SQL

Q1. Which of the following are TCL commands?

Ans: A, C, D
Note: COMMIT, SAVEPOINT, ROLL BACK, SET TRANSACTION, SET CONSTRAINT

Q2. Which of the following are DDL commands

Ans: A, C, D

Note: CREATE, DROP, ALTER, TRUNCATE are DDL commands

Q3. Which of the following is a legal expression in SQL?

Ans: **B**

Q4. DCL provides commands to perform actions like?

Ans: C

Note: GRANT, REVOKE are main functions.

Q5. Which of the following should be enclosed in double quotes?

Ans: D

Note: Dates, Alias Column, Strings are all be written in double quotes

Q6. Which of the following command makes the updates performed by the transaction permanent in the database?

Ans: B

Q7. subquery in an SQL Select statement is enclosed in?

Ans: A

Note: Parenthesis is used in subquery

Q8. The result of a SQL SELECT statement is a

Ans: C

Note: Select helps to fetch table

Q9. Which of the following do you need to consider when you make a table in a SQL.

Ans: D

Q10. If you don't specify ASC and DESC after a SQL ORDER BY clause, the following is used by___?

Ans: ASC

Q11. What is denormalization?

Ans: Denormalization is a database optimization technique in which we add redundant data to one or more tables. This can help us avoid costly joins in a relational database. Note that denormalization does not mean 'reversing normalization' or 'not to normalize'. It is an optimization technique that is applied after normalization.

Basically, the process of taking a normalized schema and making it non-normalized is called denormalization, and designers use it to tune the performance of systems to support time-critical operations. In a traditional normalized database, we store data in separate logical tables and attempt to minimize redundant data. We may strive to have only one copy of each piece of data in a database.

For example, in a normalized database, we might have a Courses table and a teachers table. Each entry in Courses would store the teacherID for a Course but not the teacherName. When we need to retrieve a list of all Courses with the Teacher's name, we would do a join between these two tables. In some ways, this is great, if a teacher changes his or her name, we only have to update the name in one place. The drawback is that if tables are large, we may spend an unnecessarily long-time doing joins on tables.

12. What is a data base cursor?

Ans: Data Base cursor is a temporary Work Station. It is Allocated by the Database Server at the time of DML (Data Manipulation Language) operations on Table by User. Cursors are used to store Database Tables. There are 2 types of Cursors: Implicit Cursors and Explicit Cursors.

There are explained as following below.

1. Implicit Cursors:

   Implicit Cursors are also known as default Cursors of SQL SERVER. These Cursors are allocated by SQL SERVER when the user performs DML operation.

2. Explicit Cursors:

   Explicit Cursors are Created by Users Whenever the user Requires them. Explicit Cursors are used for Fetching data from Table in Row-By-Row Manner.

Q13. What are the different types of the queries?

Ans: **DDL (Data Definition Language)** actually consists of the SQL commands that can be used to define the database schema. It Simply deals with descriptions of the database schema and is used to create and modify and delete database structures but not data. These commands are normally not used by a general user, who should be accessing the database via an application.

List of DDL commands:

- **CREATE:** This command is used to create the database or its objects (like table, index, function, views, store procedure and triggers.
- **DROP**: This command is used to delete objects from the database.
- **ALTER:** This is used to alter the structure of the database.
- **TRUNCATE**: This is used to remove all records from a table, including all spaces allocated for the records
- **COMMENT:** This is used to add comments to the data dictionary.
- **RENAME:** This is used to rename an object existing in the database.

DQL (Data Query Language):

DQL statements are used for performing queries on the data within schema objects. The purpose of the DQL Command is to get some schema relation based on the query passed to it. We can define DQL as follows it is a component of SQL statement that allows getting data from the database and imposing order upon it. It includes the SELECT statement. This command allows getting the data out of the database to perform operations with it. When a SELECT is fired against a table. This command allows getting the data out of the database to perform operations with it. When a SELECT is fired against a table or tables the result is compiled into a further temporary table, which is displayed or perhaps received by the program

i.e. a front-end. List of DQL:

- **SELECT**: It is used to retrieve data from the database.

DML (Data Manipulation Language)

The SQL commands that deal with the manipulation of data present in the database belong to DML or Data Manipulation Language and this includes most of the SQL statements. It is the component of the SQL statement that controls access to data and to the database. Basically, DCL statements are grouped with DML statements.

List of DML commands:

- **INSERT:** It is used to insert data into a table.
- **UPDATE:** It is used to update existing data within a table.
- **DELETE:** It is used to delete records from a database table.
- **LOCK:** Table control concurrency

DCL (Data Control Language):

DCL includes commands such as GRANT and REVOKE which mainly deal with the rights, permissions, and other controls of the database system.

List of DCL commands:

- **GRANT:** This command gives users access privileges to the database.
- **REVOKE:** This command withdraws the user's access privileges given by using the GRANT

TCL (Transaction Control Language):

Transactions group a set of tasks into a single execution unit. Each transaction begins with a specific task and ends when all the tasks in the group successfully complete. If any of the tasks fail, the transaction fails. Therefore, a transaction has only two results: success or failure. You can explore more about transactions here. Hence, the following TCL commands are used to control the execution of a transaction:

- **COMMIT:** Commits a Transaction.
- **ROLLBACK**: Rollbacks a transaction in case of any error occurs.
- **SAVEPOINT**: Sets a save point within a transaction.
- **SET TRANSACTION:** Specifies characteristics for the transaction.

Q14**. Define Constraint?**

Ans: SQL constraint are used to specify rules for the data in a table. Constraints are used to limit the type of data that can go into a table. This ensures the accuracy and reliability of the data in the table. If there is any violation between the constraint and the data action, The action is aborted.

Q15. What is Auto-Increment?

Ans: Auto-Increment is used to starts with the number one and increases the value by one for each new record. In the example below, you will use the CREATE TABLE command to create a student's table and apply PRIMARY KEY and AUTO_INCREMENT to the ID column.