SE1748 – Đỗ Thế Phi – SE161229 – Lab 5 – BDI202

Exercise 1 :

Create Table Ex 1 :

```
CREATE TABLE Warehouses (
    Code INTEGER NOT NULL,
    Location VARCHAR(255) NOT NULL ,
    Capacity INTEGER NOT NULL,
    PRIMARY KEY (Code)
);
CREATE TABLE Boxes (
    Code VARCHAR(255) NOT NULL,
    Contents VARCHAR(255) NOT NULL ,
    Value REAL NOT NULL ,
    Warehouse INTEGER NOT NULL,
    PRIMARY KEY (Code),
    FOREIGN KEY (Warehouse) REFERENCES Warehouses(Code)
);

INSERT INTO Warehouses(Code,Location,Capacity) VALUES(1,'Chicago',3);
INSERT INTO Warehouses(Code,Location,Capacity) VALUES(2,'Chicago',4);
INSERT INTO Warehouses(Code,Location,Capacity) VALUES(3,'New York',7);
INSERT INTO Warehouses(Code,Location,Capacity) VALUES(4,'Los Angeles',2);
```

Messages

```
(1 row affected)
(1 row affected)
(1 row affected)
(1 row affected)
(1 row affected)
(1 row affected)
(1 row affected)
(1 row affected)
(1 row affected)
(1 row affected)
```

Query executed successfully.

Q1

```
SELECT * FROM Warehouses;
```

100 %

Results Messages

	Code	Location	Capacity
1	1	Chicago	3
2	2	Chicago	4
3	3	New York	7
4	4	Los Angeles	2
5	5	San Francisco	8

Q2

```
SELECT * FROM Boxes
WHERE Value > 150;
```

100 %

Results Messages

	Code	Contents	Value	Warehouse
1	0MN7	Rocks	180	3
2	4H8P	Rocks	250	1
3	4RT3	Scissors	190	4
4	7G3H	Rocks	200	1
5	9J6F	Papers	175	2

Q3

SQLQuery1.sql - D...-3TLQI9M\MSI (53))*

```sql
SELECT DISTINCT Contents
FROM Boxes;
```

100 %

Results | Messages

	Contents
1	Papers
2	Rocks
3	Scissors

Q4

SQLQuery1.sql - D...-3TLQI9M\MSI (53))*

```sql
SELECT AVG(Value)
FROM Boxes;
```

100 %

Results | Messages

	(No column name)
1	147.727272727273

Q5

SQLQuery1.sql - D...-3TLQI9M\MSI (53))*   ⊨ ✕

```sql
SELECT Warehouse, AVG(Value)
FROM Boxes
GROUP BY Warehouse;
```

100 %   ▼   ◄

⊞ Results ▤ Messages

	Warehouse	(No column name)
1	1	162.5
2	2	162.5
3	3	115
4	4	165
5	5	90

Q6

SQLQuery1.sql - D...-3TLQI9M\MSI (53))*   ⊨ ✕

```sql
SELECT Warehouse, AVG(Value)
FROM Boxes
GROUP BY Warehouse
HAVING AVG(Value) > 150;
```

100 %   ▼   ◄

⊞ Results ▤ Messages

	Warehouse	(No column name)
1	1	162.5
2	2	162.5
3	4	165

Q7

```sql
SELECT Boxes.Code, Location
    FROM Warehouses INNER JOIN Boxes
    ON Warehouses.Code = Boxes.Warehouse;
```

100 %

Results | Messages

	Code	Location
1	0MN7	New York
2	4H8P	Chicago
3	4RT3	Los Angeles
4	7G3H	Chicago
5	8JN6	Chicago
6	8Y6U	New York
7	9J6F	Chicago
8	LL08	Los Angeles
9	P0H6	Chicago
10	P2T6	Chicago
11	TU55	San Francisco

