**Technical SQL Interview Questions 2.**

**1. 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 or modify data from a database.**

**There are two types of 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.**

**2. 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).**

**3. 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.**

**4. 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. Constraints ensure data integrity in a table and block undesired actions.**

**5. What SQL constraints do you know?**

* **DEFAULT – provides a default value for a column.**
* **UNIQUE – allows only unique values.**
* **NOT NULL – allows only non-null values.**
* **PRIMARY KEY – allows only unique and strictly non-null values (NOT NULL and UNIQUE).**
* **FOREIGN KEY – provides shared keys between two or more tables.**

**6. 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.**

**7. What types of joins do you know?**

* **(INNER) JOIN – returns only those records that satisfy a defined join condition in both (or all) tables. It's a default SQL join.**
* **LEFT (OUTER) JOIN – returns all records from the left table and those records from the right table that satisfy a defined join condition.**
* **RIGHT (OUTER) JOIN – returns all records from the right table and those records from the left table that satisfy a defined join condition.**
* **FULL (OUTER) JOIN – returns all records from both (or all) tables. It can be considered as a combination of left and right joins.**

**8. What is a primary key?**

**- A column (or multiple columns) of a table to which the PRIMARY KEY constraint was imposed to ensure unique and non-null values in that column. In other words, a primary key is a combination of the NOT NULL and UNIQUE constraints. The primary key uniquely identifies each record of the table. Each table should contain a primary key and can't contain more than one primary key.**

**9. What is a unique key?**

**- A column (or multiple columns) of a table to which the UNIQUE constraint was imposed to ensure unique values in that column, including a possible NULL value (the only one).**

**10. What is a foreign key?**

**- A column (or multiple columns) of a table to which the FOREIGN KEY constraint was imposed to link this column to the primary key in another table (or several tables). The purpose of foreign keys is to keep connected various tables of a database.**