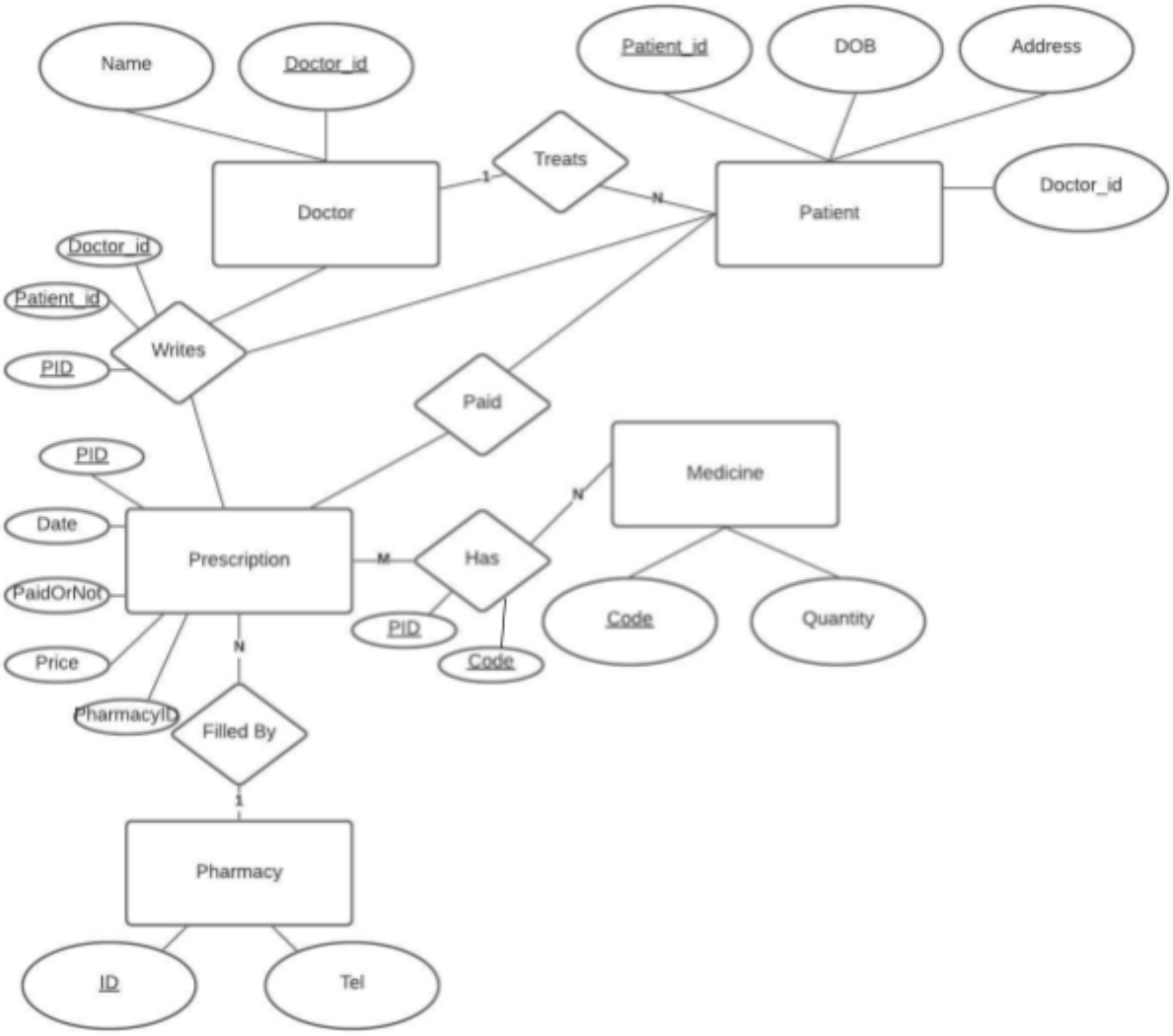
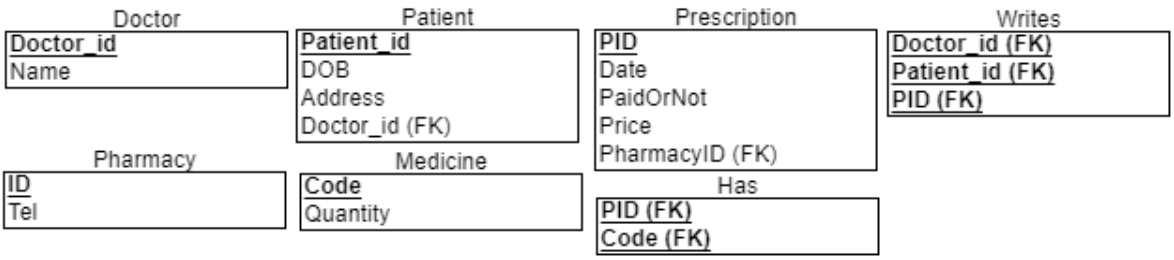
Project Phase 5 Report - Nathan Hartzell

The application database my report will focus on is one for a doctor's office. The real world entities of this database are the doctor's, patients, the medicine they're given, the prescriptions written, and the pharmacies that fill them. The doctor and patient have a one to many relationship because each doctor can have many patients where each patient only has one doctor. The prescription and medicine have a many to many relationship because many prescriptions can be written for many medicines. The pharmacy and prescription have a one to many relationship because each prescription can only originate from one pharmacy but each pharmacy can write many prescriptions. Each doctor has a primary key of Doctor_id, each patient has a primary key of Patient_id, each medicine has a primary key of Code, each prescription has a primary key of PID, and each pharmacy has a primary key of Code. Other attributes include the Name attribute for each doctor, the DOB, Address, and Docor_id attributes for each patient, the Quantity attribute for each medicine, Date, PaidOrNot, Price, PharmacyID for each prescription, and Tel for each pharmacy.





