



Sri Lanka Institute of Information Technology

**Database Management Systems for Security -
IE2024**

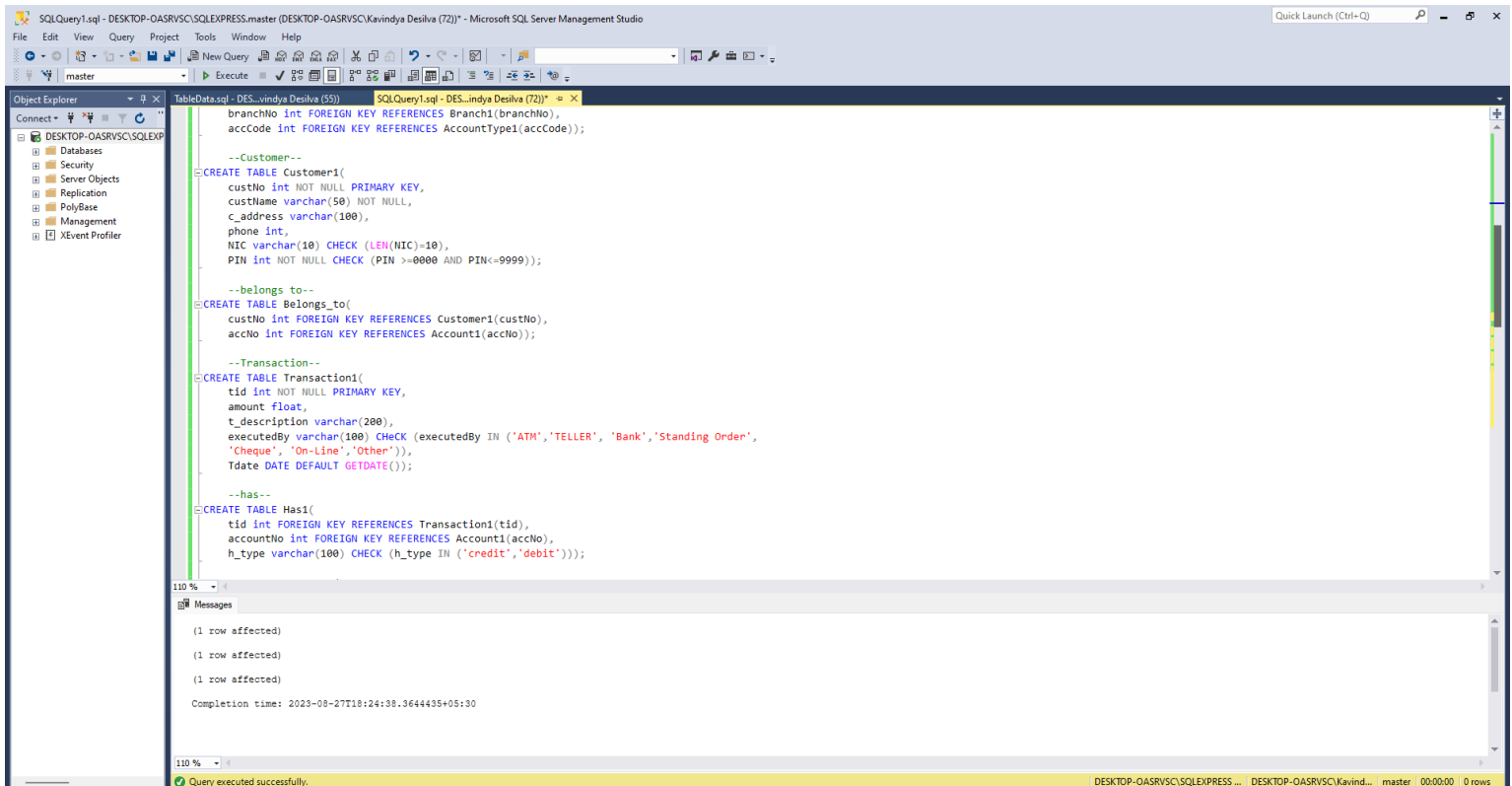
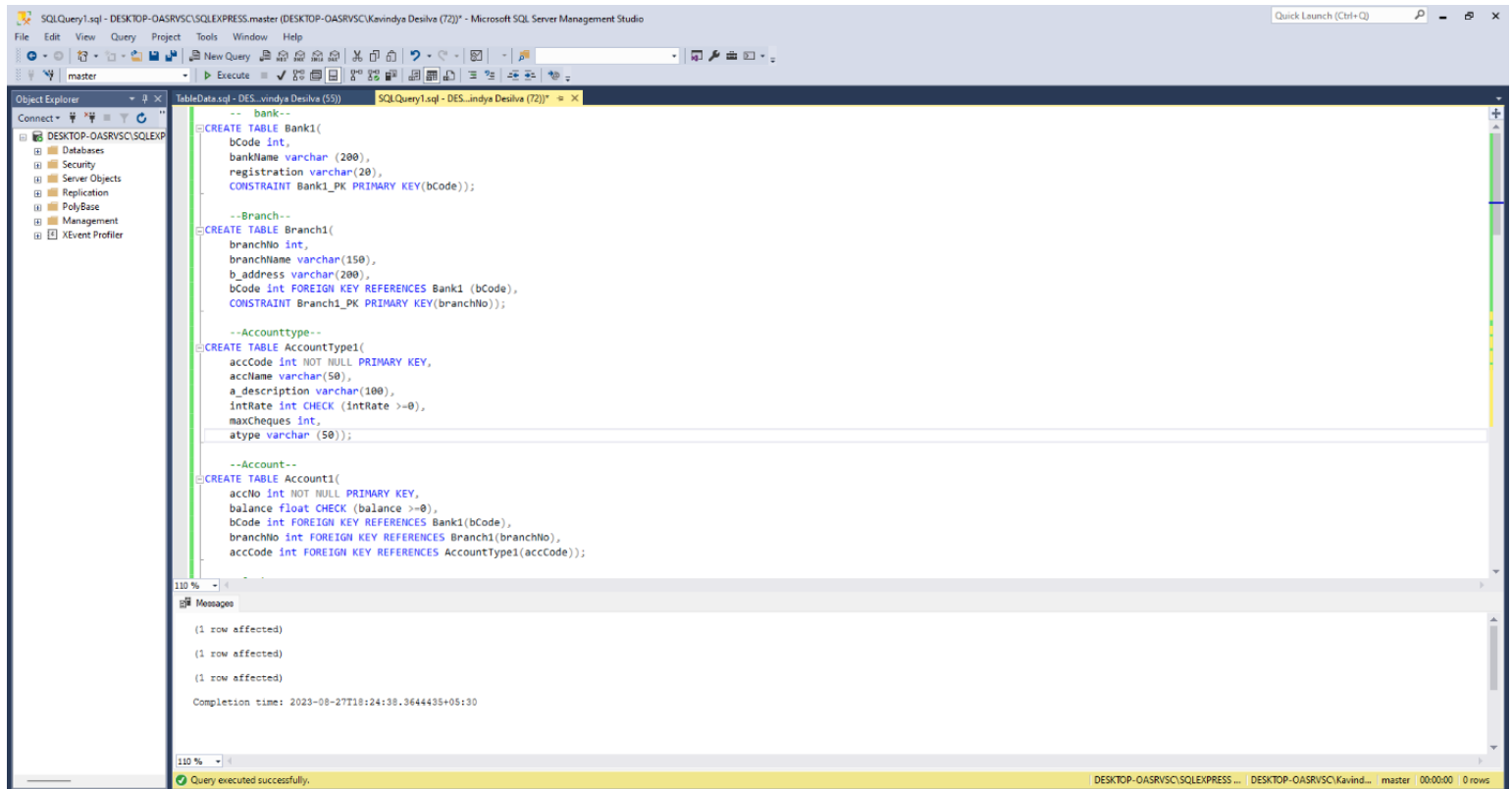
Lab Submission 04

