

J&J Consulting

Drug Store Chain Database Design

Project Report

CST 363: Intro to Databases

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Introduction

This report details a relational database solution for storing and maintaining information for patients, doctors, drugs, and pharmaceutical companies. This database will ensure that sensitive information is permanently stored, simple to retrieve, update and most importantly, secure. This system will enable your business to streamline data management at scale and to design easy to use front-end applications for data manipulation.

This database must store information in a logical manner that is easy to understand within the context of a relational database. This will allow for efficient querying. The ability to make queries for data retrieval and analysis will improve company productivity. Patients will be related to doctors, drugs will be related to pharmaceutical companies, and pharmaceutical companies will have contracts with pharmacies etc...

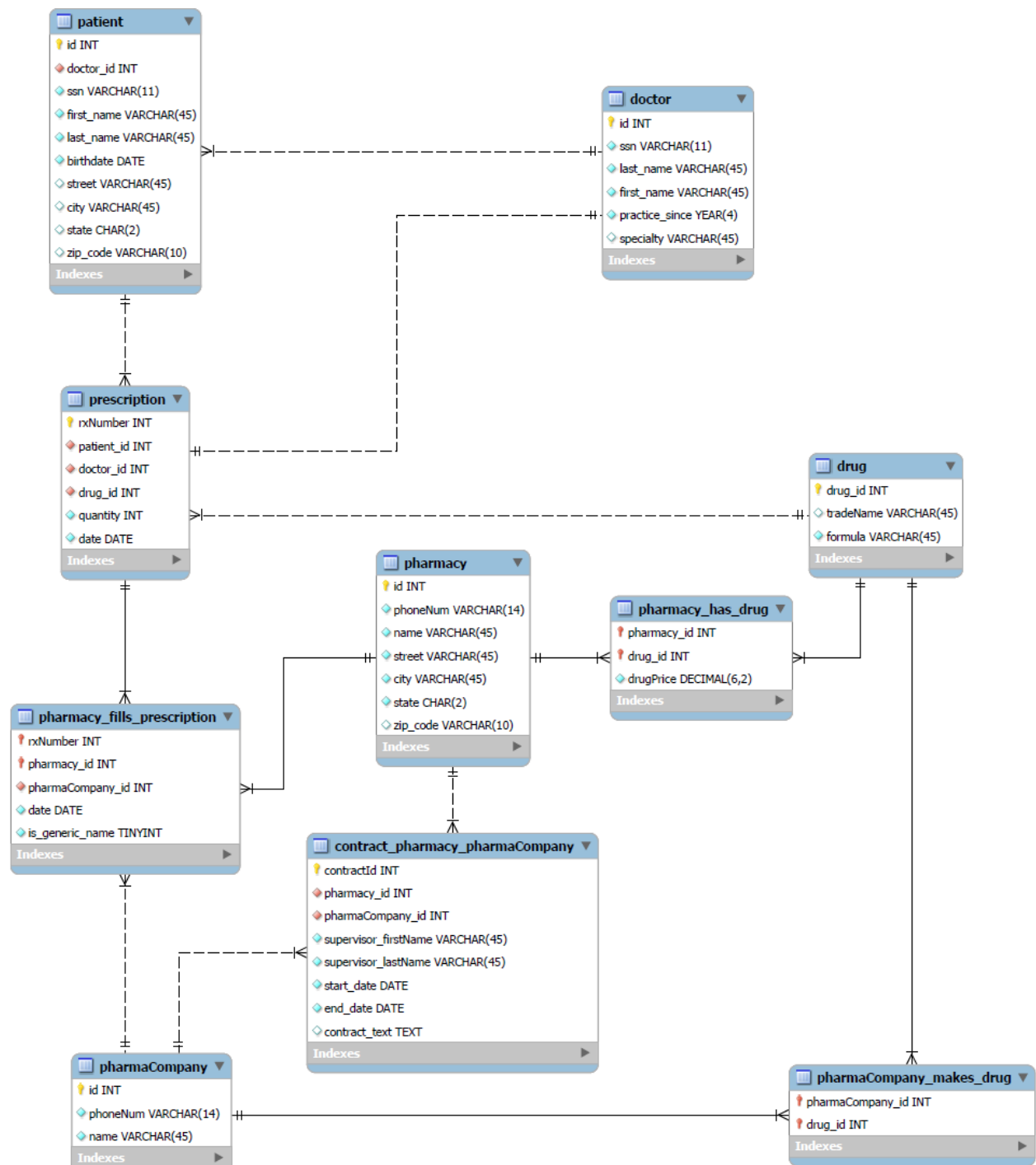
Each of these “entities” will be contained within their own tables that will be related to each other via keys, such as their ID. IDs will be unique within the context of each table so each entity’s information will be associated with the corresponding entity. For example, if a patient named Bill has an ID of 01 and their phone number is 555-555-5555, then each of these pieces of information will be stored in the same row within the patient table. This same methodology can be applied to other tables as well such as the doctor table or the drug table.

The database takes in required information such as SSN, patient name, age, and address. Doctors will have an SSN, a name, a specialization, and how many years of experience they possess. For both of these tables, the SSN is used as the primary key of type INT and is required to have an entry. A relation between these tables is maintained via each doctor table containing their patients’ names. This same concept is applied to the other tables as well.

Technologies

Our solution uses technologies such as SQL for the backend database, Java, for the front-end application, and the Springboot framework for embedded web server. This allows for a streamlined application that is easily scalable.

EER Model:



Requirements:

1. Each patient has an identifying SSN, plus a name, age, and address.
 - a. Patient table was created with patient_id as the primary key.
2. Doctors also have an identifying SSN. Additionally, each doctor has a name, a specialty, and years of experience.
 - a. Doctor table was created with doctor_id as the primary key, an SSN, name, specialty, and a date they started practicing to calculate their years of experience.
3. Each pharmaceutical company is identified by name and has a phone number.
 - a. Pharmaceutical company table was created with the pharmaCompany_id as the primary key along with a phone number and pharmacy name.
4. A prescription drug is manufactured and sold by a pharmaceutical company to retail pharmacies. A drug has a formula "generic" name and may also have a trade name. The trade name (if there is one) is unique.
 - a. Drug table was created with a drug_id as a primary key. The generic and trade name's were made into attributes.
5. Each pharmacy has a name, address, and phone number.
 - a. Pharmacy table was created with the pharmacy_id as the primary key, pharmacy name, and a phone number.
6. Every patient has a primary physician.
 - a. Doctor_id was stored in the patient table as a foreign key.
7. Any physician can write a prescription for any patient.
 - a. The patient and doctor ids were stored in the prescription table.
8. 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.
 - a. A many-to-many relationship was created between the drug and pharmacy tables resulting in a pharmacy_has_drug table storing the drug_id and pharmacy_id as foreign-primary keys and the drug price as an attribute.
9. Doctors prescribe drugs for patients. A prescription has a unique RX number and is for one drug, one patient and is written by one doctor. A patient can have multiple prescriptions from multiple doctors.
 - a. Prescription table was created, storing the RxNumber as the primary key, and storing the drug_id, patient_id, and doctor_id as attributes.
10. Each prescription has a date and a quantity associated with it. If the prescription has a trade name, then the prescription is for a specific drug from a specific pharmaceutical company. If the prescription is for a generic name, then any drug with that formula name from any pharmaceutical company can be used.
 - a. Date and quantity attributes were stored in the prescription table. The drug ID was also stored as a foreign key relating to the drug table which can be used to tell the generic/trade name and which pharmaceutical company can be used.
11. When a prescription is filled, we want to track the pharmacy that filled it and the date that it was filled and if it was for a generic name, which pharmaceutical company supplied the drug used to fill the prescription.

- a. A many-to-many relationship was made between the pharmacy and prescription table resulting in a pharmacy_fills_prescription table which stores the RX Number and pharmacy_id as primary-foreign keys. It also stores the pharmaCompany_id, date, and if it was for a generic name drug as attributes.
- 12. 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, we want to record the start date, an end date, and the text of the contract.
 - a. A contract_pharmacy_pharmaCompany table was made as a result of a many-to-many relationship with the pharmacy and pharmaCompany tables. This table stores a contract_id as the primary key, the ids of both the pharmaceutical company and pharmacy as foreign keys, the supervisor name, start & end dates, and the contract text as attributes.
- 13. Pharmacies appoint a supervisor for each contract. Every contract has a supervisor that can change over time. A supervisor may be a supervisor for multiple contracts.
 - a. The supervisor's first and last name were stored as attributes within the contract_pharmacy_pharmaCompany table.

