The Islamic University of Gaza

Faculty of Engineering

Department of Computer Engineering

ECOM 4313: Database System

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Discussion Chapter#3

Consider a MOVIE database in which data is recorded about the movie industry. The data requirements are summarized as follows:

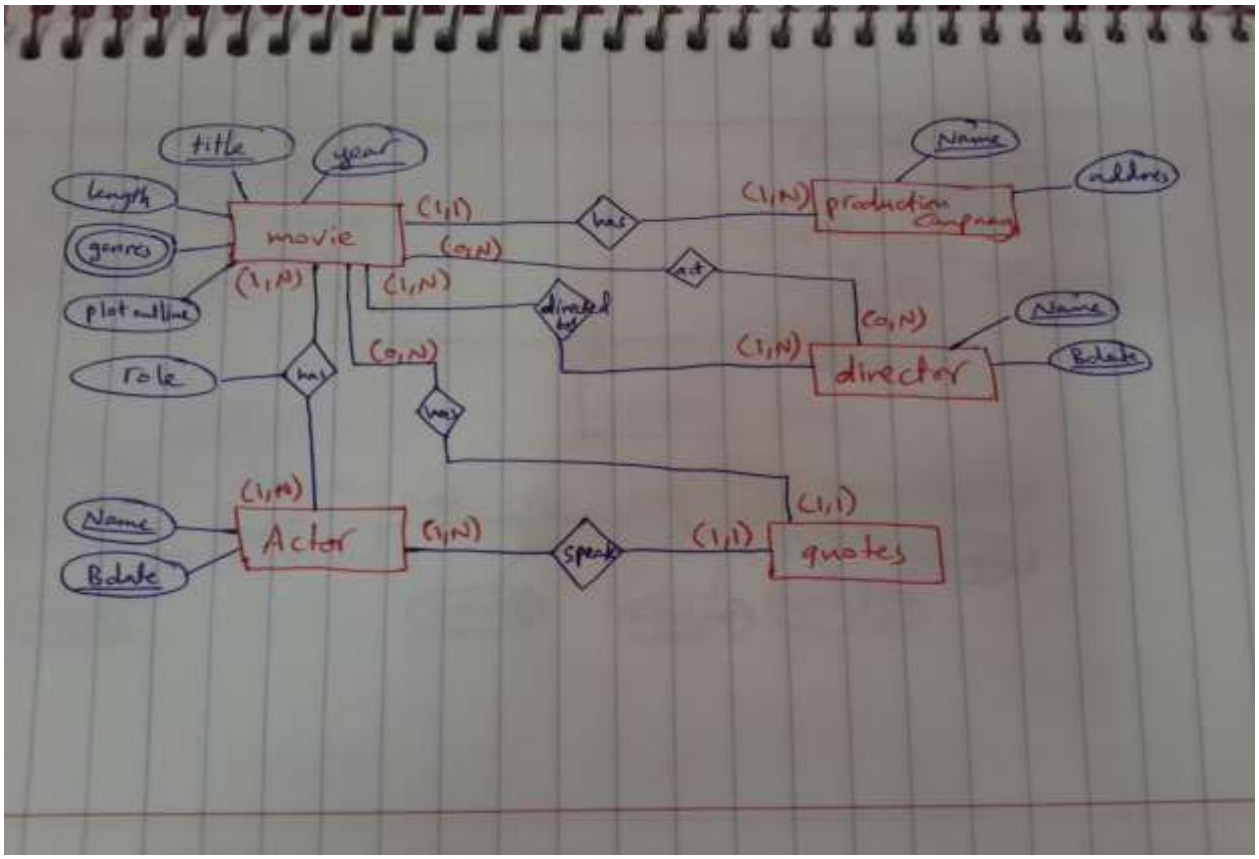
- Each movie is identified by title and year of release. Each movie has a length in minutes. Each has a production company and each is classified under one or more genres (such as horror, action, drama, and so forth).
  Each movie has one or more directors and one or more actors appear in it. Each movie also has a plot outline. Finally, each movie has zero or more quotable quotes, each of which is spoken by a particular actor appearing in the movie.

- Actors are identified by name and date of birth and appear in one or more movies, each actor has a role in the movie.

- Directors are also identified by name and date of birth and direct one or more movies. It is possible for a director to act in a movie (including one that he or she may also direct).

- Production companies are identified by name and each has an address. A production company produces one or more movies.

Design an Entity-Relationship diagram for the movie database.



Draw an ER diagram to model the application with the following assumptions. Specify key attributes of each entity type and (min, max) constraints on each relationship type.

