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Mastering Structured Query Language (SQL)

Introduction

SQL language is one of most sought-after skills by recruiters. SQL is extremely popular because it helps interacting with Databases in the variety of ways possible. Corporates have huge databases that stores entire organisation data. To be able to get desired data from Databases makes SQL a valuable skill.

SQL is adapted & approved by International Organization for Standards (ISO) however when SQL is implemented by different RDBMS it changes. Therefore, we cover SQL under 1. Access 2. MYSQL and 3. SQL server to give students a wider perspective of SQL implementation.

This course covers wide variety of basic to advanced SQL Examples, The coverage includes

- Creating DQL, DDL, DCL & DML Queries from scratch, step by step with logic and reasoning.
- Creating & Managing Queries/Views, Functions, Stored Procedures, Triggers, Schemas, Temp Tables, CTE, Pivots etc.
- Transaction Language of MYSQL and T-SQL in SQL Server
- Creating SQL Queries in smarter way &
- Import/Export Data to excel also covered.

Students after successfully completing this course can apply to any Role requiring knowledge of SQL except Database Administrator role.

Note: PL-SQL (Oracle Database) is out of scope of this course however the knowledge derived from this course will help student tremendously to gain familiarity and learn PL-SQL independently after the course.

Examples and Concepts Coverage

0. Shortcuts, Environment, Tools
1. Fetch Multiple Column Data from Table
2. Fetch Combined Column Data from Table
3. Sort Data by Single Column
4. Sort Data by Single Column in Desc Order
5. Giving Alias to Columns & Calculated Columns
6. Dealing with Spaces in Column Names and Aliases
7. Filtering Rows by single Criteria
8. Filtering Rows by Multiple Criteria's

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9. Filtering Rows by single Criteria Example 2
10. Getting the Count of records meeting criteria
11. Getting Sum of Quantity When a criteria is met
12. Getting Average of Qty when a criteria is met
13. Getting records before a given date
14. Getting records between a given date range
15. Getting records between a given date range (using between operator)
16. Getting records between a given date range (using Year Function)
17. Getting Field result from Multiplication (2 Variations)
18. Lookup and Fetch values from other tables using Joins
19. Lookup and Fetch values from other tables using Joins (Complex Example)
20. Grouping Data together along with Calculations
21. Showing Total Sales by Each Customer (Joins Example with Groups)
22. Show Company Name and its Sales amount (Multi Table Join Example along with Grouping Data)
23. Show Initial also along with Company Name (Multi Table Join Example along with Grouping Data)
24. Show Initial also along with Company Name (Multi Table Join Example along with Grouping Data, 2nd Way)
25. Show Category wise Total Sales (Complex Example)
26. Simple Left Join Example
27. Show Less than 50K and Greater than 50K Sales
 - 27.1 Union two record sets
 - 27.2 Order Matters
 - 27.3 Column Count Matters
28. Clubbing Queries
29. Show Total below Data Table
30. Using If in SQL Query
31. Creation of Dependent queries
32. Dealing with Upper and Lower Limits without using Complex Ifs.
33. Modifying Records
34. Modifying Multiple Fields together
35. Modifying Records conditionally
36. Getting summary of Number of Hires by Year
37. Understanding usage of Subquery inside complex queries
38. Modify Data (5 Examples)
39. Step by Step writing Complex Queries
40. Insert Data using SQL
41. Join and Group by Example
42. Example on knowing Days Lapsed using DateDiff
- 043.1 Show Months not available in SetB compared with SetA
- 043.2 show only Jan, Feb and Mar month using in Operator
- 043.3 show other than Jan, Feb and Mar Months using not in
- 043.4 Getting result using Subquery and Not in
- 44.1 Get Top 3 Results
- 44.2 Using Top operator inside sub Query
45. Getting Salary greater than Average of Total



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46. Show Subscribers whose Subscription expired
47. Show Subscribers with Active Subscription
48. Show Subscribers details Where EndDate has been expired, They have opted for Calling and but not yet called
49. Show No of persons opted and No of Persons Not Opted
50. In those opted show how many called and not called
51. Show Opt Y and N in different columns
52. Show Total below 51 result
53. Show Daywise Calling Data
54. Show total below 53rd Example (Task)
55. Blank
56. Show Month wise Sales (4 Different Examples)
57. Show Qtrs in Query using Qtrs table and by using IIF
58. Using DataAdd and Creating New table using SQL (4 Examples)
59. Creating Complex Query step by step and using Parameters (6 Examples)
60. Creating Cross Tab Query or Pivot Table
61. Understanding Left Join, Right Join, Outer Join, Cross Join with Examples
62. Self Join Example
63. De Normalizing Data
64. Getting all permutations & combinations using sql
65. Getting Unique Data or Removing Duplicates
66. MySQL Introduction
67. Hosting and Domain Concepts, Understanding Connection, Creating ODBC DSN, Installation of MYSQL Client tool MySQL Workbench.
68. Understanding Data types, Overcoming initial errors, Trick to create long dynamic SQL queries, Learning Wild Card Search, Understanding Difference between Delete and Truncate, Adding a New and Deleting Column in Table, Creating Unique Index and deleting Index.
69. Creating new table using SQL with auto increment & primary key, Understanding Indexes and Primary key. Changing Column Name, Changing Table Name, Applying Joins on MySQL tables, Creating View using Joins, Applying Groups on Table, Finding Stored View Definition, Debugging Errors, Creating Stored Procedure with one argument, Way to Update or Correct existing Stored Procedure, Executing Procedure, Creating User defined Function with one Argument, Understanding Declaring Variables, Concept of Function returning values.
70. Dropping Multiple tables, views, procedures & functions. Primary key concept and best practices, Creating 3 tables using SQL, Getting date in a specific format, Understating If Exists in MySQL, Getting Current date in a specified format using a function, Implementing Function
71. Creating Multiple Tables, Using If End if block and calling functions inside Procedure, storing field values inside variables (Multiple Functions and Procedure examples)
72. Creating Tables and Data, Pivot in Access and in Mysql (Multiple Examples)
73. Transaction Introduction
- 73.1 Last inserted ID concept, Output Argument in Stored Procedure, Adding Time, Updating multiple statements in single Stored Procedure, Using Transactions, Rollback, If, Handler and commit (Refined Multiple Examples)
74. Drop Tables another way, Creating normal and Temporary Tables, Using Temp tables for intermediary steps.
75. Create tables and data, Creating After Insert Trigger
76. Create tables and data, New Example of Creating After Insert Trigger, After Delete Trigger,

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Creating a Log, creating and using After Update Trigger.

77. On delete Cascade and ON DELETE Restrict example

78. Installation of SQL Server Express, Concepts of SSMS, Drop and Create Table, getting familiar with SSMS tables, Getting details of all available tables in Database, Creating Database, Get Object Id of various objects, Getting Rownumbers, Rank, Backing up Database, Creating View, Creating Function with one and Multiple Arguments, Declaring Variables, Creating Stored Procedure, Executing Stored Procedure, Altering Column Datatype, Altering Procedure, Copying data to Excel and importing data from Excel.

79. CTE, Triggers in SQL Server, Creating Queries using Query Pane, Using Local & Global Temp Tables, Creating Pivots, Creating and using Schema, Attaching a Database, Deleting Database.

80. Using SQL in Excel Power Query (Multiple Examples)

81. Question & Answers