Constraints:

Address fields were given type VARCHAR(70) NULL as there must be enough length to fit a street address, city, state, and zip code.

Name fields were given type VARCHAR(45) in case of any hyphenated names and to give enough length for those people who may have multiple middle or last names. It is NON-NULL as everyone has a name and is needed for prescriptions.

Patient & doctor tables

CHECK (`ssn` < 1000000000) was added as a constraint to ensure the amount of digits do not exceed 9 for the SSN.

Pharmacy & pharmaCompany tables

CHECK (`phoneNum` < 100000000000) was added as a constraint to ensure the amount of digits do not exceed 11. This is for country code, area code, and phone number

Pharmacy_has_drug table (result of the M:N relationship of the pharmacy and drug tables)

· DrugPrice was given type DECIMAL(6,2) NON-NULL UNSIGNED to allow a positive maximum price of \$9999.99.

Contract_pharmacy_pharmaCompany Table (result of the M:N relationship of the pharmacy and pharmaCompany tables)

CHECK (`start_date` < `end_date`) was added to ensure the start date is before the end date.

Relational Schema:

-- MySQL Workbench Forward Engineering

```
SET @OLD_UNIQUE_CHECKS=@@UNIQUE_CHECKS, UNIQUE_CHECKS=0;
SET @OLD_FOREIGN_KEY_CHECKS=@@FOREIGN_KEY_CHECKS, FOREIGN_KEY_CHECKS=0;
SET @OLD_SQL_MODE=@@SQL_MODE,
SQL_MODE='ONLY_FULL_GROUP_BY,STRICT_TRANS_TABLES,NO_ZERO_IN_DATE,NO_ZERO_DATE,ERROR_FOR_DIVISI
ON_BY_ZERO,NO_ENGINE_SUBSTITUTION';
```

-- Schema DrugStoreDB

-- Schema DrugStoreDB

```
CREATE SCHEMA IF NOT EXISTS `DrugStoreDB` DEFAULT CHARACTER SET utf8 ;
USE `DrugStoreDB` ;
```

-- Table `DrugStoreDB`.`doctor`

```
CREATE TABLE IF NOT EXISTS `DrugStoreDB`.`doctor` (
  `id` INT UNSIGNED NOT NULL AUTO_INCREMENT,
  `ssn` VARCHAR(11) NOT NULL,
  CHECK(CHAR_LENGTH(`ssn`) <= 11),
  `last_name` VARCHAR(45) NOT NULL,
  `first_name` VARCHAR(45) NOT NULL,
  `practice_since` YEAR(4) NOT NULL,
  `specialty` VARCHAR(45) NULL,
  PRIMARY KEY (`id`))
ENGINE = InnoDB;
```

-- Table `DrugStoreDB`.`patient`

```
CREATE TABLE IF NOT EXISTS `DrugStoreDB`.`patient` (
  `id` INT UNSIGNED NOT NULL AUTO_INCREMENT,
  `doctor_id` INT UNSIGNED NOT NULL,
  `ssn` VARCHAR(11) NOT NULL,
  CHECK(CHAR_LENGTH(`ssn`) <= 11),
  `first_name` VARCHAR(45) NOT NULL,
  `last_name` VARCHAR(45) NOT NULL,
  `birthdate` DATE NOT NULL,
  `street` VARCHAR(45) NULL,
  `city` VARCHAR(45) NULL,
  `state` CHAR(2) NULL,
  CHECK(CHAR_LENGTH(`state`) <= 2),
  `zip_code` VARCHAR(10) NULL,
  CHECK(CHAR_LENGTH(`zip_code`) <= 10),
  PRIMARY KEY (`id`),
  INDEX `fk_patient_doctor1_idx` (`doctor_id` ASC) VISIBLE,
  CONSTRAINT `fk_patient_doctor1`
    FOREIGN KEY (`doctor_id`)
      REFERENCES `DrugStoreDB`.`doctor` (`id`)
    ON DELETE NO ACTION
    ON UPDATE NO ACTION)
ENGINE = InnoDB;
```

```
-- -----  
-- Table `DrugStoreDB`.`pharmaCompany`  
-- -----
```

```
CREATE TABLE IF NOT EXISTS `DrugStoreDB`.`pharmaCompany` (  
  `id` INT UNSIGNED NOT NULL AUTO_INCREMENT,  
  `phoneNum` VARCHAR(14) NOT NULL,  
  CHECK(CHAR_LENGTH(`phoneNum`) <= 14),  
  `name` VARCHAR(45) NOT NULL,  
  PRIMARY KEY (`id`))  
ENGINE = InnoDB;
```

```
-- -----  
-- Table `DrugStoreDB`.`pharmacy`  
-- -----
```

```
CREATE TABLE IF NOT EXISTS `DrugStoreDB`.`pharmacy` (  
  `id` INT UNSIGNED NOT NULL AUTO_INCREMENT,  
  `phoneNum` VARCHAR(14) NOT NULL,  
  CHECK(CHAR_LENGTH(`phoneNum`) <= 14),  
  `name` VARCHAR(45) NOT NULL,  
  `street` VARCHAR(45) NOT NULL,  
  `city` VARCHAR(45) NOT NULL,  
  `state` CHAR(2) NOT NULL,  
  CHECK(CHAR_LENGTH(`state`) <= 2),  
  `zip_code` VARCHAR(10) NULL,  
  CHECK(CHAR_LENGTH(`zip_code`) <= 10),  
  PRIMARY KEY (`id`))  
ENGINE = InnoDB;
```

```
-- -----  
-- Table `DrugStoreDB`.`drug`  
-- -----
```

```
CREATE TABLE IF NOT EXISTS `DrugStoreDB`.`drug` (  
  `drug_id` INT UNSIGNED NOT NULL AUTO_INCREMENT,  
  `tradeName` VARCHAR(45) NULL DEFAULT NULL,  
  `formula` VARCHAR(45) NOT NULL,  
  UNIQUE INDEX `tradeName_UNIQUE` (`tradeName` ASC) VISIBLE,  
  PRIMARY KEY (`drug_id`))  
ENGINE = InnoDB;
```

```
-- -----  
-- Table `DrugStoreDB`.`pharmacy_has_drug`  
-- -----
```

```
CREATE TABLE IF NOT EXISTS `DrugStoreDB`.`pharmacy_has_drug` (  
  `pharmacy_id` INT UNSIGNED NOT NULL,  
  `drug_id` INT UNSIGNED NOT NULL,  
  `drugPrice` DECIMAL(6,2) UNSIGNED NOT NULL,  
  PRIMARY KEY (`pharmacy_id`, `drug_id`),  
  INDEX `fk_pharmacy_has_drug_drug1_idx` (`drug_id` ASC) VISIBLE,  
  INDEX `fk_pharmacy_has_drug_pharmacy1_idx` (`pharmacy_id` ASC) VISIBLE,  
  CONSTRAINT `fk_pharmacy_has_drug_drug1`  
    FOREIGN KEY (`drug_id`)  
    REFERENCES `DrugStoreDB`.`drug` (`drug_id`)  
    ON DELETE NO ACTION  
    ON UPDATE NO ACTION,  
  CONSTRAINT `fk_pharmacy_has_drug_pharmacy1`  
    FOREIGN KEY (`pharmacy_id`)
```

```
REFERENCES `DrugStoreDB`.`pharmacy` (`id`)
ON DELETE NO ACTION
ON UPDATE NO ACTION)
ENGINE = InnoDB;
```

```
-- -----
-- Table `DrugStoreDB`.`prescription`
-- -----
```

```
CREATE TABLE IF NOT EXISTS `DrugStoreDB`.`prescription` (
  `rxNumber` INT UNSIGNED NOT NULL AUTO_INCREMENT,
  `patient_id` INT UNSIGNED NOT NULL,
  `doctor_id` INT UNSIGNED NOT NULL,
  `drug_id` INT UNSIGNED NOT NULL,
  `quantity` INT UNSIGNED NOT NULL,
  `date` DATE NOT NULL,
  PRIMARY KEY (`rxNumber`),
  INDEX `fk_prescription_doctor1_idx` (`doctor_id` ASC) VISIBLE,
  INDEX `fk_prescription_patient1_idx` (`patient_id` ASC) VISIBLE,
  INDEX `fk_prescription_drug1_idx` (`drug_id` ASC) VISIBLE,
  CONSTRAINT `fk_prescription_doctor1`
    FOREIGN KEY (`doctor_id`)
      REFERENCES `DrugStoreDB`.`doctor` (`id`)
      ON DELETE NO ACTION
      ON UPDATE NO ACTION,
  CONSTRAINT `fk_prescription_patient1`
    FOREIGN KEY (`patient_id`)
      REFERENCES `DrugStoreDB`.`patient` (`id`)
      ON DELETE NO ACTION
      ON UPDATE NO ACTION,
  CONSTRAINT `fk_prescription_drug1`
    FOREIGN KEY (`drug_id`)
      REFERENCES `DrugStoreDB`.`drug` (`drug_id`)
      ON DELETE NO ACTION
      ON UPDATE NO ACTION)
ENGINE = InnoDB;
```

```
-- -----
-- Table `DrugStoreDB`.`pharmaCompany_makes_drug`
-- -----
```

```
CREATE TABLE IF NOT EXISTS `DrugStoreDB`.`pharmaCompany_makes_drug` (
  `pharmaCompany_id` INT UNSIGNED NOT NULL,
  `drug_id` INT UNSIGNED NOT NULL,
  PRIMARY KEY (`pharmaCompany_id`, `drug_id`),
  INDEX `fk_pharmaCompany_makes_drug_pharmaCompany1_idx` (`pharmaCompany_id` ASC) VISIBLE,
  INDEX `fk_pharmaCompany_makes_drug_drug1_idx` (`drug_id` ASC) VISIBLE,
  CONSTRAINT `fk_pharmaCompany_makes_drug_pharmaCompany1`
    FOREIGN KEY (`pharmaCompany_id`)
      REFERENCES `DrugStoreDB`.`pharmaCompany` (`id`)
      ON DELETE NO ACTION
      ON UPDATE NO ACTION,
  CONSTRAINT `fk_pharmaCompany_makes_drug_drug1`
    FOREIGN KEY (`drug_id`)
      REFERENCES `DrugStoreDB`.`drug` (`drug_id`)
      ON DELETE NO ACTION
      ON UPDATE NO ACTION)
ENGINE = InnoDB;
```

```
-- -----
```