Q8

```sql
SELECT Warehouse, COUNT(*)
    FROM Boxes
    GROUP BY Warehouse;
```

100 %

Results | Messages

	Warehouse	(No column name)
1	1	4
2	2	2
3	3	2
4	4	2
5	5	1

Q9

```sql
SELECT Code
    FROM Warehouses
    WHERE Capacity <
    (
        SELECT COUNT(*)
        FROM Boxes
        WHERE Warehouse = Warehouses.Code
    );
```

100 %

Results | Messages

	Code
1	1

Q10

```
SQLQuery1.sql - D...-3TLQI9M\MSI (53))*  ⊄ ×
    ⊟SELECT  Boxes.Code
       FROM  Warehouses RIGHT JOIN Boxes
         ON  Warehouses.Code = Boxes.Warehouse
      WHERE Location = 'Chicago';
```

100 %   ▼   ◄

▦ Results ▤ Messages

	Code
1	4H8P
2	7G3H
3	8JN6
4	9J6F
5	P0H6
6	P2T6

Q11

```
SQLQuery1.sql - D...-3TLQI9M\MSI (53))*  ⊄ ×
    ⊟INSERT INTO Warehouses VALUES (6, 'New York', 3);
```

100 %   ▼   ◄
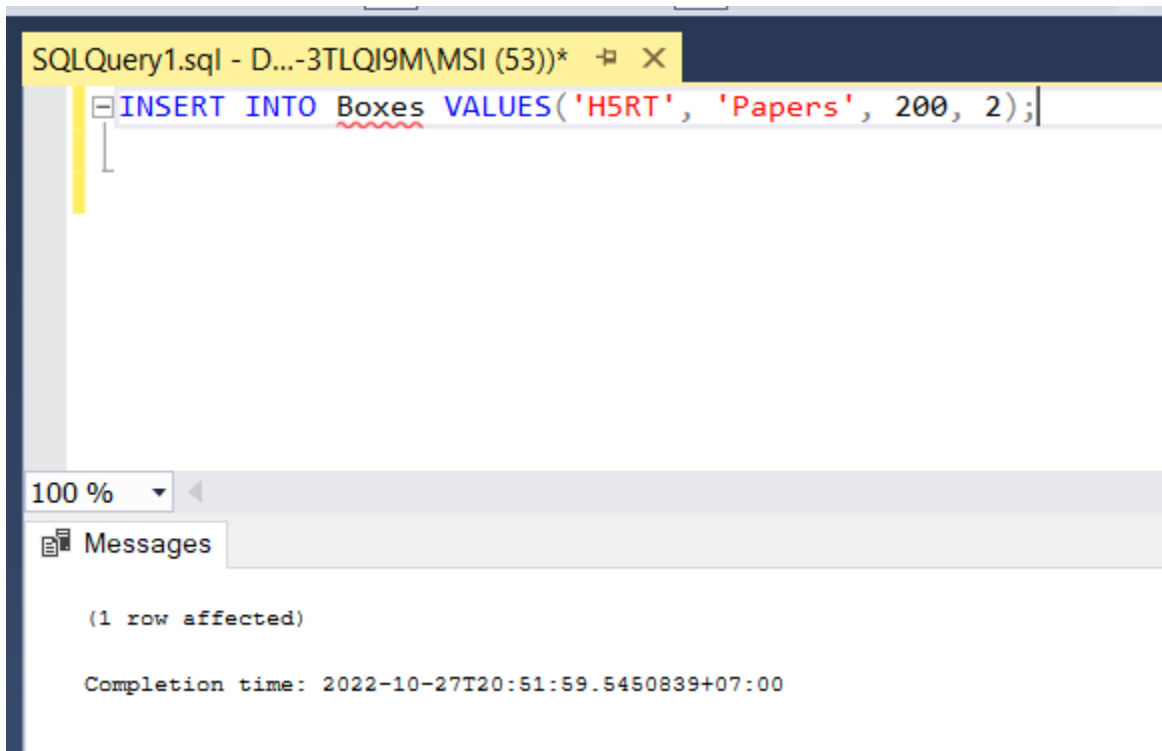
▤ Messages

    (1 row affected)

