THE ULTIMATE

SQL Guide

Everyone learns uniquely

Starting with SQL, and not sure which topics to cover?

Take the help of this Doc that will help you understand all the topics that you need to cover from:

Basic → Intermediate level, and Intermediate → Advance level

Make sure to use the resources provided to get better understanding.

#1   Introduction to SQL

✏️ What is SQL?

✏️ Why Learn SQL?

✏️ SQL vs. NoSQL

#2   SQL Basics

✏️ SELECT Statement

✏️ WHERE Clause

✏️ ORDER BY Clause

✏️ LIMIT and OFFSET

✏️ DISTINCT Keyword

#3 Data Filtering & Conditions

✏️ Comparison Operators

✏️ Logical Operators

✏️ BETWEEN Operator

✏️ IN Operator

✏️ LIKE Operator

#4 Data Manipulation

✏️ INSERT Statement

✏️ UPDATE Statement

✏️ DELETE Statement

#5 Working with Table

✏️ CREATE TABLE Statement

✏️ ALTER TABLE Statement

✏️ DROP TABLE Statement

✏️ Constraints (PRIMARY KEY, FOREIGN KEY, UNIQUE)

#6 Data Retrieval

✏️ Aggregate Functions (SUM, AVG, COUNT, MIN, MAX)

✏️ GROUP BY Clause

✏️ HAVING Clause

✏️ JOINS (INNER JOIN, LEFT JOIN, RIGHT JOIN, FULL JOIN)

✏️ Subqueries

#7 Working with Table

✏️ CREATE TABLE Statement

✏️ ALTER TABLE Statement

✏️ DROP TABLE Statement

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#8 Data Retrieval

✏️ Aggregate Functions (SUM, AVG, COUNT, MIN, MAX)

✏️ GROUP BY Clause

✏️ HAVING Clause

✏️ JOINS (INNER JOIN, LEFT JOIN, RIGHT JOIN, FULL JOIN)

✏️ Subqueries

#9 Advanced SQL

✏️ Views

✏️ Stored Procedures

✏️ Triggers

✏️ Indexes

#10 Working with Dates and Times

✏️ DATE Functions (CURRENT_DATE, DATEADD, DATEDIFF)

✏️ TIME Functions (CURRENT_TIME, GETDATE)

✏️ TIMESTAMP Functions (CURRENT_TIMESTAMP)

#11 Data Transformation

🖊️ CASE Statement

🖊️ COALESCE Function

🖊️ CONCATENATE (CONCAT) Function

🖊️ CAST and CONVERT Functions

#12 Window Functions

🖊️ ROW_NUMBER()

🖊️ RANK()

🖊️ DENSE_RANK()

🖊️ NTILE()

#13 Transactions and Locking

✏️ COMMIT and ROLLBACK Statements

✏️ ACID Properties

✏️ Lock Types (Shared, Exclusive, etc.)

#14 Working with NULL Values

✏️ IS NULL

✏️ IS NOT NULL

✏️ COALESCE vs. NULLIF

#15 Database Security

✏️ Users and Permissions

✏️ SQL Injection Prevention

✏️ Encryption

#16 Performance Optimization

✏️ Indexing Strategies

✏️ Query Optimization

✏️ EXPLAIN Plan

#17 Working with Multiple Databases

✏️ Database Management Systems (DBMS)

✏️ Connecting to Multiple Databases

✏️ Data Migration

#18 Advanced Topics

✏️ JSON Functions

✏️ Geospatial Functions

✏️ Regular Expressions

✏️ NoSQL vs. SQL

#19 Resources and Learning

🔗 https://www.youtube.com/watch?v=AA7i2GcTGwU&ab_channel=Simplilearn

🔗 https://www.youtube.com/watch?v=hlGoQC332VM&ab_channel=ApnaCollege

🔗 https://www.w3schools.com/sql/

This structured guide covers a wide range of SQL topics, from basics to advanced concepts.

Make a structured plan and always remember to go according to your own pace.

All the best!

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WHY BOSSCODER?

👥 **1000+** Alumni placed at Top Product-based companies.

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💰 Average package of **24LPA.**

The syllabus is most **up-to-date** and the list of problems provided covers **all important topics.**

Lavanya
∞ Meta

Course is very well **structured** and **streamlined** to crack any MAANG company

Rahul .
Google

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