Lab 19 Web App SQL

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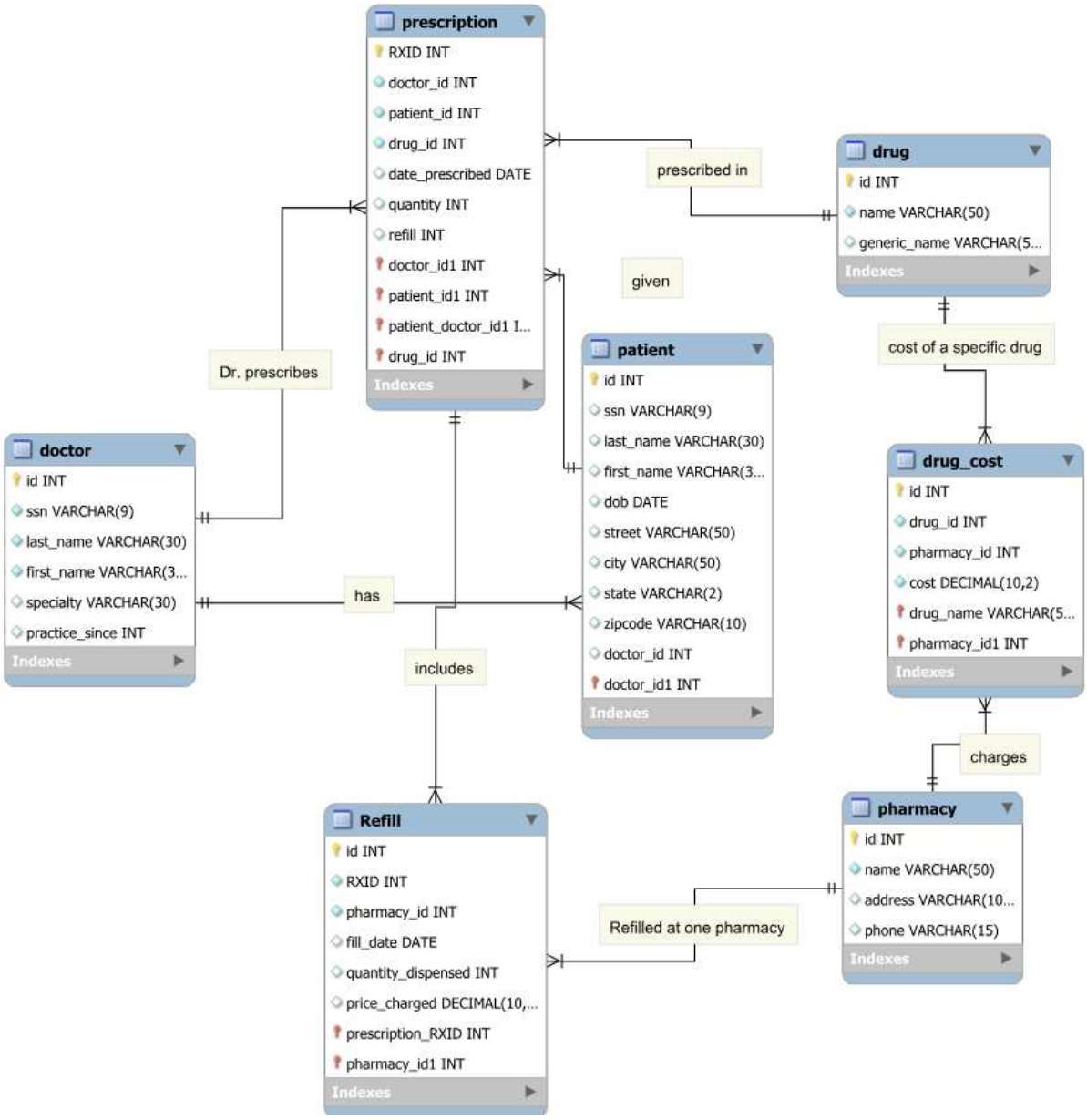
ER Diagram

This diagram is designed to access and manage a patient's pharmaceutical prescriptions, doctors, and patient information. Both doctors and patients register by storing certain information about them. A unique ID is generated automatically for doctors and patients to help identify them and keep data integrity. The prescription table can be used to store the drug information issued by doctors. It has foreign keys referencing the doctor, patient, and drug tables. Patients are able to request their prescriptions using their RXID, which is how to identify the prescription, their name, and the pharmacy they go to. The refill table will keep track of refills to ensure it does not exceed the number the doctor prescribes. To help facilitate this, the Refill entity will keep track of the pharmacy that has filled it last, the date of the last refill, the number of drugs given, and the price charged by that specific pharmacy. This is accomplished by comparing the refill count with num_refills. The drug table proves the drug name of the needed prescription. This includes both the generic and non generic name. The drug_cost table will determine the price of the drug. The price of the drug varies from different pharmacies.


