SQL Interview Guide for Data Analyst

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Introduction

SQL, which stands for Structured Query Language, is ranked among the most important skills that data analysts should have. As you prepare to negotiate data analysis tasks, you can expect SQL to appear during the interview.

With this guide, you will learn more about SQL technology testing, what kind of testing you can encounter, and some common types of questions that arise during these discussions. You will also find additional sample questions, a step-by-step guide for writing SQL code during your interview, and success tips. Let's get started.

What to expect from SQL Technology Testing?

Data analysts use SQL to communicate with related websites to access, clean up, and analyze data. At the time of writing, more than 230,000 jobs on LinkedIn have also included SQL in the list.

As such an important skill, it is common for data analyst interviews to include SQL technology testing. This part of the interview works for you in solving real-world problems using SQL. While you may ask some specific descriptive questions for the usual interview, the real point here is that the interviewer ensures that you can actually use SQL, not just talk about it.

These tests usually take one of three forms:

1. **White board test**: The most common type of SQL test is a white board interview. In this type of test, you are given a white board and marker to write your questions by hand. Since you will not have a computer that notifies you of any syntax or logical errors in your code, this is about showing that you can think about the problem and know the correct SQL ideas for solving it.

2. **Live coding**: With this type of test, you will be presented with SQL problems that you will solve in the live coding environment. This allows you to run your queries and check your work as you go, but as you use your code, syntax will be important. Since different websites use different tools, this type of test is not as common as white board testing.

3. **Homework**: With this unusual test method, you will be given a problem or series of problems to take home and resolve over a period of time. This allows you to write your own questions about the comfort of your home, without the pressure of the interviewer looking over your shoulder. On the other hand, the challenges of coding are often complex.

Different Types of SQL Interview Queries

Just as there are three types of technical tests that can be taken, there are three broad categories of questions that you will often ask during this part of the interview. We've organized it here from simple to complex. Generally, simple, meaningful questions will be few and less important for live coding questions — something you need to keep in mind as you prepare.

1. Define SQL name

When discussing the role of a data analyst, you probably know what SQL is (and the interviewer thinks you know this). You may be asked what SQL is, but most likely you will be asked to explain some of the technical concepts in SQL, the differences between two (or more) related concepts, or how the concept is used. This is not a complete list, but here are some examples of words you should be prepared to describe:

- Trigger
- Index
- Cursor
- Constraints
- ETL (Extract, transform and load)
- Primary key, foreign key, and unique key
- Normalization vs. denormalization
- RDBMS vs. DBMS
- Clustered vs. non-clustered index

Basic Questions of SQL can be Asked like

1. What is the purpose of the reference in the table? Describe the different types?

2. What are the types of SQL joining?

3. What is the difference between the statements of DROP, TRUNCATE, and SUSA?

4. How do you use a cursor?

5. What is the difference between the HAVING clause and the WHERE clause?

2. Questions about the question

This second section of the query gives you a SQL query and asks you a question about it. This tests your ability to read, translate, analyze, and debug code written by others.

Form query analysis questions may take:

Given query,

1. Put the clauses in order by how SQL would run them.

2. Identify the error and correct it.

3. Predict what the query will return.

4. Explain what problem the query is meant to solve.

3. Write the query

Questions often associated with SQL technology testing ask you to solve a specific problem by writing a question in SQL. You will usually be given one or more tables and asked to write one or more questions to retrieve, edit, or delete data from those tables.

The difficulty of the questions will likely vary depending on the company and role (entry level compared to advanced). Generally, you should feel free to write questions using the following concepts, statements, and paragraphs:

- Category, aggregate, and rated (CASE, COUNT, or SUM, number and denominator)
- Join the two tables (JOIN the interior vs. left or right)
- Editing database (INSERT, UPDATE, and Delete)
- Comparison operators (Less, larger, equivalent)
- Editing data (ORDER BY, GROUP BY, HAVING)
- subqueries

Questions for writing query may take:

Provided with a table or tables with a few sample lines,

- List three stores with the highest number of customer service.
- Release the staff IDs of all employees who have achieved three or more in their last performance review.
- Calculate the monthly sales rate for a product displayed on a downward spiral.
- Find and delete duplicates in the table without creating another table.
- Find common records between two tables.

A Six Step Strategy for your SQL Interview

Sometimes the best way you can keep your emotions in check is before the interview. No matter what kind of question you are asked to write, you can use this six-step process to organize your thoughts and guide you to the solution, even if you feel nervous.

1. **Answer** the question again to make sure you understand what you are being asked to do.

2. **Check the data** by asking questions. What kind of data is there in column? Are there any columns containing unique data (such as user ID)?

3. **Identify** the columns you will need to solve the problem. This helps you to focus on important data so as not to be distracted by non-query data.

4. **What answer you were looking for?** Looking for a single value or list? the answer is result of calculation? If so, should it be floating or a whole number? Do you need this in your code?

5. **Write your code one by one.** It may help to put your own interests first. By writing down the steps you plan to take, you will have a clear outline once you have started writing your question (and it will give the interviewer a chance to fix it if there is a problem in your way).

Then write on the rise, taking one step at a time for your outline. After you are happy with your code in the first step, build on that code in the second step.

6. **Describe your overall solution**. If there is a more efficient way to write your code — using the questions below as an example — explain that. And remember to answer the first question.

Successful SQL Chat Tips

In addition to the above procedure, here are some tips to keep in mind when it comes to your SQL interview.

Talk about your process aloud. Your interviewer may or may not know SQL themselves, so be sure to explain what, how, and why each step is.

Include written comments on what each step of your question is intended to accomplish. This can help you track where your problem is, and it can make your code easier to understand. When coding live, you can write comments using a double hash (-). On the white board, write your ideas on the side.

Use correct formatting. Although your problem-solving ability is more important than precise syntax, you can avoid confusing the interviewer (and you) by keeping your handwritten code organized.

Accept the discomfort. It's okay if the room is quiet while you think about the problem. As you think about it, you may find that you have to start over with a good idea of how to explain something. That's fine too.

Conclusion

We have discussed the best and most important queries of SQL that are asked in most of the Data analysis Interviews and also saw there execution with code. Types of Coding test including Whiteboard test, Live coding and Homework. A step wise execution process of SQL queries is also described with all 6 Key points. In the SQL tips section there are some tips and tricks for you to follow while attending an Interview.

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