TUTORIAL QUESTIONS

Q1. A company has the following scenario: There are a set of salespersons. Some of them manage other salespersons. However , a salesperson cannot have more than one manager. A salesperson can be an agent for many customers. A customer is managed by exactly one salesperson . A customer can take place any number of orders. An order can be placed by exactly one customer. Each order lists one or more items. An item may be listed many orders. An item is assembled from different parts and parts can be common for many items. One or more employees assemble an item from parts. A supplier can supply different parts in certain quantities. A part may be supplied by different suppliers

i) Identify the list entities, suitable attributes, primary keys, and relationships to represent the scenario

ii) Draw an ER diagram to model the scenario using min – max notation

(Min – Max notation means maximum and minimum cardinalities or max and min number of relationships an entity must participate in)

Q2. Draw an ER diagram based on the following information :

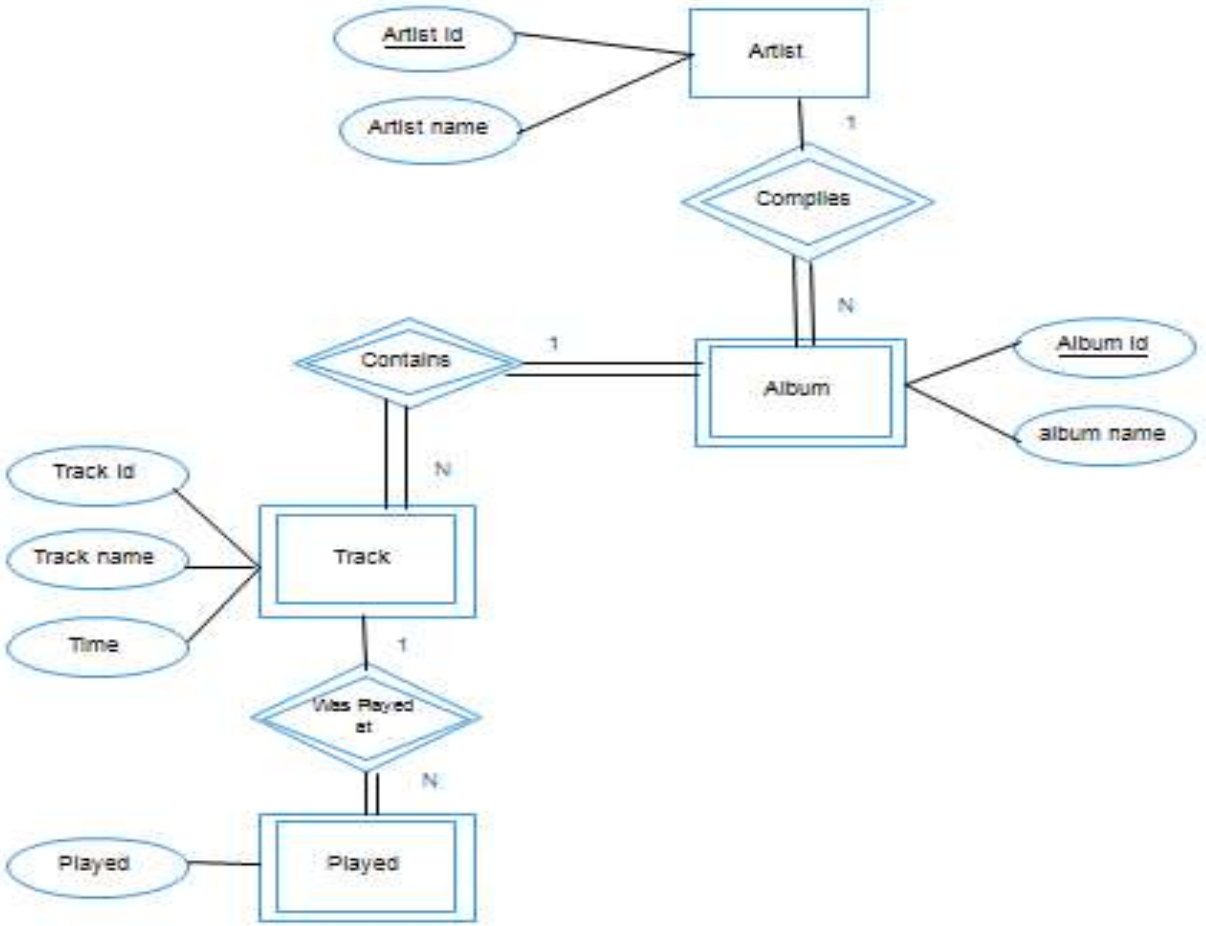
i) Manufactures have a name , which we may assume is unique, an address, and a phone number

ii) Products have a model number and a type. Each product is made by one manufacturer, and different manufactures may have different products with same model number. However, you may assume that no manufacturer would have two products with the same model number.