prescription
RXID INT
doctor_id INT
patient_id INT
drug_id INT
date_prescribed DATE
quantity INT
refill INT
doctor_id1 INT
patient_id1 INT
patient_doctor_id1 I...
drug_id INT
Indexes
prescribed in
drug
id INT
name VARCHAR(50)
generic_name VARCHAR(5...
Indexes
given
cost of a specific drug
Dr. prescribes
patient
id INT
ssn VARCHAR(9)
last_name VARCHAR(30)
first_name VARCHAR(3...
dob DATE
street VARCHAR(50)
city VARCHAR(50)
state VARCHAR(2)
zipcode VARCHAR(10)
doctor_id INT
doctor_id1 INT
Indexes
drug_cost
id INT
drug_id INT
pharmacy_id INT
cost DECIMAL(10,2)
drug_name VARCHAR(5...
pharmacy_id1 INT
Indexes
doctor
id INT
ssn VARCHAR(9)
last_name VARCHAR(30)
first_name VARCHAR(3...
specialty VARCHAR(30)
practice_since INT
Indexes
has
includes
charges
Refill
id INT
RXID INT
pharmacy_id INT
fill_date DATE
quantity_dispensed INT
price_charged DECIMAL(10,...
prescription_RXID INT
pharmacy_id1 INT
Indexes
Refilled at one pharmacy
pharmacy
id INT
name VARCHAR(50)
address VARCHAR(10...
phone VARCHAR(15)
Indexes

The SQL schema:

```sql
drop database prescription;
create database prescription;
use prescription;

create table doctor(
   id int primary key auto_increment,
   ssn varchar(9) not null unique,
   last_name varchar(30) not null,
   first_name varchar(30) not null,
   specialty varchar(30),
   practice_since int );

create table drug (
    id int primary key auto_increment,
    name varchar(50) not null,
    generic_name varchar(50));

create table pharmacy (
     id int primary key auto_increment,
     name varchar(50) not null,
     address varchar(50),
     phone varchar(15));

create table drug_cost (
     id int primary key auto_increment,
     drug_id int not null,
     pharmacy_id int not null,
     cost decimal(10,2) not null,
     foreign key (drug_id) references drug(id),
     foreign key (pharmacy_id) references pharmacy(id));

create table patient (
    id int primary key auto_increment,
    ssn varchar(9) unique,
    first_name varchar(30),
    last_name varchar(30),
    birthdate date,
    street varchar(50),
    city varchar(50),
    state varchar(2),
    zipcode varchar(10),
    doctor_id int,
    foreign key (doctor_id) references doctor(id));
```

```
45  create table prescription (
46      RXID int primary key auto_increment,
47      doctor_id int not null,
48      patient_id int not null,
49      drug_id int not null,
50      date_prescribed date,
51      quantity int,
52      refill int,
53      foreign key (doctor_id) references doctor(id),
54      foreign key (patient_id) references patient(id),
55      foreign key (drug_id) references drug(id));

57      create table refill (
58          id int primary key auto_increment,
59          RXID int not null,
60          pharmacy_id int not null,
61          fill_date date,
62          quantity_dispensed int,
63          price_charged decimal(10,2),
64          foreign key (RXID) references prescription(RXID),
65          foreign key (pharmacy_id) references pharmacy(id));

67  insert into drug (name, generic_name) values
68      ('Claritin', 'Loratadine'),
69      ('Tylenol', 'acetaminophen'),
70      ('Zestril', 'Lisinopril');
71
72  insert into pharmacy (name, address, phone) values
73  ('Rite Aid', '1380 Barstow Rd, Barstow, CA', '760-252-3502');
74
75  insert into drug_cost (drug_id, pharmacy_id, cost) values
76      (1, 1, 9.99),
77      (2, 1, 5.99),
78      (3, 1, 7.99);
```

1)

Patient ID: 1
First Name:
Last Name: Simpson
Birthdate:
Street:
City: Rockville
State:
Zipcode: 62701
Primary Physican: Spock

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2)

Register as new user

Doctor not found. Please check the last name.

Your SSN:
Your First Name:
Your Last Name: Burns
Birth Date: mm/dd/yyyy
Street:
City:
State:
Zipcode:
Primary Physician Name: Smith

Register

3)

Prescription created.

Rx:	3
Doctor ID:	1
First Name:	
Last Name:	Spock
Patient ID:	1
First Name:	
Last Name:	Simpson
Drug:	Lisinopril
Quantity:	90
Refills remaining:	0
Pharmacy ID:	0
Name:	
Address:	
Phone:	
Date Filled:	
Cost: $	

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4)

New Prescription Form

Drug not found.

Doctor ID: 1

Doctor First Name:

Doctor Last Name: Spock

Patient ID: 1

Patient First Name:

Patient Last Name: Simpson

Drug Name: Amoxicillin

Quantity: 90

Number of refills: 0

Create Prescription

Request Prescription to be filled.

Pharmacy not found: walgreens

Rx: 0

Patient Last Name: Simpson

Pharmacy Name: walgreens

Pharmacy Address:

Request Fill for Prescription

5)

6) Attempt to fill a prescription with an invalid rxid.

Request Prescription to be filled.

Invalid RxID

Rx: 3999

Patient Last Name:

Pharmacy Name:

Pharmacy Address:

Request Fill for Prescription

Prescription created.

Rx:	0
Doctor ID:	1
First Name:	
Last Name:	Spock
Patient ID:	1
First Name:	
Last Name:	Simpson
Drug:	Lisinopril
Quantity:	90
Refills remaining:	0
Pharmacy ID:	0
Name:	
Address:	
Phone:	
Date Filled:	
Cost: $	

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7)

8) Get the profile for patient “Simpson” and edit the patient record for “Simpson” and change city to Springfield and zip code to 61705. Show the web page of the successful update.

Patient found.

Patient ID:	1
First Name:	BV
Last Name:	Simpson
Birthdate:	2025-06-10
Street:	Rockville st
City:	Rockville
State:	CA
Zipcode:	62701
Primary Physican:	Spock

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