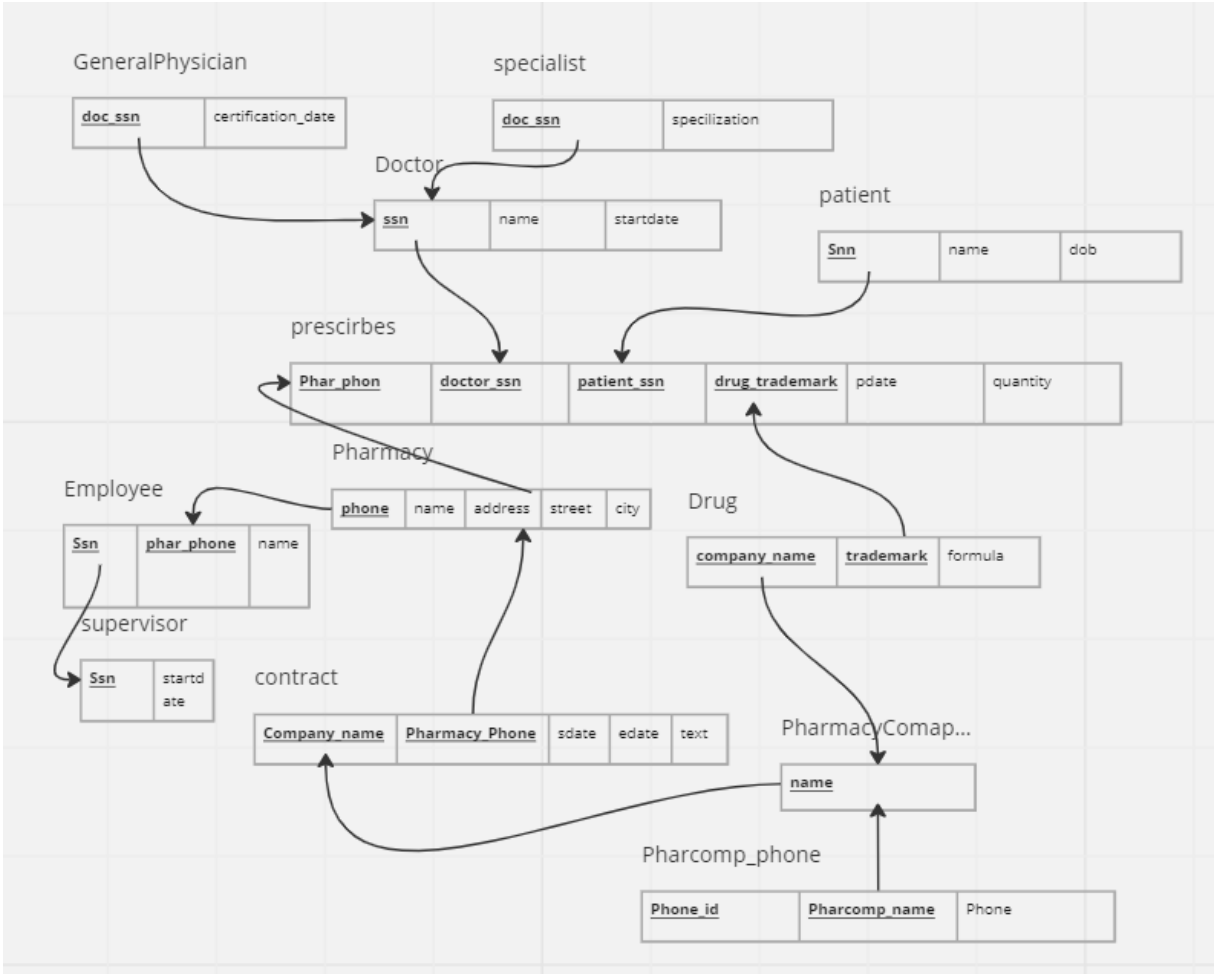
Task 1:




```
CREATE TABLE pharmacycompany (
    name VARCHAR(255) PRIMARY KEY,
    phone VARCHAR(255) NOT NULL
);

CREATE TABLE Pharmacy (
    phone VARCHAR(255) PRIMARY KEY,
    name VARCHAR(255) NOT NULL,
    address VARCHAR(255) NOT NULL,
    street VARCHAR(255) NOT NULL,
    city VARCHAR(255) NOT NULL
);
```

```
CREATE TABLE Drug (
    trademark VARCHAR(255) PRIMARY KEY,
    formula VARCHAR(255) NOT NULL
);

CREATE TABLE contracts (
    Company_name VARCHAR(255) NOT NULL,
    Pharmacy_phone VARCHAR(255) NOT NULL,
    FOREIGN KEY (Company_name) REFERENCES PharmacyCompany(name),
    FOREIGN KEY (Pharmacy_phone) REFERENCES Pharmacy(phone)
);

CREATE TABLE sold_by (
    Company_name VARCHAR(255) NOT NULL,
    trademark VARCHAR(255) NOT NULL,
    PRIMARY KEY (Company_name, trademark),
    FOREIGN KEY (Company_name) REFERENCES PharmacyCompany(name),
    FOREIGN KEY (trademark) REFERENCES Drug(trademark)
);

CREATE TABLE sells (
    Pharmacy_phone VARCHAR(255) NOT NULL,
    trademark VARCHAR(255) NOT NULL,
    Company_name VARCHAR(255) NOT NULL,
    FOREIGN KEY (Pharmacy_phone) REFERENCES Pharmacy(phone),
    FOREIGN KEY (trademark) REFERENCES Drug(trademark)
);



INSERT INTO pharmacy (phone, name, address, street, city)
VALUES
```

```
    ('54327612', 'City Drug', '36 South Cherry', 'Starkville', 'MS 39759'),
    ('87435217', 'Pill Pack', '29 E. Pine Lane', 'Stuart', 'FL 34997'),
    ('98463251', 'Better Life', '8004 Eagle St.', 'Sarasota', 'FL 34231'),
    ('45362819', 'Pharma Best', '15 Williams Drive', 'Elgin', 'IL 60120'),
    ('87340213', 'Be Well', '790 Clay Road', 'Ooltewah', 'TN 37363'),
    ('35446281', 'Absolute Care', '39 Spruce Drive', 'Charlottesville', 'VA 22901');

INSERT INTO drug (trademark, formula)
VALUES
    ('Ultram', 'tramadol'),
    ('Advil', 'ibuprofen'),
    ('Aleve', 'naproxen'),
    ('Bayer Aspirin', 'aspirin'),
    ('Zipsor', 'diclofenac'),
    ('Irenka', 'duloxetine'),
    ('Myoflex', 'Trolamine salicylate');

INSERT INTO pharmacycompany (name, phone)
VALUES
('Janson & Janson', '23749912'),
('Pfizer', '45732810'),
('Bayer', '88374291'),
('Roche', '66372910'),
('Abbott', '66392014'),
('Allergan', '47639201'),
('CSL', '93462918'),
('Vertex Pharmaceuticals', '91228345');

INSERT INTO contracts (company_name, pharmacy_phone)
VALUES
('Janson & Janson', '54327612'),
```

