LAB 5:

Q) Develop a Java program to create a class Bank that maintains two kinds of accounts for its customers, one called saving account and other current account. The saving account provides compound interset and withdrawal facilities but no check 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 servie charge is imposed.

Create a class Account that Stores Customer name, aclount number and type of account. From this derive the classes Curs-acct and Sav-acct to make them more specific to their requirements.

Include the necessary methods in order to achieve the following tasks:

(1) ACCept deposit from Customer and update the balance
(2) Display the balance
(3) Compute and deposit interest
(4) Permit withdrawal and update the balance
(5) Check for the minimum balance impose penalty if necessary and update the balance

```
import java.util.Scanner;

class Account {
    String name;
    int accountNo;
    String accountType;
    double balance;
    Account (String name, int accountNo,
    String accountType, double balance) {

    this.name = name;
    this.accountNo = accountNo;
    this.accountType = accountType;
    this.balance = balance;
    }
    void DisplayStatus() {

    System.out.println (" this.accountType)
    System.out.println ("Name:" + this.Name);
    System.out.println ("AccountNo: + this.accountNo);

    System.out.println ("AccountType: + this.accountType);

    System.out.println ("Balance:" + this.balance);

}

class SavAcct extends Account {
    double depositAmount;
    double Withdrawamount;
    SavAcct (String name, int accountNo,
    String accountType, double balance) {
        Super (name, accountNo,
    accountType, balance);
    }
```

```
static Scanner input = new Scanner (System.in);
private void checkBalance(){
    if (balance<0) {
    System.out.println(" Transation is
not possible. Balance becomes less than zero");

    balance += Withdrawamount;
    Withdrawamount =0;
    Withdraw();
  }
}

void CallInterest() {
    System.out.println(" Interest To Be added ");
    System.out.println("Annual rate of interest
                        : 4%.");
    System.out.println(" Enter the tenure in
                        terms of yeass");
    int tennure = input.nextInt();
    balance = balance * Math.pow (1.04, tenure);
}

Void Deposit () {
    System.out.println (" Enter the Deposit amount");
    depositAmount = input.nextDouble();
    balance += depositAmount;
  }

Void Withdraw() {
    System.out.println ("Enter the Withdrawal
                        amount");
    Withdrawamount = input.nextDoubl();
    balance = Widthdrawamount;
    checkBalance();
    System.out.println (" Withdraw
                        amount = " + Withdrawamount);
} }
```

```
class CurrAcct extends Account {
    double minBalance = 1000;
    double depositAmount;
    double withdrawamount;
    static Scanner input = new Scanner(System.in);

CurrAcct (String name, int accountNO,
    String accountType, double balance) {

    super(name, accountNO, accountType,
        balance);

    private void checkBalance() {
if (balance < minBalance) {
    System.out.println("Transaction is not
        possible. Balance becomes less than
        minimum balance.");
    balance += withdrawamount;
    System.out.println("Do u still want
        to do the toansaction with added
        service charges");
    String ans = input();

if (ans.toLowerCase().equals("yes")) {
    balance-=(withdrawamount + (0.05 *
        withdrawamount) + 1000);

    System.out.println("Alert : Negative
balance, In Service charge added:"
    + (0.05 * withdrawamount));
}
else {
    withdrawamount = 0;
}
}
}
```

```
void Deposit () {
    System.out.println ("Enter the Deposit amount");
    depositAmount = input.nextDouble();
    balance += depositAmount;
}

void withdraw () {
    System.out.println ("Enter the Withdrawal
                        amount");
    withdrawamount = input.nextDouble();
    balance = Withdrawamount;
    checkBalance();
    System.out.println ("withdraw amount
                        =" +Withdrawamount);
}
}

public class Bank {

    public static void main (String[] args)

    Scanner in = new Scanner (System.in);
    System.out.println ("Enter the name");
    String name = in.next();
    System.out.println ("Enter the account no. ");
    int num = in.nextInt();
    int i=0;

while (i<2) {
    System.out.println ("Enter the account type \n
                        Curr - Current account \n
                        Sav - Savings account.");
String type = in.next();
```

```
        if (type.equals ("Curr")) {
);
            double bal = in.nextInt();
            CurrAcct C1 = new CurrAcct (name, num,
                        "Current Account", bal);

            C1. DisplayStatus();
            C1. Deposit();
            C1. DisplayStatus();
            C1. withdraw();
            C1. DisplayStatus();

        }

        else if (type.toLowerCase().equals ("sav"))
          {
            double bal = in.nextInt();
            SavAcct S1 = new SavAcct (name, num,
                        "Saving Account", bal);

            S1. DisplayStatus();
            S1. Deposit();
            S1. DisplayStatus();
            S1. Withdrawa()
");          S1. DisplayStatus();
            S1. CalInterest();
            S1. DisplayStatus();
          }
          i++
In      }
          in.close();
        }
      }
```