

```
mysql> CREATE TABLE doctor (
-> dssn VARCHAR(11) NOT NULL,
-> dname VARCHAR(20),
-> specialty VARCHAR(50),
-> PRIMARY KEY(dssn)
-> );
Query OK, 0 rows affected (0.01 sec)

mysql> CREATE TABLE prescription(
-> dssn VARCHAR(11) NOT NULL,
-> pre_no VARCHAR(4) NOT NULL,
-> pdate DATE,
-> PRIMARY KEY(dssn, pre_no),
-> FOREIGN KEY(dssn) REFERENCES doctor(dssn)
-> );
Query OK, 0 rows affected (0.01 sec)

mysql> CREATE TABLE ph_company(
-> pname VARCHAR(20) NOT NULL,
-> phone VARCHAR(15) NOT NULL,
-> PRIMARY KEY(PNAME)
-> );
Query OK, 0 rows affected (0.01 sec)

mysql> CREATE TABLE drug (
-> pname VARCHAR(20) NOT NULL,
-> trade_name VARCHAR(20) NOT NULL,
-> formula VARCHAR(100) NOT NULL,
-> PRIMARY KEY(pname, trade_name),
-> FOREIGN KEY(pname) REFERENCES ph_company(pname)
-> );
Query OK, 0 rows affected (0.01 sec)

mysql> CREATE TABLE consist_of(
-> dssn VARCHAR(11) NOT NULL,
-> pre_no VARCHAR(4) NOT NULL,
-> pname VARCHAR(20) NOT NULL,
-> trade_name VARCHAR(20) NOT NULL,
-> PRIMARY KEY(dssn, pre_no, pname, trade_name),
-> FOREIGN KEY(dssn, pre_no) REFERENCES prescription(dssn, pre_no),
-> FOREIGN KEY(pname, trade_name) REFERENCES drug(pname, trade_name)
-> );
Query OK, 0 rows affected (0.01 sec)

mysql> CREATE TABLE pharmacy(
-> pcy_name VARCHAR(20) NOT NULL,
-> address VARCHAR(20),
-> phone VARCHAR(15),
-> PRIMARY KEY(pcy_name)
-> );
Query OK, 0 rows affected (0.01 sec)

mysql> CREATE TABLE sell(
-> pharmacy_name VARCHAR(20) NOT NULL,
-> pname VARCHAR(20) NOT NULL,
-> trade_name VARCHAR(20) NOT NULL,
-> price VARCHAR(10),
-> PRIMARY KEY(pharmacy_name, pname, trade_name),
-> FOREIGN KEY(pharmacy_name) REFERENCES pharmacy(pcy_name),
-> FOREIGN KEY(pname, trade_name) REFERENCES drug(pname, trade_name)
-> );
Query OK, 0 rows affected (0.01 sec)
```

```

mysql> INSERT INTO doctor (dssn, dname, specialty)
      -> VALUES ('12345678910', 'Mark', 'Blood');
Query OK, 1 row affected (0.01 sec)

mysql> INSERT INTO doctor (dssn, dname, specialty)
      -> VALUES ('56456234561', 'Kate Elmasri', 'Drugs');
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO prescription (dssn, pre_no, pdate)
      -> VALUES ('12345678910', '5436', '2003-12-08');
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO prescription (dssn, pre_no, pdate)
      -> VALUES ('56456234561', '5875', '2004-01-15');
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO prescription (dssn, pre_no, pdate)
      -> VALUES ('56456234561', '6789', '2023-05-16');
Query OK, 1 row affected (0.01 sec)

mysql> INSERT INTO ph_company (pname, phone)
      -> VALUES ('Phizer', '123-456-7890');
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO ph_company (pname, phone)
      -> VALUES ('Advil', '123-530-4571');
Query OK, 1 row affected (0.01 sec)

mysql> INSERT INTO ph_company (pname, phone)
      -> VALUES ('Walgreens', '123-563-3388');
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO drug(pname, trade_name, formula)
      -> VALUES ('Phizer', 'Ibuprofen', 'sh0sle49');
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO drug(pname, trade_name, formula)
      -> VALUES ('Phizer', 'these', 'Zoodler');
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO drug(pname, trade_name, formula)
      -> VALUES ('Phizer', 'that', 'Some_formula');
INSERT INTO drug(pname, trade_name, formula)
VALUES ('Advil', 'things', 'A_formula');
INSERT INTO drug(pname, trade_name, formula)
VALUES ('Advil', 'Ibuprofen', 'Another_formula');
INSERT INTO drug(pname, trade_name, formula)
VALUES ('Walgreens', 'Ibuprofen', 'A formula');
INSERT INTO drug(pname, trade_name, formula)
VALUES ('Walgreens', 'these', 'This_formula');Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO drug(pname, trade_name, formula)
      -> VALUES ('Advil', 'things', 'A_formula');
Query OK, 1 row affected (0.01 sec)

mysql> INSERT INTO drug(pname, trade_name, formula)
      -> VALUES ('Advil', 'Ibuprofen', 'Another_formula');
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO drug(pname, trade_name, formula)
      -> VALUES ('Walgreens', 'Ibuprofen', 'A_formula');
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO drug(pname, trade_name, formula)
      -> VALUES ('Walgreens', 'these', 'This_formula');
Query OK, 1 row affected (0.01 sec)

```

```
mysql> INSERT INTO consist_of(dssn, pre_no, pname, trade_name)
-> VALUES ('12345678910', '5436', 'Phizer', 'Ibuprofen');
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO consist_of(dssn, pre_no, pname, trade_name)
