

Basic SQL

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This contains the basic in SQL/Databases one should be familiar with for Software Developer/Data Analyst/Data Scientist role.

1. Need for Databases
2. DBMS/RDBMS
3. SQL
4. Types of Commands
 - (a) DDL
 - (b) DML
5. Create/Alter/Drop Database
6. Create/Alter/Drop Table
7. **Constraints**
 - (a) Primary Key
 - (b) Foreign Key
 - (c) Unique
 - (d) Check
 - (e) Not Null
 - (f) Default
8. AUTO-INCREMENT/IDENTITY
9. **Queries**
 - (a) CREATE
 - (b) SELECT
 - (c) UPDATE
 - (d) DELETE
10. Joins and Types
 - (a) Inner Join
 - (b) Outer Join
 - i. Left Outer
 - ii. Right Outer
 - iii. Full Outer
 - (c) Self Join
 - (d) Cross Join

11. Handling NULL values
 - (a) CASE Statement
 - (b) COALESCE
 - (c) ISNULL() or NVL()
12. UNION ALL (Contains Duplicates)
13. UNION (Slower)
14. Joins vs UNION
15. INTERSECT
16. MINUS
17. Normalization (Normal Forms)
 - (a) 1NF
 - (b) 2NF
 - (c) 3NF
 - (d) 4NF
 - (e) 5NF
 - (f) BCNF
18. Indexes and Types
 - (a) Clustered
 - (b) Non-Clustered
 - (c) Unique
19. Cursor
20. Views
21. Triggers and Types
22. Stored Procedure (SP)
 - (a) System Generated
 - (b) User Defined
23. Temporary Tables
 - (a) Local Temporary
 - (b) Global Temporary
24. Common Table Expression (CTE)
25. Sub-Queries
 - (a) Normal
 - (b) Correlated