**Problem Set 5: Applying Database Design Principles**

*For this problem set, you will use your locally installed Postgres database.*

Design a database to store information about a data domain of your choice. Some ideas include: your music collection, Oscar-winning movies, Pulitzer-winning books, university classes, U.S. Presidents, world leaders, World Cup winners and losers… et cetera.

**Part I**: Requirements Gathering & E-R Diagram

* *Deliverable 1*: 250-word executive summary defining (1) the data your database intends to store, (2) the users of your (future) database, (3) example questions your database should be able to answer, (4) how your schema, as shown in your E-R diagram, addresses all of the users’ stated needs.
* *Deliverable 2*: An E-R diagram for your database schema. You should have at least 5 entities. Show all relationships and cardinalities between connected entities.

**Part II**: Database Schema

* *Deliverable 1*: CREATE TABLE statements for each relation and attribute shown on your E-R diagram, with appropriate data types and constraints applied. All tables should have a specified primary key and should be in 3NF.
* *Deliverable 2*: At least 3 SELECT statements against your data that would answer some of your potential questions from Part I. You are not required to load data into your database, but you are welcome to do so if it helps you to test your queries.

**Grading Rubric**

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| **%** | **Item** |
| **15** | Executive summary is clearly and professionally written and covers all required topics. |
| **30** | E-R diagram contains at least 5 entities and shows relationships and cardinalities. |
| **30** | CREATE TABLE statements are syntactically correct, run without error, and have datatypes and constraints specified. |
| **10** | Created tables are in 3NF. |
| **15** | SELECT statements are syntactically correct and run without error. There are at least 3 SELECT statements. |