601.315 Databases, Spring 2022
Project Phase D: Queries
Due: Tue, 26 Apr at 11pm. Use of late days *is NOT* permitted.

Part 0: Updates Since Phase C. Since your Phase C submission, if you've made a shift in topic direction, included additional data, or made some other change to your plan, please write a few sentences to let us know, and explain why the change has occurred. Please also mention if you have discussed these changes with your mentor. If no modifications were needed, simply note that as your response for this part. Place your response in a file named `README`. Feel free to include in this file any other information you think your CA mentor or the instructor should know.

Part 1: Queries in SQL. Based on the database you created using your setup scripts in Phase C, write and test queries on your database written in SQL for at least 15 different questions you'd like to be able to answer. Implement queries corresponding to the most interesting questions from the list you created in phase A. (If your project has changed significantly since that phase, aim to supply 15 queries of at least an equivalent difficulty level.) Name your text file `queries.sql`, and using comments in your SQL script file, number each query you write, and include a comment before each one describing the question in English, so we can see what question your query is aiming to answer.

Part 2: Insertions and Deletions of Tuples. In a text file named `updates.sql`, write appropriate SQL statements that can perform a useful insertion of a new tuple into your existing database. Assume this tuple is getting inserted after the setup script has been run and the database has been deployed. Choose to insert into a table which already has foreign key constraints in place if possible. Make sure your insertion statements can handle the two cases where 1) all values in the new tuple corresponding to foreign keys reference existing tuples in the other tables, and 2) when at least one of the values in the new tuple doesn't reference an existing tuple in another table, so you need to insert a tuple in the other table before you can proceed.

Additionally, write appropriate SQL statement(s) to delete a specified tuple from a table in your database. Make sure you understand how your database settings handle any foreign key values impacted by the deletion. Indicate the behavior in an SQL comment placed below the deletion command. Include comments in the file to denote the insertion portion and the deletion portions of your code.

Deliverables. Make sure that each of the following files is included, and named as specified.

- `README`

- `queries.sql`

- `updates.sql`

- If any files from Phase C have been updated since you handed them in, include a new copy of your setup scripts with all relevant data files. If no changes have been made, you need not resubmit these. (If you're not sure if anything has changed or not, please resubmit everything!)

The top of your `README` plain text file must list the names and JHED IDs of each partner. Likewise, the first several lines of the script (*.sql*) files should be comment lines specifying each partner's name and JHED.

Submit your work via Gradescope by the deadline listed above for Phase D. One partner will submit the work as a team submission upload, and will indicate all partner names. Therefore, only one partner should submit.