CSC 370 Assignment 1

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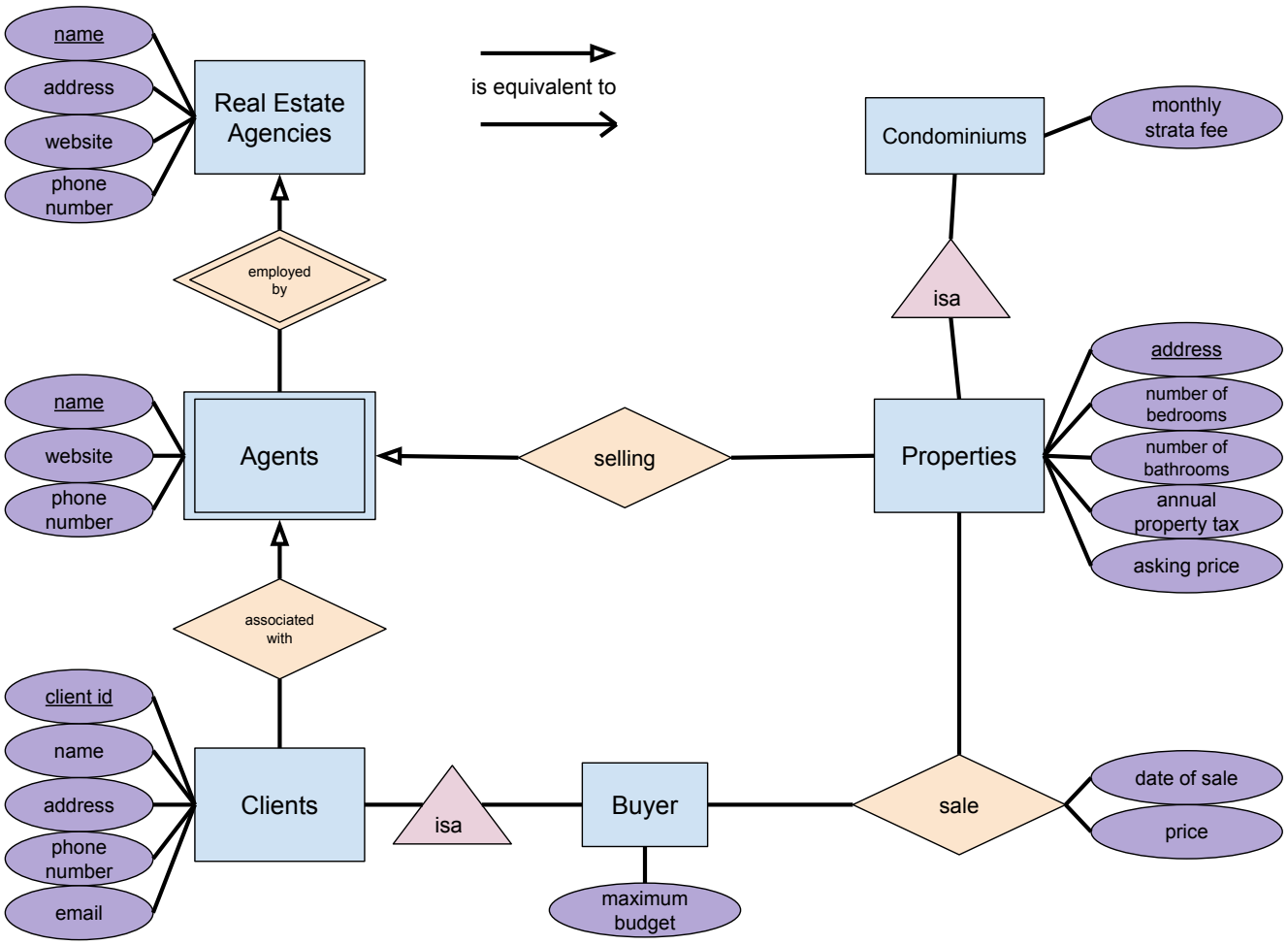
1 Real Estate



