READ THIS FIRST:

Do your best to do every item on your own; if you cannot immediately do an item, go on to others and then come back to it later. Please ask your professor whenever you have a question.

Due: Wednesday, April 13, 2016.

Goals:

- To continue being amazed about the art and science of normalization.
- Work hard for lab points.

Scenario: You have been hired as a database consultant by Mixar studios to work in the casting department for the next Matrix film. They need a new Neo because he-who-must-not-be-named is clearly getting old, but you are never old in the Matrix, right? So, they want a database of actors, the movies in which they have appeared, and the director of those movies. They have collected the following data for your use:

Actor Data: name, address, birth date, hair color, eye color, height in inches, weight, spouse name, favorite color, screen actors guild anniversary date.

Movie Data: name, year released, MPAA number, domestic box office sales, foreign box office sales, DVD/Blu-ray sales.

Director Data: name, address, spouse name, film school attended, directors guild anniversary date, favorite lens maker.

Deliverables: Build this database. You may add or rename any fields you like. You must create a relational database in Boyce-Codd normal form (BCNF). Document your database with ...

1. A fully decorated and aesthetically beautiful E/R diagram.
2. SQL create statements for each table.
3. Functional dependencies for each table.

   Then ...
4. Write a query to show all the directors with whom actor "Keanu Reeves" has worked.

Hints: This is not as easy as it sounds. There are more than three tables. Impress me by using entity subtypes to better represent the model. Remember:

- Several actors can appear in the same movie under one or more directors.
- Actors can also be directors, and therefore directors can also be actors.
- Sometimes there is more than one director for a movie.

Resources:

- Chapter 3 in our textbook
- Normalization tag at Stack Overflow: `http://stackoverflow.com/questions/tagged/normalization`
- Microsoft on Normalization: `http://support.microsoft.com/kb/283878`

Submission: Submit your work as a PDF. (Only PDF Eiles will be accepted.) Push it to your GitHub repository before the due date. Remember to include your name and date. Neatness counts.