```sql
CREATE TABLE MUSICIAN(
    SSN VARCHAR(10) PRIMARY KEY,
    NAME VARCHAR(20) NOT NULL,
    Address VARCHAR(35),
    phone_no VARCHAR(10)
);


CREATE TABLE INSTRUMENT(
    Instrument_id VARCHAR(10) PRIMARY KEY,
    NAME VARCHAR(20) ,
    M_Key VARCHAR(35)

);
CREATE TABLE Album(
    Album_id VARCHAR(10) PRIMARY KEY,
    Title VARCHAR(20) NOT NULL,
    Copyright_date DATE,
    FORMAT VARCHAR(10),
    SSN VARCHAR(10),
    FOREIGN KEY(SSN) REFERENCES musician(ssn)
);

CREATE TABLE SONG(
    Song_id VARCHAR(10) PRIMARY KEY,
    Song_title VARCHAR(20) NOT NULL,
    Author VARCHAR(20),
    Album_id VARCHAR(10),
    FOREIGN KEY(Album_id) REFERENCES album(Album_id)
);
CREATE TABLE PLAY(
    SSN VARCHAR(10),
    instrument_id VARCHAR(10),
    FOREIGN KEY(SSN) REFERENCES musician(SSN),
    FOREIGN KEY(instrument_id) REFERENCES instrument(instrument_id),
    PRIMARY KEY(SSN, instrument_id)
);
CREATE TABLE PERFORM(
    SSN VARCHAR(10),
    song_id VARCHAR(10),
    FOREIGN KEY(SSN) REFERENCES musician(SSN),
    FOREIGN KEY(song_id) REFERENCES song(song_id),
    PRIMARY KEY(SSN, song_id)
);
```
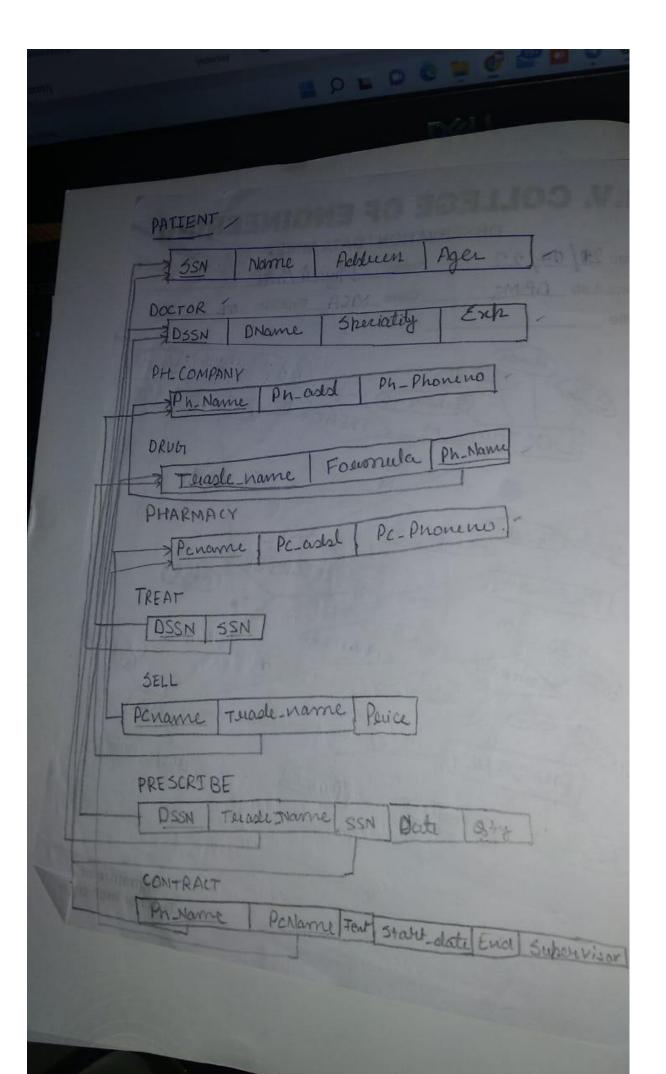
Query

