INST733 – Database Design

Assignment 1 - See Canvas for the deadline

Instructions

Read the full set of instructions and make sure that you understand them all before starting working on the assignment. You may lose points if you do not follow all of these instructions.

- Submit your assignment as a whole by the deadline stated on Canvas. If you miss the deadline, you will lose points. The following scheme applies to late submissions:

- After the deadline, but within 3 hours of it	10% reduction of base grade; (max grade possible is 90 of 100.)
- More than 3 hours after the deadline, but within 24 hours of it	20% reduction of base grade; (max grade possible is 80 of 100.)
- More than 24 hours after the deadline, but within 48 hours of it	40% reduction of base grade; (max grade possible is 60 of 100.)
- More than 48 hours after the deadline	100% reduction of base grade; (i.e., graded as 0.)

- If the deadline is at 11:00PM, a submission on 11:01PM is subject to 10% reduction; a submission on 2:01AM is subject to 20%, etc. The Canvas timestamp is the time the submission is made. Late submissions due to technical issues with Canvas, computer crashes, power outages, etc. are still considered late submissions and are not excused. To avoid such problems, submit your work well in advance of the deadline.

- The assignment will remain open for late submissions for 48 hours after the deadline.

- You will use the *ap*, *ex,* or *om database* to answer each of the questions in this assignment, as stated in the given question. If you have not built the three sample databases on your server, download the script file create_databases.sql from Canvas and build them on your server before starting your work on the questions. If you already have the ap and the ex databases on your server, but have made changes to the data or the structure of either database, you may want to drop the existing copies from your server and rebuild the databases. Please contact the instructors if you encounter problems downloading or running the database script.

- Submit your answers via Canvas (ELMS) using the link on the Assignment 1 page by the deadline. Copy and paste all queries in a plain text file named *yourlastname_A1_queries.txt*; for example *diker_A1_queries.txt*. The text file should not include any formatting tags, automatically added metadata, etc.; so, make sure that you use an application that will save your file as a plain text file. (Examples: Text Wrangler, Notepad++, and BBEdit. Contact the instructors if you have questions about what application to use.)

- State in your text file what query is the answer to what question by numbering them within comment delimiters. For example:

  ```
  /*Answer 1*/
  SELECT * FROM ex.projects;
  ```

- Ensure that your queries replicate the sample result sets in the figures exactly, matching all data and format aspects; otherwise you will lose points.

- For this assignment, you are not allowed to use the following keywords or structures. You will lose points if you do so. You are advised to review your answer queries to make sure that they do not involve any of the following:

  a) The *BETWEEN* keyword.

  b) The *IN* keyword.

  c) The *LIKE* keyword.

  d) The *LIMIT* keyword.

  e) Exact match conditions to filter result rows. For example, you cannot use

  ... *WHERE last_name = "Smith" ...*

  or

  ... *WHERE last_name <> "Smith" ...*

  or

  ... *WHERE last_name < "Smith" OR last_name > "Smith" ...*

  However, filtering conditions that use inequality conditions to include or exclude a range of values are OK to use, and may actually be necessary in some cases. For example, feel free to use

  ... *WHERE account_balance > 500 AND account_balance < 4000 ...*

  or

  ... *WHERE last_name > "D" AND last_name < "N" ...*

f) Filtering conditions that compare the primary key values of a table to one or more specific values. For example, you cannot use

… WHERE customer_id < 7 …

or

… WHERE customer_id = 7 …

However, filtering conditions that compare the PK values of two tables is OK to use, and may actually be necessary in some cases. For example, feel free to use

… WHERE customers.customer_id = orders.customer_id …

g) Each answer should be a single query with no embedded subqueries. The only exception to this rule is a set of <u>two</u> SELECT queries that are bound using a UNION keyword. For example, you can use

SELECT …
UNION
SELECT …

You are not allowed to bind more than two queries using the UNION keyword in this assignment.

- Contact the instructors immediately if you think there is an error in any of the questions or the instructions, or if you feel more clarification is needed.

- <u>This and all remaining assignments in this course are individual-work</u>. You may discuss with others about how to approach a question, or how to structure your solutions overall, but each student must develop their own queries. Copying and pasting others' code would constitute academic misconduct. As required by University of Maryland regulations, all cases of misconduct are reported to the Office of Student Conduct irrespective of scope and circumstances.

- The instructors are the best source for help while working on this assignment. Feel free to seek the instructors' help at any time, as needed. You can work with the instructors when you get stuck, or you are not sure that what you are doing is the correct approach to building these queries. Please attach the relevant code to your messages, even if the queries do not work.

- There are 3 questions in this assignment, and they contribute slightly differently towards the overall score on this assignment, as stated next to each question.