-- Table `DrugStoreDB`.`pharmacy_fills_prescription`

```
-----  
CREATE TABLE IF NOT EXISTS `DrugStoreDB`.`pharmacy_fills_prescription` (  
  `rxNumber` INT UNSIGNED NOT NULL,  
  `pharmacy_id` INT UNSIGNED NOT NULL,  
  `pharmaCompany_id` INT UNSIGNED NOT NULL,  
  `date` DATE NOT NULL,  
  `is_generic_name` TINYINT NOT NULL,  
  PRIMARY KEY (`rxNumber`, `pharmacy_id`),  
  INDEX `fk_pharmacy_fills_prescription_prescription1_idx` (`rxNumber` ASC) VISIBLE,  
  INDEX `fk_pharmacy_fills_prescription_pharmacy1_idx` (`pharmacy_id` ASC) VISIBLE,  
  INDEX `fk_pharmacy_fills_prescription_pharmaCompany1_idx` (`pharmaCompany_id` ASC) VISIBLE,  
  CONSTRAINT `fk_pharmacy_fills_prescription_prescription1`  
    FOREIGN KEY (`rxNumber`)  
      REFERENCES `DrugStoreDB`.`prescription` (`rxNumber`)  
      ON DELETE NO ACTION  
      ON UPDATE NO ACTION,  
  CONSTRAINT `fk_pharmacy_fills_prescription_pharmacy1`  
    FOREIGN KEY (`pharmacy_id`)  
      REFERENCES `DrugStoreDB`.`pharmacy` (`id`)  
      ON DELETE NO ACTION  
      ON UPDATE NO ACTION,  
  CONSTRAINT `fk_pharmacy_fills_prescription_pharmaCompany1`  
    FOREIGN KEY (`pharmaCompany_id`)  
      REFERENCES `DrugStoreDB`.`pharmaCompany` (`id`)  
      ON DELETE NO ACTION  
      ON UPDATE NO ACTION)  
ENGINE = InnoDB;
```

-- Table `DrugStoreDB`.`contract_pharmacy_pharmaCompany`

```
-----  
CREATE TABLE IF NOT EXISTS `DrugStoreDB`.`contract_pharmacy_pharmaCompany` (  
  `contractId` INT UNSIGNED NOT NULL AUTO_INCREMENT,  
  `pharmacy_id` INT UNSIGNED NOT NULL,  
  `pharmaCompany_id` INT UNSIGNED NOT NULL,  
  `supervisor_firstName` VARCHAR(45) NOT NULL,  
  `supervisor_lastName` VARCHAR(45) NOT NULL,  
  `start_date` DATE NOT NULL,  
  `end_date` DATE NOT NULL,  
  CHECK (`start_date` < `end_date`),  
  `contract_text` TEXT NULL,  
  PRIMARY KEY (`contractId`),  
  INDEX `fk_contract_pharmacy_pharmaCompany_pharmacy1_idx` (`pharmacy_id` ASC) VISIBLE,  
  INDEX `fk_contract_pharmacy_pharmaCompany_pharmaCompany1_idx` (`pharmaCompany_id` ASC) VISIBLE,  
  CONSTRAINT `fk_contract_pharmacy_pharmaCompany_pharmacy1`  
    FOREIGN KEY (`pharmacy_id`)  
      REFERENCES `DrugStoreDB`.`pharmacy` (`id`)  
      ON DELETE NO ACTION  
      ON UPDATE NO ACTION,  
  CONSTRAINT `fk_contract_pharmacy_pharmaCompany_pharmaCompany1`  
    FOREIGN KEY (`pharmaCompany_id`)  
      REFERENCES `DrugStoreDB`.`pharmaCompany` (`id`)  
      ON DELETE NO ACTION  
      ON UPDATE NO ACTION)  
ENGINE = InnoDB;
```

```
SET SQL_MODE=@OLD_SQL_MODE;  
SET FOREIGN_KEY_CHECKS=@OLD_FOREIGN_KEY_CHECKS;
```

SET UNIQUE_CHECKS=@OLD_UNIQUE_CHECKS;

Queries:

-- 1 How many pharmacies carry a specific drug?

```
SELECT COUNT(pharmacy_id) AS numberOfPharmacies, drug_id
FROM pharmacy_has_drug
WHERE drug_id = 1;
```

-- 2 How many drugs does a pharmacy carry?

```
SELECT COUNT(drug_id) AS numberOfDrugs
FROM pharmacy_has_drug
WHERE pharmacy_id = 1;
```

-- 3 How many patients does a doctor have?

```
SELECT COUNT(ssn) AS numberOfPatients
FROM patient
WHERE doctor_id = 1;
```

-- 4 Which pharmacy carries the most expensive drug?

```
SELECT pharmacy_id
FROM pharmacy_has_drug
WHERE drugPrice =
      (SELECT MAX(drugPrice)
       FROM pharmacy_has_drug);
```

-- 5 Which pharmaceutical company makes the most expensive drug?

```
SELECT pc.pharmaCompany_id
FROM pharmaCompany_makes_drug AS pc
INNER JOIN pharmacy_has_drug AS p
ON pc.drug_id = p.drug_id
WHERE p.drugPrice =
      (SELECT MAX(drugPrice)
       FROM pharmacy_has_drug);
```

Assumptions:

