ComS 363 Fall 2022

Practice problems on relational database design from an Entity Relationship (ER) diagram; see class participation on WK5, relational database design from the ER diagram in the solution of CP-WK3, and Q2 of the homework 2.

Instruction:
Convert the ER diagram in Figures 1 and 2 to corresponding relational schemas. **For each schema, indicate the name of the relation, all the attributes, the primary key, and all the foreign keys.**

Example: R1(A,B,C,D, primary key(A), foreign key(C) references R2(C)).

Be sure to use the least number of relations but avoid creating unnecessary data redundancy that causes update anomalies, insertion anomalies, and deletion anomalies. The schema design must enforce the constraints in the ER diagram as much as possible. Indicate all the constraints that cannot be enforced with schema design using primary key, foreign keys, unique, and not null constraints.

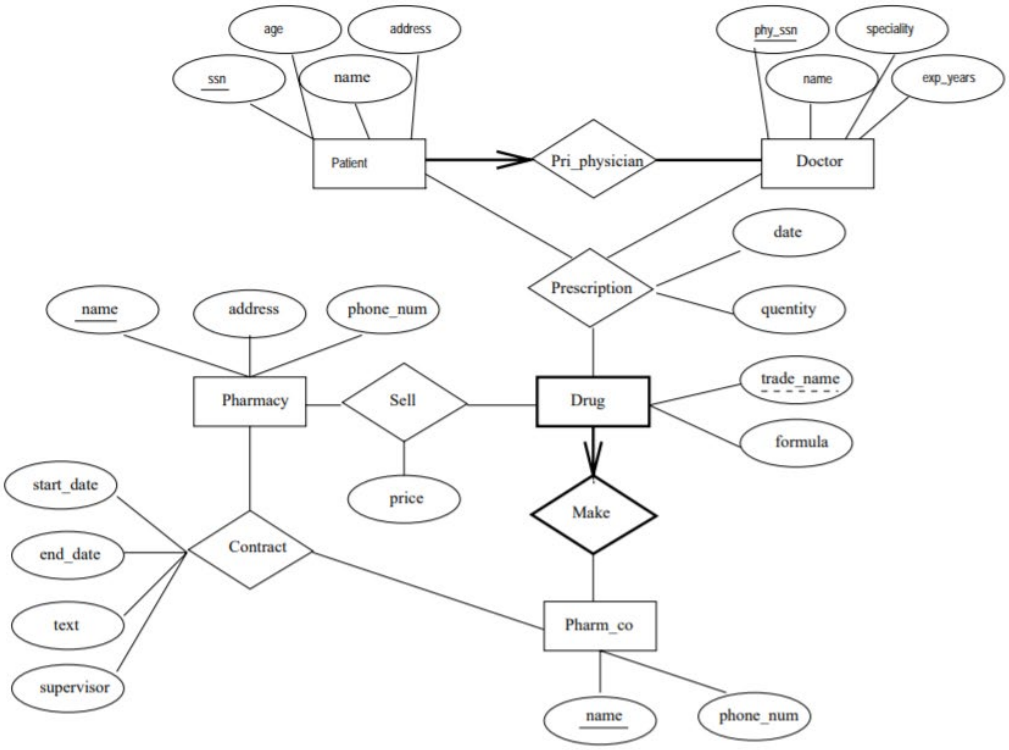

Figure 2.3 ER Diagram for Exercise 2.7

Figure 1: ER diagram for a database of drugs; the diagram is from Ramakrishnan's Database Management Systems Exercise.

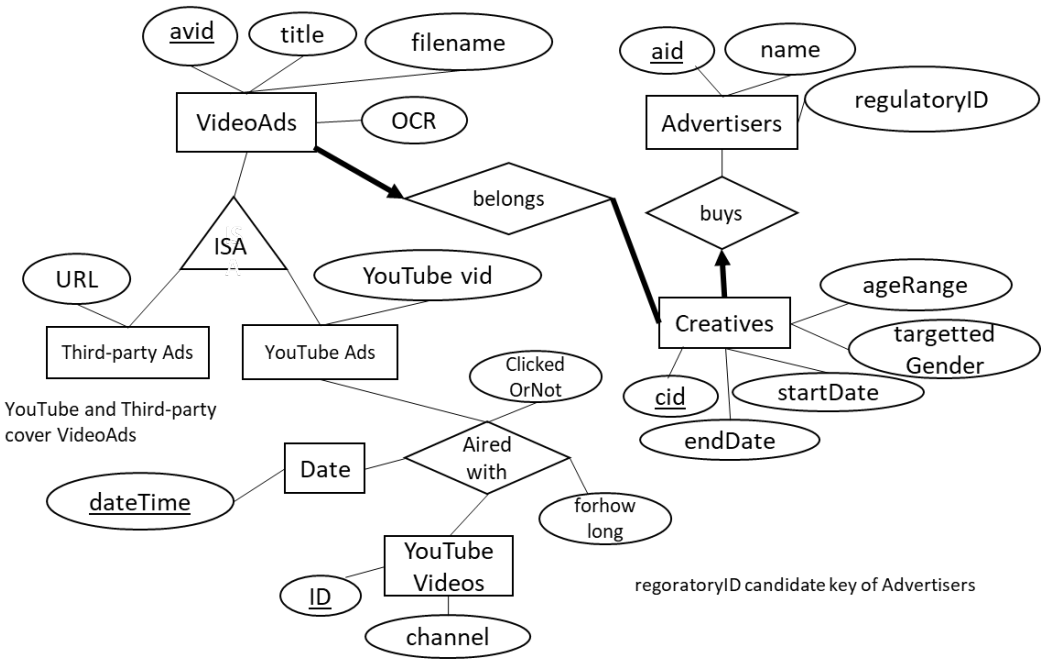

Figure 2. ER diagram to model information about video ads aired on YouTube