    Completion time: 2022-10-27T20:51:30.9624889+07:00

Q12

SQLQuery1.sql - D...-3TLQI9M\MSI (53))* + X

```sql
INSERT INTO Boxes VALUES('H5RT', 'Papers', 200, 2);
```
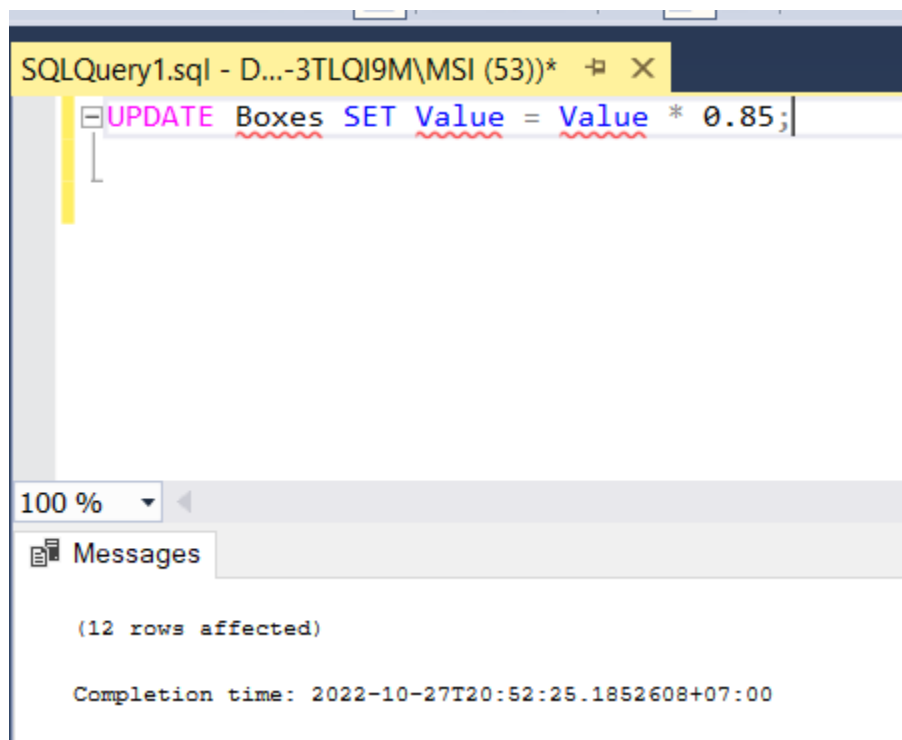
100 %

Messages

    (1 row affected)

    Completion time: 2022-10-27T20:51:59.5450839+07:00

Q13

SQLQuery1.sql - D...-3TLQI9M\MSI (53))* + X

```sql
UPDATE Boxes SET Value = Value * 0.85;
```

