Human Resource Analysis

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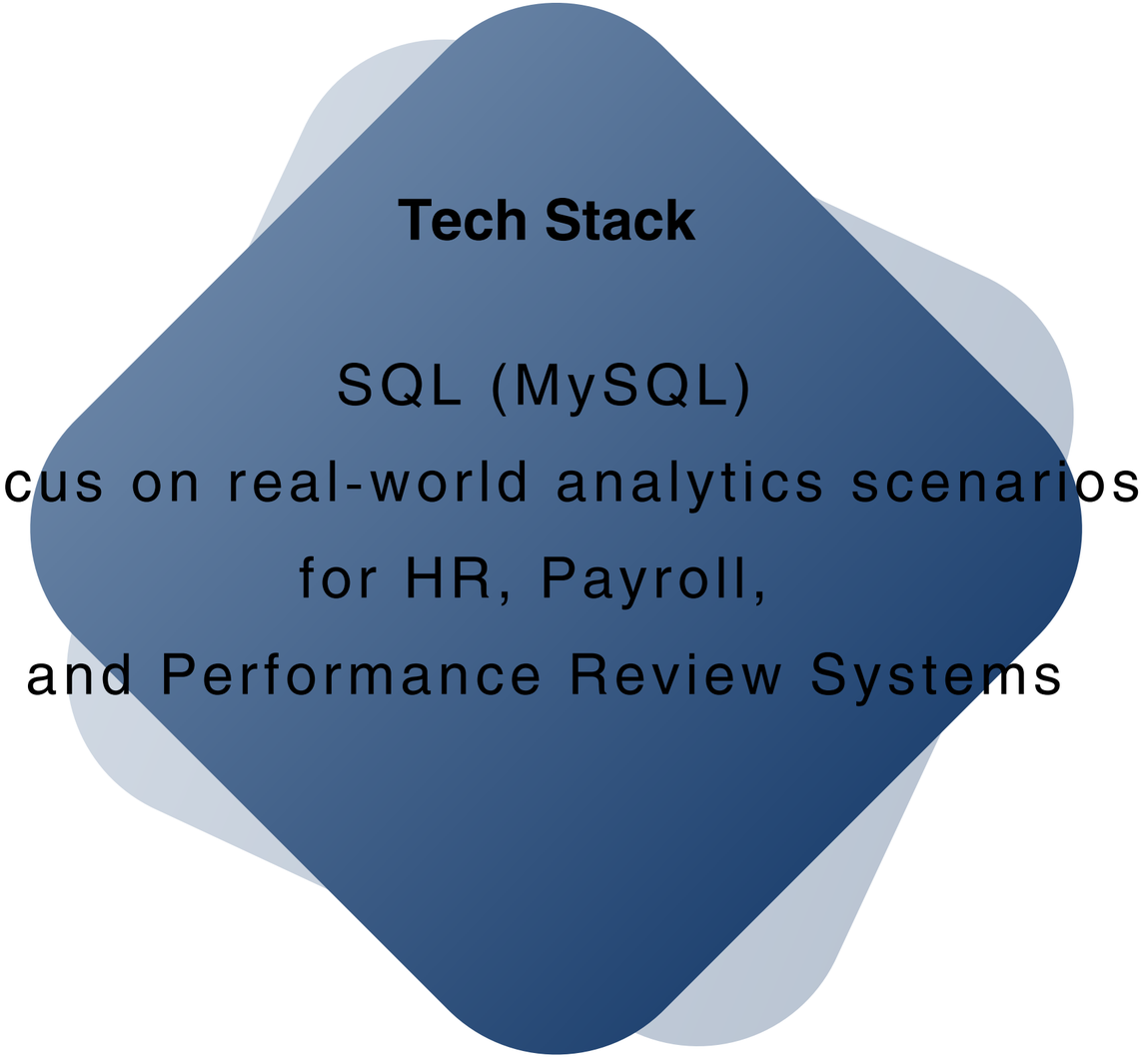
Agenda

About the Project

- This SQL project focuses on performing insightful analysis on a fictional company’s employee, department, and performance data.

- It demonstrates core SQL skills including data aggregation, window functions, joins, and filtering to derive meaningful business insights.