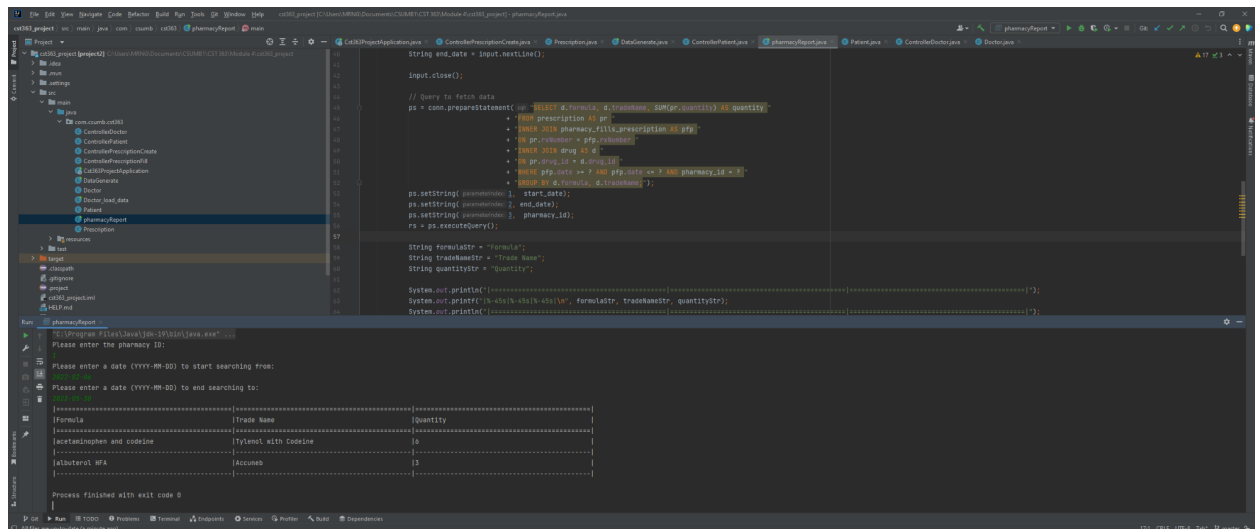
Everything was straightforward except for the creation of drug_id. At first we were using a generic name and a trade name as a primary key in the drug table and foreign keys in multiple tables such as prescription and pharmacy_has_drug but this violated the 3NF rule. So we instead made a drug_id as a singular primary key to replace both of those as unique identifiers and instead made them attributes. We also had a separate supervisor table but seeing as a contract only has one supervisor at a time, we decided to store the supervisor's name within the contract table to condense everything and make it more concise.

Actions for normalizing:

Normalizing the schema took a few revisions. At first we started with every entity that had a foreign key, being a primary key itself along with its own unique primary key. We also had overly-complicated relations such as a primary key in an entity being a foreign-primary key in another entity where it was also a foreign-primary key in a third table. At first we thought this was the way to go until we stepped back and realized that not all of these attributes were needed to uniquely identify an entity and there would be a few update errors as well. The next step was to deselect all of the unnecessary foreign keys as primary keys and leave them as plain foreign keys, and reorganize the relations between entities until it made sense in regards to 3NF.

Member 2: Application

Output for pharmacyReport class



The screenshot shows an IDE with a project named 'pharmacyReport'. The 'pharmacyReport.java' file is open, displaying a Java class that interacts with a database to retrieve pharmacy information. The code includes a main method that prompts the user for a pharmacy ID, a start date, and an end date. It then executes a query to fetch data from the 'prescription' table, filtering by the provided pharmacy ID and date range. The results are formatted and printed to the console.

```
String endDate = input.nextLine();
input.close();

// Query to fetch data
ps = conn.prepareStatement("SELECT d.formula, d.tradeName, sum(p.quantity) as quantity
FROM prescription AS p
WHERE p.pharmacy = ? AND p.startdate >= ? AND p.enddate <= ? AND p.pharmacyID = ?");

ps.setString(1, startdate);
ps.setString(2, endDate);
ps.setString(3, pharmacyID);
rs = ps.executeQuery();

String formulaStr = "Formula";
String tradeNameStr = "Trade Name";
String quantityStr = "Quantity";

System.out.println("=====");
System.out.println("Formula\tTrade Name\tQuantity");
System.out.println("=====");
System.out.println("-----");
System.out.println("=====");
```

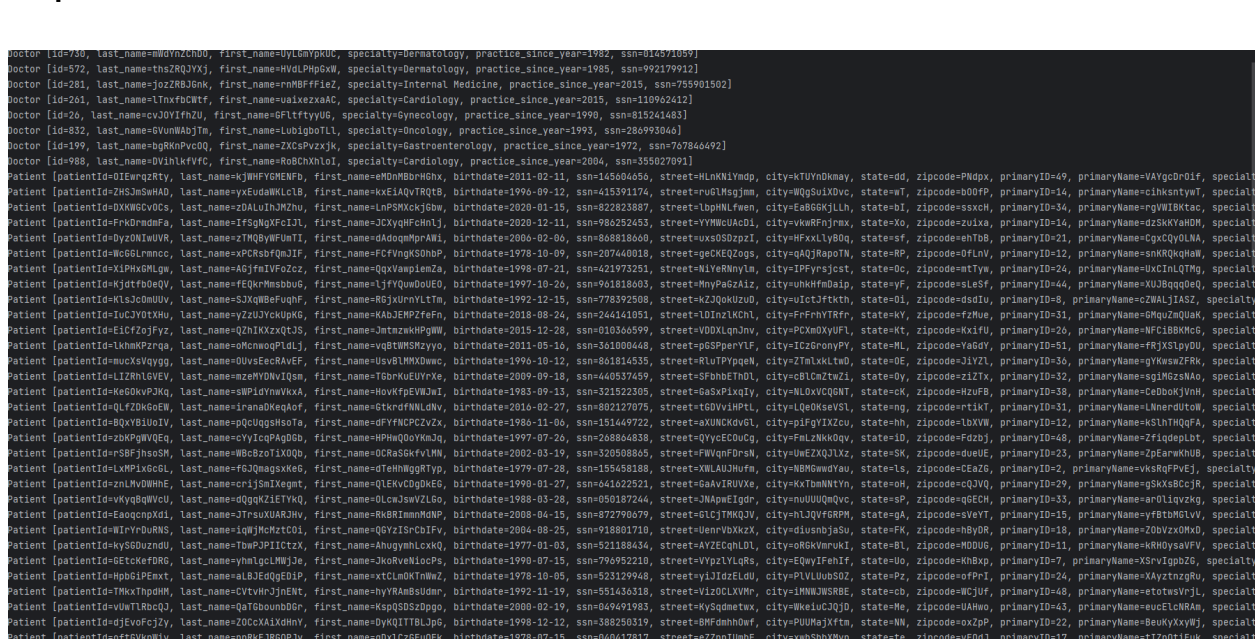
The output shows the results of the query for pharmacy ID 1, from start date 2015-01-01 to end date 2015-12-31. The results are formatted as follows:

Formula	Trade Name	Quantity
acetaminophen and codeine	Tylenol with Codeine	10
gabapentin 300	Gabapentin	10

My application asks for user input, such as the pharmacy ID number, the start date, and the end date for searching and outputs formatted results to the console. The three inputs explained above work perfectly and output as expected.