SELECT M.Name AS musician_Name,song_title AS song_title,A.title AS album_title from musician M,song S,album A,perform P WHERE M.ssn=A.ssn AND A.album_id=S.album_id AND P.song_id=S.song_id

By me
 SELECT M.Name AS musician_Name,song_title AS song_title,A.title AS album_title from musician M,song S,album A,perform P WHERE M.ssn=P.ssn AND p.song_id=S.song_id AND S.album_id=A.album_id

2)

```
SELECT
    M.Name AS musician_Name
FROM
    musician M
WHERE
    M.ssn NOT IN(
    SELECT
        M.SSN
    FROM
        musician M,
        album A
    WHERE
        M.SSN = A.ssn
)
```

4)
```
SELECT
  N.NAME,COUNT(n.NAME),COUNT(n.NAME)/(SELECT COUNT(*) FROM musician)
 FROM
    instrument N,
    play P,
    musician M
    WHERE
      M.ssn=P.ssn AND P.instrument_id=N.Instrument_id
      GROUP BY n.Instrument_id
```

Last

```
 SELECT
   M.NAME
 FROM
```
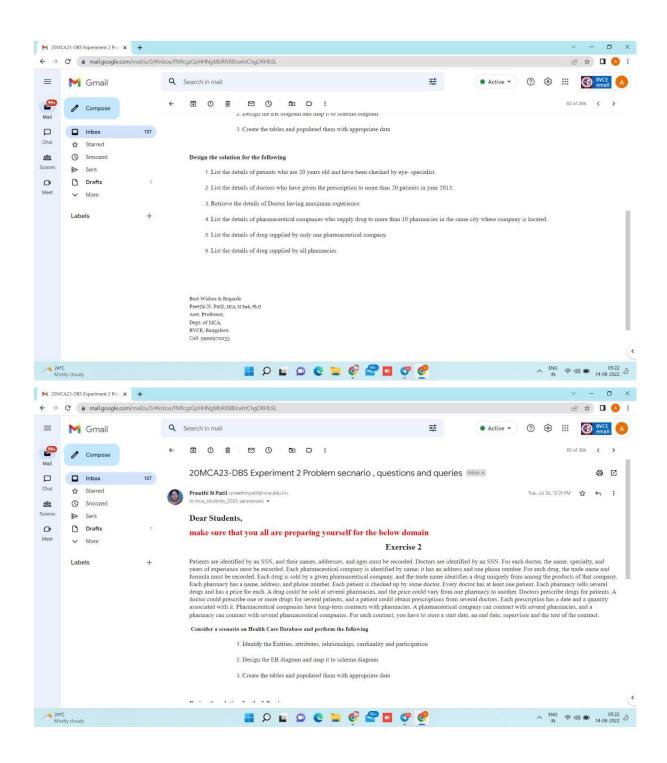
```sql
    play P,
    musician M
    WHERE
      M.ssn=P.ssn
      GROUP BY M.SSN
      HAVING COUNT(M.SSN)=(SELECT COUNT(*) FROM instrument)
```

Sec last
```sql
SELECT M.NAME
FROM

    play P,
    musician M,
    instrument N
    WHERE (p.instrument_id= (SELECT N.Instrument_id from instrument n where
n.NAME='sitar') AND m.SSN=p.SSN)
    GROUP BY m.NAME
```

PATIENT

SSN	Name	Address	Ager

DOCTOR

DSSN	DName	Speciality	Exp

PH. COMPANY

Ph_Name	Ph_add	Ph_Phoneno

DRUG

Trade_name	Formula	Ph_Name

PHARMACY

Pcname	Pc_addd	Pc_Phoneno

TREAT

DSSN	SSN

SELL

Pcname	Trade_name	Price

PRESCRIBE

DSSN	Trade_Name	SSN	Date	Qty

CONTRACT

Ph_Name	PcName	Text	Start_date	End	Supervisor

2. Design the ER diagram and map it to schema diagram

3. Create the tables and populated them with appropriate data

Design the solution for the following

1. List the details of patients who are 20 years old and have been checked by eye- specialist.

2. List the details of doctors who have given the prescription to more than 20 patients in year 2013.

3. Retrieve the details of Doctor having maximum experience

4. List the details of pharmaceutical companies who supply drug to more than 10 pharmacies in the same city where company is located.

