



Northeastern University

MySQL Database Schema and database programming objects (maximum: 25 Points)

Provide a self-contained dump file of your database. This file should contain all necessary DDL and DML for creating your database. Please include tuples within your database so the system can be easily evaluated. (For example it should contain the create commands for the objects within your database: tables, indexes, constraints etc. It should also contain a dump of the data as well as the user-defined functions, procedures and triggers). The schema should contain the following:

1. SQL: There should be at-least 6 tables in your SQL schema. All tables should be normalized to 3rd normal form. There should not be any unnecessary redundancy in your tables. (1-5 Points)
2. Tables should have a primary key and if applicable foreign keys representing relationships in your class diagram. (1- 5 Points)
3. Project is modular and uses server side user defined functions, procedures, triggers, events. Front end code does not contain excessive SQL code. (1-5 points)
4. Provide integrity constraints such as action to be performed for foreign keys ON DELETE, ON UPDATE clauses within the foreign keys in the tables. Also provide additional constraints on fields that are not part of the key (1-5 Points)
5. Error handling (1-5 points)
6. BONUS POINTS: Complicated schema – user data pull requires multi-joins, or many tables (> 10) due to the complexity of the data domain (1-5 points)
7. BONUS POINTS: Identifying fields for secondary indexes. (1-5 points) Succinctly justify your index choice within code comments.
8. BONUS POINTS: Difficult process for data extraction (1-5 points) **(Total bonus points that can be allotted for the project is 5 points)**

MongoDB Database Schema (25 points)

1. The schema should contain all necessary data/commands for recreating your database. It should identify the containers of the system, the embedded objects and containers that may reference other documents. You should have at least one container in your MongoDB database with an embedded object or an array field. Schema should identify known optional fields. (15 points)
2. Provide integrity constraints on data stored. Also provide additional constraints on fields that are not part of the key (1-5 Points)
3. Database programming objects defined using the Mongo DB API (1-5 points)
4. Error handling (1-5 points)
5. BONUS POINTS: Identifying fields for secondary indexes. (1- 5 points) Succinctly justify your index choice within comments in your code.

Please provide a self-contained dump of your database. **The file should be named lastname_final_report.sql, where lastname is your last name for an SQL database.**