

1. Suppose you are given the following requirements for a simple database for the National Hockey League (NHL):
 - the NHL has many teams,
 - each team has a name, a city, a coach, a captain, and a set of players,
 - each player belongs to only one team,
 - each player has a name, a position (such as left wing or goalie), a skill level, and a set of injury records,
 - a team captain is also a player,
 - a game is played between two teams (referred to as `host_team` and `guest_team`) and has a date (such as May 11th, 1999) and a score (such as 4 to 2).
 - Identify entities and their key attributes
 - Identify relationships and their cardinality
 - Draw the complete ER diagram
 - Map the entities and relationships into relational schema
2. Here's the information about a pharmacy chain.
 - 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 sold 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 a primary physician. 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. You can assume that, if a doctor prescribes the same drug for the same patient more than once, only the last such prescription needs to be stored.
 - Pharmaceutical companies have long-term 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 for each contract, but the contract supervisor can change over the lifetime of the contract.
 - Identify entities and their key attributes
 - Identify relationships and their cardinality
 - Draw the complete ER diagram
 - Map the entities and relationships into relational schema