('Janson & Janson', '54327612'),

('Pfizer', '54327612'),

('Bayer', '87340213'),

('Roche', '35446281'),

('CSL', '98463251'),

('Abbott', '87340213'),

('Vertex Pharmaceuticals', '87340213'),

('Allergan', '98463251'),

('Allergan', '35446281');

INSERT INTO sold_by (company_name, trademark)

VALUES

('Janson & Janson', 'Ultram'),

('Janson & Janson', 'Aleve'),

('Janson & Janson', 'Zipsor'),

('Janson & Janson', 'Myoflex'),

('Pfizer', 'Ultram'),

('Pfizer', 'Zipsor'),

('Bayer', 'Bayer Aspirin'),

('Roche', 'Irenka'),

('CSL', 'Ultram'),

('Abbott', 'Aleve'),

('Vertex Pharmaceuticals', 'Irenka'),

('Allergan', 'Advil');

INSERT INTO sells (pharmacy_phone, trademark, company_name)

VALUES

('54327612', 'Ultram', 'Pfizer'),

('54327612', 'Aleve', 'Abbott'),

('87340213', 'Aleve', 'Abbott'),

('35446281', 'Advil', 'Allergan'),

('98463251', 'Advil', 'Allergan'),

('35446281', 'Irenka', 'Vertex Pharmaceuticals');

Task 2:

limo_ id	journey_ date	start_ time	limo_ registration	limo_ capacity	class	price (NOK)	driver_ id	driver_ name
L1	20.02.21	10.00	DN3526	8	1	400	D1	Pete
L1	20.02.21	13.00	DN3526	8	1	400	D1	Pete
L1	21.02.21	10.00	DN3526	8	1	400	D1	Pete
L2	20.02.21	10.00	CY2534	12	2	600	D2	Jane
L2	22.02.21	14.00	CY2534	12	2	600	D2	Jane
L2	23.02.21	11.00	CY2534	12	2	600	D2	Jane

where, `limo_id` is a unique number for each limo.

`journey_date` is the date of the limo trip.

`start_time` is a time in 24 hours format when the trip starts.

`limo_registration` is the registration of the limo which is unique for each limo. `limo_capacity` is the number of passengers that can be accommodated in a limo.

`class` is a number in the range of 1-5 that determines the quality of facilities (including limo capacity) on a limo and the price of renting the limo for the trip. `driver_id` is a unique number for each driver. `driver_name` is the name of a driver that may not be unique.

1. What should be the primary key of the table?
   No value in the table is 100% unique, but if I had to choose a single one, I would have chosen the limo_id but if I could have multiple, I would have a combination of limo_id, journey_date, and start_time as these three attributes uniquely identify each limo trip.
2. List the functional dependencies related to the table.
   limo_id -> limo_registration, limo_capacity, class
   driver_id -> driver_name
3. In which normal form is this relation? Explain your answer.
   The relation would be 1NF since all attributes are atomic and there are no repeating groups in the relation.
4. Convert the table to 3NF.
   Limo

Limo_id	Limo_registration	Limo_capacity

   Driver

Driver_id	Driver_name

Limo_trip

Limo_id	Journey_date	Start_time	Class price	Driver_id

5. Are the tables you created in task 4 in BCNF too? Convert the tables to BCNF if not.
   The tables are in BCNF too since there are no non-trivial functional dependencies between attributes.