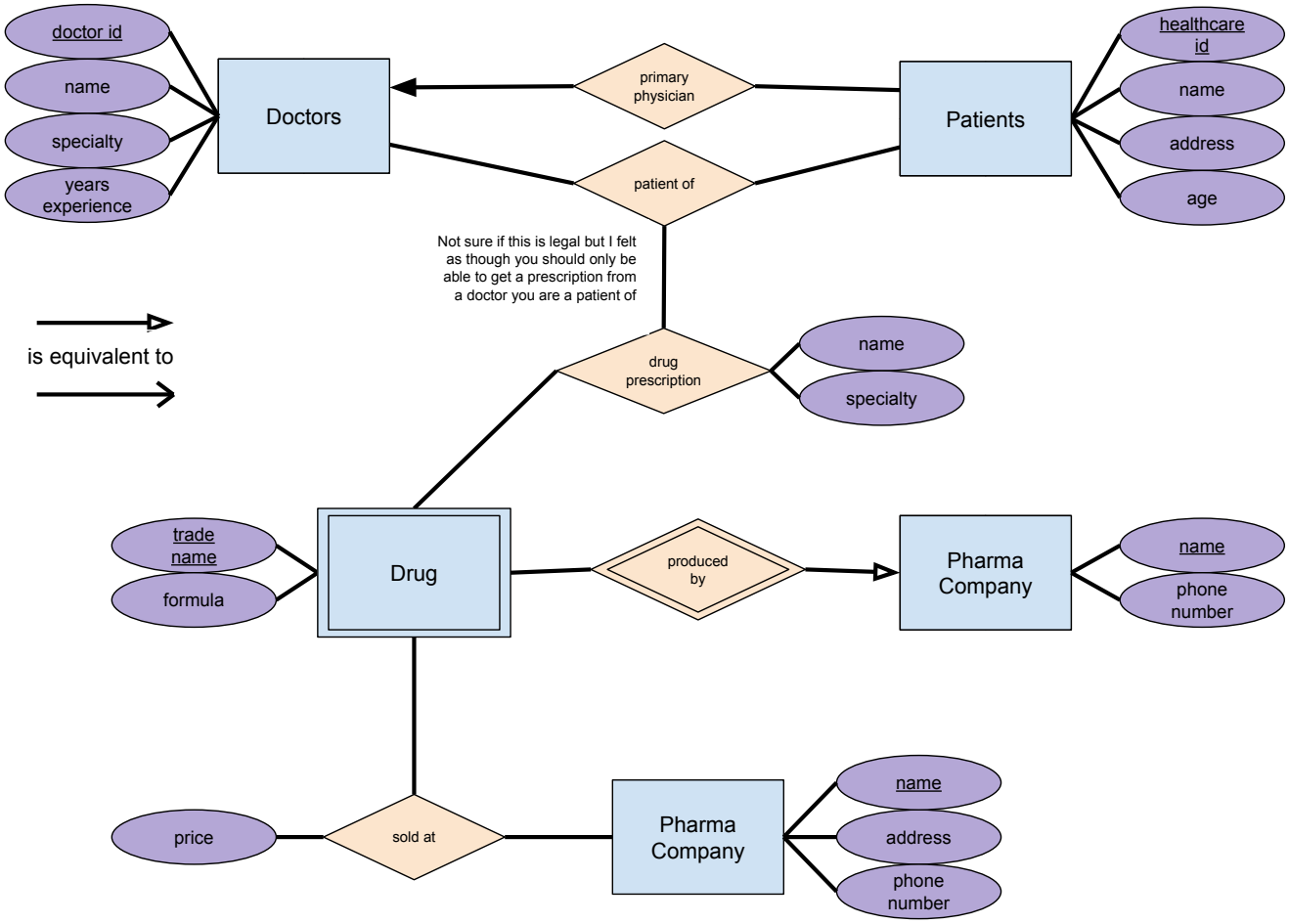
1.1 Assumptions

- Agency names will be unique
- Agents work for exactly one agency
- An Agency will not have two Agents with the same name; they will resort to pseudonyms where necessary
- One is considered a Seller if they are selling a Property. Sellers are not a separate entity from clients as they need no trait that a Client does not have.
- Properties can be sold multiple times, by and to different Clients
- We assume that people and Agencies don't change their names (it complicates using them as primary keys)

1.2 Added Attributes

- 'client id': This is needed because there is no good primary key candidates for Clients. Two Clients can have the same name; an Agent may even be associated with two Clients who share a name. Address, phone, and email are all things that people can share and change.

