iNeuron

Python

Interview Questions

1. Write a query where you create a table from another without duplicating the values.

This will create a new table with the same structure as the old table but without the values from the previous table.

2. What is a covering index, and when should you use one?

A covering index is a non-clustered index that includes all the columns required to satisfy a particular query, eliminating the need for an additional key lookup in the base table. It can significantly improve query performance by reducing I/O operations, especially when the included columns are frequently accessed or filtered in the query.

3. Define a Term
Some basic SQL interview questions are about defining a term in SQL. The interviewer may ask you to explain some technical concepts, explain the differences between two concepts, or explain how a concept works.

Following are some of the terms you should be familiar with to answer these SQL interview questions successfully:

Primary Key, Foreign Key, and Unique Key
RDBMS vs. DBMS
Constraints
Cursors
Normalization vs. Denormalization

Index
Triggers
Clustered vs. Non-Clustered Index

4. What is the difference between a primary key and a foreign key in SQL?
Answer: A primary key in SQL is a column or a set of columns that uniquely identifies each row in a table, while a foreign key in SQL is a column or a set of columns that refers to the primary key of another table.

5. What is a database trigger in SQL?
Answer: A database trigger in SQL is a set of SQL statements that are automatically executed in response to a specific event, such as an INSERT, UPDATE, or DELETE statement, at the database level.

6. What is a recursive common table expression (CTE) in SQL?
Answer: A recursive common table expression (CTE) in SQL is a way to define a temporary result set that can reference itself in a recursive manner, allowing you to perform complex queries that involve hierarchical or recursive data structures.

7. What is the difference between a subquery and a join in SQL?
Answer: A subquery is a query that is nested inside another query and is used to retrieve data to be used in the main query. A join is used to combine rows from two or more tables based on a related column between them. The main difference between the two is that a subquery returns a result set to the main query, while a join combines two or more tables based on a common column or set of columns.

8. What is a correlated subquery in SQL?
Answer: A correlated subquery in SQL is a subquery that refers to a column from the outer query. The subquery uses the value from the outer query to filter the result set of the subquery. This type of subquery can be used to perform calculations on each row of a table based on data from related tables.

9. What is a scalar subquery in SQL?
Answer: A scalar subquery in SQL is a subquery that returns a single value. This type of subquery can be used in an expression, such as a SELECT statement or a WHERE clause. The result of a scalar subquery can be used in a comparison, calculation, or other operation.

10. What is a lateral join in SQL?
Answer: A lateral join in SQL is a join that allows you to reference a table that appears earlier in the FROM clause. This type of join is useful for queries that involve nested queries or complex calculations. The lateral join keyword in SQL is LATERAL.

11. What is a self-join in SQL?
Answer: A self-join in SQL is a join that is performed between two instances of the same table. This type of join is used when you want to compare data within the same table, such as when you want to compare sales data for a given salesperson with sales data for all salespeople. To perform a self-join, you use table aliases to differentiate between the two instances of the table.

12. Who generally uses SQL?

SQL is generally used by people who deal with data and databases on a daily basis. Database management Administrators, data analysts, and developers make use of SQL to deal with data.
Why is SQL a popular choice among developers?
SQL is quite a popular choice among Developers as it is easy to use, and the syntax is quite easy to understand and apply. It also enables developers and data analysts the required flexibility and scalability. It is also easily available, and the functions can be efficiently carried out on vast stores of data.

13. What are the uses of SQL?

There are different uses of SQL, such as:

- It helps in creating, managing, and deleting tables.
- It performs the basic operational functions such as search, filter, sort, create, drop, and alter in the most efficient way possible.
- It provides developers the flexibility to manipulate any table in the database.

14. What is a “Keyword” in SQL?

Keywords, as the name indicates, are words that enable one to find similar words in the database or the SQL table.

For instance, the keyword “employee” will find or sort out similar words in the datasheet.
If you want to find the employee with the name “Mahesh,” the keyword will help you to identify the names of the employees with the name Mahesh within a few seconds.

15. What is the difference between a having clause and a where clause in SQL?
Answer: A where clause in SQL is used to filter rows before grouping them, while a having clause is used to filter groups after grouping them.

16. What is the difference between a correlated subquery and a non-correlated subquery in SQL?
Answer: A correlated subquery in SQL is a subquery that uses values from the outer query, while a non-correlated subquery is a subquery that can be executed independently of the outer query.

17. What is a common table expression (CTE) in SQL?
Answer: A common table expression (CTE) in SQL is a temporary result set that is defined within a SELECT, INSERT, UPDATE, or DELETE statement.

18. What is the difference between a scalar function and a table function in SQL?
Answer: A scalar function in SQL returns a single value, while a table function in SQL returns a table.

19. What is a window function in SQL?
Answer: A window function in SQL is a function that operates on a set of rows, called a window, and returns a value for each row.

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