

CSCI-201: Principles of Software Development

Spring 2022

Lab7: SQL

Introduction:

In this lab you will get experience writing SQL scripts to access MySQL database.

Implementation:

You will need to add two new tables into provided lab7.sql script. First you will create the *Student* table with the following data, where SSN is the primary key and deptPrefix is a foreign key. Second, because we do not know which faculty members are teaching which courses, you will create the *TaughtBy* table with these columns: an ID that will serve as the primary key and is AUTO_INCREMENTed upon new entries, the courseID and the corresponding faculty member's SSN. Read the tutorial from <https://www.w3schools.com/sql/default.asp>

Student

| SSN | firstName | mi | lastName | deptPrefix |
|-----------|-----------|----|-----------|------------|
| 444111110 | Jacob | R | Smith | BIOL |
| 444111111 | John | K | Stevenson | BIOL |
| 444111112 | George | R | Heintz | CS |
| 444111113 | Frank | E | Jones | BIOL |
| 444111114 | Jean | K | Smith | CHEM |
| 444111115 | Josh | R | Woo | CHEM |
| 444111116 | Josh | R | Smith | BIOL |
| 444111117 | Joy | P | Kennedy | CS |
| 444111118 | Toni | R | Peterson | MATH |
| 444111119 | Patrick | R | Stoneman | MATH |
| 444111120 | Rick | R | Carter | BIOL |

TaughtBy

| ID | courseId | SSN |
|----|----------|-----------|
| 1 | 11111 | 111221111 |
| 2 | 11112 | 111221111 |
| 3 | 11113 | 111221111 |
| 4 | 11114 | 111221115 |
| 5 | 11115 | 111221110 |
| 6 | 11116 | 111221115 |
| 7 | 11117 | 111221116 |
| 8 | 11118 | 111221112 |

Write a SQL statement for each of the following:

- a) Print all of the CONCATENATED first names, mi, & last names as a column called "Full Name" Print out all of the course numbers offered.
- b) Print the count of students in each department.
- c) Print all of the student first names and last names whose first names start with 'J' from 'Student'.
- d) Print the first name, middle initial, last name, ranking and courseID taught by each faculty member (you MUST use the INNER JOIN keyword) and ORDER BY first Name.
- e) Print all of the course titles and grades for George using his SSN 444111112 (you may NOT use the INNER JOIN keyword).
- f) Print all enrolled students first names, mi, and last names, course title, date registered for course, and grade in course. (HINT: This is an INNER JOIN with three tables).
- g) Delete Jacob R Smith from 'Student' using his SSN: 444111110.

Grading Criteria:

Labs are graded based on your understanding of the course material. To receive full credit, you will need to 1) complete the lab following the instructions above **AND** 2) show your understanding of the lab material.

If there is a discrepancy between your understanding of the material and your implementation (i.e. if your code is someone else's work), you will receive a grade of **0** for the lab. Please note, it is the professor's discretion to report the incident to SJACS.

Deduct one point for each incorrect table or SQL query.