Doctor(Doctor_id, Name)
FD1: Doctor_id -> Name
Patient(Patient_id, DOB, Address, Doctor_id)
FD1: Patient_id -> DOB, Address, Doctor_id
Prescription(PID, Date, PaidOrNot, Price, PharmacyID)
Pharmacy(ID, Tel)
FD1: ID -> Tel
Medicine(Code, Quantity)
FD1: Code -> Quantity
Has(PID, Code)
Write(Doctor_id, Patient_id, PID)

IMPLEMENT

```
drop table DOCTOR cascade constraints;

create table DOCTOR (
        name varchar2(6),
        doctorID number(2),
        primary key (doctorID));

drop table PATIENT cascade constraints;

create table PATIENT (
        patient_id number(3),
        DOB number(6),
        Address varchar2(25),
        doctorID number(2),
        primary key (patient_id),
        foreign key (doctorID) references DOCTOR(doctorID) on delete cascade );

drop table MEDICINE cascade constraints;
```

```
create table MEDICINE (
        Code number(5),
        Quantity number(2),
        primary key (Code));

drop table PRESCRIPTION cascade constraints;

create table PRESCRIPTION (
        PID number(6),
        Date number(6),
        PaidOrNot varchar2(1),
        PharmacyID number(3),
        Price number(2),
        primary key (PID),
        foreign key (PharmacyID) references PHARMACY(ID) on delete cascade );

drop table PHARMACY cascade constraints;

create table PHARMACY (
        ID number(3),
        Tel number(10),
        primary key (ID));

drop table WRITES cascade constraints;

create table WRITES (
        doctorID number(2),
        patient_id number(3),
        PID number(6),
        foreign key (doctorID) references DOCTOR(doctorID) on delete cascade,
        foreign key (patient_ID) references PATIENT(patient_ID) on delete cascade,
        foreign key (PID) references PRESCRIPTION(PID) on delete cascade );

drop table HAS cascade constraints;

create table HAS (
        Pid number(6),
        Code number(5),
        foreign key (Pid) references PRESCRIPTION(PID) on delete cascade,
```

foreign key (code) references MEDICINE(code) on delete cascade);

Insert into DOCTOR values (‘Miller’, 14);
Insert into DOCTOR values (‘Carter’, 32);
Insert into DOCTOR values (‘Thomas’, 25);
Insert into PATIENT values (536, 031492, ‘151 Acacia Lane’, 14);
Insert into PATIENT values (539, 010485, ‘8 Purple Finch Dr’, 32);
Insert into PATIENT values (555, 082895, ‘187 N Shipley Ave’, 25);
Insert into MEDICINE values (29742, 12);
Insert into MEDICINE values (74021, 24);
Insert into MEDICINE values (59264, 36);
Insert into PRESCRIPTION values (371942, 012421, ‘Y’, 482, 50);
Insert into PRESCRIPTION values (548301, 021521, ‘Y’, 593, 75);
Insert into PRESCRIPTION values (392745, 030521, ‘N’, 547, 95);
Insert into PHARMACY values (482, 8563463190);
Insert into PHARMACY values (593, 8643283166);
Insert into PHARMACY values (547, 9038546423);
Insert into WRITES values (14, 536, 371942);
Insert into WRITES values (32, 539, 548301);
Insert into WRITES values (25, 555, 392745);
Insert into HAS values (371942, 29742);
Insert into HAS values (548301, 74021);
Insert into HAS values (392745, 59264);

SAMPLE QUERIES

```
-- A list of all doctors
SELECT *
FROM DOCTOR;

-- A list of all patients (sorted by patient_id)
SELECT *
FROM PATIENT
ORDER BY
   call.patient_id ASC;

-- Update PID 392745 to paid
UPDATE PRESCRIPTION
SET PaidOrNot = ‘Y’
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```
WHERE PID = 392745;

-- Insert new entry in medicine table
INSERT INTO MEDICINE
VALUES (69513, 12);

-- Display medicines with a quantity of 12
SELECT *
FROM MEDICINE
WHERE Quantity = 12;

-- Returns the price for the prescription with PID 548301
SELECT Price
FROM PRESCRIPTION
WHERE PID = ‘548301’;

-- Returns PID for pharmacies with 903 area code in phone #
SELECT PID
FROM PHARMACY
WHERE Tel
LIKE ‘%903%’;

-- Returns the number of patients
SELECT count(*)
FROM PATIENTS;
```