

SIMS 202 Information Organization and Retrieval: Assignment 7

Readings: Teorey & McFadden, Handouts

The goal of this assignment is to provide you with some basic experience in database design, and to introduce you to Entity Relationship diagrams as a modeling tool.

Access the Web for a bookseller such as Amazon (<http://www.amazon.com>). Use the Web site to determine the three best (in your opinion) books on XML for someone who is just learning that subject. As you use the Web site, think about the structure of a possible database of books, authors, subjects and related topics.

Develop an ER diagram of a book database for this web site. Show your entities (there should be 5-7 of them) and relationships and at least two or three attributes per entity. Indicate minimum and maximum numbers of items for both sides of each relationship. Possible entities are TITLE, AUTHOR, PUBLISHER, COPY, and SUBJECT. Naturally there are many other possible entities and ways of segmenting the information used on the site. Model any multi-value attributes by transforming them into entities (normalizing). You may use sub-types if appropriate.

Transform your ER diagram into a set of relational tables. The tables should be normalized to a minimum of Boyce-Codd normal form.

To keep this assignment manageable, assume that ONLY the books and information about them are to be included in your database. Moreover, constrain the design to the needs of someone looking for books to purchase. Do not consider customer ordering, order fulfillment, purchase ordering, and other such business processes.

Turn in the following:

- The ER Diagram for your database design. You can use any ER diagram notation that you wish. You may want to use a drawing package to do your drawing. One such package is Visio -- under Programs/"Graphics and Publishing" on the Lab network. Another way is to use PowerPoint -- also under Programs/"Graphics and Publishing". We have provided an illustration (next page) showing how to use it to create ER diagrams. Hand-drawn ER diagrams are also acceptable.
- The relational tables needed for the logical implementation of ER diagram as a relational database, each table description should include:
 - Table name
 - Name of each attribute
 - Type of data for each attribute (text, numeric, date, Boolean, etc.)

This exercise is based on one in Database Processing by David Kroenke.

Tips on how to make ER-Diagrams in PowerPoint:

Use the Drawing Toolbar.



Under the Tools menu chose Customize.

Click the Toolbars tab to make it active.

Check the box for Drawing.

Click on Close.

On the Drawing Toolbar click and hold AutoShapes to see menu choices.

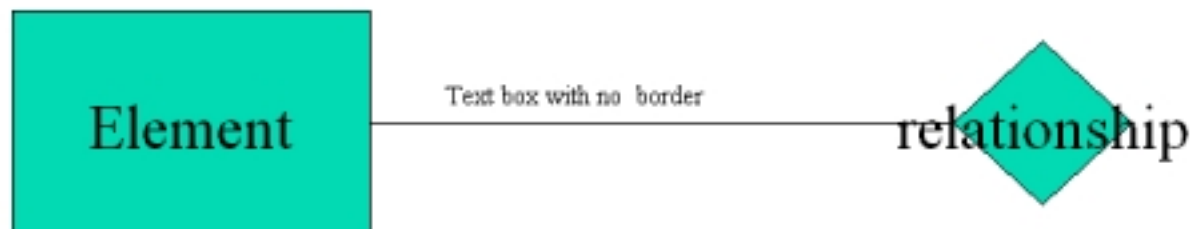
The Flow Chart menu has boxes and diamonds as below.

Connect the boxes with "Connectors" found under the AutoShape menu. Connectors, unlike lines, will stay connected to the boxes even if you move them.

If you click on the boxes or diamonds and type – the text will be centered in the box or diamond.

The  symbol is a text-box. Use it to create the extra text you need.

Once you have the text position where you want it, choose "Group" from the Draw menu on the Drawing Toolbar.



This slide is based on one by Arne Elliot '00