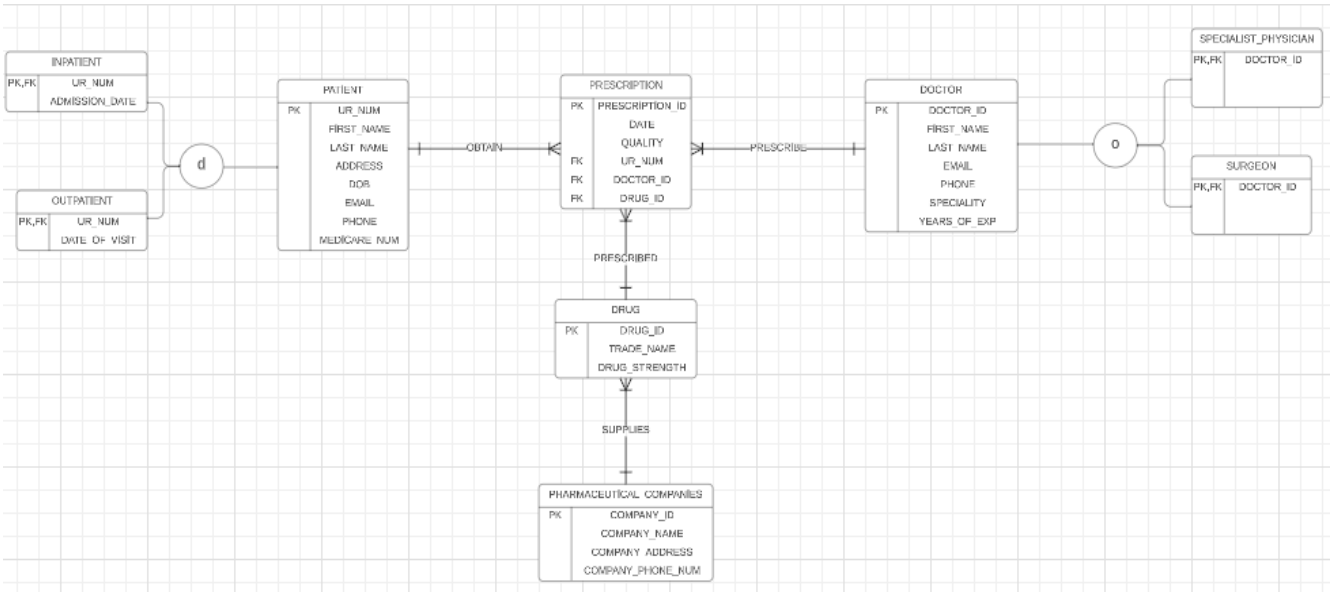
Data & Information Management

Assignment 3.1P



- In patient entity I have eliminated the composite attribute ‘name’ and replaced it with ‘first_name’ and ‘last_name’ as a simple attribute. I have done the same changes for doctor entity and pharmaceutical company entity as well.
- In patient entity in behalf of the ‘age’ I have declared it as ‘DOB’, because age is a derivative attribute from date of birth.
- I have kept the phone number as it is assuming that there is a business rule one patient should only have one phone number. I have done the same changes to doctor entity and pharmaceutical company entity as well.
- In the drug entity I am introducing a new attribute as ‘drug_id’ to make it a unique identifier, assuming that the name could be altered or change. I have done the same changes in the pharmaceutical company entity as well.
- Overlapping constrains are used for doctor as a subtype, because a doctor can belong to many subtypes.
- Disjoint constrains are used for patient as a subtype, because patient can belong only to one subtype at a time.
- Prescription is used as an associate entity in between patient and doctor to eliminate many to many relationships.

Relationship and cardinalities

- PATIENT (1, 1) PRESCRIPTION (1, M)
  - One patient can have one or many prescription
  - One prescription is only for one patient
- DOCTOR (1, 1) PRESCRIPTION (1, M)
  - One doctor can prescribe one or many prescription
  - One prescription is made only by one doctor
- DRUG (1, 1) PRESCRIPTION (1, M)
  - One drug can be prescribed one or many times
  - One prescription is for only 1 drug
- PRAMACEUTICAL_COMPANY (1, 1) DRUG (1, M)
  - One pharmaceutical company supplies one or many drugs
  - One drug is supplied by one pharmaceutical company only