Member 1: Application

Output for DataGenerate Class



The screenshot shows the output of the DataGenerate class, which generates a list of patient data. The output is a long list of patient records, each containing a patient ID, last name, first name, specialty, practice since year, and SSN. The records are generated in a random order and are displayed in a single line per record.

```
Patient [id=730, last_name=MwVnZCHD0, first_name=UyLmYpKUC, specialty=Dermatology, practice_since_year=1982, ssn=01651059]
Patient [id=572, last_name=ths2RQJYX, first_name=HvGLPhpGxW, specialty=Dermatology, practice_since_year=1985, ssn=992179912]
Patient [id=281, last_name=j0z2RBj0nK, first_name=rNMFffleZ, specialty=Internal Medicine, practice_since_year=2015, ssn=755901502]
Patient [id=201, last_name=LtnRfGmRf, first_name=UdXvzxAG, specialty=Cardiology, practice_since_year=2015, ssn=109620422]
Patient [id=70, last_name=cyD1F7h2u, first_name=SPtftfyvY6, specialty=Gynecology, practice_since_year=1990, ssn=615261483]
Patient [id=832, last_name=GvUmMbj7n, first_name=LuBignott1, specialty=Oncology, practice_since_year=1993, ssn=286993046]
Patient [id=199, last_name=bgRKnPvc0Q, first_name=2KcPvzxjK, specialty=Gastroenterology, practice_since_year=1972, ssn=767846492]
Patient [id=988, last_name=QvihLkVfC, first_name=RoBChXh0L, specialty=Cardiology, practice_since_year=2004, ssn=355027091]
Patient [patientId=01fargzRty, last_name=kjWHFYGMENf0, first_name=eMDnMBRbHGXr, birthdate=2011-02-11, ssn=145606656, street=HLNKM1Yndp, city=kTUNbKmay, state=dd, zipcode=PMWq, primaryID=49, primaryName=VAYgD0rif, specialt
Patient [patientId=7bS3mSHAD, last_name=yEudwKlC18, first_name=xvEiAQvTRQ18, birthdate=1994-09-12, ssn=415391174, street=rUgLMagjm, city=WqgSuiX0vc, state=WT, zipcode=ND0FP, primaryID=14, primaryName=cHhSntywT, specialt
Patient [patientId=0XKXG6V0Cs, last_name=zDALuJmZhu, first_name=LnPSMKckjGw, birthdate=2020-01-15, ssn=822823887, street=lpbMlfeen, city=EA8G8KjLLh, state=BI, zipcode=ssxh, primaryID=34, primaryName=rqVWIBktac, specialt
Patient [patientId=FrK0rmdFa, last_name=IfsgNgXFcJL, first_name=JCYqHFCnJl, birthdate=2020-12-11, ssn=984252453, street=YMWGUCaD1, city=vkwRfnjrmx, state=Xo, zipcode=zulka, primaryID=14, primaryName=dZSkryqHDM, specialt
Patient [patientId=0yZ0N1u0VR, last_name=TMQrbvFuM1, first_name=dAdoqMprAW1, birthdate=2004-02-04, ssn=86818660, street=xus0SDzp1, city=HFxxlyBqo, state=sf, zipcode=ehTb8, primaryID=21, primaryName=CpxQyOLNA, specialt
Patient [patientId=WcGG1rmcc, last_name=xPCRbvfQmJIF, first_name=FCFVngKSDhnp, birthdate=1978-10-09, ssn=207440018, street=geCkEQZogs, city=qAQjRapoTn, state=RP, zipcode=OfLw, primaryID=12, primaryName=snKRQqkHw, specialt
Patient [patientId=X1PhxGMLq, last_name=AGjRnIVf0ZcZ, first_name=qQxVamplen2a, birthdate=1998-07-21, ssn=421973251, street=NlveRmNyLr, city=IPFynsjcst, state=Oc, zipcode=attTvw, primaryID=24, primaryName=UcInLQTMg, specialt
Patient [patientId=kjdtf0d0v, last_name=eQkrMsbuG, first_name=lfjYQw0u0ED, birthdate=1997-10-26, ssn=901818603, street=MayPaGzA1Z, city=uHhKfMdaip, state=Vf, zipcode=dsdSf, primaryID=44, primaryName=XUJ3qqd0q, specialt
Patient [patientId=k1sJc0mUvR, last_name=S3QXqBefuqF, first_name=RGJxurnYUuo, birthdate=1992-12-15, ssn=778392508, street=kZQqkUz0u, city=UctJfktth, state=01, zipcode=dsdSf, primaryID=18, primaryName=GZwALJASZ, specialt
Patient [patientId=1uCY0YXHu, last_name=yZUJYcUpKq, first_name=KabJmPZfeln, birthdate=1988-08-24, ssn=244141051, street=ldInLkCh, city=FrFhYTRfr, state=KY, zipcode=fZue, primaryID=31, primaryName=GQzZmQUAq, specialt
Patient [patientId=E1CFZ0jFyz, last_name=Z2hIKXzxQJ5, first_name=JmzmkKHpgW, birthdate=2015-12-28, ssn=010366599, street=V0DXLqJmV, city=PCXmOXyUFL, state=KL, zipcode=Xk1fU, primaryID=51, primaryName=NFC18BMcG, specialt
Patient [patientId=1kxmkPzrqg, last_name=0McnoqPLdJ, first_name=vqBtWMSZwoy, birthdate=2011-05-16, ssn=361000468, street=pGSPerYf, city=ICZGronPY, state=ML, zipcode=YaGd, primaryID=51, primaryName=FRjXSlpyDU, specialt
Patient [patientId=mucXvqyg, last_name=Usv8LMMXDWyo, first_name=Usv8LMMXDWyo, birthdate=1990-10-12, ssn=861814535, street=rU7Pvpgen, city=ZTnLxkLwD, state=OE, zipcode=31vZ1, primaryID=36, primaryName=gYKswZFRK, specialt
Patient [patientId=L1ZRh1GVEV, last_name=mzeEYDNVqISq, first_name=TGBRkEUyXr, birthdate=2009-09-18, ssn=440537459, street=SFbndEThD1, city=c8L0z2w1, state=0y, zipcode=zi1Zx, primaryID=32, primaryName=sg1MgZsNAo, specialt
Patient [patientId=k6GskVpKq, last_name=HovKfEwJdJ, first_name=HovKfEwJdJ, birthdate=1983-09-13, ssn=321523205, street=GaSkP1qly, city=NLOXVCQkT, state=CK, zipcode=hZuFB, primaryID=38, primaryName=CEBokjYhN, specialt
Patient [patientId=Q1Z720kG0f, last_name=fnan0kQe0f, first_name=GtKrFNNLdv, birthdate=2016-02-02, ssn=802127075, street=tG0vJhPTL, city=Lq0kSeVSl, state=ng, zipcode=rtkT, primaryID=31, primaryName=LmerUD0w, specialt
Patient [patientId=qJv0cJ1u0V, last_name=pQQUgqSH0ta, first_name=pDYfNCPZvX, birthdate=1986-11-06, ssn=151447222, street=xKUNCXvG1, city=p1fGIXZcu, state=hh, zipcode=LDXW, primaryID=12, primaryName=KSLthNqQfA, specialt
Patient [patientId=zxbPwQeQ, last_name=CYlCqAg0B, first_name=HPHwQ0vKmqJ, birthdate=1997-07-26, ssn=268864638, street=QvycEC0uq, city=FMZNNk0qV, state=ID, zipcode=f0zP, primaryID=48, primaryName=Zf1qdeplst, specialt
Patient [patientId=rsFkjs0H, last_name=WbCz01XQ0B, first_name=OCRaSGKvRLN, birthdate=2002-03-19, ssn=320508805, street=FMVqPDrSk, city=UeZQJLXZ, state=SK, zipcode=deUEf, primaryID=23, primaryName=ZfEarKNUB, specialt
Patient [patientId=LXMP1xGcG1, last_name=GCQmagxKcG, first_name=GtEhHqGRTyp, birthdate=1979-07-28, ssn=159458188, street=XMLAJUhrf, city=NBNGwudVau, state=Is, zipcode=CtaZ6, primaryID=2, primaryName=vksRqPvEj, specialt
Patient [patientId=0LmVdMmH, last_name=crjJmTegat, first_name=Q1ERVQD0qG, birthdate=1999-01-07, ssn=641625531, street=GaA1RUUw, city=xKt0mNkVn, state=OH, zipcode=CQJQ, primaryID=29, primaryName=gSkRcRJR, specialt
Patient [patientId=0vYq0v0v, last_name=0qGz1fTnQ, first_name=0LmVdMmH, birthdate=1998-03-26, ssn=05137244, street=0vYq0v0v, city=0vYq0v0v, state=SP, zipcode=GECH, primaryID=28, primaryName=g0lvZ0Zkq, specialt
Patient [patientId=0vYq0v0v, last_name=0vYq0v0v, first_name=0vYq0v0v, birthdate=2008-04-15, ssn=872796679, street=0vYq0v0v, city=0vYq0v0v, state=GA, zipcode=0vYq0v0v, primaryID=15, primaryName=g0lvZ0Zkq, specialt
Patient [patientId=0vYq0v0v, last_name=0vYq0v0v, first_name=0vYq0v0v, birthdate=2004-08-25, ssn=918801710, street=0vYq0v0v, city=0vYq0v0v, state=FK, zipcode=0vYq0v0v, primaryID=18, primaryName=Z0vZ0v0v, specialt
Patient [patientId=0vYq0v0v, last_name=0vYq0v0v, first_name=0vYq0v0v, birthdate=1977-01-03, ssn=521186434, street=AVZCqkL01, city=0vYq0v0v, state=BL, zipcode=0vYq0v0v, primaryID=11, primaryName=K8v0v0v, specialt
Patient [patientId=0vYq0v0v, last_name=0vYq0v0v, first_name=0vYq0v0v, birthdate=1990-10-12, ssn=799592210, street=VpZ1YLrR8, city=0vYq0v0v, state=Uo, zipcode=0vYq0v0v, primaryID=7, primaryName=K8v0v0v, specialt
Patient [patientId=0vYq0v0v, last_name=0vYq0v0v, first_name=0vYq0v0v, birthdate=1998-10-12, ssn=521329948, street=VpZ1YLrR8, city=0vYq0v0v, state=Pz, zipcode=0vYq0v0v, primaryID=24, primaryName=XyZvzRgR, specialt
Patient [patientId=0vYq0v0v, last_name=0vYq0v0v, first_name=0vYq0v0v, birthdate=1992-11-19, ssn=513163318, street=VpZ1YLrR8, city=0vYq0v0v, state=cb, zipcode=0vYq0v0v, primaryID=48, primaryName=K8v0v0v, specialt
Patient [patientId=0vYq0v0v, last_name=0vYq0v0v, first_name=0vYq0v0v, birthdate=2000-02-02, ssn=049491983, street=xKUNCXvG1, city=0vYq0v0v, state=Me, zipcode=0vYq0v0v, primaryID=43, primaryName=0vYq0v0v, specialt
Patient [patientId=0vYq0v0v, last_name=0vYq0v0v, first_name=0vYq0v0v, birthdate=1998-12-12, ssn=388259319, street=0vYq0v0v, city=0vYq0v0v, state=WN, zipcode=0vYq0v0v, primaryID=22, primaryName=0vYq0v0v, specialt
Patient [patientId=0vYq0v0v, last_name=0vYq0v0v, first_name=0vYq0v0v, birthdate=1978-07-15, ssn=040417817, street=0vYq0v0v, city=0vYq0v0v, state=Te, zipcode=0vYq0v0v, primaryID=17, primaryName=0vYq0v0v, specialt
```

