Populate the database with values, modify the database – modify values and delete records
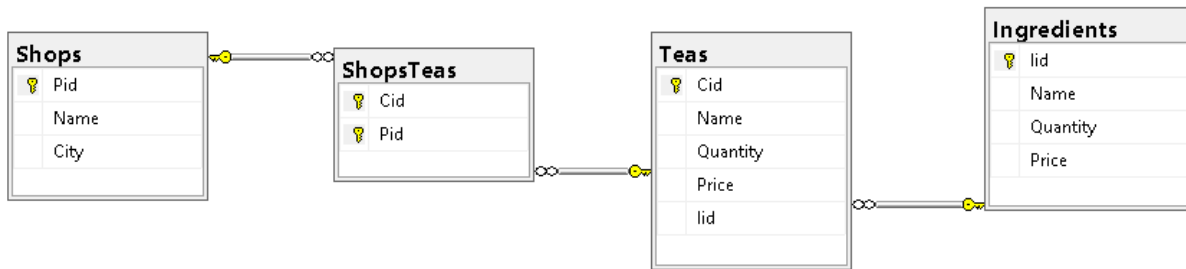


```
Create database Lab2E
go
use Lab2E
go

CREATE TABLE Shops
(Pid INT PRIMARY KEY,
Name varchar(50),
City varchar(50) NOT NULL)

CREATE TABLE Ingredients
(Iid INT PRIMARY KEY IDENTITY,
Name varchar(50),
Quantity int DEFAULT 1,
Price int)
```

```
CREATE TABLE Teas
(Cid INT PRIMARY KEY,
Name varchar(50),
Quantity int,
Price int,
Iid int FOREIGN KEY REFERENCES Ingredients(Iid)
)

CREATE TABLE ShopsTeas
(Cid INT FOREIGN KEY REFERENCES Teas(Cid),
Pid INT FOREIGN KEY REFERENCES Shops(Pid),
CONSTRAINT pk_ShopsTeas PRIMARY KEY (Cid, Pid)
)
```

```
SELECT * FROM Shops
SELECT * FROM Ingredients
SELECT * FROM Teas
SELECT * FROM ShopsTeas
```


1. *Insert values in tables*
   INSERT INTO table_name (col1, col2, …)
   VALUES (expr1, expr2, …)

```
-- insert in  Shops
INSERT INTO Shops(Pid, Name, City) VALUES (1,'Shop 1', 'Oradea')
INSERT INTO Shops VALUES (2,'Shop 2', 'Bucuresti')
-- no, the same Pid as primary key
INSERT INTO Shops(Pid, Name, City) VALUES (1,'Shop 3', 'Orsova')
INSERT INTO Shops VALUES (2,'Shop 4', 'Oradea')
-- no, because City NOT NULL
INSERT INTO Shops VALUES (3, 'Plafar 5', NULL)
-- no, order and uncorresponding types
INSERT INTO Shops(Pid, Name, City) VALUES ('Shop 5', 2, 'Cluj')
```

```sql
select * from Shops
```

	Pid	Name	City
1	1	Shop 1	Oradea
2	2	Shop 2	Bucuresti

```sql
INSERT INTO Ingredients(Name, Quantity, Price) VALUES ('Mint', 3, 8)
INSERT INTO Ingredients(Name, Price) VALUES ('Berries', 4)
-- no, the same Iid as primary key
INSERT INTO Ingredients VALUES(2, 'Oranges', 3, 7)
-- no, the primary key is identity, so it won't be in the parameters list
INSERT INTO Ingredients(Iid, Name, Quantity, Price) VALUES (1, 'Lime', 4, 5)
```

(2 rows affected)

```sql
select * from Ingredients
```

	Iid	Name	Quantity	Price
1	1	Mint	3	8
2	2	Berries	1	4

```sql
-- insert Teas
INSERT INTO Teas(Cid, Name, Quantity, Price, Iid) VALUES (1,'Mint tea', 1, 7, 1)
INSERT INTO Teas VALUES (2,'Forest fruits tea', 2, 8, 1)
-- no, the foreign key does not exist as primary key in the Ingredients table - 6
INSERT INTO Teas(Cid, Name, Quantity, Price, Iid) VALUES (3,'Lime tea', 4, 6, 6)
```

```sql
select * from Teas
```

	Cid	Name	Quantity	Price	Iid
1	1	Mint tea	1	7	1
2	2	Forest fruits tea	2	8	1

```sql
-- insert ShopsTeas
INSERT INTO ShopsTeas(Pid, Cid) VALUES (1,2)
INSERT INTO ShopsTeas VALUES (2,2)
INSERT INTO ShopsTeas VALUES (1,1), (2,1)
-- no, because one of the keys does not exist in the left or right table or has already been added
INSERT INTO ShopsTeas(Pid, Cid) VALUES (1,4)
INSERT INTO ShopsTeas VALUES (6,9)
INSERT INTO ShopsTeas VALUES (2,2)
```

```
Msg 547, Level 16, State 0, Line 70
The INSERT statement conflicted with the FOREIGN KEY constraint "FK__ShopsTeas__Cid__2B3F6F97". The conflict occurred in database "Lab2E", table
The statement has been terminated.
Msg 547, Level 16, State 0, Line 71
The INSERT statement conflicted with the FOREIGN KEY constraint "FK__ShopsTeas__Cid__2B3F6F97". The conflict occurred in database "Lab2E", table
The statement has been terminated.
Msg 2627, Level 14, State 1, Line 72
Violation of PRIMARY KEY constraint 'pk_ShopsTeas'. Cannot insert duplicate key in object 'dbo.ShopsTeas'. The duplicate key value is (2, 2).
The statement has been terminated.
```

select * from ShopsTeas	Results

Results

	Cid	Pid
1	2	1
2	2	2

```
select * from Shops p
INNER JOIN ShopsTeas pc ON p.Pid=pc.Pid
INNER JOIN Teas c ON pc.Cid=c.Cid
```

