# SQL BASICS PRACTICE TEST (SAMPLE)

## STUDY GUIDE



## SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

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# Introduction

Preparing for a certification exam can feel overwhelming, but with the right tools, it becomes an opportunity to build confidence, sharpen your skills, and move one step closer to your goals. At Examzify, we believe that effective exam preparation isn't just about memorization, it's about understanding the material, identifying knowledge gaps, and building the test-taking strategies that lead to success.

This guide was designed to help you do exactly that.

Whether you're preparing for a licensing exam, professional certification, or entry-level qualification, this book offers structured practice to reinforce key concepts. You'll find a wide range of multiple-choice questions, each followed by clear explanations to help you understand not just the right answer, but why it's correct.

The content in this guide is based on real-world exam objectives and aligned with the types of questions and topics commonly found on official tests. It's ideal for learners who want to:

- Practice answering questions under realistic conditions,
- Improve accuracy and speed,
- Review explanations to strengthen weak areas, and
- Approach the exam with greater confidence.

We recommend using this book not as a stand-alone study tool, but alongside other resources like flashcards, textbooks, or hands-on training. For best results, we recommend working through each question, reflecting on the explanation provided, and revisiting the topics that challenge you most.

Remember: successful test preparation isn't about getting every question right the first time, it's about learning from your mistakes and improving over time. Stay focused, trust the process, and know that every page you turn brings you closer to success.

Let's begin.

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# How to Use This Guide

This guide is designed to help you study more effectively and approach your exam with confidence. Whether you're reviewing for the first time or doing a final refresh, here's how to get the most out of your Examzify study guide:

### 1. Start with a Diagnostic Review

Skim through the questions to get a sense of what you know and what you need to focus on. Your goal is to identify knowledge gaps early.

### 2. Study in Short, Focused Sessions

Break your study time into manageable blocks (e.g. 30 – 45 minutes). Review a handful of questions, reflect on the explanations.

### 3. Learn from the Explanations

After answering a question, always read the explanation, even if you got it right. It reinforces key points, corrects misunderstandings, and teaches subtle distinctions between similar answers.

### 4. Track Your Progress

Use bookmarks or notes (if reading digitally) to mark difficult questions. Revisit these regularly and track improvements over time.

### 5. Simulate the Real Exam

Once you're comfortable, try taking a full set of questions without pausing. Set a timer and simulate test-day conditions to build confidence and time management skills.

### 6. Repeat and Review

Don't just study once, repetition builds retention. Re-attempt questions after a few days and revisit explanations to reinforce learning. Pair this guide with other Examzify tools like flashcards, and digital practice tests to strengthen your preparation across formats.

There's no single right way to study, but consistent, thoughtful effort always wins. Use this guide flexibly, adapt the tips above to fit your pace and learning style. You've got this!

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# Questions

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**1. How do you extract the year from a date column named order_date?**

A. SELECT YEAR(order_date) FROM orders;

B. SELECT EXTRACT(YEAR FROM order_date) AS order_year FROM orders;

C. SELECT DATEPART(year, order_date) FROM orders;

D. EXTRACT(YEAR FROM order_date) AS year FROM orders;

**2. In the hexadecimal number system, which characters are used to represent values 10-15?**

A. Binary number system

B. Decimal number system

C. Octal number system

D. Hexidecimal number system

**3. Which sequence begins a transaction and then commits it?**

A. ROLLBACK; COMMIT;

B. START TRANSACTION; COMMIT;

C. START TRAN; COMMIT;

D. BEGIN TRANSACTION; ROLLBACK;

**4. Which operation changes the structure of an existing table?**

A. Update

B. Create Table

C. Delete From

D. Alter Table

**5. Which syntax assigns an alias to a table in the FROM clause?**

A. FROM customers AS c

B. FROM customers c

C. SELECT c FROM customers

D. FROM AS c

**6. What is a correlated subquery?**

A. A subquery that references outer query columns

B. A subquery that runs independently of outer query

C. A subquery using JOIN

D. A subquery that returns a scalar only

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**7. Which term is a clause that indicates the data being inserted?**