Member 1: Web App

Entering a new prescription when the drug does not exist:

New Prescription Form

Drug name does not exist.

Doctor SSN:

Doctor First Name:

Doctor Last Name:

Patient SSN:

Patient First Name:

Patient Last Name:

Drug Name:

Quantity:

Error inserting prescription:

New Prescription Form

Error inserting prescription.

Doctor SSN:

Doctor First Name:

Doctor Last Name:

Patient SSN:

Patient First Name:

Patient Last Name:

Drug Name:

Quantity:

Working prescription submission:

Prescription created.

Rx: 70633454

Doctor: 562278569

First Name: ylwYvTnnkM

Last Name: bfyZergbyx

Patient: 208704294

First Name: dcKljxdLamjJ

Last Name: hLUqLOPiSjEs

Drug: Tylenol with Codeine

Quantity: 6

Pharmacy:

Name:

Address:

Phone:

Date Filled:

Cost: \$

[Main Menu](#)

Member 2: Web Application

Form input & error for a blank form


Register as new user

Please enter a social security number.

Your SSN:

Your First Name:

Your Last Name:

Birth Date: 

Street:

City:

State:

Zipcode:

Primary Physician
Name:

Form input & output for a blank ssn


Register as new user

Please enter a social security number.

Your SSN:

Your First Name:

Your Last Name:

Birth Date: 

Street:

City:

State:

Zipcode:

Primary Physician
Name:


Form input & error for ssn starting with 0 & 9 (012345678 & 987654321)
(input & error)

Register as new user

Your SSN:

Your First Name:

Your Last Name:

Birth Date: 

Street:

City:

State:

Zipcode:

Primary Physician
Name:


Register as new user

Please enter a social security number that does not start with 0 or 9.

Your SSN:

Your First Name:

Your Last Name:

Birth Date: 

Street:

City:

State:

Zipcode:

Primary Physician
Name:


Form input & error for ssn that has '00' for the 4th & 5th digits (111001111)

Register as new user

Your SSN:

Your First Name:

Your Last Name:

Birth Date: 

Street:

City:

State:

Zipcode:

Primary Physician
Name:


Register as new user

Please enter a social security number that does not have '00' for the 4th & 5th digits.

Your SSN:

Your First Name:

Your Last Name:

Birth Date: 

Street:



City:

State:



Zipcode:

Primary Physician
Name:



Form input & error for ssn that has '0000' for the 6th, 7th, 8th, & 9th digits (333220000)

Register as new user	Register as new user
Your SSN: <input type="text" value="....."/>	Please enter a social security number that does not have '0000' for the last 4 digits digits. Your SSN: <input type="text"/>
Your First Name: <input type="text" value="Jerrett"/>	Your First Name: <input type="text" value="Jerrett"/>
Your Last Name: <input type="text" value="Rosario"/>	Your Last Name: <input type="text" value="Rosario"/>
Birth Date: <input type="text" value="05/13/1987"/> 	Birth Date: <input type="text" value="05/13/1987"/> 
Street: <input type="text" value="123 Main St"/>	Street: <input type="text" value="123 Main St"/>
City: <input type="text" value="Riverside"/>	City: <input type="text" value="Riverside"/>
State: <input type="text" value="CA"/>	State: <input type="text" value="CA"/>
Zipcode: <input type="text" value="92501"/>	Zipcode: <input type="text" value="92501"/>
Primary Physician Name: <input type="text" value="Dr. Dockter Number5"/>	Primary Physician Name: <input type="text" value="Dr. Dockter Number5"/>
<input type="button" value="Register"/>	<input type="button" value="Register"/>



Form input & error for ssn that is not 9 digits (12345678)

Register as new user	Register as new user
Your SSN: <input type="text" value="....."/>	Please enter a social security number of 9 digits. Your SSN: <input type="text"/>
Your First Name: <input type="text" value="Jerrett"/>	Your First Name: <input type="text" value="Jerrett"/>
Your Last Name: <input type="text" value="Rosario"/>	Your Last Name: <input type="text" value="Rosario"/>
Birth Date: <input type="text" value="05/13/1987"/> 	Birth Date: <input type="text" value="05/13/1987"/> 
Street: <input type="text" value="123 Main St"/>	Street: <input type="text" value="123 Main St"/>
City: <input type="text" value="Riverside"/>	City: <input type="text" value="Riverside"/>
State: <input type="text" value="CA"/>	State: <input type="text" value="CA"/>
Zipcode: <input type="text" value="92501"/>	Zipcode: <input type="text" value="92501"/>
Primary Physician Name: <input type="text" value="Dr. Dockter Number5"/>	Primary Physician Name: <input type="text" value="Dr. Dockter Number5"/>
<input type="button" value="Register"/>	<input type="button" value="Register"/>



Form input & error for first name that doesn't have letters (77)

Register as new user	Register as new user
Your SSN: <input type="text" value="....."/>	Please only use letters when entering the first name. Your SSN: <input type="text"/>
Your First Name: <input type="text" value="77"/>	Your First Name: <input type="text" value="77"/>
Your Last Name: <input type="text" value="Rosario"/>	Your Last Name: <input type="text" value="Rosario"/>
Birth Date: <input type="text" value="05/13/1987"/> 	Birth Date: <input type="text" value="05/13/1987"/> 
Street: <input type="text" value="123 Main St"/>	Street: <input type="text" value="123 Main St"/>
City: <input type="text" value="Riverside"/>	City: <input type="text" value="Riverside"/>
State: <input type="text" value="CA"/>	State: <input type="text" value="CA"/>
Zipcode: <input type="text" value="92501"/>	Zipcode: <input type="text" value="92501"/>
Primary Physician Name: <input type="text" value="Dr. Dockter Number5"/>	Primary Physician Name: <input type="text" value="Dr. Dockter Number5"/>
<input type="button" value="Register"/>	<input type="button" value="Register"/>



