Practice Exercises
Database Systems
BESE 15A

1. A publishing company produces scientific books on various subjects. The books are written by authors who specialize in one particular subject. The company employs editors who, not necessarily being specialists in a particular area, each take sole responsibility for editing one or more publications. A publication is normally written by a single author. When writing a particular book, each author works with one editor to give a final shape to the publication.

Construct an ER-Diagram from the given information. State any additional assumptions that you need to make.

2. Construct an ER-diagram for an enterprise where:
- A department employs many employees but each employee is hired by one department.
- Some employees are not assigned to any department.
- A division operates many departments but each department is operated by one division.
- An employee may be assigned to many projects and a project may have many employees assigned to it.
- A project must have at least one employee assigned to it.
- One of the employees manages each department and each department is managed by only one employee.
- One of the employees runs each division and each division is run by only one employee.

Write all the cardinalities and participation constraints.

3. Draw an ERD from the following information.

- A movie has a title, a year and a length. Since some movies have the same title, it takes a title and a year to uniquely identify a movie.
- A star has a name and an address. A star's name uniquely identifies the star.
- A star can appear in any number of movies.
- Some movies have many stars and some have none.
- A studio has a name and an address, and is uniquely identified by its name.
- A star can belong to at most one studio.
- A studio can own any number of movies.
- A movie is always owned by at most one studio, but some are not owned by any studio.