Common SQL interview Questions

1. What is SQL?

SQL is a structured query language. Where using specific clauses and functions can view data from a table in a specific way. This is often useful when looking at a large dataset and needing to find a specific value or set of columns in a large dataset with over a thousand or more entries in either columns or rows. Which would be very difficult to find with a human eye. So instead, queries are used to simplify this process.

1. What is a database?

A database is a collection of data. Typically stored in a bunch of rows and columns. A database is often over a thousand or more rows long.

1. What is a relational database? (not sure)

Not sure. A database that has a connection to a subject? For example a relational database could be a database that shows a table of cars in traffic. Or im assuming it’s a database that’s similar to a main database however it’s a smaller sample or connected to the main database however it doesn’t make sense to have that database in the big dataset.?

1. What is a RDBMS (not sure)

Stands for relational database management system?

1. What is a table?

A collection of data showed often in columns and rows. This table can be modified and displayed in different ways with SQL queires.

1. What is a row and column in a table?

A distinct row: is displayed from top to bottom. A row often represents a piece of data that has a relation to a larger subject or category.

A distinct column: is displayed from left to right at the top of the table. It often describes categories or subjects in a dataset.

Example: For example, if our tables name was transportation machines. We could have a column called cars. Then some row values for that column could be. Honda, Audi, Mercedes. And so on.

1. What is a data type?

A data can be of different types. A data type refers to this. It can often times be displayed in the bottom of an sql query. This effects the ways this data can be modified and which SQL clauses should be used. Examples of data types could be INTEGER (often a kind of rounded number.) REAL (could be a number shown with all or a lot of decimals.) TEXT (text or letters.) DATE (the data of something. Often displayted in YYYY-MM-DD) TIME (often displayed in HH-MM-SS)

1. What is a primary key and a foreign key? (not sure)

A primary key often refers to the first column mentioned in a table. This can have relevance when joining or connecting tables. A foreign key is often not the first mentioned column in a table. The foreign keys can sometimes have null values?

1. What is the difference between alter and update?

Alter changes a data table momentarily. While an update clause changes the table going forward in future queries and permanentely changes the table.

1. What is a query?

A specific way of describing to for example a terminal via SQL. What kind of data we wish to see and how.

1. What is a subquery?

Like a query. A subquery is a way to make a query inside another query. This can be useful when needing to find matching data from 2 tables for example.

1. What are constraints? (not sure)

I would assume constraints refer to limitations that can be applied to a query. For example the “LIMIT 10” clause shows only 10 rows and since 10 rows might not be the entire table it constraints the table and doesn’t show all the data?

1. What is a statement? (not sure)

(not sure.)

1. How do you check if a field does not have a value or has a value? (not sure)

Data entries in a table that don’t have a value. Are shown with NULL, Ø or 0. The best way in my opinion is to use the “NULL” operator. This can be done like this for example.

“

SELECT \*

FROM table\_name

WHERE column1\_name IS NULL;

“

That will show us all the entries in a specific column where there isn’t registered a value. The same can be done by writing:

SELECT \*

FROM table\_name

WHERE column1\_name IS NOT NULL;

1. What is the difference between DISTINCT and UNIQUE? (not sure)

I would assume that distinct is used to find distinct values that are strings. While unique is meant to be used in the context of numbers or INTEGERS. Not sure though.

1. What are aggregate functions used for? (not sure)

Aggregate functions like GROUP BY. ORDER BY. Or CASE. And so on. Can be used to make specific queries in sql. They give us more ways to query and get different data and display them in unique and more readable ways.

1. What is a join? (not entirely correct.)

A way to connect multiple tables together instead of having the tables as separate. So for example data can be queried at once.

1. What is the difference between an inner join and left join?

An inner join replaces all the values with the value of null in one table with matching values from another table so the null values can be removed. A left join takes all the data from the first table on the left and add all the data from the second table on the right. This can cause some rows to not have values and hence display NULL

1. What is the purpose of window functions?

To query data over a period in different ways. This can be via the NTILE clause for example.

1. What are index and why are they needed?

Index are used to give rows a specific value. This specific value is needed because it allows us to query or get that specific data from a table. Index are very necessary. Without them queries wouldn’t be possible.