COMPANY EMPLOYEES DATA SET

SQL DATA ANALYSIS PROJECT

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INTRODUCTION

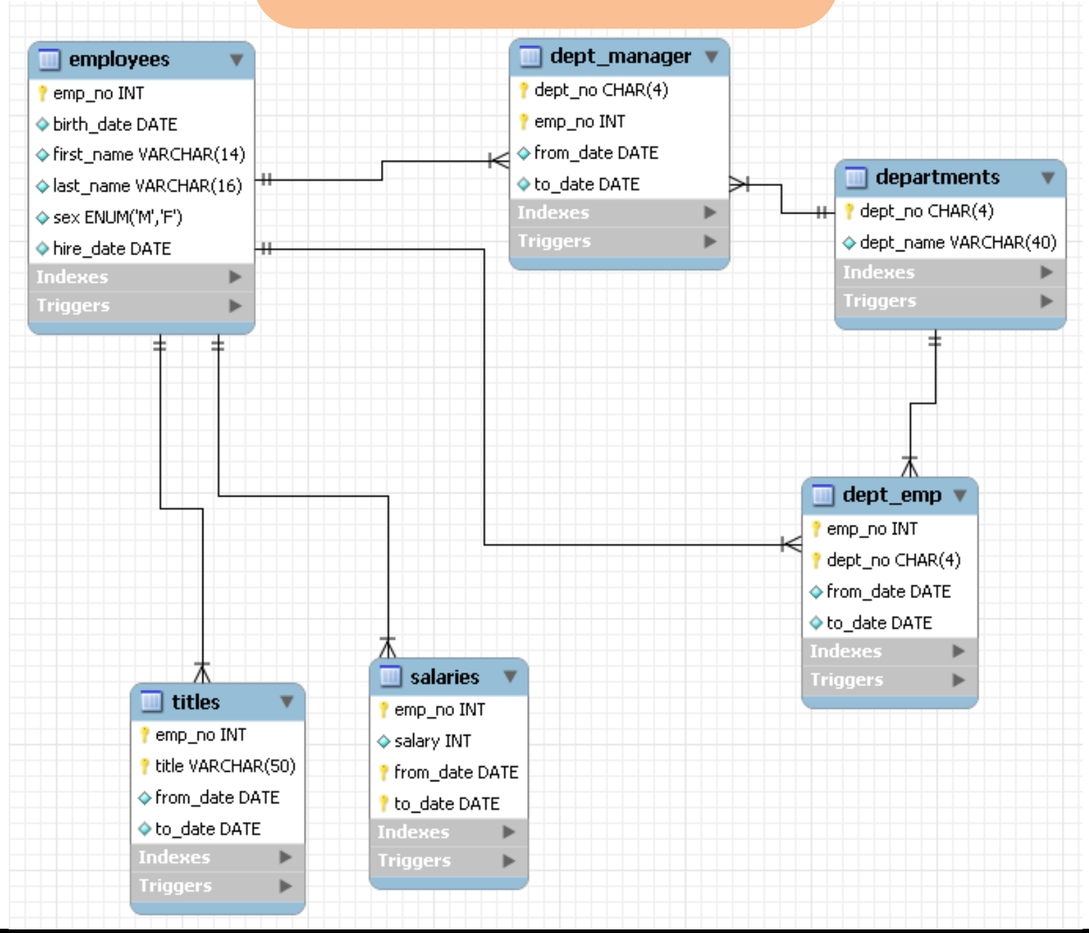
This SQL project dives into employee data, analyzing workforce metrics and trends to reveal key insights about company performance, workforce distribution, and salary patterns.

PROJECT GOALS

This project was developed to gain insights into employee demographics, departmental distribution, salary trends, and work patterns. Key questions addressed include:

- How many employees are in each department?
- What is the average salary per department and job role?
- Who are the top earners in each department?
- What is the distribution of employees by role and department?