Results | Messages

	Pid	Name	City	Cid	Pid	Cid	Name	Quantity	Price	Iid
1	1	Shop 1	Oradea	2	1	2	Forest fruits tea	2	8	1
2	2	Shop 2	Bucuresti	2	2	2	Forest fruits tea	2	8	1

2. *Modify values from the table*
UPDATE table_name
SET col1=expr1, col2=expr2, …
[WHERE condition]

- Composed condition with logical operators

```
UPDATE Shops
SET City='Alba Iulia'
WHERE City Like 'O%' OR Pid>3
Select * from Shops

UPDATE Teas
SET Price=10
WHERE Quantity<=2 AND Name Like '_a'
Select * from Teas
```

Results | Messages

	Pid	Name	City
1	1	Shop 1	Alba Iulia
2	2	Shop 2	Bucuresti

	Cid	Name	Quantity	Price	Iid
1	1	Mint tea	1	7	1
2	2	Forest fruits tea	2	8	1

- Condition with relational operators

```
UPDATE Ingredients
SET Name='Oranges'
WHERE Price>=5 AND Quantity<3
Select * from Ingredients
```

Results | Messages

	Iid	Name	Quantity	Price
1	1	Mint	3	8
2	2	Berries	1	4

- IS [NOT] NULL

```
UPDATE Ingredients
SET Price=8
WHERE Quantity IS NULL
Select * from Ingredients

UPDATE Teas
SET Name='Flowers'
WHERE Price IS NOT NULL
Select * from Teas
```

Results | Messages

	Iid	Name	Quantity	Price
1	1	Mint	3	8
2	2	Berries	1	4

	Cid	Name	Quantity	Price	Iid
1	1	Flowers	1	7	1
2	2	Flowers	2	8	1

- IN

```
UPDATE Teas
SET Price=20
WHERE Quantity IN (2,4,6,8)
select * from Teas
```

Results | Messages

	Cid	Name	Quantity	Price	Iid
1	1	Flowers	1	7	1
2	2	Flowers	2	20	1

- BETWEEN

```
Update Ingredients
SET Name='Cherries'
WHERE Quantity BETWEEN 2 AND 4
Select * from Ingredients
```

Results | Messages

	Iid	Name	Quantity	Price
1	1	Cherries	3	8
2	2	Berries	1	4

- LIKE

```sql
UPDATE Ingredients
SET Quantity=2
WHERE Name LIKE '_an%'
Select * from Ingredients
```

	Iid	Name	Quantity	Price
1	1	Cherries	3	8
2	2	Berries	1	4

3. *Delete records from the table*
DELETE FROM table_name
[WHERE condition]
- Composed condition with logical operators

```sql
Delete From Shops
WHERE City Like 'O%' OR Pid>=5
Select * from Shops

Delete From Teas
WHERE Quantity=1 AND Name='a'
Select * from Teas
```

	Pid	Name	City
1	1	Shop 1	Alba Iulia
2	2	Shop 2	Bucuresti

	Cid	Name	Quantity	Price	Iid
1	1	Flowers	1	7	1
2	2	Flowers	2	20	1

- Condition with relational operators

```sql
DELETE FROM
Ingredients
WHERE Price>=5 AND
Quantity<=3
Select * from
Ingredients
```

```
Msg 547, Level 16, State 0, Line 139
The DELETE statement conflicted with the REFERENCE constraint "FK__Teas__Iid__286302EC". The conflict occurred in database "Lab2E", table "dbo.T
The statement has been terminated.

(2 row(s) affected)
```

	Iid	Name	Quantity	Price
1	1	Cherries	3	8
2	2	Berries	1	4

- IS [NOT] NULL

```sql
DELETE FROM Ingredients
WHERE Quantity IS NULL
Select * from Ingredients
```

	Iid	Name	Quantity	Price
1	1	Cherries	3	8
2	2	Berries	1	4

```sql
DELETE FROM Teas
WHERE Price IS NOT NULL AND Cid>8
Select * from Teas
```

	Cid	Name	Quantity	Price	Iid
1	1	Flowers	1	7	1
2	2	Flowers	2	20	1

- IN

```sql
DELETE FROM Teas
WHERE Quantity IN (2,4,6,8)
select * from Teas
```

```
Msg 547, Level 16, State 0, Line 153
The DELETE statement conflicted with the REFERENCE constraint "FK__ShopsTeas__Cid__2B3F6F97". The conflict occurred in database "Lab2E", table
The statement has been terminated.

(2 row(s) affected)
```

	Cid	Name	Quantity	Price	Iid
1	1	Flowers	1	7	1
2	2	Flowers	2	20	1

- BETWEEN

```sql
DELETE FROM Ingredients
WHERE Quantity BETWEEN 2 AND 4
Select * from Ingredients
```

```
Msg 547, Level 16, State 0, Line 158
The DELETE statement conflicted with the REFERENCE constraint "FK__Teas__Iid__286302EC". The conflict occurred in database "Lab2E", table "dbo.T
The statement has been terminated.

(2 row(s) affected)
```

	Iid	Name	Quantity	Price
1	1	Cherries	3	8
2	2	Berries	1	4

- LIKE

```sql
DELETE FROM Ingredients
WHERE Name LIKE '_an%'
Select * from Ingredients
```

	Iid	Name	Quantity	Price
1	1	Cherries	3	8
2	2	Berries	1	4