CS6360.004 Fall 2019

Assignment 3 – Create Your Database

Now that you have an ER diagram for the database required by the library system, create the tables using a suitable DBMS. (You may have already done this by using one of the DBMS tools to create your diagram. If so, good, but there’s more.) Refine your design as you create the tables to include anything you might have left out of your diagram. Include foreign key relationships and constraints. Constraints should be as complete as possible. For example, you should probably make sure there are no publication dates in the future or before about 400 CE. There should be no constraints on authors’ names, for example.

We have talked about keys but not indexes. Indexes are created on a field or fields where access speed is important. There is always an index on a primary key, but you can define additional indexes on other fields so they can be searched quickly and so JOIN operations are fast. Define at least one field that is not a primary key that will require an index. **In your comments included as part of the document, explain in a few sentences why you chose this particular field.**

Explain, in your document, any subclass/superclass relationships.

The names of your fields and tables are important. Be sure they are clear and actually identify the data well.

Use the database manager you have installed and tested.

To hand in through eLearning:

1. A new ER (or equivalent) diagram with changes, or the same one if you made no changes.
2. A listing of the various tables and relationships, which the tools will give you. In MySQL Workbench, you can use “reverse engineer.” Ideally this should be a Word document or PDF, not a screen shot, so it’s readable.

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| Grading criteria | |
| Completeness. Your tables are sufficient for the task and for answering questions outlined in the original assignment. This includes 10 points for the additional index. | 50% |
| Relationships. There must be no tables that do not tie correctly to other tables through foreign-key relationships. | 40% |
| Clear naming conventions | 10% |

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| Grading Rubric | |
| Missing a required relationship between two tables: | -5 each |
| No additional keys defined. | -10 |
| Tables would have excessive nulls | -10 |
| Design imposes limits on, for example, the number of people in a family, etc. | -10 |
| Data duplicated in more than one table. For example, a person’s name should be in exactly one table. | -20 |