SCHEMA


employees
emp_no INT
birth_date DATE
first_name VARCHAR(14)
last_name VARCHAR(16)
sex ENUM('M','F')
hire_date DATE
Indexes
Triggers
dept_manager
dept_no CHAR(4)
emp_no INT
from_date DATE
to_date DATE
Indexes
Triggers
departments
dept_no CHAR(4)
dept_name VARCHAR(40)
Indexes
Triggers
dept_emp
emp_no INT
dept_no CHAR(4)
from_date DATE
to_date DATE
Indexes
Triggers
titles
emp_no INT
title VARCHAR(50)
from_date DATE
to_date DATE
Indexes
Triggers
salaries
emp_no INT
salary INT
from_date DATE
to_date DATE
Indexes
Triggers

WRITE A QUERY TO LIST ALL EMPLOYEES ALONG WITH THEIR RESPECTIVE DEPARTMENT NAMES. INCLUDE EMPLOYEE NUMBER, FIRST NAME, LAST NAME, DEPARTMENT NUMBER, AND DEPARTMENT NAME.

```sql
SELECT
    e.emp_no, d.dept_no, d.dept_name, e.first_name, e.last_name
FROM
    employees AS e
        JOIN
    dept_emp AS depte ON e.emp_no = depte.emp_no
        JOIN
    departments AS d ON depte.dept_no = d.dept_no;
```

WRITE A QUERY TO RETRIEVE ALL THE SALARY RECORDS OF A GIVEN EMPLOYEE (BY EMPLOYEE NUMBER). INCLUDE EMPLOYEE NUMBER, SALARY, FROM_DATE, AND TO_DATE.

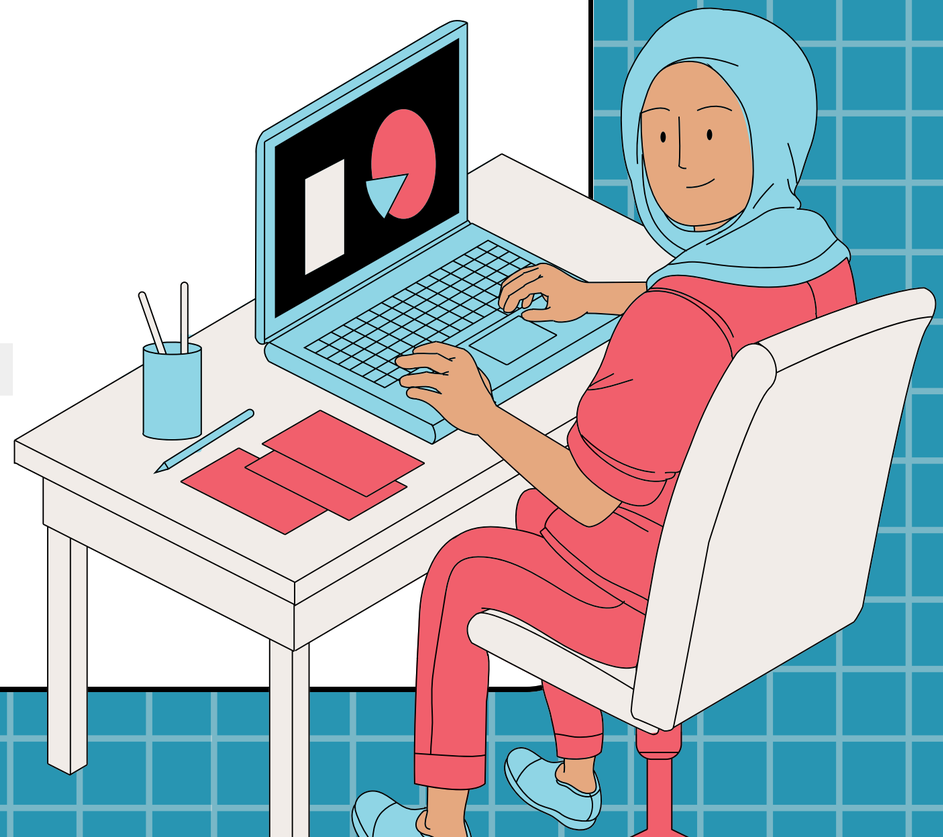
```
SELECT
    *
FROM
    salaries
WHERE
    emp_no = '10009';
```

WRITE A QUERY TO FIND ALL EMPLOYEES WHO HAVE HELD A SPECIFIC TITLE (E.G., 'ENGINEER'). INCLUDE EMPLOYEE NUMBER, FIRST NAME, LAST NAME, AND TITLE.

```sql
SELECT
    e.emp_no, t.title, e.first_name, e.last_name
FROM
    employees AS e
        JOIN
    titles AS t ON e.emp_no = t.emp_no
WHERE
    t.title = 'Engineer';
```

