LAB - 5

5. 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 & withdrawal facilities but no cheque book facility. The current account provides cheque book facility but no interest.

→
```
import java.util.Scanner;

class Account {
        String customerName;
        string accountNumber;
        string accountType;
        double balance;
        Account (string name, string
                        accNumber,
                        string accType) {
            customerName = name;
            accountNumber = accNumbe
            accountType = accType;
            balance = 0;
        }
    void deposit (double amount) {

            balance += amount;
            System.out.println(
                "Deposited: " + amount
                    + ". Updated
                balance: " + balance)
        }
```

```
void displayBalance() {
        System.out.println("Account
            Balance: " + balance);
    }

void withdraw(double amount) {
        System.out.println("This
        operation is specific to account
        type.");
    }

class SavAccount extends Account {

        SavAccount(String name,
                String accNumber)
            {
            super(name, accNumber,
                "Savings");
        }

        void computeInterest() {
            double interest =
                balance * 0.03;
            System.out.println
            ("Interest added: " +
            interest + ". balance
            with interest: " +
                (balance +
                interest));
        }

        void withdraw(double amount)
            {
```

```
        if (balance >= amount){
            balance -= amount;
            System.out.println
            ("Interest
                ("withdrawn: " +
                amount + ".
                Updated Balance: " +
                balance);
            }
        else {
            System.out.println("Insufficient
                balance");
            }
    }

    void compoundInterest(double
        rate, int time){
        double ci = balance * Math.
            pow(1 + (rate/365)),
                365 * time);
        System.out.println("compound
            Interest is: " + ci +
                ". Updated balance: " +
                (balance + ci));
            }
    }

class CurrAccount extends Account {

    CurrAccount(String name,
        String accNumber){
        super(name, accNumber,
            "current");
        }
```

```
void checkMinBalance(){
        if(balance<5000){
            balance-=300;
            System.out.println
            ("Balance below
            minimum. Service
        charge imposed: 300" +
            ". Updated balance:"
            + balance);
        }
}

void withdraw(double amount){
        if(balance>=amount){
            balance-=amount;
            System.out.println
            ("withdrawn: " +
            amount +
            ". Updated balance:"
            +balance);
            checkMinBalance();
        }
        else{
            System.out.println
            ("Insufficient
            Balance.");
        }
}

class AccountDemo{
    public static void main(String[] args){
        Scanner sc = new Scanner(System.in);
while(true){
        system.out.println("Enter 1 for savings\n
            Enter 2 for current");
```

```
int accountType = sc.nextInt();
if (accountType >= 3) break;
String bank = sc.nextLine();
System.out.println("Enter the name:");
String name = sc.nextLine();
System.out.println("Enter the Account Number:");
String accno = sc.nextLine();
System.out.println("Enter 1 to deposit:");
System.out.println("Enter 2 to withdraw");
System.out.println("Enter 3 to display");

if (accountType == 1) {
    System.out.println("Enter 4 for interest");
    System.out.println("Enter 5 for compound Interest");
    SavAccount s = new SavAccount(name, accno);
    while(true) {
        int pref = sc.nextInt();
        if(pref == 1) {
            System.out.println("Enter the amount:");
            double amount = sc.nextDouble();
            s.deposit(amount);
        }
        else if(pref == 2) {
            System.out.println("Enter the amount");
            double amount = sc.nextDouble();
            s.withdraw(amount);
        }
        else if(pref == 3) {
            s.displayBalance();
        }
        else if(pref == 4) {
            s.computeInterest();
        }
        else if(pref == 5) {
            s.compoundInterest(0.05, 15);
        }
        else break;
    }
}
else if (accountType == 2) {
    System.out.println("Enter 4 for Minbalance");
    CurAccount s = new CurAccount(name, accno);
    while(true) {
        int pref = sc.nextInt();
        if(pref == 1) {
            System.out.println("Enter the amount");
            double amount = sc.nextDouble();
            s.deposit(amount);
        }
        else if(pref == 2) {
            System.out.println("Enter the amount");
            double amount = sc.nextDouble();
            s.deposit(amount);
        }
    }
}
```

O/P:

```
Enter 1 for savings
Enter 2 for current
1
Enter name:
ana
Enter account number:
2345
Enter 1 to deposit
Enter 2 to withdraw
Enter 3 to display
Enter 4 for interest
Enter 5 for compaind interest
1
Enter amount
900
Deposited 900.0 updated balance 900.0
Enter amount 100
Withdrawn 100.0 updated balance 800.0
Account Balance = 800.0
4
Interest added: 24.0
Balance with interest: 824.0
5.
Compound interest is:
1693.5130234
Updated balance:
2493.5130234
```