A. SET

B. VALUES

C. Table_name

D. SQL Alias

**8. Which operator removes duplicates when combining results from two SELECT statements?**

A. INTERSECT

B. UNION ALL

C. UNION

D. CROSS JOIN

**9. Write a query to fetch all orders with status = 'shipped'.**

A. SELECT * FROM orders WHERE status = 'processing';

B. SELECT * FROM orders WHERE status = 'pending';

C. SELECT * FROM orders WHERE status = 'shipped' AND date = '2020-01-01';

D. SELECT * FROM orders WHERE status = 'shipped';

**10. How do you select a customer's total orders using a scalar subquery in the SELECT list?**

A. SELECT c.id, (SELECT COUNT(*) FROM orders o WHERE o.customer_id = c.id) AS total_orders FROM customers c;

B. SELECT c.id, (SELECT SUM(order_amount) FROM orders o WHERE o.customer_id = c.id) AS total_orders FROM customers c;

C. SELECT c.id, (SELECT COUNT(*) FROM orders o WHERE o.customer_id = c.id) FROM customers;

D. SELECT c.id, (SELECT COUNT(*) FROM orders o WHERE o.customer_id = c.id) AS total_orders FROM customers;

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# Answers

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1. B
2. D
3. B
4. D
5. A
6. A
7. B
8. C
9. D
10. A

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# Explanations

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## 1. How do you extract the year from a date column named order_date?

A. SELECT YEAR(order_date) FROM orders;

B. SELECT EXTRACT(YEAR FROM order_date) AS order_year FROM orders;

C. SELECT DATEPART(year, order_date) FROM orders;

D. EXTRACT(YEAR FROM order_date) AS year FROM orders;

*Extract the year part of a date using the standard EXTRACT syntax and give the result a clear name. EXTRACT(YEAR FROM order_date) returns the year component from order_date, and aliasing it as order_year makes the output easy to read and reuse in further queries (like grouping or reporting). This approach is portable across many database systems, unlike vendor-specific functions such as YEAR() or DATEPART(year, ...). Using a descriptive alias also helps when the result is used in joins or downstream calculations.*

## 2. In the hexadecimal number system, which characters are used to represent values 10-15?

A. Binary number system

B. Decimal number system

C. Octal number system

D. Hexidecimal number system

*In the hexadecimal system, each value above 9 needs a distinct symbol, and the base is 16. To represent values 10 through 15, the symbols used are A, B, C, D, E, and F. That's why hexadecimals are written with digits 0–9 for values 0–9 and letters A–F for 10–15. The other bases use different sets of symbols: binary uses 0 and 1, decimal uses 0–9, and octal uses 0–7. So the concept being tested is that hexadecimal expands beyond digits by using letters A–F to represent 10–15.*

## 3. Which sequence begins a transaction and then commits it?

A. ROLLBACK; COMMIT;

B. START TRANSACTION; COMMIT;

C. START TRAN; COMMIT;

D. BEGIN TRANSACTION; ROLLBACK;

*In SQL, a transaction must be opened before you can commit it. You start a transaction with a command like START TRANSACTION (or BEGIN TRANSACTION), perform your operations, and then use COMMIT to make all those changes permanent (or use ROLLBACK to discard them). The sequence START TRANSACTION; COMMIT; fits the pattern exactly: it opens the transaction first, then finalizes the changes with a commit. The other options start with rollback or mix up the order, which doesn't end with a committed, permanent set of changes. In many databases you could also see BEGIN TRANSACTION as the opening command, but the essential idea remains the same: open, then commit.*

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## 4. Which operation changes the structure of an existing table?

A. Update

B. Create Table

C. Delete From

D. Alter Table

*Changing the structure of an existing table is done with ALTER TABLE. This command modifies the table's schema—adding or dropping columns, changing a column's data type, adjusting constraints, or even renaming the table. It's about the table's definition, not the data itself. Update changes values inside existing rows, Delete From removes rows, and Create Table builds a new table with its own schema, so they don't alter the structure of an existing table.*

## 5. Which syntax assigns an alias to a table in the FROM clause?

A. FROM customers AS c

B. FROM customers c

C. SELECT c FROM customers

D. FROM AS c

*Aliasing a table in the FROM clause means giving the table a temporary name to use elsewhere in the query. The explicit, standard way to do this is writing FROM customers AS c. Here, the real table is customers, and c becomes its alias, so you can reference columns as c.column in the rest of the query, for example: SELECT c.id FROM customers AS c. The AS form is clear and portable across databases. Some dialects also allow omitting AS, as in FROM customers c, which is equivalent in many systems. The syntax that places the alias in the SELECT clause isn't how you assign a table alias in the FROM clause. And a form like FROM AS c is invalid because it lacks a table name.*

## 6. What is a correlated subquery?

A. A subquery that references outer query columns

B. A subquery that runs independently of outer query

C. A subquery using JOIN

D. A subquery that returns a scalar only

*A correlated subquery is a subquery that references columns from the outer query. That reference ties the inner query to the specific row being processed in the outer query, so the inner query's result can vary for each outer row. Because of this dependency, the inner query is evaluated once per row of the outer query, rather than just once. A common use is with EXISTS or IN to check for related rows that meet a condition for the current outer row. For example, if you're listing employees who have a salary above a threshold, the inner query can refer to the outer employee's id to test that condition. This dependence on the outer row distinguishes a correlated subquery from an uncorrelated one, which does not reference outer columns and can run independently. While a correlated subquery can return a scalar in some contexts, its defining feature is the reference to outer query columns, not the data type of the inner result.*

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## 7. Which term is a clause that indicates the data being inserted?