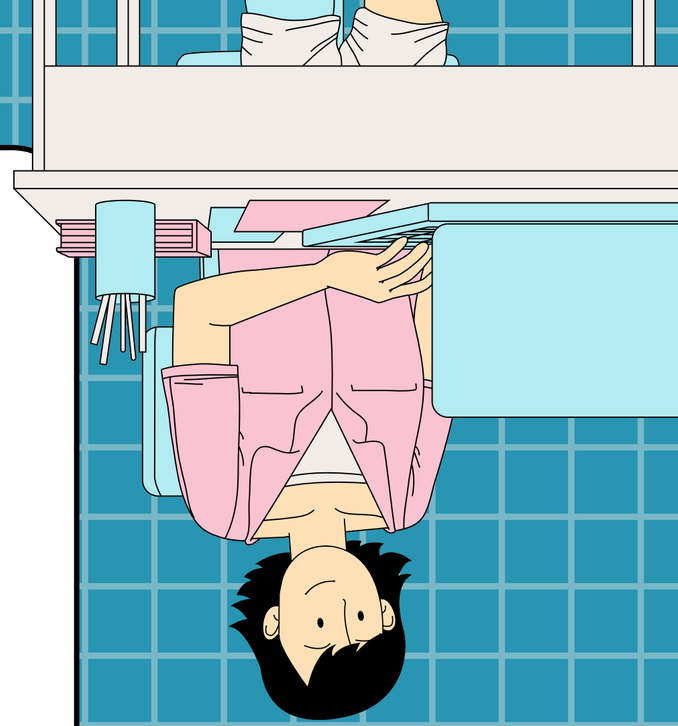
WRITE A QUERY TO LIST ALL DEPARTMENTS ALONG WITH THEIR CURRENT MANAGERS. INCLUDE DEPARTMENT NUMBER, DEPARTMENT NAME, MANAGER'S EMPLOYEE NUMBER, FIRST NAME, AND LAST NAME.

```sql
SELECT
    d.dept_no, e.emp_no, d.dept_name, e.first_name, e.last_name
FROM
    employees AS e
        JOIN
    dept_manager AS dm ON e.emp_no = dm.emp_no
        JOIN
    departments AS d ON dm.dept_no = d.dept_no;
```



WRITE A QUERY TO COUNT THE NUMBER OF EMPLOYEES IN EACH DEPARTMENT. INCLUDE DEPARTMENT NUMBER, DEPARTMENT NAME, AND EMPLOYEE COUNT

```sql
SELECT
    dept_name, COUNT(emp_no) AS emp_count
FROM
    departments AS d
        JOIN
    dept_emp AS de ON d.dept_no = de.dept_no
GROUP BY dept_name;
```



WRITE A QUERY TO FIND ALL EMPLOYEES BORN IN A SPECIFIC YEAR (E.G., 1953). INCLUDE EMPLOYEE NUMBER, FIRST NAME, LAST NAME, AND BIRTH DATE.

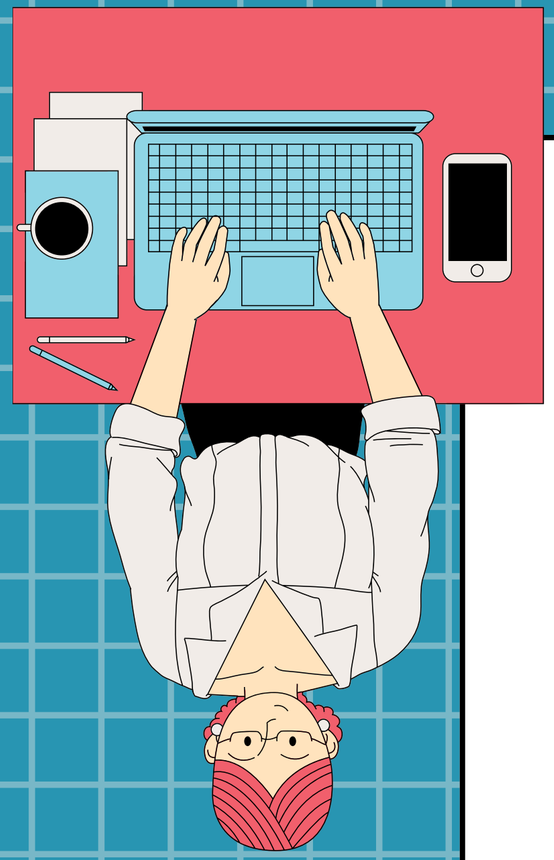
```sql
SELECT
    e.emp_no, e.first_name, e.last_name, e.birth_date
FROM
    employees.employees AS e
WHERE
    YEAR(birth_date) = '1953';
```

