

RDBMS - MS SQL Server Training Session Assignments

Definitions:

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- Inventory Module
 - Social Media APP (e.g. Facebook)
 - Library Management
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Assignment #1:

Date & Time: 17/01/2024 between 4:30 p.m. to 5:30 p.m.

1) Describe 5 differences between RDBMS vs DBMS (which are not covered in training session).

For above all three definitions, do below tasks:

- 2) Create 3 different database for each definition, and include below things in each database:
- minimum 5 tables.
 - minimum 5 columns in each table, which includes 5 different data types and some of columns must include null values.
 - Primary Key column with identity in each table.

3) Write DDL for all operations for point #2.

4) R&D

- Write steps on how to change default file location for database (mdf file and ldf file).
- Practical: create one database name "ChangedLocationDB" on different location.

5) Create 1 master table and 1 child table in all the 3 databases above and define relationship (using Primary Key and Foreign Key) between them.

Assignment #2:

Date & Time: 18/01/2024 between 5:00 p.m. to 6:00 p.m.

6) Inline and Sub Queries Task:

- Write 3 inline queries and 3 sub-queries on all the databases of above definitions.

7) SQL Functions:

7.1) String Functions:

- Mention 15 functions with Name, short description (or say use of it) and a SQL query for it.

7.2) Numeric/Math Functions:

- Mention 15 functions with Name, short description (or say use of it) and a SQL query for it.

7.3) Date Functions:

- Mention 10 functions with Name, short description (or say use of it) and a SQL query for it.

7.4) Advanced Functions:

- Mention 5-7 functions with Name, short description (or say use of it) and a SQL query for it.

7.5) Write queries, which will use 3 functions of above all 4 types each, on minimum 2 tables for all the 3 databases of above Definitions.

Submission Date For Assignment #1 & #2 : 22/01/2024

Assignment #3:

Date & Time: 19/01/2024 between 5:00 p.m. to 6:00 p.m.

- Create below things relevant to above definitions in all 3 databases:

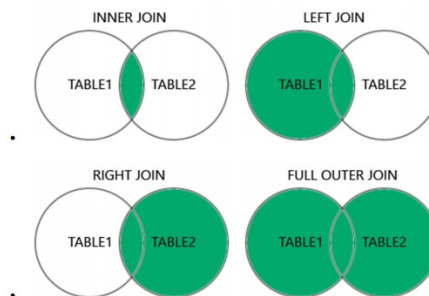
- 8) Create 2 user-defined views. Also, write what is User-defined views?
- 9) Create 2 Scalar-valued functions (e.g. split string).
- 10) Create 5 store procedures (select, add, update, delete and full).
- 11) Create 2 non-clustered indexes.
- 12) Create Before and After triggers for insert, update and delete operations.
- 13) Write SQL queries for Union and Union All.
- 14) Create Data Dictionary.
- 15) Create database script with below things:
 - "schema and data" option
 - "include triggers" option
 - "save to file" option.
- 16) Create database backup file on other (different) path then default backup path.
- 17) Restore database backup created in point #16 as new database using:
 - Right click on Database and using "Restore Database" as option
 - Also, restore it in the same way as showed in training (create empty database first and restore on it).
- 18) Due to time constraint, this topic was not cover in the training session. but still, Write SQL queries for all the 4 different types of join as mentioned in the below screen shot:

Different Types of SQL JOINS

Here are the different types of the JOINS in SQL:

- **(INNER) JOIN**: Returns records that have matching values in both tables
- **LEFT (OUTER) JOIN**: Returns all records from the left table, and the matched records from the right table
- **RIGHT (OUTER) JOIN**: Returns all records from the right table, and the matched records from the left table
- **FULL (OUTER) JOIN**: Returns all records when there is a match in either left or right table

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Submission Date For Assignment #3: 24/01/2024
