

SQL BASICS PRACTICE TEST (SAMPLE)

STUDY GUIDE



**SAMPLE STUDY GUIDE
WITH LIMITED QUESTIONS**

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Table of Contents

Copyright	1
Table of Contents	2
Introduction	3
How to Use This Guide	4
Questions	5
Answers	8
Explanations	10
Next Steps	15

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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.

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!

Questions

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- 1. Which description best defines a correlated subquery?**
 - A. A subquery that does not reference the outer query
 - B. A subquery that is executed only once
 - C. A subquery that is evaluated for each row of the outer query
 - D. A subquery that uses an aggregate function
- 2. A group of attributes describing the structure of entities is called what?**
 - A. Attribute-type
 - B. Entity-type
 - C. Relation-type
 - D. Schema-type
- 3. What is the database system catalog that stores metadata about tables, views, and constraints?**
 - A. Attribute
 - B. Data Dictionary
 - C. Block
 - D. Clause
- 4. Which operator lets you combine two SELECT statements into one, requiring the same number of output fields in the same order?**
 - A. JOIN
 - B. INTERSECT
 - C. DIFFERENCE
 - D. UNION
- 5. Which SQL statement creates a new table?**
 - A. Insert Into
 - B. Update
 - C. Create Table
 - D. Select

6. In SQL, which concept allows you to assign a temporary name to a column or expression in a query?
- A. Label
 - B. Alias
 - C. As Name
 - D. SQL Alias
7. Which expression would you use to filter orders within the last 30 days relative to today?
- A. `order_date > NOW() - INTERVAL '30 days'`
 - B. `order_date >= DATE '30 days ago'`
 - C. `order_date > CURRENT_DATE - INTERVAL '30 days'`
 - D. `order_date > ADD_MONTHS(CURRENT_DATE, -1)`
8. Which statement fragment is used to add a new column to an existing table?
- A. ADD COLUMN
 - B. ADD
 - C. INSERT COLUMN
 - D. APPEND COLUMN
9. What term describes a single record in a table with exactly one value for each column?
- A. Field
 - B. Row
 - C. Table (= Relation)
 - D. View
10. Which aggregate function returns the average value for a numeric column, excluding NULLs?
- A. Sum
 - B. Max
 - C. Avg
 - D. Min

Answers

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

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Explanations

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1. Which description best defines a correlated subquery?

- A. A subquery that does not reference the outer query
- B. A subquery that is executed only once
- C. A subquery that is evaluated for each row of the outer query**
- D. A subquery that uses an aggregate function

A correlated subquery is a subquery that references a column from the outer query, so it must be evaluated for each row of the outer query. Because the inner query depends on values from the current outer row, the database re-runs it for every row, using that row's data to determine the condition. This is why you often see correlations in EXISTS or in comparisons that relate the outer row to related data. For example, a query that asks for employees whose salary is above the average salary in their own department uses the department value from the outer row inside the inner query, making the inner query depend on each outer row. In contrast, a non-correlated subquery does not reference outer columns and can be executed just once, producing a result that the outer query uses later. An inner query that uses an aggregate or doesn't reference outer values isn't by itself a correlation; the key idea is the dependency on the outer query's current row.

2. A group of attributes describing the structure of entities is called what?

- A. Attribute-type
- B. Entity-type**
- C. Relation-type
- D. Schema-type

In database modeling, an entity type is a class of objects that share the same attributes. The attributes define the properties every member of that class has, so the collection of those attributes describes the structure of that group. That's why the best term is entity-type. The other terms don't fit common modeling language: attribute-type isn't used to name a class of entities, relation-type refers more to a table or association, and schema-type isn't standard terminology—the overall blueprint is called a schema.

3. What is the database system catalog that stores metadata about tables, views, and constraints?

- A. Attribute
- B. Data Dictionary**
- C. Block
- D. Clause

The data dictionary is the database system catalog that stores metadata about tables, views, constraints, and other schema objects. This centralized store describes the structure of the database—table and column definitions, data types, constraints, indexes, views, permissions, and more—so the DBMS can validate queries, enforce rules, and plan execution. The actual user data sits in tables, while metadata about those objects lives in the data dictionary, which the system uses behind the scenes. Other terms don't fit because they don't represent a centralized repository for schema metadata: an attribute is a column property, a block is a storage unit, and a clause is part of SQL syntax.

4. Which operator lets you combine two SELECT statements into one, requiring the same number of output fields in the same order?

