CIS 2268 – Midterm Project – Fall 2021

Project: Design a personal or business-related database that would be of interest to you Using Oracle.

The project involves collecting the application requirements, designing the database, specifying which operations will be supported on the data, and building the database.

The project will be evaluated based on:

1. Creativity of the database
2. Amount of the course material applied to the project
3. Complexity of relationships and constraints among objects
4. Complexity of queries over the data
5. Completeness of testing of DB.

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|  |  | Points |
| 1. Description | Why should your database be built? You need to discuss these elements in a Word document (or PDF):   1. What tasks, operations or processes the system supports, and what user group or groups are served 2. Limitations of your system (any system has it, and so does yours; a candid statement on system limitations is an indispensable part of a good system development practice). 3. List the DML, DDL, and TCL statements used | 5 |
| 2. Schema and ERD | The layout of normalized and linked tables, this can be submitted in any type of file you want (doc, txt, vsd, LucidCharts) | 5 |
| 3. Tables | Create 5 tables | 5 |
| 4. a, b Tables | Add at least 2 different defaults | 2 |
| 5. a  Constraints | Add a not null constraint | 1 |
| 6 a Constraints | Add at least 1 check constraints using ENUM or check constraint | 2 |
| 7. a – e Constraints | Each table should have a primary key and 4 of the tables should have foreign keys | 10 |
| 8 a, b Tables | 1. Create a table from another table – structure and data 2. Drop the created table | 4 |
| 9. a  Data | Insert at least 10 records into 3 of the tables  Use the follow at least once  VARCHAR, INT, DATE, FLOAT/DECIMAL/DOUBLE | 5 |
| 10 a-c  Data | Update at least 3 records | 1 |
| 11 a, b, c  Functions | Group by functions  Query with:   1. sum and average 2. count 3. min and max - use group by and having | 6 |
| 12 a-n  Queries | Queries to restrict rows using criteria and compound criteria   1. Range criteria (between) 2. Using IN operator 3. Using LIKE operator with wildcards 4. Range criteria (between) 5. Use column alias 6. Perform basic arithmetic operations 7. Concatenate when reporting data 8. Use Distinct keyword 9. Order the output 10. List all the records with null values 11. Extract the month from the date 12. Use SUBSTR to pull out something 13. Create a column that provides the length of one of your columns 14. Round output from one of your columns to 1 digit | 28 |
| 13 a  Query | If/Case statement   1. Use an if/case statement | 6 |
| 14 a-d  Joins | Joins   1. Query that joins 3 tables and limits output 2. Query with an outer join 3. Query with a non-equality join 4. Query using a set operation (Union, union all) | 12 |
| 15 | |  | | --- | | Submitted   1. Description 2. ERD 3. Screenshots, labeled with item number saved to a Word or PowerPoint document 4. SQL script 5. A text file of your SQL script | | 8 |