2 Pharmacies



2.1 Assumptions

- Pharmaceutical Company names will be unique
- Pharmacy names will include a store number or some other identifier to stop Pharmacies of the same chain from conflicting with each other
- Doctors will not prescribe Drugs to Patients who are not one of their patients
- It is not necessary for a Patient to have a primary physician

2.2 Create Table and Insert Statements

```
CREATE TABLE doctors (
  doctor_id INTEGER,
  name VARCHAR(60),
  specialty VARCHAR(60),
  years_experience INTEGER,
  CONSTRAINT pk_doctors PRIMARY KEY (doctor_id)
);

CREATE TABLE patients (
  healthcare_id INTEGER,
  name VARCHAR(60),
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  address VARCHAR(120),
  age INTEGER,
  primary_doctor INTEGER,
  CONSTRAINT pk_patients PRIMARY KEY (healthcare_id),
  CONSTRAINT fk_doctors FOREIGN KEY (primary_doctor) REFERENCES doctors(doctor_id)
);

CREATE TABLE patient_doctors (
  patient_healthcare_id INTEGER,
  doctor_id INTEGER,
  CONSTRAINT pk_patient_doctors PRIMARY KEY (patient_healthcare_id, doctor_id),
  CONSTRAINT fk_pd_patients FOREIGN KEY (patient_healthcare_id)
    REFERENCES patients(healthcare_id),
  CONSTRAINT fk_pd_doctors FOREIGN KEY (doctor_id)
    REFERENCES doctors(doctor_id)
);

CREATE TABLE pharma_companies (
  name VARCHAR(60),
  phone_number VARCHAR(20),
  CONSTRAINT pk_pharma_companies PRIMARY KEY (name)
);

CREATE TABLE drugs (
  name VARCHAR(60),
  formula VARCHAR(200),
  pharma_company_name VARCHAR(60),
  CONSTRAINT pk_drugs PRIMARY KEY (name, pharma_company_name),
  CONSTRAINT fk_pharma_companies FOREIGN KEY (pharma_company_name)
    REFERENCES pharma_companies(name)
);

CREATE TABLE pharmacies (
  name VARCHAR(60),
  address VARCHAR(120),
  phone_number VARCHAR(20),
  CONSTRAINT pk_pharmacies PRIMARY KEY (name)
);

CREATE TABLE pharmacy_drugs (
  pharmacy_name VARCHAR(60),
  drug_name VARCHAR(60),
  pharma_company_name VARCHAR(60),
  price NUMBER(2),
  CONSTRAINT pk_pharmacy_drugs PRIMARY KEY (pharmacy_name, drug_name, pharma_company_name),
  CONSTRAINT fk_pharmacies FOREIGN KEY (pharmacy_name)
    REFERENCES pharmacies(name),
