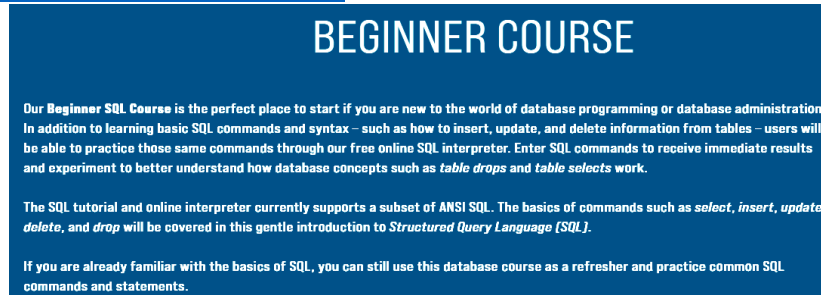CSC 400, SQL Tutorial, Spring 2024

Databases and Data Warehouses share similar architecture, and many query languages are built on SQL or extend SQL, so in this course we will look at some SQL basics to provide students with some (limited) experience working with SQL queries.

To facilitate this introduction, we will use a free online SQL course at
https://www.sqlcourse.com/beginner-course/

BEGINNER COURSE

Our **Beginner SQL Course** is the perfect place to start if you are new to the world of database programming or database administration. In addition to learning basic SQL commands and syntax – such as how to insert, update, and delete information from tables – users will be able to practice those same commands through our free online SQL interpreter. Enter SQL commands to receive immediate results and experiment to better understand how database concepts such as *table drops* and *table selects* work.

The SQL tutorial and online interpreter currently supports a subset of ANSI SQL. The basics of commands such as *select*, *insert*, *update*, *delete*, and *drop* will be covered in this gentle introduction to *Structured Query Language (SQL)*.

If you are already familiar with the basics of SQL, you can still use this database course as a refresher and practice common SQL commands and statements.

There are several nested "courses" inside the beginner course.

The first two "courses": What is SQL? And Table Basics are mostly descriptions of broad information about relational databases and SQL itself that we will mostly cover in class. The remaining sections allow you to use SQL commands to complete various tasks on a database.

COURSES

- What is SQL?
- Table Basics
- Selecting Data
- Creating Tables
- Inserting into a Table
- Updating Records
- Deleting Records
- Drop a Table

For this assignment, you will need to complete the sections on **Selecting Data, Creating Tables**, and **Inserting into a Table**. After completing those, go to the advanced course here:

- Advanced SQL Tutorial Introduction
- SELECT Statement
- Aggregate Functions
- GROUP BY clause
- HAVING clause
- ORDER BY clause
- Combining Conditions & Boolean Operators
- IN & BETWEEN
- Mathematical Functions
- Table Joins, a must

https://www.sqlcourse.com/advanced-course/ and complete any **three sections** (not including the Advanced SQL Tutorial Introduction—you should read it, but it doesn't have any interactive lessons). Choose from: *SELECT Statement, Aggregate Functions, GROUP BY clause, HAVING class, ORDER BY clause, Combining conditions and Boolean operators, IN & BETWEEN, Mathematical Functions*, and *Table Joins*.

What to submit: document your progress through the sections. Document your queries and their results (they should work before you move on for full credit).

Collect all your screenshots or copied text into a single document to submit. You should indicate which section is being represented. This assignment is due about two weeks before the course ends, but you are free to work on it throughout the course so you don't have to do it all at once at the end. This assignment is worth 40 points.