5. List the details of drug supplied by only one pharmaceutical company.

6. List the details of drug supplied by all pharmacies

Best Wishes & Regards
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20MCA23-DBS Experiment 2 Problem secnario , questions and queries Inbox ×

Preethi N Patil <preethinpatil@rvce.edu.in>
to mca_students_2021, saravananc

Tue, Jul 26, 12:21 PM

Dear Students,

make sure that you all are preparing yourself for the below domain

Exercise 2

Patients are identified by an SSN, and their names, addresses, and ages must be recorded. Doctors are identified by an SSN. For each doctor, the name, specialty, and years of experience must be recorded. Each pharmaceutical company is identified by name; it has an address and one phone number. For each drug, the trade name and formula must be recorded. Each drug is sold by a given pharmaceutical company, and the trade name identifies a drug uniquely from among the products of that company. Each pharmacy has a name, address, and phone number. Each patient is checked up by some doctor. Every doctor has at least one patient. Each pharmacy sells several drugs and has a price for each. A drug could be sold at several pharmacies, and the price could vary from one pharmacy to another. Doctors prescribe drugs for patients. A doctor could prescribe one or more drugs for several patients, and a patient could obtain prescriptions from several doctors. Each prescription has a date and a quantity associated with it. Pharmaceutical companies have long-term contracts with pharmacies. A pharmaceutical company can contract with several pharmacies, and a pharmacy can contract with several pharmaceutical companies. For each contract, you have to store a start date, an end date, supervisor and the text of the contract.

Consider a scenario on Health Care Database and perform the following

1. Identify the Entities, attributes, relationships, cardinality and participation

2. Design the ER diagram and map it to schema diagram

3. Create the tables and populated them with appropriate data

---

Solution for above questions

Creating tables

PHCOMPANY
CREATE TABLE PHCOMPANY(CName VARCHAR(30), CAddress VARCHAR(50),
CPhone_No BIGINT, PRIMARY KEY(CName));

PHARMACY
CREATE TABLE PHARMACY(PHName VARCHAR(30), PHPhone_No BIGINT, PHAddress VARCHAR(50), PRIMARY KEY(PHName));

DRUG
CREATE TABLE DRUG(TradeName VARCHAR(30), Formula VARCHAR(30), CName VARCHAR(30), PRIMARY KEY(TradeName), FOREIGN KEY(CName) REFERENCES PHCOMPANY(CName));

DOCTOR
CREATE TABLE DOCTOR(DSSN VARCHAR(10), DName VARCHAR(30), Speciality VARCHAR(30), ExpYr INT, PRIMARY KEY(DSSN));

PATIENT
CREATE TABLE PATIENT(PSSN VARCHAR(10), PName VARCHAR(30), PAge INT, PAddress VARCHAR(50),PRIMARY KEY(PSSN));

CONTRACT_WITH
CREATE TABLE CONTRACT_WITH(Start_Date DATE, End_Date DATE, Text VARCHAR(30), Supervisor VARCHAR(30), CName VARCHAR(30), PHName VARCHAR(30), PRIMARY KEY(CName, PHName), FOREIGN KEY(CName) REFERENCES PHCOMPANY(CName), FOREIGN KEY(PHName) REFERENCES PHARMACY(PHName));

SELL
CREATE TABLE SELL(Price FLOAT, PHName VARCHAR(30), TradeName VARCHAR(30), PRIMARY KEY(PHName, TradeName), FOREIGN KEY(PHName) REFERENCES PHARMACY(PHName), FOREIGN KEY(TradeName) REFERENCES DRUG(TradeName));

PRESCRIBE
CREATE TABLE PRESCRIBE(Date1 DATE,Quantity VARCHAR(20), DSSN VARCHAR(10), TradeName VARCHAR(30), PSSN VARCHAR(10), PRIMARY KEY(DSSN, TradeName, PSSN), FOREIGN KEY(DSSN) REFERENCES DOCTOR(DSSN), FOREIGN KEY(TradeName) REFERENCES DRUG(TradeName), FOREIGN KEY(PSSN) REFERENCES PATIENT(PSSN));