Form input & error for first name that is blank

Register as new user	Register as new user
Please only use letters when entering the first name.	Please enter a first name.
Your SSN: <input type="text" value="....."/>	Your SSN: <input type="text"/>
Your First Name: <input type="text"/>	Your First Name: <input type="text"/>
Your Last Name: <input type="text" value="Rosario"/>	Your Last Name: <input type="text" value="Rosario"/>
Birth Date: <input type="text" value="05/17/1987"/> 	Birth Date: <input type="text" value="05/17/1987"/> 
Street: <input type="text" value="123 Main St"/>	Street: <input type="text" value="123 Main St"/>
City: <input type="text" value="Riverside"/>	City: <input type="text" value="Riverside"/>
State: <input type="text" value="CA"/>	State: <input type="text" value="CA"/>
Zipcode: <input type="text" value="92501"/>	Zipcode: <input type="text" value="92501"/>
Primary Physician Name: <input type="text" value="Dr. Dockter Number5"/>	Primary Physician Name: <input type="text" value="Dr. Dockter Number5"/>
<input type="button" value="Register"/>	<input type="button" value="Register"/>

Form input & error for last name that doesn't have letters (77)

Register as new user	Register as new user
Please only use letters when entering the first name.	Please only use letters when entering the last name.
Your SSN: <input type="text"/>	Your SSN: <input type="text"/>
Your First Name: <input type="text" value="77"/>	Your First Name: <input type="text" value="Jerrett"/>
Your Last Name: <input type="text" value="Rosario"/>	Your Last Name: <input type="text" value="77"/>
Birth Date: <input type="text" value="05/13/1987"/> 	Birth Date: <input type="text" value="05/13/1987"/> 
Street: <input type="text" value="123 Main St"/>	Street: <input type="text" value="123 Main St"/>
City: <input type="text" value="Riverside"/>	City: <input type="text" value="Riverside"/>
State: <input type="text" value="CA"/>	State: <input type="text" value="CA"/>
Zipcode: <input type="text" value="92501"/>	Zipcode: <input type="text" value="92501"/>
Primary Physician Name: <input type="text" value="Dr. Dockter Number5"/>	Primary Physician Name: <input type="text" value="Dr. Dockter Number5"/>
<input type="button" value="Register"/>	<input type="button" value="Register"/>

Form input & error for last name that is blank

Register as new user	Register as new user
Please enter a last name.	Please enter a last name.
Your SSN: <input type="text" value="*****"/>	Your SSN: <input type="text"/>
Your First Name: <input type="text" value="Jerrett"/>	Your First Name: <input type="text" value="Jerrett"/>
Your Last Name: <input type="text"/>	Your Last Name: <input type="text"/>
Birth Date: <input type="text" value="05/17/1987"/> 	Birth Date: <input type="text" value="05/17/1987"/> 
Street: <input type="text" value="123 Main St"/>	Street: <input type="text" value="123 Main St"/>
City: <input type="text" value="Riverside"/>	City: <input type="text" value="Riverside"/>
State: <input type="text" value="CA"/>	State: <input type="text" value="CA"/>
Zipcode: <input type="text" value="92501"/>	Zipcode: <input type="text" value="92501"/>
Primary Physician Name: <input type="text" value="Dr. Dockter Number5"/>	Primary Physician Name: <input type="text" value="Dr. Dockter Number5"/>
<input type="button" value="Register"/>	<input type="button" value="Register"/>

Form input & error for a blank birthdate


Register as new user

Please enter a birthdate that is after January 1, 1900 and before today's date.

Your SSN:

Your First Name:

Your Last Name:

Birth Date: 

Street:

City:

State:

Zipcode:

Primary Physician
Name:

Form input & error for birthdate before January 1, 1900 & after today's date (12/31/1899 & 05/31/2023)


Register as new user

Please enter a birthdate that is after January 1, 1900 and before today's date.

Your SSN:

Your First Name:

Your Last Name:

Birth Date: 

Street:

City:

State:

Zipcode:

Primary Physician
Name:


Register as new user

Please enter a birthdate that is after January 1, 1900 and before today's date.

Your SSN:

Your First Name:

Your Last Name:

Birth Date: 

Street:



City:

State:



Zipcode:

Primary Physician
Name:

Form input & error for city that is not only letters (also accounts for cities that are two words or more) (77)

Register as new user	Register as new user
Please enter a birthdate that is after January 1, 1900 and before today's date.	Please only use letters when entering the city.
Your SSN: <input type="text" value="....."/>	Your SSN: <input type="text"/>
Your First Name: <input type="text" value="Jerrett"/>	Your First Name: <input type="text" value="Jerrett"/>
Your Last Name: <input type="text" value="Rosario"/>	Your Last Name: <input type="text" value="Rosario"/>
Birth Date: <input type="text" value="05/31/2023"/> 	Birth Date: <input type="text" value="05/17/1987"/> 
Street: <input type="text" value="123 Main St"/>	Street: <input type="text" value="123 Main St"/>
City: <input type="text" value="77"/>	City: <input type="text" value="77"/>
State: <input type="text" value="CA"/>	State: <input type="text" value="CA"/>
Zipcode: <input type="text" value="92501"/>	Zipcode: <input type="text" value="92501"/>
Primary Physician Name: <input type="text" value="Dr. Dockter Number5"/>	Primary Physician Name: <input type="text" value="Dr. Dockter Number5"/>
<input type="button" value="Register"/>	<input type="button" value="Register"/>

Form input & error for city that is a blank line

Register as new user	Register as new user
Please only use letters when entering the city.	Please enter a city.
Your SSN: <input type="text" value="....."/>	Your SSN: <input type="text"/>
Your First Name: <input type="text" value="Jerrett"/>	Your First Name: <input type="text" value="Jerrett"/>
Your Last Name: <input type="text" value="Rosario"/>	Your Last Name: <input type="text" value="Rosario"/>
Birth Date: <input type="text" value="05/17/1987"/> 	Birth Date: <input type="text" value="05/17/1987"/> 
Street: <input type="text" value="123 Main St"/>	Street: <input type="text" value="123 Main St"/>
City: <input type="text"/>	City: <input type="text"/>
State: <input type="text" value="CA"/>	State: <input type="text" value="CA"/>
Zipcode: <input type="text" value="92501"/>	Zipcode: <input type="text" value="92501"/>
Primary Physician Name: <input type="text" value="Dr. Dockter Number5"/>	Primary Physician Name: <input type="text" value="Dr. Dockter Number5"/>
<input type="button" value="Register"/>	<input type="button" value="Register"/>

Form input & error for state that is not only letters (77)


Register as new user

Please enter a city.

Your SSN:

Your First Name:

Your Last Name:

Birth Date: 

Street:

City:

State:

Zipcode:

Primary Physician
Name:


Register as new user

Please only use letters when entering the state.

Your SSN:

Your First Name:

Your Last Name:

Birth Date: 

Street:

City:

State:

Zipcode:

Primary Physician
Name:

Form input & error for state that is a blank line


Register as new user

Please only use letters when entering the state.

Your SSN:

Your First Name:

Your Last Name:

Birth Date: 

Street:

City:

State:

Zipcode:

Primary Physician
Name:


Register as new user

Please enter a state.

