iNeuron

Python

Interview Questions

1. Mention some advantages of Synonyms.

Below are some advantages of using Synonyms:

Synonyms create a layer of abstraction for the specific object
For objects, with complex 3 or 4 part names, residing on the same server, Synonyms can give a simpler alias
Offers the flexibility to change object location without having to change the existing code
When the name of an object is changed or dropped, Synonym offers backward compatibility for older applications
Synonyms are also useful in front-end query tools such as Access linked tables and spreadsheets if there is a direct link to these tables.

2. Are there any disadvantages to using Synonyms?

Yes, there are some disadvantages.

Synonyms are only loosely linked to the referenced object and thus, can be deleted without warning when being used to reference a different database object
Inside chaining cannot take place, meaning that the synonym of a synonym cannot be created
One cannot create a table with the same Synonym name
The checking for the object for which the Synonym is created happens at runtime and not at the time of creation. This means if there is an error, such as a spelling error, it will only show up at runtime creating a problem in accessing the object

Synonyms cannot be referenced in DDL statements
For SQL interview questions that ask you to talk about the advantages or disadvantages of a certain component or tool, ensure that you list as many as you can. Also, you can make your answer to such an SQL interview question meaty by adding personal anecdotes about some of the advantages or disadvantages.

3.Are NULL values equal to zero?

No. NULL values show an absence of characters, whereas zero is a numerical value. NULL values occur when a character is unavailable or not known. NULL values should also not be confused with blank space because a blank space is not supposed to have any data attached to it, whereas a NULL value shows a data record without any value assigned to it.

4. What are Scalar subqueries and Correlated subqueries?

A Scalar subquery is when a query returns just one row and one column of data. A Correlated subquery occurs when a query cannot process without information from an outer query. In such cases, table aliases define the scope of the argument and the subquery is parameterized by an outer query. Thus, there is a correlation between the inner and outer queries. As a result, back and forth

execution takes place where a single row of results from the outer query passes parameters to the inner query.

5. What is the difference between NVL and NVL2 functions?

The function NVL (exp1, exp2) is a conversion function that changes exp1 into the target exp2 under the condition that exp1 is NULL. The data type of exp1 is the same as that of a return value. The function NVL2 (exp1, exp2, exp3), on the other hand, is a checking function, which determines whether exp1 is null or not. When exp1 is not null, exp2 is returned as the result. When exp1 is null, exp3 is returned as the result.

6. What do you mean by 'auto increment'?

With the auto-increment command, one can generate unique numbers when new records are added to a table. This function is especially useful when one wants to automatically generate the primary key field values upon inserting new records. This command comes in handy on several platforms. The auto-increment command for the SQL servers is "identity".

7. What is the main use of 'recursive stored procedure'?

The main use of the recursive stored procedure is to make the code calls till the time certain boundary conditions are reached. This helps

programmers enhance productivity by using the same code multiple times.

An SQL interview question like this one shows that even though some of the advanced concepts may be easy to understand, they may be difficult to recount when suddenly faced with the question. Thus, when you prepare for SQL interview questions, ensure to revise all types of concepts.

8. Describe ‘datawarehouse’ in SQL.

A ‘datawarehouse’ is a system used for analyzing and reporting data. It is very similar to a physical warehouse where inventory is stored and assessed before being sent to a customer. Here, data is stored, analyzed, and reported. A datawarehouse functions as a central repository of data integrated from different areas and sources and makes this data available for use.

9. What is DBMS?

DBMS is an abbreviation for Database Management System for creating and managing databases. There are two types of databases:

Relational Database Management Systems (RDBMS) - Data is stored in tables.

Non-Relational Database Management Systems - Mostly referred to as NoSQL, stores data in non-tabular format.

10. What is the difference between SQL and MySQL?

Structured Query Language is utilized for handling and modifying data in relational databases. With SQL, you can generate and alter databases, tables, and other related objects, alongside executing various data operations, including record insertion, updates, and deletions.

MySQL, on the other hand, is a specific relational database management system (RDBMS) that uses SQL as its primary language for managing data. MySQL is an open-source RDBMS that is widely used for web applications,

11. List the type of SQL statements or subsets.

Below are the popular subsets used in SQL:

DDL (Data Definition Language) - It is used to define and structure tables. Users can CREATE, ALTER, and DELETE the database tables.
DCL (Data Control Language) - Administrators use it to give users privileges to GRANT or REVOKE permissions to the database.

DML (Data Manipulation Language) - It allows users to either UPDATE, INSERT, RETRIEVE, or DELETE information from the database.

12. Define what joins are in SQL.

Joins is a statement used to join two or more rows based on their relationship. There are four types of Join statements:

Left Join
Right Join
Inner Join
Full Join

13.What is a Primary Key?

A primary key is used to identify unique rows or tables in a database. Primary keys must always contain unique values. Null or duplicate values are not considered primary keys.

14. What is a Foreign Key?

A foreign key is used to link two or more tables together. Its values match with a primary key from a different table. Foreign keys are like references between tables.

15.What is a unique key?

A unique key ensures a table has a unique value not found or contained in other rows or columns. Unlike the primary key, the unique key may have multiple columns. You can create a unique key using the keyword "UNIQUE" when defining the table.

16.Create an employee table example.
Below is how to create an employee table:

Image 15-05-23 at 10.29 PM_11zon.webp

17.What is a SELECT statement used for?

SELECT is a DML command used for fetching one or more tables. It queries for information which usually returns a set of results.

18. Name the clauses used in the SELECT statement.

WHERE - filters the rows according to their criteria

ORDER BY - Sorts the tables/rows according to the ASC clause (ascending order) or DESC clause (descending order)

GROUP BY - groups data from different tables that have similar rows in the database

19. What are CHAR and VARCHAR?

CHAR is a fixed-length string character, whereas VARCHAR is a variable-length string data structure. VARCHAR is preferred over CHAR because it is more space-efficient when storing strings with variable lengths.

20.List the types of relationships found in SQL.

One-to-one relationship - This relationship exists between two tables when a single row in one table corresponds to a single row in another table. This relationship is usually established using a foreign key constraint.

One-to-Many/Many-to-One - This relationship exists between two tables when a single row in one table corresponds to multiple rows in another table. This relationship is also established using a foreign key constraint.

Many-to-Many - This relationship exists between two tables when multiple rows in one table correspond to multiple rows in another table. This relationship is usually implemented using an intermediate table that contains foreign keys to the two tables being related.