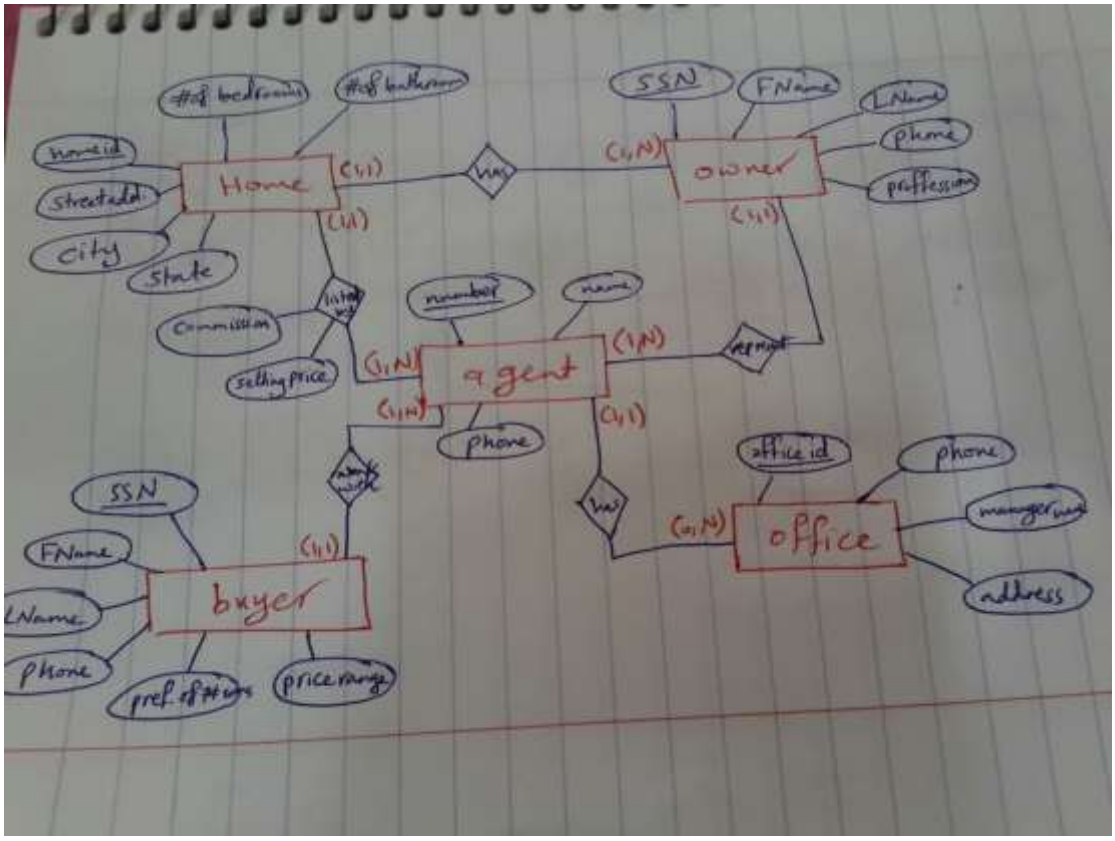
- Each home uniquely defined by home identifier, street address, city, state, a number of bedrooms and a number of bathrooms and an associated owner.
- Each owner has a Social Security Number, first name, last name, phone, and profession.
- An owner can spouse one or more homes.
- Agents represent owners in the sale of a home. An agent can list many homes, but only one agent can list a home.
- An agent has a unique agent number, name, phone number and an associated office.
- When an owner agrees to list a home with an agent, a commission and a selling price are determined.

- An office has office identifier, phone number, the manager name, address and an optional agent number.

- Many agents can work at one office.

- A buyer entity type has a Social Security Number, first name, last name, phone, preferences for the number of bedrooms and bathrooms, and a price range.

- An agent can work with many buyers, but a buyer works with only one agent.



Consider a mail order database in which employees take orders for parts from customers. The data requirements are summarized as follows:

- The mail order company has employees identified by a unique employee number, their first and last names, and a zip code where they are located.

- The customers of the company are identified by a unique customer number, their first and last names, and a zip code where they are located.

- The parts being sold by the company are identified by a unique part number, a part name, their price, and quantity in stock.

- Orders placed by customers are taken by employees and are given a unique order number. Each order may contain certain quantities of one or more parts. Each order has a received date as well as an expected ship date. The actual ship date is also recorded.

Design an Entity-Relationship diagram for the mail order database.