100 %
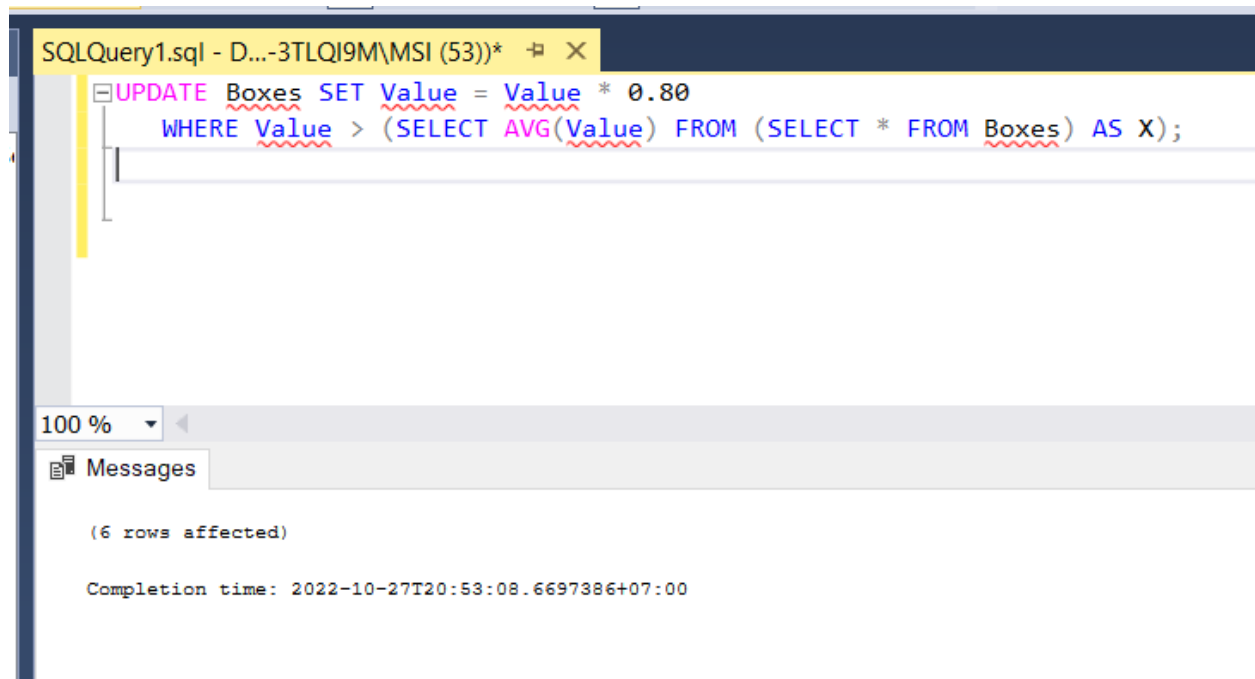
Messages

    (12 rows affected)

    Completion time: 2022-10-27T20:52:25.1852608+07:00

Q14

```
SQLQuery1.sql - D...-3TLQI9M\MSI (53))*  ⊞ ✕
   UPDATE Boxes SET Value = Value * 0.80
       WHERE Value > (SELECT AVG(Value) FROM (SELECT * FROM Boxes) AS X);
```
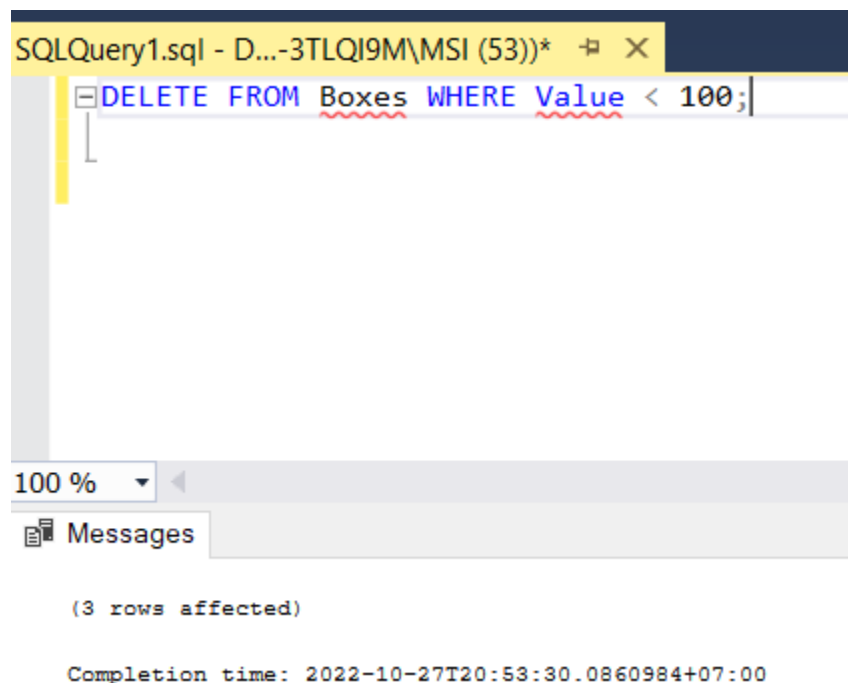
100 %

