CIS 5355
Exam 1 Review Sheet

Questions on the first exam will be selected from the following material:

1. Material covered in learning Modules 1 through 5.
2. Assigned Textbook Reading (page numbers are indicated in parentheses)
    a. Ch 1 complete,
    b. Ch 2 (34-44),
    c. Ch 3 (69-77,86-98), and
    d. Ch 7 (244-310, 317-319)
3. External Resources:
    a. All external/additional resources, including web articles and videos) listed in Learning Modules 4 and 5
4. Class Demos:
    a. DML SQL Jan 18-25 Class Solution.sql (module 2)
    b. CIS5355Spr2022-Lec-Feb-1-AfterClassMeeting With SQL code.sql (Module 3)
    c. DML SQL Feb 8 - ClassDemo Complete.sql (Module 4)
    d. SubQueries-complete.sql (Module 5)
5. Assignments:
    a. Assignments # 1 through 4.
6. Exam 1 Format:
    a. Exam 1 will be given in in-person format. Students will have to be present in the classroom to take the exam. Round Rock section will meet in Avery 355 while the San Marcos section will meet in MCOY 332 (not in DERR 114C as scheduled). If you are not present in the classroom, you will be marked as absent on the exam and receive a grade of zero.
    a. Exam 1 will be given in two parts.
    b. Part A will comprise of written answers (may include True/False, multiple choice, and writing SQL statements based on provided ERD and without the use of SSMS). This part is closed books and notes, and without the use of a computer to test your queries). Part A is largely based on concepts as presented in the textbook and class demos. You have to turn in Part A before you can begin Part B.
    c. Part B will comprise of hands-on component and will be handed out only after Part A has been turned in. Part B will require you to access the database via SSMS and write SQL queries to given problem statements. **You may ONLY use your textbook and notes on this part.** Web resources, other than the e-version of your textbook, are still NOT permitted. If students are found accessing non-sanctioned web resources, it will be treated as a case of academic dishonesty and handled according to the policies in the syllabus. Involved students will be asked to turn in their exams and leave the exam room.
    d. Please refrain from providing multiple answers to a question. Only the first response/alternative answer provided will be graded. The rest of the alternative answers will be ignored and not graded.

7. How to Prepare for Exam 1:

    a. **PART A**: You have to read the assigned material as indicated under bullet points 1-3 to be able to answer conceptual questions. Part SQL questions, you need to know how to formulate simple SELECT queries based on ERD diagram. In addition, you need to basically commit to memory the basic SQL syntax for writing SELECT queries - simple queries to retrieve data from a single table as well as simple join operations. Again, stick to standard, explicit syntax demonstrated in class.

    b. PART B:

        i. I would strongly encourage you to review all class demos and examples presented in the textbook. Understand the contextual meaning behind the questions being answered and why we formulated the SQL queries the way we did.
        ii. Part B will look very similar to the weekly assignments on chapter 7.
        iii. Questions will ask you to formulate and execute SQL SELECT queries to retrieve data from a single table as well as multiple tables using appropriate join type. SQL queries using subqueries may also be asked. Therefore, reviewing and understanding the examples from class demos and textbook will be very helpful.
        iv. Consult your on your textbook and notes ONLY for the SQL syntax so that you do not have to commit those to memory. You may not have run out of time on Part B if you start searching the text/notes for help on a solution.
        v. Above all, practice to build SQL queries step by step so that complex queries do not become overwhelming.
        vi. On SQL queries involving multiple tables, think of using "joins" over 'subqueries'. Use subqueries ONLY if there is no way to answer the question using 'join' or unless the question explicitly asks you to use a subquery.

8. Join Syntax:

    I would also strongly recommend that you use the JOIN syntax that is compliant will ANSI-SQL SQL-92 and later standards, which separates the condition on which tables are joined from the conditions that are used for filtering records retrieved. This is also known as EXPLICIT JOIN or JOIN ON and is discussed on pages 260-266.

    The "Old-Style" joins discussed in section 7-6e (pages 275-276) should be avoided and not recommended per the reasons given on page 276. In addition, using this join syntax, it is very difficult to see if the query is performing an inner or outer join. This one reason why this syntax was not recommended for inclusion in the ANSI-SQL SQL-92 and later standards. In fact, most DBMS manufacturers are recommending against the use of this syntax. While Microsoft has indicated that it will deprecate this syntax from SQL Server 2008 onwards, they , like most other DBMS manufacturers, have not completely removed it ONLY for backward compatibility so that older applications do not break. But

each major DBMS developer that subscribe to ANSI standards (which is practically all, including Microsoft, Oracle, and MySQL, etc.) recommend against its use.

The authors include discussion of this syntax in the textbook ONLY to draw your attention to the potential problems this style of Join syntax can lead to.