

ER Modeling Homework

This is a team assignment. Work on it with your database design project team. Each team will then deliver one submission on the due date

Draw a **clear and complete** *ER* diagram using the **notation we used in class** to capture the following database requirements. But first, please pay attention to the following:

- Do not use ternary relationships.
- If necessary, you can make any **reasonable assumptions** as long as:
 1. They **don't contradict** the specs given below; and
 2. You **state** them clearly.

The database is for a real estate company that has branches, agents, and the houses they deal with.
Specific details are:

Every **branch** is described by a branch ID (unique), address, and phone number. Every **agent** is described by an agent ID (unique), name, and the languages the agent speaks. Every branch employs several agents while every agent works at one branch only. For every agent, the database shall record the date on which the agent started working at the branch. Furthermore, every branch has an agent acting as branch manager. For every manager, the database shall record the date on which the manager started managing the branch.

Every **house** is described by a house ID (unique), address, price, and the number of bathrooms it has. The database shall also record, for every house, the rooms that it has and the square footage of each room (examples of rooms are bedroom-1, bedroom-2, kitchen, den, study, etc.). Rooms are named uniquely within a house. Some houses are brand new while others are not, in which case the database shall record the sale history of such houses as sale date and sale price.

Every branch lists several houses on the market while a house can be listed by one branch only. The database shall record the date on which the branch listed the house. Any agent can show any listed house to a potential customer. The database shall record who showed which house and on what date – assume here that the database shall record only the last showing of a particular house by a particular agent (even though the agent may show the house several times on different dates). Furthermore, and it is possible that an agent may not have showed a house (since an agent may be new), and a house may not have been shown (since it is a new listing).

Branch

Agent

House

The database is for part of the work of the HR (Human Resources) Department in a company whereby HR wants to keep track of the job history of employees during their tenure in the company. Specific details that the database shall record are:

1. Every Employee is described by an empID (unique), and name.
2. Every job is described by a jobID (unique), and job title.
3. Any particular employee is qualified to perform only some, but not all, jobs. However, the company is fortunate in that it has at least one qualified employee for every job it has. HR wants to keep track of who is qualified for what job(s) and the level of such qualification (e.g. low, medium, high, etc.)
4. An employee is appointed to one job only during any moment in time. HR wants to keep track of current and past appointments of employees to jobs. An appointment is described by a start date, end date, start salary, and end salary. (Of course the end date and end salary will be null for the current appointment of the employee).
5. An employee is given an appointment based upon a nomination from another employee. HR wants to keep track of who nominated whom for what appointment. Of course, over time, a nominator may have written several nominations for several appointments.

The following is simply a skeleton; add what is needed to it.

Employee

Job

Appointment
