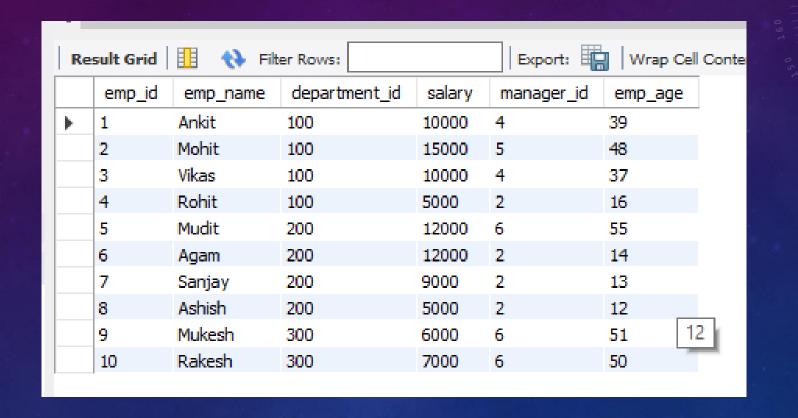# SQL TIPS AND TRICKS

PART 33

Adv. SQL

Independent VS Correlated Subquery

MAYURI DANDEKAR

Sample Example-

Independent Subquery

An independent subquery, also known as a non-correlated subquery.
It is a subquery that can be executed on its own and does not rely on the outer query for its values.
It is essentially a separate query embedded within a main query.

 Characteristics:
- Self-contained: The subquery can run independently and return a result set without any reference to the outer query.
- Execution Order: The subquery is executed first, and its result is used by the outer query.
- Performance: Generally faster as it does not need to execute repeatedly.

```
10          -- independent subquery
11  ●       SELECT e.*, d.avg_dep_salary
12          FROM employee e
13          INNER JOIN
14  ⊖       (SELECT department_id, ROUND(AVG(salary)) AS avg_dep_salary
15          FROM employee
16          GROUP BY department_id) d ON e.department_id = d.department_id
17          WHERE e.salary > d.avg_dep_salary;
18
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

emp_id	emp_name	department_id	salary	manager_id	emp_age	avg_dep_salary
2	Mohit	100	15000	5	48	10000
5	Mudit	200	12000	6	55	9500
6	Agam	200	12000	2	14	9500
10	Rakesh	300	7000	6	50	6500

Correlated Subquery

A correlated subquery is a subquery that uses values from the outer query.
It cannot be executed independently because it references columns from the outer query.

 Characteristics:
- Dependency: The subquery depends on the outer query for its values.
- Execution Order: The subquery is executed repeatedly, once for each row processed by the outer query.
- Performance: Generally slower as it needs to run multiple times, once for each row of the outer query.

```
22        -- correlated subquery
23   ●    SELECT *
24        FROM employee e1
25        WHERE salary > (SELECT AVG(e2.salary) FROM employee e2 WHERE e1.department_id = e2.department_id);
26
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

emp_id	emp_name	department_id	salary	manager_id	emp_age
2	Mohit	100	15000	5	48
5	Mudit	200	12000	6	55
6	Agam	200	12000	2	14
10	Rakesh	300	7000	6	50

THANK YOU

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