

### Draw ER Diagrams

1. Consider a music company who has decided to store in a database, information on the musicians who perform for its albums. The following information describes the situation on which the company database must be modeled. **Draw an ER diagram for the situation described below.**

Indicate all key and cardinality constraints on the diagram. The information provided is as follows:

- Each musician that records at this company has an SSN, a name, an address and phone number.
- Each instrument that is used in the songs has a name (e.g., guitar synthesizer, flute) and a musical key (e.g. C, B-flat, E-flat).
- Each album that is recorded on the company label has a title, a copyright date, a format (e.g., CD or MC), and an album identifier.
- Each song recorded at the company has a title and an author.
- Each musician may play several instruments, and several musicians may play a given instrument.
- Each album has a number of songs on it, but no song may appear in more than one album.
- One or more musicians perform each song, and a musician may perform in a number of songs.
- Each album has exactly one musician who acts as its producer. A musician may produce several albums.

2. Construct an ER Diagram for an organization as per following details :

Organization organized into department. Each department has unique name and a particular employee who manages the department. Start date for the manager is recorded. Department may have several locations. A department controls a number of project. Projects have a unique name, number and a single location. organization's employee name, ssno, address, salary, sex and birth date are recorded. An employee is assigned to one department, but may work for several projects (not necessarily controlled by her dept). Number of hours /week an employee works on each project is recorded; The immediate supervisor for the employee. Employee's dependent are tracked for health insurance purposes (dependent name, birthdate, relationship to employee). Organization also interested to keep the details of employees children separately

3. Draw an ER diagram for a medical hospital. Identify Entity type, attributes, relationship etc. appropriately for your model of hospital.