-> VALUES ('56456234561', '5875', 'Phizer', 'these');
Query OK, 1 row affected (0.01 sec)

mysql> INSERT INTO consist_of(dssn, pre_no, pname, trade_name)
-> VALUES ('56456234561', '6789', 'Advil', 'things');
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO pharmacy(pcy_name, address, phone)
-> VALUES ('Pharm', 'things-street', '123-456-7890');
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO pharmacy(pcy_name, address, phone)
-> VALUES ('Walmart', 'another_street', '124-543-7678');
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO sell(pharmacy_name, pname, trade_name, price)
-> VALUES ('Pharm', 'Advil', 'Ibuprofen', '$4235');
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO sell(pharmacy_name, pname, trade_name, price)
-> VALUES ('Pharm', 'Phizer', 'that', '$5000');
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO sell(pharmacy_name, pname, trade_name, price)
-> VALUES ('Pharm', 'Phizer', 'Ibuprofen', '$4235');
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO sell(pharmacy_name, pname, trade_name, price)
-> VALUES ('Walmart', 'Walgreens', 'these', '$5000');
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO sell(pharmacy_name, pname, trade_name, price)
-> VALUES ('Walmart', 'Walgreens', 'Ibuprofen', '$5500');
Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO sell(pharmacy_name, pname, trade_name, price)
-> VALUES ('Walmart', 'Phizer', 'that', '$6000');
Query OK, 1 row affected (0.01 sec)
```

```
mysql> SELECT trade_name, formula
-> FROM drug
-> WHERE pname = 'Phizer'
-> ORDER BY trade_name DESC;
```

```
+-----+-----+
| trade_name | formula |
+-----+-----+
| these      | Zoodler |
| that       | Some_formula |
| Ibuprofen  | sh0sle49 |
+-----+-----+
3 rows in set (0.00 sec)
```

```
mysql> SELECT DISTINCT d.pname, d.trade_name, d.formula
-> FROM drug AS d, consist_of as c, prescription as p
-> WHERE d.pname = c.pname AND d.trade_name = c.trade_name AND c.dssn = p.dssn AND c.pre_no = p.pre_no
-> GROUP BY d.pname, d.trade_name, d.formula
-> HAVING COUNT(*) > 0;
```

```
+-----+-----+
| pname | trade_name | formula |
+-----+-----+
| Advil | things     | A_formula |
| Phizer | Ibuprofen  | sh0sle49 |
| Phizer | these      | Zoodler   |
+-----+-----+
3 rows in set (0.00 sec)
```

```
mysql> SELECT c.trade_name, c.pname, p.pdate
-> FROM prescription AS p JOIN doctor as d ON d.dssn = p.dssn
-> JOIN consist_of as c ON p.dssn = c.dssn AND p.pre_no = c.pre_no
-> WHERE d.dname = 'Kate Elmasri';
```

```
+-----+-----+
| trade_name | pname | pdate |
+-----+-----+
| these      | Phizer | 2004-01-15 |
| things     | Advil | 2023-05-16 |
+-----+-----+
2 rows in set (0.00 sec)
```

```
mysql> SELECT d.trade_name, d.formula
-> FROM sell AS s
-> JOIN drug AS d ON s.pname = d.pname AND s.trade_name = d.trade_name
-> WHERE s.pharmacy_name = 'Walmart';
```

```
+-----+-----+
| trade_name | formula |
+-----+-----+
| that       | Some_formula |
| Ibuprofen  | A_formula |
| these      | This_formula |
+-----+-----+
3 rows in set (0.00 sec)
```

```
mysql> SELECT COUNT(pname)
-> FROM drug
-> WHERE pname = 'Phizer';
+-----+
| COUNT(pname) |
+-----+
|          3 |
+-----+
1 row in set (0.00 sec)
```

```
mysql> SELECT pcy_name, address
-> FROM sell AS s
-> JOIN pharmacy AS p ON s.pharmacy_name = p.pcy_name
-> WHERE pcy_name = pharmacy_name AND trade_name = 'Ibuprofen' AND s.price = (
->     SELECT MAX(price)
->     FROM sell
->     WHERE trade_name = 'Ibuprofen'
-> );
+-----+-----+
| pcy_name | address      |
+-----+-----+
| Walmart | another_street |
+-----+-----+
1 row in set (0.00 sec)
```

```
mysql> SELECT pharmacy_name, COUNT(trade_name)
-> FROM sell
-> GROUP BY pharmacy_name
-> HAVING COUNT(trade_name) > 2;
+-----+-----+
| pharmacy_name | COUNT(trade_name) |
+-----+-----+
| Pharm        |          3 |
| Walmart      |          3 |
+-----+-----+
2 rows in set (0.00 sec)
```

```
mysql> DROP TABLE sell;  
Query OK, 0 rows affected (0.02 sec)  
  
mysql> DROP TABLE consist_of;  
Query OK, 0 rows affected (0.00 sec)  
  
mysql> DROP TABLE drug;  
Query OK, 0 rows affected (0.01 sec)  
  
mysql> DROP TABLE prescription;  
Query OK, 0 rows affected (0.00 sec)  
  
mysql> DROP TABLE pharmacy;  
Query OK, 0 rows affected (0.04 sec)  
  
mysql> DROP TABLE ph_company;  
Query OK, 0 rows affected (0.00 sec)  
  
mysql> DROP TABLE doctor;  
Query OK, 0 rows affected (0.01 sec)  
  
mysql> █
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