CHECK1
CREATE TABLE CHECK1(PSSN VARCHAR(10), DSSN VARCHAR(10), PRIMARY KEY(PSSN,DSSN), FOREIGN KEY(DSSN) REFERENCES DOCTOR(DSSN), FOREIGN KEY(PSSN) REFERENCES PATIENT(PSSN));

Inserting values

PHCOMPANY
CONDITIONS

1. ATLEAST ONE COMPANY'S ADDRESS MUST MATCH 10 COMPANIES PHARMACIES


```
INSERT INTO `phcompany`(`CName`, `CAddress`, `CPhone_No`)
VALUES(
    'GNOSIS Pharmaceuticals','MG Road', '8745896321'
);
INSERT INTO `phcompany`(`CName`, `CAddress`, `CPhone_No`)
VALUES(
    'Rivpra Pharmaceuticals', 'Koramangala', '7896541230'
);
INSERT INTO `phcompany`(`CName`, `CAddress`, `CPhone_No`)
VALUES(
    'Rexcin Pharmaceuticals', 'VijayNagar', '8745896320'
);
INSERT INTO `phcompany`(`CName`, `CAddress`, `CPhone_No`)
VALUES(
    'hamicat Pharmaceuticals Inc', 'Marthahalli', '7965841230'
);
```

PHARMACY
CONDITIONS
1. THERE MUST BE 10 PHARMACIES WITH SAME ADDRESS

```
INSERT INTO `pharmacy`(`PHName`, `PHPhone_No`, `PHAddress`)
VALUES(
    'Ganesh Medicals',
    '8796541253',
    'JP Nagar, Bengaluru'
);
INSERT INTO `pharmacy`(`PHName`, `PHPhone_No`, `PHAddress`)
VALUES(
    'NetMeds', '8956123458', 'JP Nagar, Bengaluru'
);
INSERT INTO `pharmacy`(`PHName`, `PHPhone_No`, `PHAddress`)
VALUES(
    'Radha Medicals', '8796541253', 'JP Nagar, Bengaluru'
);
INSERT INTO `pharmacy`(`PHName`, `PHPhone_No`, `PHAddress`)
VALUES(
    'Megha Medicals', '8796541258', 'JP Nagar, Bengaluru'
);
INSERT INTO `pharmacy`(`PHName`, `PHPhone_No`, `PHAddress`)
VALUES(
    'Apollo Pharmacy', '8796541230', 'JP Nagar, Bengaluru'
);
INSERT INTO `pharmacy`(`PHName`, `PHPhone_No`, `PHAddress`)
VALUES(
```

```
    'PharmEasy', '8796420235', 'JP Nagar, Bengaluru'
);
INSERT INTO `pharmacy`(`PHName`, `PHPhone_No`, `PHAddress`)
VALUES(
    'Smile Medicals', '8796541230', 'JP Nagar, Bengaluru'
);
INSERT INTO `pharmacy`(`PHName`, `PHPhone_No`, `PHAddress`)
VALUES(
    'Good Pharmacy', '8958641230', 'JP Nagar, Bengaluru'
);
INSERT INTO `pharmacy`(`PHName`, `PHPhone_No`, `PHAddress`)
VALUES(
    'Jaya Medicals', '9856471230', 'JP Nagar, Bengaluru'
);
INSERT INTO `pharmacy`(`PHName`, `PHPhone_No`, `PHAddress`)
VALUES(
    'Sharil Medicals', '9654712308', 'JP Nagar, Bengaluru'
);
INSERT INTO `pharmacy`(`PHName`, `PHPhone_No`, `PHAddress`)
VALUES(
    'Geeta Medicals', '9654712310', 'JP Nagar, Bengaluru'
);
```

