Requirements

Proposed Entities

Patient

- patientId (Primary Key)
- firstName

- middleName
- lastName
- gender
- dateOfBirth
- residentialAddress
- phoneNumber
- emailAddress
- passwordHash
- lastSeen
- SSN (social security number)
- active (True/False)
- dateCreated
- lastUpdated

Practitioner

- practitionerId (Primary Key)
- firstName
- middleName
- lastName
- gender
- dateOfBirth
- phoneNumber
- emailAddress
- passwordHash
- lastSeen
- SSN (social security number)
- activeYear
- active (True/False)
- dateCreated
- lastUpdated
- specialtyId (Foreign Key, Specialty)

Specialty

- specialtyId (Primary Key)
- title
- description
- dateCreated
- lastUpdated

Patient_Practitioner

- patientPractitionerId (Primary Key)
- patientId (Foreign Key)
- practitionerId (Foreign Key)
- primary (True/False)
- active (True/False)
- dateCreated
- lastUpdated

Pharmaceutical

- pharmaceuticalId (Primary Key)
- title
- locationAddress
- emailAddress
- phoneNumber
- active (True/False)
- dateCreated
- lastUpdated

Pharmacy

- pharmacyId (Primary Key)
- title
- locationAddress
- emailAddress
- phoneNumber

- active (True/False)
- dateCreated
- lastUpdated

Drug

- drugId (Primary Key)
- scientificName
- formula
- form
- dateCreated
- lastUpdated

Supervisor

- supervisorId (Primary Key)
- firstName
- middleName
- lastName
- emailAddress
- phoneNumber
- active (True/False)
- dateCreated
- lastUpdated

Contract

- contractId (Primary Key)
- pharmacyId (Foreign Key)
- pharmaceuticalId (Foreign Key)
- startDate
- endDate
- description
- fileUrl
- dateCreated

- lastUpdated

Contract_Supervisor

- contractSupervisorId (Primary Key)
- contractId (Foreign Key, Contract)
- supervisorId (Foreign Key, Contract)
- active (True/False)
- dateCreated
- lastUpdated

Contract_Supply

- contractSupplyId (Primary Key)
- contractId (Foreign Key)
- paymentComplete (True/False)
- dateCreated
- lastUpdated

Supply_Item

- supplyItemId (Primary Key)
- contractSupplyId (Foreign Key)
- drugId (Foreign Key)
- tradename
- quantity
- costPrice
- sellingPrice
- dateCreated
- lastUpdated

Supervisor_Contract

- supervisorContractId (Primary Key)
- supervisorId (Foreign Key)
- contractId (Foreign Key)
- active (True/False)

- dateCreated
- lastUpdated

Prescription

- prescriptionId
- quantity
- frequency
- practitionerId (FK)
- supplyItemId (Foreign Key)
- assigned (True/False)
- dateCreated
- lastUpdated

Relationships

1. One-to-many relationship between Specialty and Practitioner (specialtyId in Practitioner table is a foreign key referencing the specialtyId in Specialty table)
2. Many-to-many relationship between Patient and Practitioner (Patient_Practitioner table acting as the junction table with foreign keys referencing the patientId in Patient table and practitionerId in Practitioner table)
3. One-to-many relationship between Contract and Pharmacy (pharmacyId in Contract table is a foreign key referencing the pharmacyId in Pharmacy table)
4. One-to-many relationship between Contract and Pharmaceutical (pharmaceuticalId in Contract table is a foreign key referencing the pharmaceuticalId in Pharmaceutical table)
5. Many-to-many relationship between Contract and Supervisor (Contract_Supervisor table acting as the junction table with foreign keys referencing the contractId in Contract table and supervisorId in Supervisor table)
6. One-to-many relationship between Contract_Supervisor and Contract (contractId in Contract_Supervisor table is a foreign key referencing the contractId in Contract table)
7. One-to-many relationship between Contract_Supervisor and Supervisor (supervisorId in Contract_Supervisor table is a foreign key referencing the supervisorId in Supervisor table)

8. One-to-many relationship between Contract_Supply and Contract (contractId in Contract_Supply table is a foreign key referencing the contractId in Contract table)
9. One-to-many relationship between Supply_Item and Contract_Supply (contractSupplyId in Supply_Item table is a foreign key referencing the contractSupplyId in Contract_Supply table)
10. One-to-many relationship between Supply_Item and Drug (drugId in Supply_Item table is a foreign key referencing the drugId in Drug table)

Requirements

1. Patients are identified by SSN, and their names, addresses, and ages.
2. Doctors are identified by an SSN, for each doctor, the name, specialty, and years of experience must be recorded.
3. Each pharmaceutical company is identified by name and has a phone number.
4. For each drug, the trade name and formula must be reordered. Each drug is sold by a given pharmaceutical company, and the trade name identifies a drug uniquely from among the products of that company. If a pharmaceutical company is deleted, you need not keep track of its products any longer.
5. Each pharmacy has a name, address, and phone number.
6. Every patient has a primary physician. Every doctor has at least one patient.
7. 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.
8. 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.
9. Each prescription has a date and a quantity associated with it. You can assume that if a doctor prescribes the same drug for the same patient more than once, only the last such prescription needs to be stored.
10. Pharmaceutical companies have long-term contracts with pharmacies. Pharmaceutical companies can contract with several pharmaceutical companies.
11. For each contract, you must store a start date, an end date, and the text of the contract.
12. Pharmacies appoint a supervisor for each contract. There must always be a supervisor for each contract.