Project Structure

Tables Created:

- employees: Employee details with department and salary
- departments: Department names and their managers
- performance: Yearly performance ratings

Key SQL Concepts Used

- GROUP BY, AVG(), COUNT()
- RANK() with PARTITION BY
- JOIN between multiple tables
- Year-based filtering and sorting

Query 1

Find department-wise Average Salary

Understand salary distribution across departments.

```
  SELECT department, AVG(salary) AS avg_salary
FROM employees
GROUP BY department;
```

Result Grid | Filter Rows:

department	avg_salary
Sales	47500.000000
Marketing	56000.000000
HR	55000.000000

Query 2

Find highest Paid Employee in Each Department

Identify top earners using window functions.

```sql
SELECT *
FROM (
    SELECT
        emp_id,
        name,
        department,
        salary,
        RANK() OVER (PARTITION BY department ORDER BY salary DESC) AS salary_rank
    FROM employees
) AS ranked_employees
WHERE salary_rank = 1;
```

Result Grid | Filter Rows: | Export:

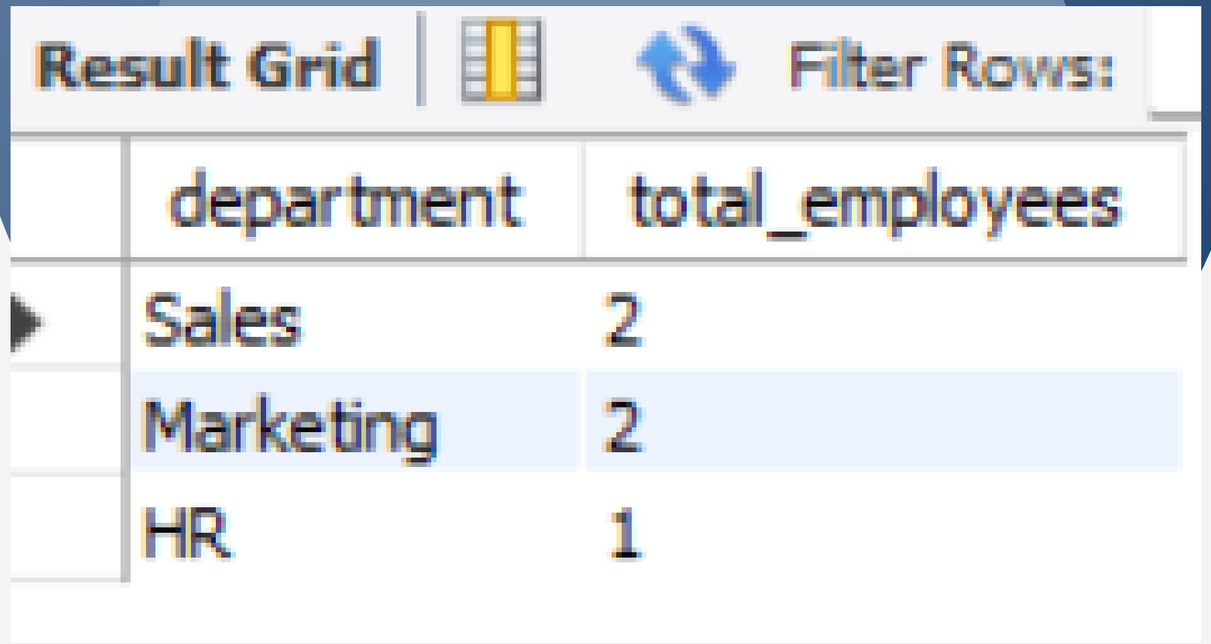
emp_id	name	department	salary	salary_rank
E004	Preeti	HR	55000.00	1
E002	Sonal	Marketing	60000.00	1
E001	Ankit	Sales	50000.00	1

Query 3

Find department-Wise Headcount

Find employee distribution across departments.

```sql
SELECT
  department,
  COUNT(emp_id) AS total_employees
FROM
  employees
GROUP BY
  department;
```



Query 4

Find year-wise New Joiners
Track hiring trends by year.

```sql
SELECT
  YEAR(hire_date) AS join_year,
  COUNT(emp_id) AS total_hired
FROM
  employees
GROUP BY
  join_year
ORDER BY
  join_year;
```

Result Grid | Filter R

join_year	total_hired
2019	1
2020	1
2021	2
2022	1

Query 5

Find top Performer per Department (2023)

Combine performance data with employee data to recognize high achievers.

```sql
SELECT *
FROM (
    SELECT
        e.emp_id,
        e.name,
        e.department,
        p.performance_rating,
        RANK() OVER (PARTITION BY e.department ORDER BY p.performance_rating DESC) AS rating_rank
    FROM
        employees e
    JOIN performance p ON e.emp_id = p.emp_id
    WHERE p.year = 2023
) AS ranked
WHERE rating_rank = 1;
```

Result Grid | Filter Rows: | Export: | Wr

emp_id	name	department	performance_rating	rating_rank
E004	Preeti	HR	2	1
E005	Aman	Marketing	4	1
E003	Ravi	Sales	5	1

Connect with us.

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