DATABASE MANAGEMENT SYSTEMS

Project Requirements

The project involves designing a complete database management system to address a practical database need and implementing a relational database based on that design. Your database system should be designed to perform general information management tasks such as systematic collection, update, and retrieval of information for a small organization. Students should work in a group of **3 or less**.

P.S. Assem teacher's students must be in one team.(Practice time doesn't matter). If one team member will not answer(defend), all team members will lose points.

1) DESIGN PHASE (**3pt**):

a) **Describe the enterprise**:
   i) Introduction and brief enterprise description.
   ii) What functions should the system perform? That is, inventory control, billing, ordering, etc.
   iii) Who are the end users? Remember that the DBA is NOT an end user.
   iv) How will data obsolescence be handled?
   v) Where did you get the idea for this project? Did you make it up, get it from work, or find it in a book? Please site your sources. The idea may NOT be something solved in a book, nor may it be a simple add-on to an existing database.

b) **Entity Relationship Design**:
   i) Describe your entities. Be sure to define the meaning of each attribute. You must describe the "role" each attribute will play in your table (i.e. what is it and who will use it). You must have enough entities to insure your project is not a "toy" system. GENERAL RULE: you should have about at least 5 entities and 7 or 8 tables.
   ii) Describe your relationships and their type. Be sure to defend your choices. You may wish to give an example to illustrate your choice.
   iii) Draw the E--R Diagram for your database.

c) Prepare a video on YouTube (maximum 7 minutes) that will help to demonstrate your product more effectively.

2) CONCEPTUAL LEVEL(**2pt**):

Determine your tables from the E--R Diagram. Each base table MUST have the following information associated with it:

(1) The Primary Key.
(2) A list of any foreign keys.
(3) Check constraint and Regular Expression.
(4) Not null and etc.

3) ACTUAL IMPLEMENTATION(**15pt**)

Implement your tables in **ORACLE**. You must have tables and views defined. You must implement at least one query for each user. Your set of queries must also include queries that represent

a) Joins (1pt)
b) Usage of advanced SQL features.(3pt) https://data.world/blog/top-10-sql-features/
c) Add sorting, filtering and searching. (2pt)
d) Built-in functions (3pt)
e) In your app also data should be entered from keyboard (1pt)
f) You must also have user types like ADMIN and SIMPLE USER: Admin page for DML functions and give them appropriate privileges (registration page included) (4pt)
g) The brilliance of your solution (complexity and completeness) (1pt)

You must implement your queries using **ORACLE server** (version doesn't matter).Create **GitHub Organization**, we will see your progress. You can create a Website, Mobile App or Desktop App it is up to you.

DEADLINE: 28.04-30.04 Lecture and Practice time.

Assem teacher's students:
https://docs.google.com/spreadsheets/d/1Sw-nv4FGOafh1rIwHODrvq0usI1CkyUEoK0nG2KTrRA/edit?usp=sharing

Team member's sheet:
https://docs.google.com/spreadsheets/d/1_ReYJikHa-2k-nVCYTHnAsKxLNo5c1GxHqTSpqrvKPU/edit?usp=sharing