IT22151056

De Silva K.R.K.D

Group – WD.CS 01.02

Activity 01



SQLQuery1.sql - DESKTOP-OASRVSC\SQLXPRESS.master (DESKTOP-OASRVSC\Kavindya Desiva (72)) - Microsoft SQL Server Management Studio

File Edit View Query Project Tools Window Help

Object Explorer

Connect - DESKTOP-OASRVSC\SQLXPRESS

TableData.sql - DES...vinda Desiva (55) SQLQuery1.sql - DES...inda Desiva (72)

```
--Insert data--

--bank--
INSERT INTO Bank1 VALUES ('1', 'Commercial Bank', 'Reg123');
INSERT INTO Bank1 VALUES ('2', 'Seylan Bank', 'Reg234');
INSERT INTO Bank1 VALUES ('3', 'Bank Of Ceylon', 'Reg652');

--Branch1--
INSERT INTO Branch1 VALUES ('101', 'Main Commercial branch', 'Panadura', '1');
INSERT INTO Branch1 VALUES ('102', 'Central branch', 'Gampaha', '2');
INSERT INTO Branch1 VALUES ('103', 'BOC branch', 'Malabe', '3');

--AccountType1--
INSERT INTO AccountType1 VALUES ('10', 'Savings', 'Basic Savings Account', '20', '10', 'Personal');
INSERT INTO AccountType1 VALUES ('12', 'Checking', 'Regular Checking Account', '10', '20', 'Business');
INSERT INTO AccountType1 VALUES ('15', 'Checking', 'Regular Checking Account', '12', '15', 'Business');

--Account--
INSERT INTO Account1 VALUES ('27431', '12000000.00', '1', '101', '10');
INSERT INTO Account1 VALUES ('51678', '900000.00', '2', '102', '12');
INSERT INTO Account1 VALUES ('39001', '100000.00', '3', '103', '15');

--Customer--
INSERT INTO Customer1 VALUES ('111', 'Namal', 'Colombo', '0112432341', '992426723v', '1234');
INSERT INTO Customer1 VALUES ('121', 'Kamal', 'Gampaha', '0335167811', '856200009v', '5678');
INSERT INTO Customer1 VALUES ('150', 'Gayan', 'Malabe', '0112259014', '982135710v', '9065');

--belong to--
INSERT INTO Belongs_to VALUES ('111', '27431');
INSERT INTO Belongs_to VALUES ('121', '51678');
INSERT INTO Belongs_to VALUES ('150', '39001');
```

Messages

(1 row affected)

(1 row affected)

(1 row affected)

Completion time: 2023-08-27T18:24:38.3644435+05:30

Query executed successfully.

SQLQuery1.sql - DESKTOP-OASRVSC\SQLXPRESS.master (DESKTOP-OASRVSC\Kavindya Desiva (72)) - Microsoft SQL Server Management Studio

File Edit View Query Project Tools Window Help

Object Explorer

Connect - DESKTOP-OASRVSC\SQLXPRESS

TableData.sql - DES...vinda Desiva (55) SQLQuery1.sql - DES...inda Desiva (72)

```
INSERT INTO AccountType1 VALUES ('10', 'Savings', 'Basic Savings Account', '20', '10', 'Personal');
INSERT INTO AccountType1 VALUES ('12', 'Checking', 'Regular Checking Account', '10', '20', 'Business');
INSERT INTO AccountType1 VALUES ('15', 'Checking', 'Regular Checking Account', '12', '15', 'Business');

--Account--
INSERT INTO Account1 VALUES ('27431', '12000000.00', '1', '101', '10');
INSERT INTO Account1 VALUES ('51678', '900000.00', '2', '102', '12');
INSERT INTO Account1 VALUES ('39001', '100000.00', '3', '103', '15');

--Customer--
INSERT INTO Customer1 VALUES ('111', 'Namal', 'Colombo', '0112432341', '992426723v', '1234');
INSERT INTO Customer1 VALUES ('121', 'Kamal', 'Gampaha', '0335167811', '856200009v', '5678');
INSERT INTO Customer1 VALUES ('150', 'Gayan', 'Malabe', '0112259014', '982135710v', '9065');

--belong to--
INSERT INTO Belongs_to VALUES ('111', '27431');
INSERT INTO Belongs_to VALUES ('121', '51678');
INSERT INTO Belongs_to VALUES ('150', '39001');

--Transaction--
INSERT INTO Transaction1 VALUES ('4567', '50000.00', 'Credit via cheque', 'Cheque', '2023-07-05');
INSERT INTO Transaction1 VALUES ('8394', '100000.00', 'ATM Withdrawal', 'ATM', '2023-07-12');
INSERT INTO Transaction1 VALUES ('5712', '50000.00', 'Deposit', 'Teller', '2023-07-20');

--has--
INSERT INTO Has1 VALUES ('4567', '27431', 'credit');
INSERT INTO Has1 VALUES ('8394', '51678', 'debit');
INSERT INTO Has1 VALUES ('5712', '39001', 'credit');
```

Messages

(1 row affected)

(1 row affected)

(1 row affected)

Completion time: 2023-08-27T18:24:38.3644435+05:30

Query executed successfully.

