20 Top SQL interview questions asked by top companies

1. What is a composite key?

Answer: A composite key is a combination of two or more columns in a table that uniquely identifies a record. Each column in the composite key contributes to the uniqueness of the key.

2. What is the difference between a view and a materialized view?

Answer: A view is a virtual table derived from one or more tables, while a materialized view is a physical copy of the result set of a query stored for faster data retrieval.

3. Explain the purpose of the SQL MAX() function.

Answer: The MAX() function is an aggregate function that returns the Maximum value in a set of values.

4. What is the purpose of the SQL DISTINCT keyword?

Answer: The DISTINCT keyword is used in a SELECT statement to eliminate duplicate records from the result set.

5. Explain the purpose of the SQL JOIN statement.

Answer: The JOIN statement is used to combine rows from two or more tables based on a related column between them.

6. What is a cursor in SQL?

Answer: A cursor is a database object used to traverse the result set of a query. It allows you to process each row individually.

7. Explain the difference between a left outer join and a right outer join.

Answer: A left outer join returns all rows from the left table and the matched rows from the right table, while a right outer join returns all rows from the right table and the matched rows from the left table.

8. What is the purpose of the SQL AVG() function?

Answer: The AVG() function is an aggregate function that returns the average value of a numeric column.

9. Explain the purpose of the SQL CASE statement.

Answer: The CASE statement is used to perform conditional logic in SQL queries, similar to the “if-else” statements in programming languages.

10. What is the difference between a database and a schema?

Answer: A database is a collection of tables, while a schema is a collection of database objects, including tables, views, and stored procedures.

11. What is the purpose of the SQL COUNT() function?

Answer: The COUNT() function is an aggregate function that returns the number of rows in a result set or the number of non-null values in a column.

12. Explain the difference between the SQL WHERE and HAVING clauses.

Answer: The WHERE clause is used to filter rows before grouping in a query, while the HAVING clause is used to filter groups after they have been formed.

13. What is the purpose of the SQL ROLLBACK statement ?

Answer: The ROLLBACK statement is used to undo transactions that have not been saved to the database. It is typically used in error-handling scenarios.

14. Explain the difference between UNION and JOIN.

Answer: UNION combines the result sets of two queries, while JOIN combines rows from two or more tables based on a related column.

15. What is the purpose of the SQL TRIGGER statement?

Answer: The TRIGGER statement is used to specify a set of actions that are automatically performed when a certain event occurs in a particular table or view.

16. Explain the purpose of the SQL SUM() function.

Answer: The SUM() function is an aggregate function that returns the sum of all values in a numeric column.

17. What is a natural join?

Answer: A natural join is a type of join that combines tables based on columns with the same name and automatically eliminates one of the duplicate columns.

18. What is the purpose of the SQL NULL value?

Answer: The NULL value in a database represents the absence of a value in a column. It is not the same as an empty string or zero.

19. Explain the difference between a unique key and a primary key.

Answer: A unique key ensures that all values in a column are unique, while a primary key is a unique key that also serves as the main identifier for record in a table.

20. What is the purpose of the SQL INSERT statement?

Answer: The INSERT statement is used to insert new records into a table. It allows you to specify the values for each column or use a subquery to select the values from another table