DRUG
CONDITIONS
1. 2 DRUG Cname must be from same PHCOMPANY

```
INSERT INTO DRUG(TradeName, Formula, CName) VALUES (Dolo, Tablet, CAD Pharma
Inc);
INSERT INTO `drug` (`TradeName`, `Formula`, `CName`) VALUES ('HHOmega', 'Capsule',
'CAD Pharma Inc');
INSERT INTO `drug` (`TradeName`, `Formula`, `CName`) VALUES ('nicip', 'Capsule',
'GNOSIS Pharmaceuticals');
INSERT INTO `drug` (`TradeName`, `Formula`, `CName`) VALUES ('combiflam', 'Capsule',
'Rivpra Pharmaceuticals');
INSERT INTO `drug` (`TradeName`, `Formula`, `CName`) VALUES ('Lubrex', 'Tablet',
'Rexcin Pharmaceuticals');
INSERT INTO `drug` (`TradeName`, `Formula`, `CName`) VALUES ('Dazit', 'Tablet', 'hamicat
Pharmaceuticals Inc');
```

DOCTOR
CONDITIONS
1. EYE SPECIALIST
2. 1 DOCTOR MUST HAVE HIGHEST EXPERIENCE THAN OTHERS

INSERT INTO `doctor`(`DSSN`, `DName`, `Speciality`, `ExpYr`) VALUES ('D101', 'Edmund', 'Eye Specialist', '10');
INSERT INTO `doctor`(`DSSN`, `DName`, `Speciality`, `ExpYr`) VALUES ('D102', 'Anna', 'Cardiologist', '20');

INSERT INTO `doctor`(`DSSN`, `DName`, `Speciality`, `ExpYr`) VALUES ('D103', 'Sneha', 'OrthoPedic Surgeon', '17');

PATIENT
CONDITIONS
1. ATLEAST 1 PATIENT AGE = 20
2. ATLEAST 21 PATIENTS MUST BE THERE

INSERT INTO `patient`(`PSSN`, `PName`, `PAGE`, `PAddress`) VALUES ('P101, Isha', '20', 'MG Road');

INSERT INTO `patient`(`PSSN`, `PName`, `PAGE`, `PAddress`) VALUES ('P102', 'Aisha', '25', 'Koramanagala');
INSERT INTO `patient`(`PSSN`, `PName`, `PAGE`, `PAddress`) VALUES ('P103', 'Neha', '35', 'Kengeri');
INSERT INTO `patient`(`PSSN`, `PName`, `PAGE`, `PAddress`) VALUES ('P104', 'Radha', '22', 'Mailasandra');
INSERT INTO `patient`(`PSSN`, `PName`, `PAGE`, `PAddress`) VALUES ('P105', 'Ganga', '27', 'Pattanegere');
INSERT INTO `patient`(`PSSN`, `PName`, `PAGE`, `PAddress`) VALUES ('P106', 'Pallavi', '37', 'Jakkasandra');
INSERT INTO `patient`(`PSSN`, `PName`, `PAGE`, `PAddress`) VALUES ('P107', 'Yakshitha', '31', 'Lakkasandra');
INSERT INTO `patient`(`PSSN`, `PName`, `PAGE`, `PAddress`) VALUES ('P108', 'Ajay', '45', 'Laljinagar');
INSERT INTO `patient`(`PSSN`, `PName`, `PAGE`, `PAddress`) VALUES ('P109', 'Rahul', '18', 'Idiranagar');
INSERT INTO `patient`(`PSSN`, `PName`, `PAGE`, `PAddress`) VALUES ('P110', 'Shilpa', '59', 'RR Nagar');
INSERT INTO `patient`(`PSSN`, `PName`, `PAGE`, `PAddress`) VALUES ('P111', 'Tunga', '47', 'Attiguppe');
INSERT INTO `patient`(`PSSN`, `PName`, `PAGE`, `PAddress`) VALUES ('P112', 'Meghana', '56', 'HR Layout');
INSERT INTO `patient`(`PSSN`, `PName`, `PAGE`, `PAddress`) VALUES ('P113', 'Lehkana', '29', 'Deepanjali');