  CONSTRAINT fk_drugs FOREIGN KEY (drug_name, pharma_company_name)
    REFERENCES drugs(name, pharma_company_name)
);

CREATE TABLE prescriptions (
  drug_name VARCHAR(60),
  pharma_company_name VARCHAR(60),
  patient_healthcare_id INTEGER,
  doctor_id INTEGER,
  quantity INTEGER,
```
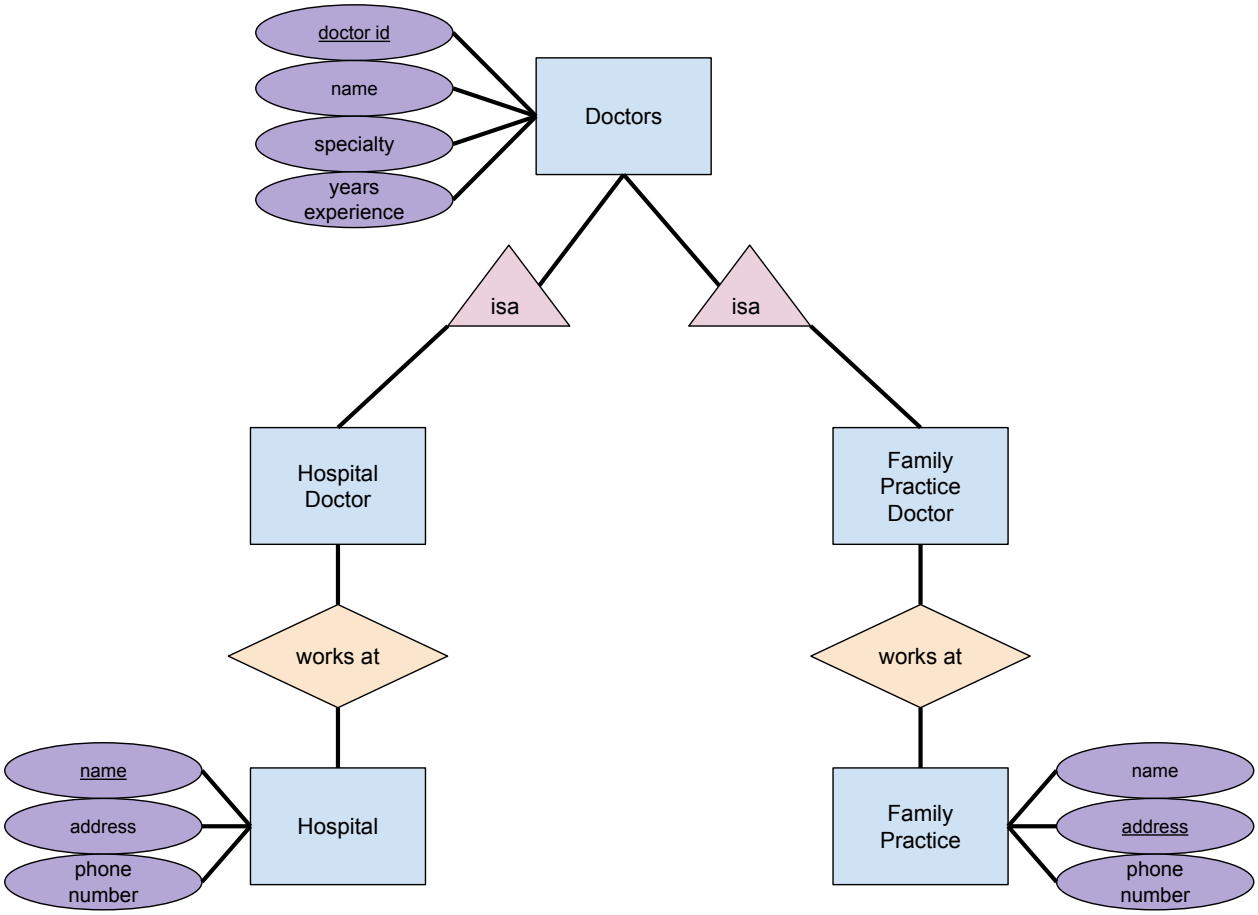

```
  date_prescribed DATE,
  CONSTRAINT pk_prescriptions PRIMARY KEY (drug_name, patient_healthcare_id, doctor_id),
  CONSTRAINT fk_pres_drug_name FOREIGN KEY (drug_name, pharma_company_name)
    REFERENCES drugs(name, pharma_company_name),
  CONSTRAINT fk_pres_patient_doctors FOREIGN KEY (patient_healthcare_id, doctor_id)
    REFERENCES patient_doctors(patient_healthcare_id, doctor_id)
);

INSERT INTO doctors VALUES (94600, 'Lucy Hildebrande', 'Immunology', 12);
INSERT INTO doctors VALUES (94601, 'Jimminy Falkner', 'Psychiatry', 5);
INSERT INTO patients VALUES (1001, 'Johnny Smith', '1009 12th Street', 42, 94600);
INSERT INTO patient_doctors VALUES (1001, 94600);
INSERT INTO patient_doctors VALUES (1001, 94601);
INSERT INTO pharma_companies VALUES ('MCA Care', '(250) 893-4422');
INSERT INTO drugs
    VALUES ('myocel-phorumulac', '1 part myoceliac, 3 parts phorumutlous', 'MCA Care');
INSERT INTO drugs
    VALUES ('cyra-tubulix', '2 parts cyralis, 3 parts tubulous', 'MCA Care');
INSERT INTO pharmacies
    VALUES ('West Coast Pharmacy #1', '1-299 Westside Rd., Victoria, BC', '(250) 999-3312');
INSERT INTO pharmacies
    VALUES ('West Coast Pharmacy #2', '1482 Easter Rd., Duncan, BC', '(250) 123-7777');
INSERT INTO pharmacy_drugs
    VALUES ('West Coast Pharmacy #1', 'myocel-phorumulac', 'MCA Care', 40.00);
INSERT INTO pharmacy_drugs
    VALUES ('West Coast Pharmacy #2', 'myocel-phorumulac', 'MCA Care', 38.00);
INSERT INTO pharmacy_drugs
    VALUES ('West Coast Pharmacy #1', 'cyra-tubulix', 'MCA Care', 20.00);
INSERT INTO prescriptions
    VALUES ('myocel-phorumulac', 'MCA Care', 1001, 94600, 2, TO_DATE('2017/04/04', 'yyyy/mm/dd'));
INSERT INTO prescriptions
    VALUES ('cyra-tubulix', 'MCA Care', 1001, 94601, 2, TO_DATE('2017/04/20', 'yyyy/mm/dd'));
```

