

CSC 134-02 Database Management Systems (Spring 2022)

Assignment 1 (100 points)

Data Modeling using ER Model

Due at 11:59 pm, Thursday February 10, 2022

Please review lecture slides carefully before you start to work on your assignment.

Consider the following requirements for a HEALTHCARE database. Draw an ER diagram. You need to specify (1) key attribute(s) of each entity type, (2) the cardinality ratio, and (3) the participation constraint of each relationship type. Please provide your assumptions if needed.

Note: You must use the notations (Chen style) discussed in class to get credit.

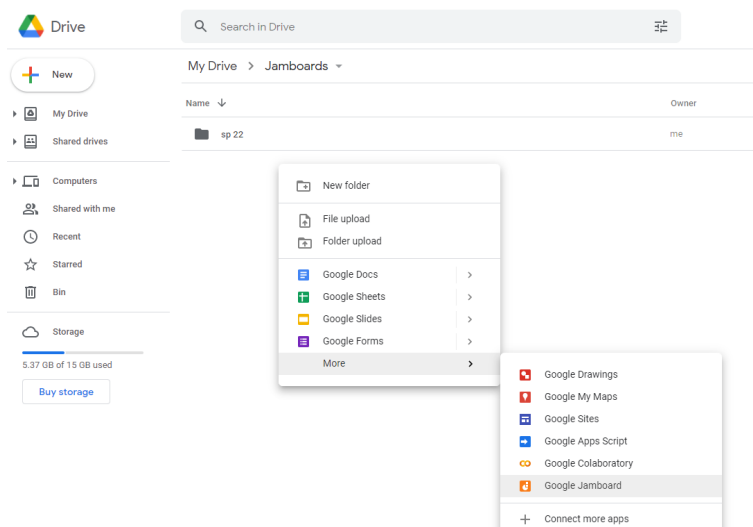
- Patients are identified by an SSN, and their names, addresses, and ages must be recorded.
- Doctors are identified by an SSN. For each doctor, the name, specialty, and years of experience must be recorded.
- Each pharmaceutical company is identified by name and has a phone number.
- For each drug, the trade name and formula must be recorded. Each drug is made by a given pharmaceutical company, and the trade name identifies a drug uniquely from among the products of that company. If a pharmaceutical company is deleted, you need not keep track of its products any longer.
- Each pharmacy has a name, address, and phone number.
- Every patient has at least one doctor but can visit more than one doctor. Every doctor has at least one patient.

- 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.
- Doctors prescribe drugs for patients. A doctor could prescribe one or more drugs for several patients, and a patient could obtain prescriptions from several doctors.
- Each prescription has a date and a quantity associated with it.
- Pharmaceutical companies have contracts with pharmacies. A pharmaceutical company can contract with several pharmacies, and a pharmacy can contract with several pharmaceutical companies. For each contract, you have to store a start date, an end date, and the text of the contract. Pharmacies appoint a supervisor for each contract. There must always be a supervisor name for each contract.
- Only pharmaceutical companies “make” drugs and only pharmacies “sell” drugs.

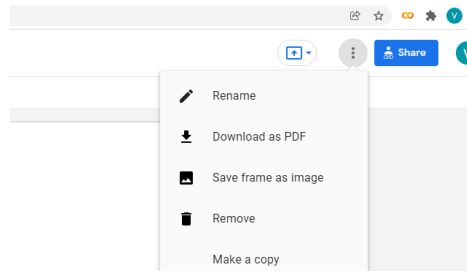
Deliverables

1. A pdf file containing all your answers.

You may choose to create a Jamboard by right-clicking and selecting “Jamboard” in your Google drive.



Draw your ER diagram and then download your frame as a PDF file for submission to Canvas. Submission of only a sharable link will not be accepted.



Requirements on deliverables

1. Your deliverable should be ***FLastname_A1.pdf*** where *F* indicates first letter, in uppercase, of your firstname and *Lastname* indicates your last name where first letter is in uppercase. Please exactly follow the naming rule described above. You will be deducted 5 points for incorrect naming.
2. Clearly state your name, ID, course title, assignment number, and due date.
3. Submit your pdf file via Canvas.
4. **No late submission will be accepted.**
5. When grades are returned to you on Canvas, you have 7 days to meet with the instructor for grade changes. Issues and/or disagreements concerning your grade must be resolved in such 7 days window. After 7 days, the grades are written in stone and can't be changed after that point, for whatever reason.