savings");
    }

    void addbal(double amount) {
        this.balance += amount;
    }

    void display() {
        System.out.println("The balance is:" + this.balance);
    }

    void withdraw(double amount) {
        if (this.balance < amount) {
            System.out.println("Insufficient funds");
```

RAJDHANI

Scanned with CamScanner

Date: /

```
        System.out.println("Your balance is : " +
                                                bal
    }
    this.balance = this.balance - amount;
    if (this.balance < minbalance) {
        this.balance = this.balance - this.balance *
        System.out.println("A penalty of Rs." + this.balan
        + " has been charged as minimum balance is not
        satisfied");
        System.out.println("updated balance : " + this.bal
        System.out.println("Cannot withdraw");
    }
    else if (balance > minbalance) {
        this.balance = this.balance - amount;
        System.out.println("Balance is : " + this.bala
    }
}

void intrest (double amount) {
    int time = 3, n=1
    System.out.println("Rate of intrest is 0.2");
    this.balance = this.balance * Math.pow(1+0.2)
                                        (n+1);
    }
}

class abs2 Main {
    public static void main (String args[]) {
        int choice, ch, n=1;
        double amount;
        Scanner s1 = new Scanner (System.in);
        Curr_acct c = new curr_acct ("jatin, 12345, Sa
```

RAJDHANI

Scanned with CamSca

Date: / /

```
Sav_acct s = new Sav_acct ("Jatin", 1234$, 50000);
System.out.println ("press 1. For current account \n
press 2. For Savings account");
choice = s1.nextInt();
switch (choice) {
  case 1: System.out.println ("**** Current Account");
          while (n!=0) {
          System.out.println ("1. Addbalance \n 2. display
          - Balance \n 3. withdraw \n 4. Check book \n 5.
          Exit");
      ch = s1.nextInt();
      String reciever;
      double recamount;
      switch (ch) {
        case 1:
          System.out.println ("enter amount to be added:");
          amount = s1.nextDouble();
          c.addbal (amount);
          break;

      case 2: c.display();
              break;

      case 3: System.out.println ("Enter amount to be
                                   withdrawn:");
              amount = s1.nextDouble();
              c.withdraw (amount);
              break;

      case 4: System.out.println ("Enter the name of
               the reciever:");
              reciever = s1.next();
```

RAJDHANI

Scanned with CamScanner

Date: / /

```
System.out.println("Enter amount to be deducted from
    reciever:");
recamount = s1.nextDouble();
if(recamount > c.balance){
    System.out.println("Insufficient Balance");
}
else{
 System.out.println("Amount of" + recamount +
   "sent to" + recievers);
 c.balance = c.balance - recamount;
 System.out.println("Balance:" + c.Balance);
 s.balance = c.balance;
}

case 5:  n=0;
         break;

default: System.out.println("Invalid Input");
  }
}
break;

case 2: System.out.println("*** Savings Account ***");
        while(n!=0){
            System.out.println("1. AddBalance \n
            displayBalance \n 3. withdraw \n 4. Exit");
        ch = s1.nextInt();
        switch(ch){
        case 1:
            System.out.println("Enter amount to be
                added:");
            s.addbal(amount);
            break;
```

RAJDHANI

Scanned with CamScanner

```
        case 2: s.display();
                break;

        case 3:
            System.out.println("Enter amount to be
                    with drawn:");
            amount = s1.nextDouble();
            s.withdraw(amount);
            break;

        case 4:
            n=0;

        default: System.out.println("Invalid Input");
            }
    }
        break;

        default: System.out.println("Invalid Input");
        }
    }
}
```

RAJDHANI

Scanned with CamScanner