iNeuron

SQL Query
Interview Questions

Q1. Explain DML with its examples?

DML (Data Manipulation Language) is a computer programming language is used for the addition (insertion), deletion and modification of data in the database. For example:

SELECT INTO: is used to select data from one table and insert into another table.
INSERT: is used to insert data or records into a table.
DELETE: is used to delete records from any database table.
UPDATE: is used to update the values of different records in the database

Q2. Explain TCL with its examples?

TCL (Transaction Control Language) is a set of commands used to perform a specific task on objects in a single unit of execution. In simple words, TCL commands deal with transactions in a database. For example:

COMMIT: is used to commit transactions. Once a commit is made it cannot be rolled back, so the previous image of the database cannot be retrieved before running this transaction.
ROLLBACK: is used to revert the steps in transactions if an error arises.
SAVEPOINT: is used to set the savepoint in the transaction to which steps can be rolled back.
SET TRANSACTION: is used to set characteristics of the transaction.

Q3. Write a SQL query to display the current date?
Following SQL query is used to return the database system date and time:
SELECT GETDATE();

This type of short queries are asked in the SQL interview questions so that they can understand about the candidate's knowledge and hands-on experience.

Q4. What is a stored procedure?

It is a subroutine available to applications that need to access a relational database management system (RDBMS). These procedures are stored in the data dictionary and only executed in the database which is considered a big disadvantage because it occupies more memory in the database server. Moreover, it provides security and functionality to those users who are unable to access data directly, so they can be granted access via stored procedures.

Q5. What is a trigger?

A database trigger is a code or program that helps to maintain the integrity of the database. It automatically executes the response to particular events on a table in the database.

For example, when a new employee is added to the employee database, new records should be created in the related tables like Salary, Attendance, and Bonus tables.

Q6. What is the difference between DELETE and TRUNCATE commands?

TRUNCATE command removes all the table rows permanently that can never be rolled back. DELETE command is also used to remove the rows from the table but commit and rollback can be performed after the deletion. Moreover, the WHERE clause is also used as conditional parameters.

Q7. What is the main difference between local and global variables?

As the name indicates, the local variables can be used inside the function but global ones are used throughout the program. Local variables are only limited to the function and cannot be referred or used with other functions.

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Q9. What is a constraint and what are the common SQL constraints?

SQL constraint is used to specify the rules for data in a table and can be specified while creating or altering the table statement.

The following are the most widely used constraints:

NOT NULL
CHECK
DEFAULT
UNIQUE
PRIMARY KEY
FOREIGN KEY

Q10. What is Data Integrity?

Data integrity is the overall accuracy, completeness, and consistency of data stored in a database. For example, in order to maintain data integrity, the numeric columns/sells should not accept alphabetic data.

Q11. What is Auto Increment?

Auto increment allows the users to create a unique number to be generated whenever a new record is inserted into the table. It helps to keep the primary key unique for each row or record. If you are using Oracle then AUTO INCREMENT keyword should be used otherwise use the IDENTITY keyword in the case of the SQL Server.

Q12. What is the difference between the Cluster and Non-Cluster Index?

The clustered index defines the order in which data is physically stored in a database table and used for easy retrieval by altering the way that the records are stored.

The non-clustered index improves the speed of data retrieval from database tables but stores data separately from the data rows. It makes a copy of selected columns of data with the links to the associated table.

Q13. What is Datawarehouse?

It is the name of a central repository of data from multiple information sources for analytics and business intelligence activities. Datawarehouse has an enterprise-wide depth and based on its subsets called data marts which are oriented to a specific business line or team.

Q14. What is Self-Join?

A self-join SQL query is used to compare to itself and values in a column are compared with other values in the same column in the same database table

Q15. What is Cross-Join?
Cross-join is used to generate a paired combination of each row of table A with each row of table B. If the WHERE clause is used in cross join then the SQL query will work like an INNER JOIN.

Q16. What is user-defined functions?
Like functions in programming languages, SQL user-defined functions are routines or functions that accept parameters, perform an action, such as a complex calculation, and return the output of that particular action as a value. There is no need to write the same logic several times because the function can be called whenever needed.

Q17. What are all types of user-defined functions?
Following are the user-defined functions:

Scalar Functions that return the unit or single-valued results
Inline Table-valued functions that return table as a return
Multi statement valued functions that return table as a return

Q18. What is collation?

Collation provides a set of rules that determine how character data can be sorted and compared in a database. It also provides the case and accent sensitivity properties. Collation is used to compare A and other language characters with the help of ASCII value.

Q19. What are all different types of collation sensitivity?

Following are the different types of collation sensitivity:

Case Sensitivity (A & a, B & b or any other uppercase and lowercase letters)
Accent Sensitivity
Kana Sensitivity (Japanese Kana characters)
Width Sensitivity (Single byte character (half-width) & same character represented as a double-byte character)

Q20. What are the pros and cons of Stored Procedure?
The stored procedure is based on modular programming that means create once, store and call several times whenever you need it. It supports faster execution and reduces the network traffic for optimum performance.

The main disadvantage of stored procedure is that it executed only in the database and utilized more memory.