CS 5423 – Principles of Database Systems

Database Project – Part II

Create a database for the enterprise you specified in Part I. Although your database will be based on your design submitted in part I, some changes to your specification in Part I are permitted. If your database is going to be completely different from what you specified in part I, contact the TA. You may use any language of your choice.

Install MySQL on your machine and create the database you specified in part I.

IMPLEMENTATION

A. Create relations (or tables) from the ER diagrams you generated in part I.
   Identify the primary and foreign keys
B. Normalization
   Normalize the relations to BCNF (Boyce Codd Normal Form)
C. The front end application of the database should be a user friendly interface/webpage. Implement this user interface which will be used by a non-technical person. The user of the system does not know programming or SQL. You may any language of your choice.
D. Create the database you specified in parts I and II.
   In addition to SQL queries for creating relations, your database should include the following SQL queries:
   a. A query with a 'GROUP BY' clause
   b. A query with an inner join
   c. A nested query
   d. A query with 'ALL' or 'ANY'
   e. A correlated sub-query
   f. A View
   g. A Trigger
   h. At least one stored procedures called using a high level language
   i. Embedded SQL in a high level language
E. Connect your web application to the database and render the database so that the user can access and use the database

Deliverables

1 Submit on canvas a report (3 pages maximum, excluding Appendix):
  1.1 That describes the implementation of your database. This section should
    1.1.1 Explain your implementation at a high level, the tools and language(s) used.
  1.2 Appendix (no page limit)
    1.2.1 Include up to 5 screens shots with 1 or 2 line explanations of the screenshots.
    1.2.2 Normalized tables. For each table, justify that they are in BCNF.
    1.2.3 commented SQL code
    1.2.4 commented Non-SQL code
2 README file that provides instructions to execute the code, submit input, read the output etc. (1 page limit).
3 Demonstrate your project after the deadline. Demonstration dates will be set at a later time.

Deadline: Wednesday, October 18, 2023