A. SET

B. VALUES

C. Table_name

D. SQL Alias

*The data being inserted is specified by the VALUES clause. In a standard INSERT statement, you list the target columns and then use VALUES followed by the actual data values in parentheses, matching the column order. For example: INSERT INTO employees (name, age) VALUES ('Alice', 30); Here, 'Alice' and 30 are the data being inserted, provided by the VALUES clause. SET is used to assign column values in UPDATE statements (and, in some dialects like MySQL, as an alternative INSERT syntax, but it's not the standard way to indicate inserted data). Table_name is simply the destination table you're inserting into. An SQL alias is a temporary name given to a table or column in a query for readability.*

## 8. Which operator removes duplicates when combining results from two SELECT statements?

A. INTERSECT

B. UNION ALL

C. UNION

D. CROSS JOIN

*When you want to combine results from two SELECT statements into one result set, you use a set operation. The operator that removes duplicates in the merged results is UNION. It returns all distinct rows from both queries, so any duplicate row that appears in either result appears only once in the final output. If you needed to keep duplicates, you'd use UNION ALL, which simply appends the two results together without eliminating duplicates. By comparison, INTERSECT gives you only the rows that appear in both results, and CROSS JOIN creates every possible pairing of rows from the two results, not a deduplicated merge. For example, if the two queries return 1, 2, 3 and 2, 3, 4, UNION produces 1, 2, 3, 4; UNION ALL produces 1, 2, 3, 2, 3, 4; INTERSECT produces 2, 3.*

## 9. Write a query to fetch all orders with status = 'shipped'.

A. SELECT * FROM orders WHERE status = 'processing';

B. SELECT * FROM orders WHERE status = 'pending';

C. SELECT * FROM orders WHERE status = 'shipped' AND date = '2020-01-01';

D. SELECT * FROM orders WHERE status = 'shipped';

*The main idea here is filtering rows with a precise condition using the WHERE clause. To fetch all orders whose status is shipped, you filter by status = 'shipped' and return all columns with SELECT *. This is the correct approach because it selects every row from the orders table where the status column exactly matches the value 'shipped'. The other options either look for a different status (which would return orders that aren't shipped) or add an extra date condition, which would exclude shipped orders that don't meet that date.*

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**10. How do you select a customer's total orders using a scalar subquery in the SELECT list?**

A. SELECT c.id, (SELECT COUNT(*) FROM orders o WHERE o.customer_id = c.id) AS total_orders FROM customers c;

B. SELECT c.id, (SELECT SUM(order_amount) FROM orders o WHERE o.customer_id = c.id) AS total_orders FROM customers c;

C. SELECT c.id, (SELECT COUNT(*) FROM orders o WHERE o.customer_id = c.id) FROM customers;

D. SELECT c.id, (SELECT COUNT(*) FROM orders o WHERE o.customer_id = c.id) AS total_orders FROM customers;

*A scalar correlated subquery in the SELECT list lets you compute a single value for each row of the outer query by referring to that row's columns. In this case, you want the number of orders for each customer, so you count the rows in orders that belong to the current customer. The best choice selects each customer id from the customers table (properly aliased) and, for that customer, runs a subquery that counts how many orders have the same customer_id. The correlation comes from referencing the outer table's id (c.id) inside the subquery, so the count is computed per customer. The result is labeled total_orders, producing a per-customer total. Other options fail for specific reasons: one would sum order amounts instead of counting orders, giving total value rather than total count. Another omits aliasing the outer table, which makes the reference to c.id invalid. The remaining option is missing the alias for the computed column, which is a presentation issue rather than a functional one, but it still doesn't match the stated pattern.*

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# Next Steps

Congratulations on reaching the final section of this guide. You've taken a meaningful step toward passing your certification exam and advancing your career.

As you continue preparing, remember that consistent practice, review, and self-reflection are key to success. Make time to revisit difficult topics, simulate exam conditions, and track your progress along the way.

If you need help, have suggestions, or want to share feedback, we'd love to hear from you. Reach out to our team at hello@examzify.com.

Or visit your dedicated course page for more study tools and resources:

https://sqlbasics.examzify.com

We wish you the very best on your exam journey. You've got this!

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