Database Systems 10127
Alternative Evaluation

Due Date: August 14th, 2025

You may do the project alone or in groups of two or three students. No bigger groups are allowed.

In this project, you will use your favorite AI tool (LLM) in the process of building a database. Use the LLM in every stage of this project (design, create and query). Read and understand the solutions it offers. You may need to modify these suggestions, by yourself or with the help of AI. Please save all your session(s), because you will need to **turn in a file that contains your conversation with the LLM.**

1. Topic – select one of the following:
   - Medical clinic management system
   - Taxi station management system
   - Sports center management system
   - City library management system

2. ERD and tables:
   a. Use an LLM to help define Entities, Relationships and Tables.
   b. There should be at least four related entities.
   c. Verify that the tables are normalized.
   d. Draw an ERD for your system.

3. Create and populate the database
   a. Create the database with CREATE commands. If you use the LLM, do not forget to save your conversation.
   b. Fill the database with data
      i. Use the LLM to help you generate or find relevant data
      ii. 20-30 rows per table
   c. Add at least one trigger to your database

4. Querying the database
    a. With the help of the LLM, write at least ten (10) non-trivial questions to ask your database.
    b. For each question, write the SQL statement that answers the question
    c. Your queries should include at a minimum:
        i. Two simple queries with SELECT and WHERE
        ii. Two queries involving JOIN of two or more tables
        iii. One query with GROUP BY and aggregation
        iv. One query with GROUP BY and HAVING
        v. Two nested queries
    d. Write at least one query that makes changes to the database and triggers the trigger you created in part 3(c).

5. Turn in to Moodle a folder containing
    a. A text file that contains your entire interaction with the LLM throughout the project.
    b. An ERD for your database.
    c. A file containing the SQL code used to create the database and fill it with data.
    d. A file containing the queries you wrote.
    e. A reflection on your interaction with the LLM.
        i. What responses were useful?
        ii. Were any responses misleading?
        iii. Did you have to make any major changes? If so, what?
        iv. How did you verify correctness?