Your SSN:

Your First Name:

Your Last Name:

Birth Date: 

Street:



City:

State:



Zipcode:

Primary Physician
Name:

Form input & error for state that is not two letters long

Register as new user	Register as new user
Please enter the two digit state code.	Please enter the two digit state code.
Your SSN: <input type="text"/>	Your SSN: <input type="text"/>
Your First Name: <input type="text" value="Jerrett"/>	Your First Name: <input type="text" value="Jerrett"/>
Your Last Name: <input type="text" value="Rosario"/>	Your Last Name: <input type="text" value="Rosario"/>
Birth Date: <input type="text" value="05/17/1987"/> 	Birth Date: <input type="text" value="05/17/1987"/> 
Street: <input type="text" value="123 Main St"/>	Street: <input type="text" value="123 Main St"/>
City: <input type="text" value="Riverside"/>	City: <input type="text" value="Riverside"/>
State: <input type="text" value="C"/>	State: <input type="text" value="CAA"/>
Zipcode: <input type="text" value="92501"/>	Zipcode: <input type="text" value="92501"/>
Primary Physician Name: <input type="text" value="Dr. Dockter Number5"/>	Primary Physician Name: <input type="text" value="Dr. Dockter Number5"/>
<input type="button" value="Register"/>	<input type="button" value="Register"/>

Form input & error for zip code that is not 5 or 9 numbers in length

Register as new user	Register as new user
Please enter a zip code of 5 digits or 9 digits.	Please enter a zip code of 5 digits or 9 digits.
Your SSN: <input type="text"/>	Your SSN: <input type="text"/>
Your First Name: <input type="text" value="Jerrett"/>	Your First Name: <input type="text" value="Jerrett"/>
Your Last Name: <input type="text" value="Rosario"/>	Your Last Name: <input type="text" value="Rosario"/>
Birth Date: <input type="text" value="05/17/1987"/> 	Birth Date: <input type="text" value="05/17/1987"/> 
Street: <input type="text" value="123 Main St"/>	Street: <input type="text" value="123 Main St"/>
City: <input type="text" value="Riverside"/>	City: <input type="text" value="Riverside"/>
State: <input type="text" value="CA"/>	State: <input type="text" value="CA"/>
Zipcode: <input type="text" value="9250"/>	Zipcode: <input type="text" value="9250159"/>
Primary Physician Name: <input type="text" value="Dr. Dockter Number5"/>	Primary Physician Name: <input type="text" value="Dr. Dockter Number5"/>
<input type="button" value="Register"/>	<input type="button" value="Register"/>

Form input & error for a blank zipcode


Register as new user

Please enter a zip code using only numbers.

Your SSN:

Your First Name:

Your Last Name:

Birth Date: 

Street:

City:

State:

Zipcode:

Primary Physician
Name:

Form input & error for zip code that is not only numbers


Register as new user

Please enter a zip code of 5 digits or 9 digits.

Your SSN:

Your First Name:

Your Last Name:

Birth Date: 

Street:

City:

State:

Zipcode:

Primary Physician
Name:


Register as new user

Please only use numbers when entering the zip code.

Your SSN:

Your First Name:

Your Last Name:

Birth Date: 

Street:



City:

State:



Zipcode:

Primary Physician
Name:

Form input & error for a patient that is under 18 years old and the doctor does not specialize in "Pediatrics" (Dr. Dockter Number5 = Cardiology)

Register as new user	Register as new user
Please enter a zip code of 5 digits or 9 digits.	Please select a doctor that specializes in pediatrics for anyone under 18 years old.
Your SSN: <input type="text" value="*****"/>	Your SSN: <input type="text"/>
Your First Name: <input type="text" value="Jerrett"/>	Your First Name: <input type="text" value="Jerrett"/>
Your Last Name: <input type="text" value="Rosario"/>	Your Last Name: <input type="text" value="Rosario"/>
Birth Date: <input type="text" value="05/17/2020"/> 	Birth Date: <input type="text" value="05/17/2020"/> 
Street: <input type="text" value="123 Main St"/>	Street: <input type="text" value="123 Main St"/>
City: <input type="text" value="Riverside"/>	City: <input type="text" value="Riverside"/>
State: <input type="text" value="CA"/>	State: <input type="text" value="CA"/>
Zipcode: <input type="text" value="92501"/>	Zipcode: <input type="text" value="92501"/>
Primary Physician Name: <input type="text" value="Dr. Dockter Number5"/>	Primary Physician Name: <input type="text" value="Dr. Dockter Number5"/>
<input type="button" value="Register"/>	<input type="button" value="Register"/>

Form input & error for a patient that is older than 18 years old and the doctor does not specialize in "Family Medicine" or "Internal Medicine" (Dr. Dockter Number5 = Cardiology)

Register as new user	Register as new user
Please select a doctor that specializes in pediatrics for anyone under 18 years old.	Please select a doctor that specializes in Internal Medicine or Family Medicine.
Your SSN: <input type="text" value="*****"/>	Your SSN: <input type="text"/>
Your First Name: <input type="text" value="Jerrett"/>	Your First Name: <input type="text" value="Jerrett"/>
Your Last Name: <input type="text" value="Rosario"/>	Your Last Name: <input type="text" value="Rosario"/>
Birth Date: <input type="text" value="05/17/1987"/> 	Birth Date: <input type="text" value="05/17/1987"/> 
Street: <input type="text" value="123 Main St"/>	Street: <input type="text" value="123 Main St"/>
City: <input type="text" value="Riverside"/>	City: <input type="text" value="Riverside"/>
State: <input type="text" value="CA"/>	State: <input type="text" value="CA"/>
Zipcode: <input type="text" value="92501"/>	Zipcode: <input type="text" value="92501"/>
Primary Physician Name: <input type="text" value="Dr. Dockter Number5"/>	Primary Physician Name: <input type="text" value="Dr. Dockter Number5"/>
<input type="button" value="Register"/>	<input type="button" value="Register"/>

Form input for successful patient registration


Register as new user

Please select a doctor that specializes in Internal Medicine or Family Medicine.

Your SSN:

Your First Name:

Your Last Name:

Birth Date: 

Street:

City:

State:

Zipcode:

Primary Physician
Name:

Registration successful.

Patient ID:	12
First Name:	Jerrett
Last Name:	Rosario
Birthdate:	1987-05-17
Street:	123 Main St
City:	Riverside
State:	CA
Zipcode:	92501
Primary Physican:	Dr. Dockter Number1

[Edit](#) | [Main Menu](#)

My web app allows a patient to choose a primary care doctor by name, and stores the doctor ID in the database in the patient entity. The patient then enters the rest of their information and the system validates it for reasonableness, such as if someone under 18 is assigned to a pediatrician, or if someone over the age of 18 is assigned to a doctor that specializes in family or internal medicine. All necessary information from this form is stored into the database patient table using parameterized SQL statements. The web app also performs data validation checks such as names, cities, states cannot be blank and must contain only letters. Zip codes are 5 or 9 digits. Social security numbers are 9 digits, the middle two digits are 01-99, and the last 4 digits are 0001-9999. Years are only 1900 to the current year (2023). Dates are only able to be 1900-01-01 to the current date of 2023-05-30.

Member 3: Web Application

Form Input

Enter patient id and name

Patient ID:

Patient Last Name:

Output

Patient ID: 1
First Name: Johnny
Last Name: Walker
Birthdate: 1969-05-09
Street: 123 Main St
City: San Diego
State: CA
Zipcode: 92128
Primary Physician: Dr. Dockter Number1

[Edit](#) | [Main Menu](#)

Form Input

Update Patient Profile

ID:

First Name:

Last Name:

BirthDate:

Street:

City:

State:

Zipcode:

Primary Physician Name:

Output

Edit successful.

Patient ID: 1
First Name: Johnny
Last Name: Walker
Birthdate: 1969-05-09
Street: 123 Spooner St
City: Raleigh
State: NC
Zipcode: 92001
Primary Physician: Dr. Dockter Number1

[Edit](#) | [Main Menu](#)

This portion of the web application was made by mistake, as we only have two members and we only had to do member 1 & 2's applications. I (Jerrett) accidentally kept working on the ControllerPatient Class on accident and finished these methods before I realized I was doing more than required.

Conclusions:

This project required a deeper understanding of relational databases than previous assignments and the ability to work as a team to complete various components of a professional consultation. We learned to communicate ideas and implement solutions to problems with regard to SQL and report creation. The database took a great deal of effort in order to design a relation that makes sense within the context of the client's requirements. Example queries were a task to brainstorm and test and the type of report that a project like this demands is very different from what we are used to writing in an academic setting. The application and web apps were a challenge yet fun to write as well. Gaining first-hand knowledge on how object oriented programming interfaces with a database was a valuable learning experience. Things like implementing constraints within the database as well as error checking within the web app shows how you can have more than one layer of protection.