

PWSP DATABASE MANAGEMENT CLASS
DATABASE DESIGN SAMPLE PROBLEMS
FEBRUARY 26-27, 2007
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Draw ER Diagrams for the following problems:

1. Interior Design: An interior designer who specializes in home kitchen designs offers a variety of seminars at home shows, kitchen and appliance stores, and other public locations. The seminars are free; she offers them as a way of building her customer base. She earns revenue by selling books and videos and instructs people on kitchen design. She also offers custom-design consulting services. Her business is in selling products to the attendees at her seminars. She would like to develop a database to keep track of customers, the seminars that they have attended, and the purchases that they have made. Please determine the entities, attributes and relationships that should exist in the database and draw an E-R diagram. (Source: Database Concepts by Kroenke)
2. Purchasing: An organization purchases items from a number of suppliers. It keeps track of the items purchased from each supplier, and it also keeps a record of suppliers' addresses. Items are identified by ITEM-TYPE and have a DESCRIPTION. There may be more than one such address for each supplier, and the price charged by each supplier for each item is stored. Suppliers are identified by SUPPLIER-ID.
3. Hospital: A hospital stores data about patients, their admission and discharge from departments and their treatments, For each patient, we know the name, address, sex, social security number, and insurance code (if existing). For each department, we know the department's name, its location, the name of the doctor who heads it, the number of beds available, and the number of beds occupied. Each patient gets admitted at a given date and discharged at a given date. Each patient goes through multiple treatments during hospitalization; for each treatment, we store its name, duration, and the possible reactions to it that the patient may have.
4. Building: Each building in an organization has a different BUILDING-NAME and a BUILDING-ADDRESS. The meeting rooms in each building have their own ROOM-NO in the building, and each room has a specified SEATING-CAPACITY. Rooms are available for hire for meetings, and each hire period must start on the hour. The hour and LENGTH-OF-USE are recorded. Each hire is made by a group in the organization, and groups are identified by a GROUP-NO and have a CONTACT-PHONE. The equipment required for each hire period also are recorded. Each facility has an EQUIP-NO and a DESCRIPTION.