

Basic: (Entry level roles)

1. CRUD operations: SELECT, INSERT, UPDATE, DELETE
2. Filtering data using WHERE
3. Sorting data with ORDER BY
4. [Aggregating](#) data using functions like COUNT, SUM, AVG
5. Using [JOIN operations](#) to combine tables (INNER JOIN, LEFT JOIN)
6. Basic data types: INTEGER, VARCHAR, DATE, etc.
7. [GROUP BY](#) clause
8. [General aggregate functions](#): AVG, SUM, MAX, MIN, etc.
9. [Data type conversion](#): CAST, CONVERT, etc.
10. [LIMIT and OFFSET](#) for pagination.
11. Understanding of primary and foreign keys.
12. [Basic date & time functions](#): HOUR, DAY, DATE_TRUNC, DATEADD, DATEDIFF etc.
13. Using [DISTINCT](#) to get unique values.
14. [Basic string functions](#): CONCAT, REPLACE, LOWER, TRIM, LENGTH, SPLIT, etc.

Intermediate (Experienced/Senior roles):

1. [Subqueries](#) (in SELECT, FROM, and WHERE clauses)
2. [Common Table Expressions](#) (WITH clause).
3. [Using pattern matching](#) (LIKE, ILIKE).
4. [Advanced JOINS](#): RIGHT JOIN, FULL OUTER JOIN, CROSS JOIN, self joins, etc.
5. [Views](#) creation and usage
6. Complex aggregations: [HAVING](#) clause, multiple aggregations
7. [Conditional expression functions](#): COALESCE, CASE, NULLIF, etc.
8. [Set operations](#): UNION, INTERSECT, EXCEPT
9. [Window functions](#): ROW_NUMBER, RANK, LAG, LEAD, QUALIFY, etc.
10. Using [Semi-structured data functions](#) like ARRAY_CONTAINS(), ARRAY_SLICE(), etc., when working with semi-structured data types.
11. Advanced semi-structured data querying with [FLATTEN\(\)](#)

Advanced (Senior/Staff roles):

1. Query optimization and execution plan analysis
2. Data normalization and denormalization techniques
3. Partitioning tables for performance, clustering
4. Working with [JSON](#), [XML](#), and other non-relational data in SQL
5. Writing stored procedures and user-defined functions (UDFs)
6. Integration of SQL with other languages (e.g., Python, R)
7. Performance optimization (Partitioning, Clustering, Materialized views, Warehouse sizing, and Query profiling)
8. [Hierarchical and recursive queries](#)
9. [Pivoting and unpivoting data.](#)
10. [Temporary table](#) and table variables.
11. [REGEXP](#) functions