TECH NEST ACADEMY
SQL

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Syllabus

- Create
- Insert
- Upper/lower case
- Having
- Desc
- Order by case
- Diff between zero, blank and null
- Length
- Distinct
- Case
- Drop
- Alias
- NVL
- Delete
- Truncate
- Diff between delete drop and truncate
- Duplicate
- CTE(common table expression)/with clause

- Mod
- Concat-||
- Coalesce
- Substring
- Instr
- Alter
- Listagg
- Level
- Decode
- Recursive cte
- Pivot Reverse

1. Comparison Operators

- Greater than
- Greater than equal
- Less than
- Less than equal
- Not equal
- And
- Or

2. Aggregate Functions

- Sum
- Max
- Min
- Avg
- Count
- Roll Up

3. Logical Operators

- Between
- Exists
- In
- Not in
- Like
- Is null
- Is not null

4. Constraints

- Primary key
- Composite primary key
- Surrogate key
- Not null
- Unique
- Foreign
- Integrity

5. Clauses

- Where
- Group by
- Order by
- Update
- Having

6. Set Operators

- Independent query
- Correlated query

7. Joins

- Inner join
- Left outer join
- Right outer join
- Cross join
- Self join

8. Analytic/Window Function

- Advanced sql/window function
- Sum()over
- Cumulative sum
- Rank
- Dense_rank
- Row_number
- Ntile
- Lead
- Lag

9. Errors in SQL

- Syntax Error
- Semantics Error
- Logical Error
- Network Error
- Resource Error

10. Miscellaneous

- Limit/top
- Ddl, dml, dcl, tcl
- Crud operation

Conceptual Questions

1. Why Rank skips the sequence?

2. Why Order by fails in Minus Query?

3. Why Right Join when Le Join can suffice the requirement?

4. Can we use aggregate functions without Group by clause?

5. Can we use Group by clause without aggregate functions?

6. In which scenario IN operator fails?

7. What's the limitation of MINUS operator?

8. How to create an infinite loop using recursive cte?

9. Why WHERE fails to filter aggregate functions?

10. Name an example of Cross Join.

11. In which scenario NOT IN operator fails.

12. Name a scenario where sequence of columns matter in GROUP BY clause.

13. Name a reserved keyword which has two different functionality in SQL.

14. If two NULLS are not same then why distinct column shows only 1 null in the output?

15. How to find existence of NULL in a column without using IS NULL keyword.

16. Name two different keywords which performs the same task.

17. What's the difference between GROUP BY and PARTITION BY?

18. What is the difference between DELETE,DROP and TRUNCATE?

19. Why CTEs are better than SUB QUERIES as far as performance is concerned?

20. Why CORRELATED QUERY badly impacts the performance?

21. Why TRUNCATE is a DDL command although it does not change the structure of table?

22. How you can prove that TRUNCATE resets the HIGH WATER MARK(HWM)?

23. Under what condition COALESCE will behave as NVL?

24. Why SQL is known as Structured Query Language?

25. Why the symbol '<>' corresponds to not equal?

26. What is the difference between IN and EXIST operator?

27. In which scenario AVG gives the incorrect result.

28. What is the difference between INTERSECT and INNER JOIN?

29. What is the difference between UNION ALL and FULL OUTER JOIN?

30. What is the difference between PRIMARY KEY and UNIQUE KEY?

31. What is the difference between INDEPENDENT AND CORRELATED QUERY?

32. Why window functions can't be used in WHERE CLAUSE?

33. Why column alias can't be used in WHERE CLAUSE but can be used in ORDER BY CLAUSE?

34. What are the SQL keywords which have inbuilt distinct functionality apart from DISTINCT?

35. Why WHERE CLAUSE nullify the impact of LEFT/RIGHT outer join in the output?

36. In which case NTILE can behave as ROW_NUMBER.

THE END