iii) Customers are identified by their unique social security number. They have email address, and physical address . Several customers may live at the same (Physical) address, but we assume that no two customers have same email address.

iv) An order has a unique order number, and an date. An order is placed by one customer. For each order, there are one or more products ordered, and there is a quantity for each product on the order

Q3. Interpret the following ER Diagram



Q4. Construct an ER diagram for National Hockey Leauge (NHL)

i) NHL has many teams

ii) Each team has a unique name, city, a coach , captain and a set of players

iii) Each player belongs to only one team

iv) Each player has a name, a position, skill level and set of injury records

v) Team captain is also a player

vi) Game is played between two teams(host team and guest team) and has a date and a score

Q5. Consider the ER diagram in below figure, which shows a simplified schema for an airline reservation systems. Extract from the ER diagram the requirements and constraints that produced this schema.. Try to be as precise as possible in your requirements and constraints specification

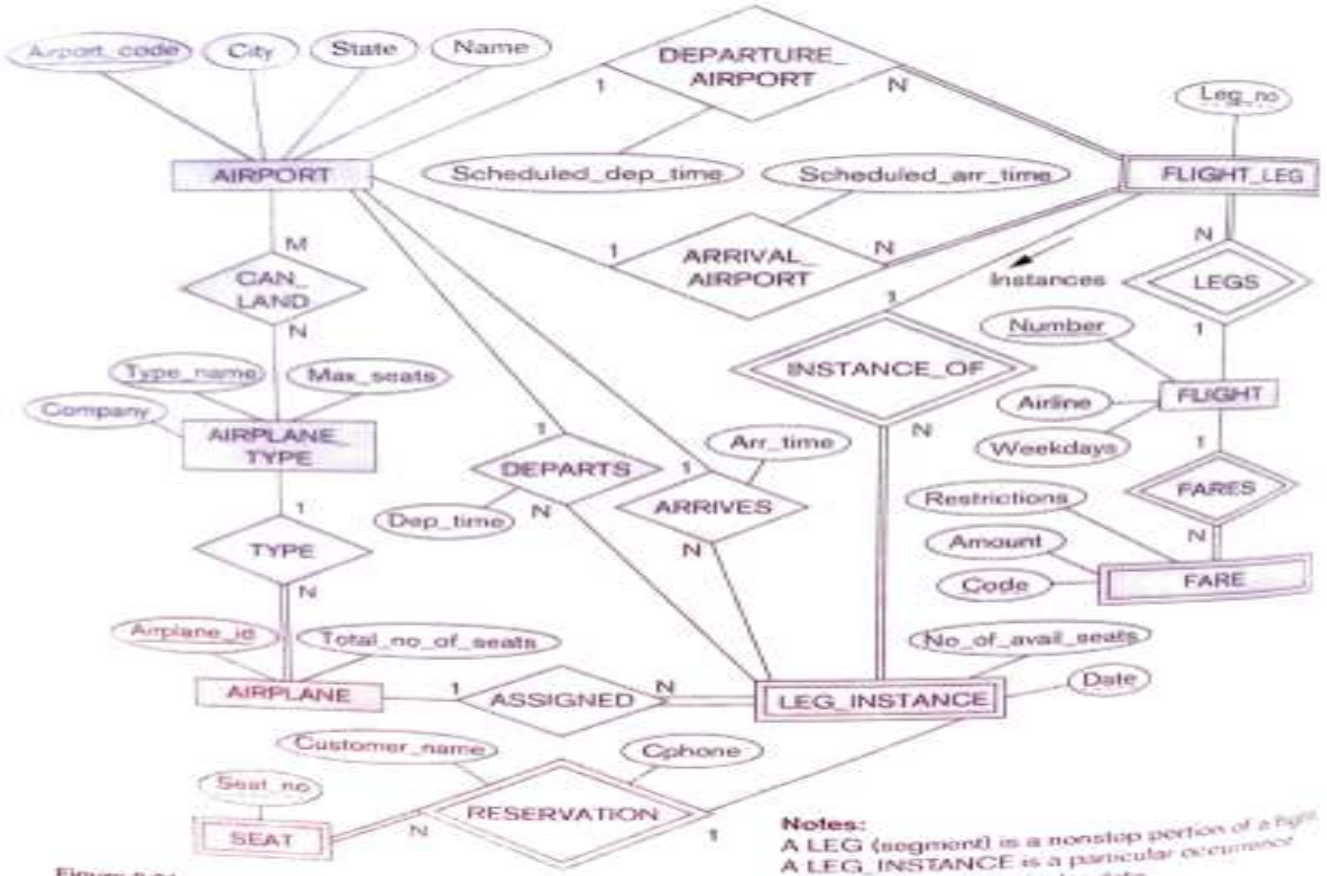


Figure 3.21
An ER diagram for an AIRLINE database schema.