Messages

```
(6 rows affected)

Completion time: 2022-10-27T20:53:08.6697386+07:00
```

Q15

```
SQLQuery1.sql - D...-3TLQI9M\MSI (53))*  ⊞ ✕
   DELETE FROM Boxes WHERE Value < 100;
```

100 %

Messages

```
(3 rows affected)

Completion time: 2022-10-27T20:53:30.0860984+07:00
```

Exercise 2 :

Create Table Ex 2 :

```sql
CREATE TABLE Pieces (
    Code INTEGER PRIMARY KEY NOT NULL,
    Name TEXT NOT NULL
    );
CREATE TABLE Providers (
    Code VARCHAR(40)
    PRIMARY KEY NOT NULL,
    Name TEXT NOT NULL
    );
CREATE TABLE Provides (
    Piece INTEGER,
    FOREIGN KEY (Piece) REFERENCES Pieces(Code),
    Provider VARCHAR(40),
    FOREIGN KEY (Provider) REFERENCES Providers(Code),
    Price INTEGER NOT NULL,
    PRIMARY KEY(Piece, Provider)
);

INSERT INTO Providers(Code, Name) VALUES('HAL','Clarke Enterprises');
```

100 %

Messages

(1 row affected)

(1 row affected)

(1 row affected)

(1 row affected)

(1 row affected)

(1 row affected)

(1 row affected)

(1 row affected)

(1 row affected)

(1 row affected)

100 %

✅ Query executed successfully.

Q1

Q2

Q3

```
       FROM  Provides
       GROUP BY Piece;
```

	Piece	(No column name)
1	1	12
2	2	16
3	3	47
4	4	6

Q4

```
SELECT  Providers.Name
    FROM  Providers  INNER JOIN Provides
        ON  Providers.Code = Provides.Provider
            AND Provides.Piece = 1;
```

	Name
1	Clarke Enterprises
2	Susan Calvin Corp.

Q5

```sql
SELECT Pieces.Name
    FROM Pieces INNER JOIN Provides
    ON Pieces.Code = Provides.Piece
        AND Provides.Provider = 'HAL';
```

100 %

Results | Messages

	Name
1	Sprocket
2	Screw
3	Bolt

Q6

```sql
SELECT Pieces.Name, Providers.Name, Price
    FROM Pieces INNER JOIN Provides ON Pieces.Code = Piece
                INNER JOIN Providers ON Providers.Code = Provider
    WHERE Price =
    (
        SELECT MAX(Price) FROM Provides
        WHERE Piece = Pieces.Code
    );
```

100 %

Results | Messages

	Name	Name	Price
1	Sprocket	Susan Calvin Corp.	15
2	Screw	Clarke Enterprises	20
3	Nut	Susan Calvin Corp.	50
4	Bolt	Susan Calvin Corp.	7

Q7

```sql
INSERT INTO Provides
    VALUES (1, 'TNBC', 7);
```

100 %

Messages

(1 row affected)

Completion time: 2022-10-27T21:01:45.8272673+07:00

Q8

```
SQLQuery1.sql - D...-3TLQI9M\MSI (53))*  ⚲ ✕
    UPDATE Provides SET Price = Price + 1;
```

100 % ▼ ◄

▤ Messages

  (10 rows affected)

  Completion time: 2022-10-27T21:03:01.1176372+07:00

Q9

```sql
DELETE FROM Provides
    WHERE Provider = 'RBT'
        AND Piece = 4;
```

100 %

Messages

(1 row affected)

Completion time: 2022-10-27T21:03:23.2390602+07:00

Q10

```
DELETE FROM Provides
    WHERE Provider = 'RBT';
```

100 %

Messages

(3 rows affected)

Completion time: 2022-10-27T21:03:46.2265869+07:00