

Secure Coding (CNT 4419)
Assignment III

Objectives: To gain experience writing SQL statements.

Due Date: Sunday, May 3, 2026, at 11:59pm. No late submissions will be accepted.

Assignment Description

Complete this assignment by yourself. While doing this assignment you will need a Database Management System (DBMS) to process SQL queries. To this end, please use SQL Fiddle (<http://sqlfiddle.com/>), a website that provides access to a DBMS and allows developers to test and share SQL statements. SQL Fiddle offers several DBMS options; please use the MySQL option.

Create at least 3 related tables for a realistic scenario that you invent. Examples might include systems such as a gym membership database, a campus bookstore checkout system, etc.

Your tables must:

- Include **primary keys**
- Include **at least one foreign key relationship**
- Contain **at least 5 unique rows per table**

Write **8 different SQL queries** that illustrate the following features:

1. SELECT *
2. LIKE
3. GROUP BY
4. OFFSET
5. UNION
6. (INNER) JOIN
7. LEFT JOIN
8. RIGHT JOIN

Each of your 8 queries must be unique and must return a unique data set different from the result of all of your other queries. For example, your LEFT JOIN query (#7) should clearly demonstrate how it is different from an INNER JOIN (#6).

Important: The example tables, data, and queries you create are up to you. This assignment requires you to be creative and come up with your own compelling examples. Do not use any examples from class or that you find online, or that any tool generates for you. Your examples must be different from those of your classmates, from those of previous students, and from examples online.

Explain each of your SQL statements by including a comment before that statement. Comments may begin with '#' or '-- ' (note the space after the two hyphens) and continue to the end of the line, or may appear within the C-style delimiters '/*' and '*/'. Comments should include the number of the feature/keyword being used (e.g., "This query uses Feature 1 to ..."). Comments must appear before, not after, each statement.

Submit your SQL code in Canvas in a file called *a3.sql*.