# SQL Project Report: HR Employee Performance & Analysis

## 1. Project Title:

HR Employee Performance & Retention Analysis Using SQL

## 2. Project Overview:

This project aims to analyze employee performance, department trends, and salary distribution using SQL queries. The goal is to provide insights into workforce management and employee retention.

## 3. Dataset Description:

The dataset consists of the following tables:

### Employees Table

- employee\_id – Unique ID for each employee

- first\_name – First name of the employee

- last\_name – Last name of the employee

- gender – Gender of the employee

- date\_of\_birth – Employee's date of birth

- hire\_date – Date when the employee was hired

- department\_id – Department to which the employee belongs

- job\_id – Job role assigned to the employee

- salary – Employee's salary

- performance\_rating – Performance rating (1-5)

- attrition\_status – Indicates if the employee has left the company (Yes/No)

### Departments Table

- department\_id – Unique ID for each department

- department\_name – Name of the department

- manager\_id – ID of the department manager

### Jobs Table

- job\_id – Unique ID for each job role

- job\_title – Title of the job

- min\_salary – Minimum salary for the role

- max\_salary – Maximum salary for the role

## 4. Objectives:

- Analyze employee performance trends across departments.

- Identify factors contributing to employee attrition.

- Compare salaries across job roles and departments.

- Monitor workforce distribution across different job roles.

- Determine the impact of tenure on performance and attrition.

## 5. SQL Queries Used for Analysis

**# 1. Average Salary by Department**

SELECT d.department\_name,

ROUND(AVG(e.salary), 2) AS average\_salary

FROM

employees e

JOIN

departments d ON e.department\_id = d.department\_id

GROUP BY

d.department\_name

ORDER BY

average\_salary DESC;

**# Total Employees per Department**

SELECT d.department\_name, COUNT(e.employee\_id) AS total\_employees

FROM Employees e

JOIN Departments d ON e.department\_id = d.department\_id

GROUP BY d.department\_name

ORDER BY total\_employees DESC;

**# Gender Distribution in Each Department**

SELECT

d.department\_name,

e.gender,

COUNT(\*) AS total\_employees

FROM

employees e

JOIN

departments d ON e.department\_id = d.department\_id

GROUP BY

d.department\_name, e.gender

ORDER BY

d.department\_name;

**# Top 5 Highest-Paid Job Roles**

SELECT j.job\_title, AVG(e.salary) AS avg\_salary

FROM Employees e

JOIN Jobs j ON e.job\_id = j.job\_id

GROUP BY j.job\_title

ORDER BY avg\_salary DESC

LIMIT 5;

**# Employee Performance by Tenure**

SELECT TIMESTAMPDIFF(YEAR, hire\_date, CURDATE()) AS years\_of\_service,

AVG(performance\_rating) AS avg\_performance

FROM Employees

GROUP BY years\_of\_service

ORDER BY years\_of\_service;

***CONCLUSION***

 **Average Salary by Department:**  
Departments vary significantly in average compensation, with certain departments consistently offering higher salaries. This insight can guide budget allocation and workforce planning strategies.

 **Total Employees per Department:**  
The headcount analysis reveals the most and least staffed departments, helping identify potential overstaffing or understaffing areas. It’s a useful indicator for resource optimization.

 **Gender Distribution in Departments:**  
Gender-based grouping exposes the diversity dynamics across departments. This can be instrumental in evaluating diversity and inclusion initiatives and making informed HR decisions.

 **Top 5 Highest-Paid Job Roles:**  
The highest-paid roles were identified based on average salaries. This information is beneficial for compensation benchmarking, workforce retention, and recruiting strategies.

 **Employee Performance by Tenure:**  
Analyzing average performance over years of service provides valuable understanding into employee growth, loyalty, and the effectiveness of training or onboarding processes.