WRITE A QUERY TO FIND ALL EMPLOYEES HIRED IN THE LAST 50 YEARS. INCLUDE EMPLOYEE NUMBER, FIRST NAME, LAST NAME, AND HIRE DATE.

```sql
SELECT
    e.emp_no, e.first_name, e.last_name, e.hire_date
FROM
    employees.employees AS e
WHERE
    hire_date >= DATE_SUB(CURDATE(), INTERVAL 50 YEAR);
```

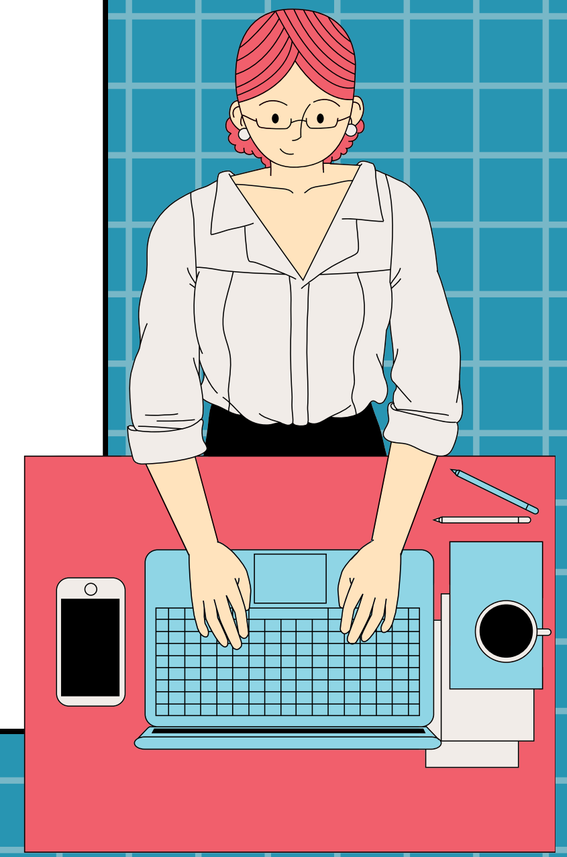
WRITE A QUERY TO CALCULATE THE AVERAGE SALARY FOR EACH DEPARTMENT. INCLUDE DEPARTMENT NUMBER, DEPARTMENT NAME, AND AVERAGE SALARY.

```sql
SELECT d.dept_no,d.dept_name,avg(s.salary)  as avg_salary
FROM
    employees.departments AS d
        JOIN
    dept_emp AS de ON de.dept_no = d.dept_no
        JOIN
    salaries AS s ON de.emp_no = s.emp_no
GROUP BY d.dept_no,d.dept_name;
```



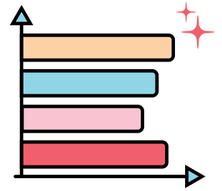
WRITE A QUERY TO FIND THE GENDER DISTRIBUTION (NUMBER OF MALES AND FEMALES) IN EACH DEPARTMENT. INCLUDE DEPARTMENT NUMBER, DEPARTMENT NAME, COUNT OF MALES, AND COUNT OF FEMALES.

```sql
SELECT
    d.dept_no,
    d.dept_name,
    SUM(CASE
        WHEN e.gender = 'M' THEN 1
        ELSE 0
    END) AS male_count,
    SUM(CASE
        WHEN e.gender = 'F' THEN 1
        ELSE 0
    END) AS female_count
FROM
    departments AS d
        JOIN
    dept_emp AS de ON de.dept_no = d.dept_no
        JOIN
    employees AS e ON de.emp_no = e.emp_no
GROUP BY d.dept_no , d.dept_name;
```



WRITE A QUERY TO FIND THE EMPLOYEES WHO HAVE SERVED THE LONGEST IN THE COMPANY. INCLUDE EMPLOYEE NUMBER, FIRST NAME, LAST NAME, AND NUMBER OF YEARS SERVED.

```sql
SELECT
    emp_no,
    first_name,
    last_name,
    TIMESTAMPDIFF(YEAR,
        hire_date,
        CURDATE()) AS year_served
FROM
    employees
ORDER BY year_served DESC
LIMIT 1;
```



THANK YOU