INSERT INTO `patient`(`PSSN`, `PName`, `PAGE`, `PAddress`) VALUES ('P114', 'Raksha', '39', 'whitefield');
INSERT INTO `patient`(`PSSN`, `PName`, `PAGE`, `PAddress`) VALUES ('P115', 'Nehal', '19', 'Marthahalli');
INSERT INTO `patient`(`PSSN`, `PName`, `PAGE`, `PAddress`) VALUES ('P116', 'Dhanush', '24', 'VV Puram');
INSERT INTO `patient`(`PSSN`, `PName`, `PAGE`, `PAddress`) VALUES ('P117', 'Nancy', '17', 'Church Street');
INSERT INTO `patient`(`PSSN`, `PName`, `PAGE`, `PAddress`) VALUES ('P118', 'Kalpana', '32', 'Brigate Road');
INSERT INTO `patient`(`PSSN`, `PName`, `PAGE`, `PAddress`) VALUES ('P119', 'Niharika', '37', 'VijayNagar');
INSERT INTO `patient`(`PSSN`, `PName`, `PAGE`, `PAddress`) VALUES ('P120', 'Sharath', '41', 'Jnanabharathi');

INSERT INTO `patient`(`PSSN`, `PName`, `PAGE`, `PAddress`) VALUES ('P121', 'Arjun', '48', 'Mysore Road');
INSERT INTO `patient`(`PSSN`, `PName`, `PAGE`, `PAddress`) VALUES ('P122', 'Alissa', '20', 'Laljinagar');

CONTRACT_WITH

INSERT INTO `contract_with`(`Start_Date`, `End_Date`, `TEXT`, `Supervisor`, `CName`, `PHName`) VALUES ('2022-06-21','2023-06-21','contracted with Megha Medicals','William', 'CAD Pharma Inc','Megha Medicals');
INSERT INTO `contract_with`(`Start_Date`, `End_Date`, `TEXT`, `Supervisor`, `CName`, `PHName`) VALUES ('2022-05-22','2023-05-22','contract with Apollo Pharmacy' ,'Georgie', 'CAD Pharma Inc', 'Apollo Pharmacy');
INSERT INTO `contract_with`(`Start_Date`, `End_Date`, `TEXT`, `Supervisor`, `CName`, `PHName`) VALUES ('2022-07-21','2023-07-21','contracted with NetMeds','Shushmitha', 'CAD Pharma Inc', 'NetMeds');
INSERT INTO `contract_with`(`Start_Date`, `End_Date`, `TEXT`, `Supervisor`, `CName`, `PHName`) VALUES ('2022-05-27','2023-05-27','contracted with PharmEasy','Swasthik', 'CAD Pharma Inc','PharmEasy');

SELL
INSERT INTO `sell`(`Price`, `PHName`, `TradeName`) VALUES ('25','Ganesh Medicals' ,'nicip');
INSERT INTO `sell`(`Price`, `PHName`, `TradeName`) VALUES ('30','Radha Medicals' ,'combiflam');
INSERT INTO `sell`(`Price`, `PHName`, `TradeName`) VALUES ('35','Megha Medicals', 'Dazit');
INSERT INTO `sell`(`Price`, `PHName`, `TradeName`) VALUES ('25','Apollo Pharmacy', 'nicip');

INSERT INTO `sell`(`Price`, `PHName`, `TradeName`) VALUES ('35','NetMeds', 'Dazit');
INSERT INTO `sell`(`Price`, `PHName`, `TradeName`) VALUES ('30','PharmEasy', 'combiflam');
INSERT INTO `sell`(`Price`, `PHName`, `TradeName`) VALUES ('89','Smile Medicals', 'Dolo');
INSERT INTO `sell`(`Price`, `PHName`, `TradeName`) VALUES ('98','Good Pharmacy', 'Lubrex');
INSERT INTO `sell`(`Price`, `PHName`, `TradeName`) VALUES ('123', 'Jaya Medicals', 'HHOmega');
INSERT INTO `sell`(`Price`, `PHName`, `TradeName`) VALUES ('89','Sharil Medicals', 'Dolo');
INSERT INTO `sell`(`Price`, `PHName`, `TradeName`) VALUES ('98','Geeta Medicals', 'Lubrex');

