

CSE 3241 – Final Exam Assignment

General

You will create a set of SQL script files (plain text files with an extension of “.sql”) which will be bundled into a single zip file named **FinalExam.zip**. This zip file is to be emailed to the instructor *before* 9:45 PM (Eastern) on Thursday, April 30. Late submissions will not be graded.

Each SQL script file needs to contain a comment block at the top with your name, and OSU dot number.

This is an individual assignment. Any suspected breach of this requirement will be dealt with harshly. I am completely serious on this point.

The Assignment

The RelationalModel.pdf file contains a relational model. It shows relations, attributes, primary keys, and foreign keys.

File *Part1.sql* is to contain all of the SQL statements necessary to create the database artifacts that are represented in this relational model. Assume that this file will be executed in its entirety.

File *Part2.sql* is to contain all of the SQL statements necessary to accomplish the following (assume that this file will be executed in its entirety) (add comments to denote which part of the assignment each statement(s) is addressing):

- a. Change the Office column in the SCHOOLS, DEPARTMENTS, and FACULTY tables so that they are foreign keys to the ROOMS table.
- b. Change the structure to allow the system to track major(s) and minor(s) for each student. Each major and minor will match to a department.
- c. Change the structure to allow the system to track which sections of a course were offered for each semester, in which room it took place, number of students enrolled, and who taught it. A section is a particular instance of a course. Do not worry about meeting times and days and assume one faculty per section.
- d. Change the structure to allow the system to track the student’s academic history. Which sections were taken, and which grade was received.

File *Part3.sql* is to contain SQL statements that will add records to each of the tables. Include 5 records for each table. Assume that this file will be executed in its entirety.

File *Part4.sql* is to contain SQL statements that will do the following (add comments to denote which part of the assignment each statement(s) is addressing):

- a. Add a required column named IsClassroom to the ROOMS table to serve as a Boolean
- b. List all rooms (include the building name) in which the CSE department taught classes at any time in the 2019 academic year. Include the semester, course name and the faculty name.

- c. List, for every section offered in the 2019 academic year, the number of unused seats. Include the semester, course information (department, code and name) as well as the name of the faculty who taught it.
- d. Create a complete transcript for all students who are majoring in MATH. The transcript contains the semester, course information (department, code and name) and grade for every section that student has taken.
- e. Remove the Philosophy department (PHIL) from the system.