**SQL INTERVIEW QUESTIONS**

**1.SQL**

* **S**tructured **Q**uery **L**anguage is a Language
* Used to communicate with **Database** and **retrieve /manipulate** the data from it.
* A programming language used for interaction with relational database management systems (RDBMS).

### ****What are some common statements used with the SELECT query?****

**Select**  - Column1,Column2 ,(\* total records)

**From** -Table name

**Where** - Conditions

**Group By** - Columns

**Having** - Conditions

**Order By** -Columns(Order something asc,desc).

**2. Database**

* Used to store the **information /data.**
* It has a table like structure consists of **rows/record** and **columns/field.**

**3. Data types**

* Used to specify the basic **behavior of a colum**n in table.
* Data type(Length)

**Types**

* **NUMBER** - Numbers/Integers
* **CHAR**  - Alpha+Number+Spl($)length 2000 only
* **VARCHAR2** -Alpha+Number+Spl($)length 4000 only,VARIABLE CHARACTER,does not take null
* **LONG** - 2GB Alpha+Number+Spl char only once/table
* **CLOB**  - 4GB Alpha+Number+Spl char (CLOB-Character large object)
* **BLOB**  - 8GB Image Binary Large Object
* **DATE** - DATE(15-06-2001)
* **TIMESTAMP** - TIMESTAMP( 15-06-2001 01:30:15:28)
* **BFILE**  - Path/links/urlz(To store path)
* **XMLTYPE** -XML Datas

### 4.What are the main applications of SQL?

### create, delete, and update tables in a database

### access, manipulate, and modify data in a table

### retrieve and summarize the necessary information from a table or several tables

### add or remove certain rows or columns from a table

### 5. ****What types of SQL commands (or SQL subsets) do you know?****

### Data Definition Language (DDL)

### to define and modify the structure of a database.

### Data Manipulation Language (DML)

### to access, manipulate, and modify data in a database.

### Data Control Language (DCL)

### to control user access to the data in the database and give or revoke privileges to a specific user or a group of users.

### Transaction Control Language (TCL)

### to control transactions in a database.

### Data Query Language (DQL)

### to perform queries on the data in a database to retrieve the necessary information from it.

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### ****6.** **Give some examples of common SQL commands of each type.****

### DDL: CREATE, ALTER TABLE, DROP, TRUNCATE, and ADD COLUMN

### DML: UPDATE, DELETE, and INSERT

### DCL: GRANT and REVOKE

### TCL: COMMIT, SET TRANSACTION, ROLLBACK, and SAVEPOINT

### DQL: –SELECT

### 7. ****What are tables and fields in SQL?****

### A table is an organized set of related data stored in a tabular form, i.e., in rows and columns.

### A field is another term for a column of a table.

### 8. ****What is an SQL query, and what types of queries do you know?****

### A query is a piece of code written in SQL to access the data from a database or to modify the data.

### SQL queries: ****select**** and ****action**** queries.

### The first ones are used to retrieve the necessary data (this also includes limiting, grouping, ordering the data, extracting the data from multiple tables, etc.), while the second ones are used to create, add, delete, update, rename the data, etc.y

### 9. ****What is a subquery?****

### Also called an inner query;

### a query placed inside another query, or an outer query.

### A subquery may occur in the clauses such as SELECT, FROM, WHERE, UPDATE, etc.

### It's also possible to have a subquery inside another subquery.

### The innermost subquery is run first, and its result is passed to the containing query (or subquery).

### 10. ****What types of SQL subqueries do you know?****

* **Single-row** – returns at most one row.
* **Multi-row** – returns at least two rows.
* **Multi-column** – returns at least two columns.
* **Correlated** – a subquery related to the information from the outer query.
* **Nested** – a subquery inside another subquery.