- A. JOIN
- B. INTERSECT
- C. DIFFERENCE
- D. UNION**

Union is used to combine two SELECT results into one result set, as long as both queries return the same number of columns in the same order. It effectively stacks the rows from both queries into a single list. By default, duplicates are removed, so you get each distinct row once; if you want to keep duplicates, use UNION ALL. The other options work differently: JOIN merges related rows from two tables side by side based on a condition, not simply stacking results; INTERSECT returns only rows that appear in both result sets; DIFFERENCE (or EXCEPT/MINUS) returns rows that appear in the first result but not in the second.

5. Which SQL statement creates a new table?

- A. Insert Into
- B. Update
- C. Create Table**
- D. Select

Creating a new table in SQL is done with CREATE TABLE, which defines the table's name and its columns with their data types and any constraints. This statement establishes the structure of the table, and you can add data later with INSERT. For example: CREATE TABLE employees (id INT PRIMARY KEY, name VARCHAR(100), salary DECIMAL(10,2)); The other statements perform actions on existing tables: INSERT INTO adds new rows, UPDATE changes data in existing rows, and SELECT retrieves data from the table.

6. In SQL, which concept allows you to assign a temporary name to a column or expression in a query?

- A. Label
- B. Alias
- C. As Name
- D. SQL Alias**

*Giving a temporary name to a column or expression in a query is called an alias. It makes derived values easy to read and lets you refer to them in other parts of the query, like ORDER BY or GROUP BY. You usually write it with AS, such as SELECT salary * 12 AS annual_salary FROM employees, though AS is optional in many systems. The alias exists only for the duration of that query and does not change the actual table schema.*

7. Which expression would you use to filter orders within the last 30 days relative to today?

- A. `order_date > NOW() - INTERVAL '30 days'`
- B. `order_date >= DATE '30 days ago'`
- C. `order_date > CURRENT_DATE - INTERVAL '30 days'`**
- D. `order_date > ADD_MONTHS(CURRENT_DATE, -1)`

The key idea is to define a rolling 30-day window based on today and keep only orders that fall within that window. Using the current date and subtracting 30 days gives a clear cutoff date. By comparing `order_date` to that cutoff with a strict greater-than, you select orders that occurred after that cutoff, i.e., within the most recent 30 days up to today. Using `CURRENT_DATE` helps keep the boundary simple and avoids time components that can complicate date comparisons if `order_date` is a date (or a timestamp that will implicitly cast). It also ensures the window stays fixed to 30 days, not to calendar months. Other approaches either introduce a time component (`NOW()`) which can affect boundary behavior, or subtract a calendar month (`ADD_MONTHS`) which isn't the same as 30 days, since month lengths vary. The chosen expression thus cleanly and reliably captures the intended 30-day period.

8. Which statement fragment is used to add a new column to an existing table?

- A. `ADD COLUMN`**
- B. `ADD`
- C. `INSERT COLUMN`
- D. `APPEND COLUMN`

When you want to extend a table's structure, you use an `ALTER TABLE` statement. The part that brings in a new column is `ADD COLUMN`, followed by the column name and its data type. This exact fragment is what you'll see in standard syntax: `ALTER TABLE table_name ADD COLUMN column_name data_type`. For example, `ALTER TABLE employees ADD COLUMN birthdate DATE`; Some dialects let you write `ADD` without `COLUMN`, but `ADD COLUMN` clearly signals that you're introducing a new column. The phrases `INSERT COLUMN` and `APPEND COLUMN` aren't valid SQL for modifying a table's schema.

9. What term describes a single record in a table with exactly one value for each column?

- A. Field
- B. Row**
- C. Table (= Relation)
- D. View

A single row in a relational table represents one complete record, with one value in each column. Each column holds a specific attribute, so a row collects all those attributes for one particular entity, like one person or one product. For example, a row might have an ID, a name, and a department, giving the full set of details for that one entry. A field refers to a single piece of data within a row at a specific column, not the whole record. A table (relation) is the entire set of rows and columns. A view is a saved query that presents data from tables as a virtual table.

10. Which aggregate function returns the average value for a numeric column, excluding NULLs?

- A. Sum
- B. Max
- C. Avg
- D. Min

Average value calculation is what this question tests: the function that yields the mean of a numeric column is AVG. It sums all non-null values and divides by the count of non-null values, so NULLs are ignored in the calculation. That's why it returns the average rather than the total, or the maximum or minimum. For example, with values 3, 5, NULL, 7, the average is $(3+5+7)/3 = 5$. Sum would give 15, max would be 7, and min would be 3, illustrating the different results.

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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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