ISYS 464, (Beckman)
Homework #1: Description

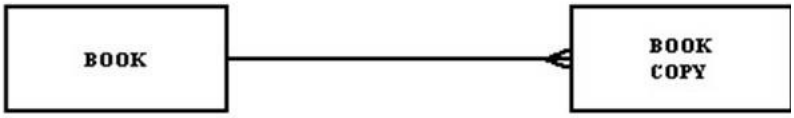
Chapter 1, textbook page 44, "Problems and Exercises, #1".

(5 points)

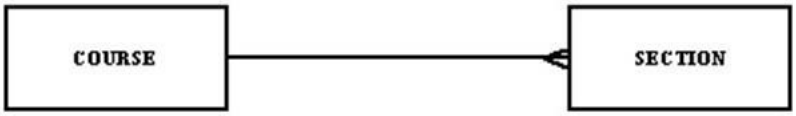
1. For each of the following pairs of related entities, indicate whether (under typical circumstances) there is a one-to-many or a many-to-many relationship. Then, using the shorthand notation introduced in the text, draw a diagram for each of the relationships.
   a. STUDENT and COURSE (students register for courses)
   b. BOOK and BOOK COPY (books have copies)
   c. COURSE and SECTION (courses have sections)
   d. SECTION and ROOM (sections are scheduled in rooms)
   e. INSTRUCTOR and COURSE

a. Many-to-Many:

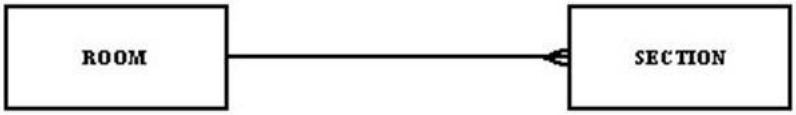
b. One-to-Many:



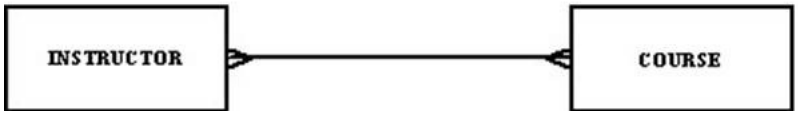
c. One-to-Many:



d. One-to-Many:



e. Many-to-Many:



Chapter 2, textbook pages 105-106, "Problems and Exercises, #19".

(10 points)

19. Emerging Electric wishes to create a database with the following entities and attributes:
    - Customer, with attributes Customer ID, Name, Address (Street, City, State, Zip Code), and Telephone
    - Location, with attributes Location ID, Address (Street, City, State, Zip Code), and Type (values of Business or Residential)
    - Rate, with attributes Rate Class and RatePerKWH

    After interviews with the owners, you have come up with the following business rules:
    - Customers can have one or more locations.
    - Each location can have one or more rates, depending on the time of day.

    Draw an ERD for this situation and place minimum and maximum cardinalities on the diagram. ***Note by Beckman***: you do *NOT* have to "Also draw a data model for this situation using the tool you have been told to use in your course. State any assumptions that you have made."