### 11. ****What is a constraint, and why use constraints?****

### A set of conditions defining the type of data that can be input into each column of a table.

### SQL constraints are used to specify rules for data in a table.

### 12. ****What SQL constraints do you know?****

* [NOT NULL](https://www.w3schools.com/sql/sql_notnull.asp) -Ensures that a column cannot have a NULL value
* [UNIQUE](https://www.w3schools.com/sql/sql_unique.asp) - Ensures that all values in a column are different
* [PRIMARY KEY](https://www.w3schools.com/sql/sql_primarykey.asp) - A combination of a NOT NULL and UNIQUE. Uniquely identifies each row in a table
* [FOREIGN KEY](https://www.w3schools.com/sql/sql_foreignkey.asp) - Prevents actions that would destroy links between tables
* [CHECK](https://www.w3schools.com/sql/sql_check.asp) - Ensures that the values in a column satisfies a specific condition
* [DEFAULT](https://www.w3schools.com/sql/sql_default.asp) - Sets a default value for a column if no value is specified
* [CREATE INDEX](https://www.w3schools.com/sql/sql_create_index.asp) - Used to create and retrieve data from the database very quickly

### 13. ****What is a join?****

### A clause used to combine and retrieve records from two or multiple tables.

### SQL tables can be joined based on the relationship between the columns of those tables.

### 14. ****What types of joins do you know?****

### (INNER) JOIN

### Returns records that have matching values in both tables

### LEFT (OUTER) JOIN

### Returns all records from the left table, and the matched records from the right table

### RIGHT (OUTER) JOIN

### Returns all records from the right table, and the matched records from the left table

### FULL (OUTER) JOIN

### Returns all records when there is a match in either left or right table

### Types of Joins in SQL | Top 4 Main Types of Joins in SQL To Know

### ****15.** **What is a SQL operator?****

### A reserved character, a combination of characters, or a keyword

### used in SQL queries to perform a specific operation.

### SQL operators are commonly used with the WHERE clause to set a condition (or conditions) for filtering the data.

### 16. ****What types of SQL operators do you know?****

* **Arithmetic** (+, -, \*, /, etc.)
* **Comparison** (>, <, =, >=, etc.)
* **Compound** (+=, -=, \*=, /=, etc.)
* **Logical** (AND, OR, NOT, BETWEEN, etc.)
* **String** (%, \_, +, ^, etc.)
* **Set** (UNION, UNION ALL, INTERSECT, and MINUS (or EXCEPT))

### 17. ****What is an alias?****

### SQL aliases are used to give a table, or a column in a table, a temporary name.

### Aliases are often used to make column names more readable.

### An alias only exists for the duration of that query.

### An alias is created with the AS keyword.

### Alias Column Syntax

SELECT *column\_name* AS *alias\_name*  
FROM *table\_name;*

Alias Table Syntax

SELECT *column\_name(s)*  
FROM *table\_name*AS *alias\_name;*

### 18. ****How to create a table?****

### Using the CREATE TABLE statement.

CREATE TABLE table\_name (col\_1 datatype,col\_2 datatype, col\_3 datatype);

### 19. ****How to update a table?****

### Using the UPDATE statement. The syntax is:

### UPDATE table\_name SET column1 = value1, column2 = value2, ... WHERE condition;

### 20. ****How to delete a table from a database?****

### Using the DROP TABLE statement.

### The syntax is: DROP TABLE table\_name;

### 21. ****How to get the count of records in a table?****

### SELECT COUNT(column\_name) FROM table\_name WHERE condition;

### 22.

### SELECT AVG(column\_name) FROM table\_name WHERE condition;

### 23. SUM() Syntax

### SELECT SUM(column\_name) FROM table\_name WHERE condition;

### 24. ****How to sort records in a table?****

### Using the ORDER BY statement:

### The ORDER BY keyword is used to sort the result-set in ascending or descending order.

### SELECT column1, column2, ... FROM table\_name ORDER BY column1, column2, ... ASC|DESC;

### ****25.** **How to select all columns from a table?****

### Using the asterisk \* with the SELECT statement.

### The syntax is: SELECT \* FROM table\_name;.

### 26. ****What is a function in SQL, and why use functions?****

### A database object representing a set of SQL statements frequently used for a certain task.

### A function takes in some input parameters, performs calculations or other manipulations on them, and returns the result.

### Functions help improve code readability and avoid repetition of the same code snippets.

### 27.What types of SQL functions do you know?

### Aggregate functions – work on multiple, usually grouped records for the provided columns of a table, and return a single value (usually by group).

### Scalar functions – work on each individual value and return a single value.

### 28.What aggregate functions do you know?

### AVG() – returns the average value

### SUM() – returns the sum of values

### MIN() – returns the minimum value

### MAX() – returns the maximum value

### COUNT() – returns the number of rows, including those with null values

### FIRST() – returns the first value from a column

### LAST()– returns the last value from a column

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