Database Theory and Applications for Biomedical Research and Practice (BMIN 502/EPID 635)
Spring 2019
Assignment 6: Implementing a clinical trial database for ABIC- in MySQL!

We will be working with the ABIC database in MySQL over the next several weeks. During that time we will be do all sorts of good things, like joins, queries, triggers, updates and deletions, and data security. However, we need to create the database connection first, and then, using the MySQL Workbench, model and implement the ER model you created for Assignment 2. So, here are the steps for this assignment.

1. Install MySQL and MySQL Workbench!
2. Make sure that MySQL is running as a service.
3. Start the Workbench
4. Create a new database connection. Call it "MyABIC". If you have any doubts about this, see the handout "Creating a new database connection".
5. Create a new model (from the main menu, click `File|New model`). This will create a new tab called "MySQL Model".
6. In the Physical Schemas pane, double click on Add Table. This will bring up a template for you to add fields to this table. First, name it, though- enter `Patient` into the Name: slot.
7. In the template, double-click on the column right under "Column". Enter `PatientID`. Then:
    a. Datatype: explore the list via the pulldown, but use INT(6)
    b. Check the following:
        i. PK (Primary key)
        ii. NN (Non-null)
8. Continue adding the rest of the fields in your Patient table. Select the Datatype you think is appropriate.
9. Add a new table, called Admission
    a. This time, both PatientID and AdmissionDate (and AdmissionTime, if you used this) need to be identified as PK fields.
    b. Add the rest of the fields from your Admission table
10. Create the EER (Enhanced E-R) model by clicking on `Model|Create Diagram from Catalog Objects` on the main menu. You should have your Patient and Admission tables on the model diagram.
11. Create a relationship between Patient and Admission. On the left side of the window, you will see a list of objects. About halfway down, you will see the various relationship connectors you can use. You want to select the solid-line 1:n relationship. This is called an "identifying relationship" because is links two PKs. Click on this icon, then click on the many-side table (Admission, right?). Then click on the one-side, Patient. You will see the relationship, with the crow's foot on the Admission table and the bar on the Patient. Cool, huh?
12. Now, save a .pdf of the diagram for submission as your assignment. Click on `File|Export|Export as Single Page PDF`. Save the file as **yourlastname_BMIN502_19_6**. Check your file to make sure it exported correctly- it will be a graphic of the model. Then, submit to Canvas for Assignment 6 by 9am, 3/19.

You will find Chapter 9 of the MySQL Manual very helpful:
https://dev.mysql.com/doc/workbench/en/wb-data-modeling.html