3 Hospitals



3.1 Assumptions

- Doctors can work at multiple Hospitals and/or Family Practices
- Hospitals have unique names
- Family practices can be tracked by address

3.2 Added Attributes

Added *address* and *phone number* to Hospitals, along with *name* and *phone number* to Family Practice to round them out

3.3 Create Table and Insert Statements

We will track 'Hospital Doctors' and 'Family Practice Doctors' by whether they are working at a Hospital or a Family Practice, or not.

```
CREATE TABLE doctors (
  doctor_id INTEGER,
  name VARCHAR(60),
  specialty VARCHAR(60),
  years_experience INTEGER,
  CONSTRAINT pk_doctors PRIMARY KEY (doctor_id)
);

CREATE TABLE hospitals (
  name VARCHAR(60),
  address VARCHAR(60),
  phone_number VARCHAR(60),
  CONSTRAINT pk_hospitals PRIMARY KEY (name)
);

CREATE TABLE family_practices (
  name VARCHAR(60),
  address VARCHAR(60),
  phone_number VARCHAR(60),
  CONSTRAINT pk_family_practices PRIMARY KEY (address)
);

CREATE TABLE hospital_doctors (
  doctor_id INTEGER,
  hospital_name VARCHAR(60),
  CONSTRAINT pk_hospital_doctors PRIMARY KEY (doctor_id, hospital_name),
  CONSTRAINT fk_hd_doctor_id FOREIGN KEY (doctor_id)
    REFERENCES doctors(doctor_id),
  CONSTRAINT fk_hd_hospital_name FOREIGN KEY (hospital_name)
    REFERENCES hospitals(name)
);

CREATE TABLE family_practice_doctors (
  doctor_id INTEGER,
  family_practice_address VARCHAR(60),
  CONSTRAINT pk_family_practice_doctors PRIMARY KEY (doctor_id, family_practice_address),
  CONSTRAINT fk_fpd_doctor_id FOREIGN KEY (doctor_id)
    REFERENCES doctors(doctor_id),
  CONSTRAINT fk_fpd_family_practice_address FOREIGN KEY (family_practice_address)
    REFERENCES family_practices(address)
);

INSERT INTO doctors VALUES (3001, 'Flloyd Henderson', 'Cardiology', 24);
INSERT INTO hospitals VALUES ('Neonville General Hospital', '2221 Big Lights Way', '(240) 899-0765');
INSERT INTO family_practices VALUES ('Weston Cardiology Clinic', '2-188 Weston Rd.', '(240) 122-1475');
INSERT INTO hospital_doctors VALUES (3001, 'Neonville General Hospital');
INSERT INTO family_practice_doctors VALUES (3001, '2-188 Weston Rd.');
```