Ready Ln 23 Col 25 Ch 22 INS

Activity 02

```
--01--
SELECT accNo FROM Account1
WHERE balance > 1000000;

--02--
SELECT Sum(T.amount)
FROM Transaction1 T,Has1 H
WHERE T.tid = H.tid AND H.accountNo = '51678' AND T.executedBy = 'Cheque';

--03--
SELECT A.accNo, A.balance
FROM Account1 A
JOIN Branch1 B ON A.bCode = B.bCode AND A.branchNo= B.branchNo
JOIN Bank1 BK ON B.bCode = BK.bCode
WHERE B.branchName='Panadura' AND BK.bCode = '1';

--04--
SELECT A.accNo, A.balance, ACT.accName
FROM Account1 A
JOIN Customer1 C ON A.accNo =C.custNo
JOIN Bank1 B ON A.bCode = B.bCode
JOIN AccountType1 ACT ON A.accCode = ACT.accCode
WHERE C.NIC = '856200009V' AND B.bankName = 'Sampath Bank';

--05--
SELECT SUM(A.balance)
FROM Account1 A
JOIN Bank1 B ON A.bCode = B.bCode
JOIN Branch1 BR ON A.branchNo = BR.branchNo
WHERE B.bankName = 'Seylan Bank' AND BR.b_address LIKE '%Gampaha';

--06--
SELECT SUM(T.amount)
FROM Transaction1 T
JOIN Has1 H ON T.tid = H.tid
JOIN Account1 A ON H.accountNo = A.accNo
JOIN Branch1 B ON A.bCode = B.bCode AND A.branchNo = B.branchNo
JOIN Bank1 BK ON B.bCode = BK.bCode
WHERE BK.bankName = 'Commercial Bank'
      AND T.executedBy = 'ATM'
      AND T.Tdate BETWEEN '2021-07-01' AND '2021-07-10';

--07--
SELECT C.custName
FROM Customer1 C
JOIN Belongs_to BT ON C.custNo = BT.custNo
JOIN Account1 A ON BT.accNo = A.accNo
JOIN Bank1 BK ON A.bCode = BK.bCode
GROUP BY C.custName
HAVING SUM(A.balance) > 10000000.00;

--08--
SELECT DISTINCT H.accountNo
FROM Transaction1 T
```

```

JOIN Has1 H ON T.tid = H.tid
JOIN Account1 A ON H.accountNo = A.accNo
WHERE T.executedBy = 'ATM'
      AND T.Tdate BETWEEN '2021-07-01' AND '2021-07-31'
      AND T.amount > 100000.00;

--09--
SELECT DISTINCT C.custName
FROM Customer1 C
JOIN Belongs_to BT ON C.custNo = BT.custNo
JOIN Account1 A ON BT.accNo = A.accNo
JOIN Branch1 B ON A.bCode = B.bCode AND A.branchNo = B.branchNo
JOIN Bank1 BK ON B.bCode = BK.bCode
JOIN AccountType1 AT ON A.accCode = AT.accCode
WHERE BK.bankName = 'Bank of Ceylon'
      AND AT.accName = 'Current'
      AND NOT EXISTS (
        SELECT 1
        FROM Account1 SA
        JOIN AccountType1 SAT ON SA.accCode = SAT.accCode
        WHERE SAT.accName = 'Savings' AND SA.accNo = A.accNo
      );

--10--
SELECT DISTINCT A.accNo
FROM Account1 A
JOIN AccountType1 AT ON A.accCode = AT.accCode
WHERE AT.accName = 'Savings'
      AND NOT EXISTS (
        SELECT 1
        FROM Transaction1 T
        JOIN Has1 H ON T.tid = H.tid
        WHERE T.Tdate BETWEEN '2021-07-01' AND '2021-12-31'
              AND H.accountNo = A.accNo
      );

```