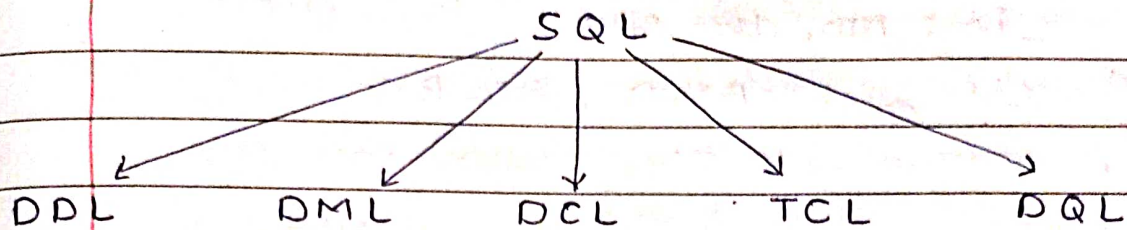


SQL (Structured Query Language)



CREATE	INSERT	GRANT	COMMIT	SELECT
ALTER	UPDATE	REVOKE	ROLLBACK	
DROP	DELETE		SAVE POINT	
TRUNCATE				

(Above are just basic commands)

↓ change schema or change table structure	↓ Modification & insertion into database	↓ Control access of data.	↓ Manage transactions of database	↓ used for querying database.
---	---	------------------------------------	--	--

Operators

Arithmetic	Comparison	Logical	Bitwise	String
+, -, *, /, %	=, >, <, <>, != ≤, ≥	AND OR NOT	&, , ^, ~, <<, >>	, + ↓ (Concatenation)

• Other operators:

IN - checks within a set of values.

BETWEEN - checks within a range of values.

LIKE - Search for specified pattern.

% : 0, 1 or multiple characters

_ : single character

\ - escape character

Basics

precedence

DOMS

Page No.

Date

/

/

Example:

%ANN% : Tanny, Flannet

_is : his, dis, sis

escape
character

\% : A%A, A%B

Precedence in SQL

FROM > JOIN > ON > USING > WHERE

> GROUP BY > HAVING > SELECT

> DISTINCT > WINDOW FUNCTIONS >

> ORDER BY > LIMIT/OFFSET

> FETCH FIRST/NEXT > OFFSET

Clauses [not common but Important]

① DISTINCT: remove duplicates from result set.

② LIMIT: return maximum no. of rows from result set. (N) - parameter

③ COUNT (column-name) : count no. of rows.
* in column.

also count
null values.

1
2 } doesn't reference any
etc. } column, same as *

advance.

CASE

DOMS

Page No.

Date

/ /

④ CASE + WHEN + THEN + ELSE :

→ switch and if/else of SQL.

→ allows you to create expression, return different value based on evaluation of conditions.

Where to use: SELECT - return columns/value

WHERE - apply condition.

ORDER BY - Sort result by cond.

HAVING - apply condition.

Example:

```
① SELECT A, B,  
    CASE COLC  
        WHEN 'HR' THEN 'Human'  
        WHEN 'IT' THEN 'Tech'  
        ELSE 'OTHER'  
    END AS COL-C-CASE  
FROM TableA;
```

```
② select id, name, department from employees  
where CASE  
    WHEN department = 'HR' THEN  
    WHEN " = 'IT' THEN id < 5  
    ELSE TRUE id < 3  
END;
```

```
③ ORDER BY CASE  
    WHEN department = 'HR' THEN 1  
    WHEN " = 'IT' THEN 2  
    ELSE 3  
END;
```

⑤ Two ways to write SQL Table Queries.

Using , (Comma)

```
SELECT id, name, d.dname
```

```
FROM employees, department d
```

```
WHERE id = d.did;
```

Using JOIN

```
SELECT e.id, e.name, d.dname
```

```
FROM employees e
```

```
JOIN departments d ON e.id = d.id;
```

I prefer JOIN method as it is more
intuitive, good and easy to grasp.

⑥ UNION & UNION ALL



not include
duplicate



also include
duplicates.

Both used to combine two result sets.

Conditions: → Datatype of Column must match

→ No. of columns must match.

- # advance
- # Coalesce
- # aggregation functions

⑦. COALESCE / NVL

- NVL is specific to Oracle and takes only two arguments.
- NVL (exp., replace-val)

return the first non-null value from a list of expressions.

COALESCE (Ex1, Ex2, Ex3 ExN)

eg:

SELECT id,

COALESCE (middle name, fname, lname) AS name
FROM employees;

Aggregate fn

mostly used with Group By Clause.

perform calculation over multiple rows &

return a single value.

COUNT() SUM() AVG() MIN() MAX() VARIANCE() STDDEV()

- Applied over columns.
- With GROUP BY Clause to calculate value according to groups.
- With HAVING / WHERE Clause to filter out values.