PRESCRIBE
CONDITIONS
1. ATLEAST 1 DOCTOR = 21 DIFFERENT PATIENT GIVE PRESCRIPTION EACH TIME 2 DIFFERENT TradeName but YEAR must be 2013
INSERT INTO PRESCRIBE(DATE1, Quantity, DSSN, TradeName, PSSN)VALUES("2013-10-01","10Tablets", "D103","Dolo", "P101");

INSERT INTO PRESCRIBE(DATE1, Quantity, DSSN, TradeName, PSSN)VALUES("2013-01-31", "20mg", "D103","HHOmega","P102");

INSERT INTO PRESCRIBE(DATE1, Quantity, DSSN, TradeName, PSSN)VALUES("2013-02-08","10 Tablets", "D103","nicip", "P103");

INSERT INTO PRESCRIBE(DATE1, Quantity, DSSN, TradeName, PSSN)VALUES("2013-12-02", "12 tablet", "D103","Dazit", "P104");

INSERT INTO PRESCRIBE(DATE1, Quantity, DSSN, TradeName, PSSN)VALUES("2013-03-21", "3 tablet", "D103","Lubrex", "P105");

INSERT INTO PRESCRIBE(DATE1, Quantity, DSSN, TradeName, PSSN)VALUES("2013-03-15", "6 Capsules", "D103","combiflam", "P106");

INSERT INTO PRESCRIBE(DATE1, Quantity, DSSN, TradeName, PSSN)VALUES("2013-08-04", "15 tablets", "D103","Dolo", "P107");

INSERT INTO PRESCRIBE(DATE1, Quantity, DSSN, TradeName, PSSN)VALUES("2013-04-14", "12 capsules", "D103","nicip", "P108");

INSERT INTO PRESCRIBE(DATE1, Quantity, DSSN, TradeName, PSSN)VALUES("2013-05-19", "15 tablets", "D103","Dazit", "P109");

```sql
INSERT INTO PRESCRIBE(DATE1, Quantity, DSSN, TradeName,
PSSN)VALUES("2013-05-17", "5 capsules", "D103","combiflam", "P110");

INSERT INTO PRESCRIBE(DATE1, Quantity, DSSN, TradeName,
PSSN)VALUES("2013-06-26", "1 tablet", "D103","Lubrex", "P111");

INSERT INTO PRESCRIBE(DATE1, Quantity, DSSN, TradeName,
PSSN)VALUES("2013-07-27", "1 capsule", "D103","HHOmega", "P112");
INSERT INTO PRESCRIBE(DATE1, Quantity, DSSN, TradeName,
PSSN)VALUES("2013-10-07", "6 tablets", "D103","Dazit", "P113");

INSERT INTO PRESCRIBE(DATE1, Quantity, DSSN, TradeName,
PSSN)VALUES("2013-01-08", "15 capsules", "D103","combiflam", "P114");

INSERT INTO PRESCRIBE(DATE1, Quantity, DSSN, TradeName,
PSSN)VALUES("2013-08-02", "3 tablets", "D103","Dolo", "P115");

INSERT INTO PRESCRIBE(DATE1, Quantity, DSSN, TradeName,
PSSN)VALUES("2013-09-12", "7 tablets", "D103","Lubrex", "P116");

INSERT INTO PRESCRIBE(DATE1, Quantity, DSSN, TradeName,
PSSN)VALUES("2013-09-06", "30 capsules", "D103","HHOmega", "P117");

INSERT INTO PRESCRIBE(DATE1, Quantity, DSSN, TradeName,
PSSN)VALUES("2013-10-11", "14 tablets", "D103","Dazit", "P118");

INSERT INTO PRESCRIBE(DATE1, Quantity, DSSN, TradeName,
PSSN)VALUES("2013-10-27", "21 capsules", "D103","combiflam", "P119");

INSERT INTO PRESCRIBE(DATE1, Quantity, DSSN, TradeName,
PSSN)VALUES("2013-11-30", "4 tables", "D103","Dolo", "P120");

INSERT INTO PRESCRIBE(DATE1, Quantity, DSSN, TradeName,
PSSN)VALUES("2013-11-28", "50 Capsules", "D103","HHOmega", "P121");
```