



Company Dataset Analysis

In this project, I conducted a comprehensive analysis using a dataset provided by my organization. My goal was to extract valuable insights about the company's departments and employees through a series of targeted SQL queries.

Throughout the project, I explored a wide range of SQL functionalities, enhancing my ability to manipulate and analyze data effectively. In the following slides, I will showcase several key queries that illustrate the depth and breadth of the analysis performed.

Problem Statement:

Retrieve the first name and last name of all employees.

Query:

```
SELECT first_name, last_name FROM employee;
```

Output:

first_name ▼	last_name ▼
John	Smith
Emily	Johnson
Michael	Williams
Jessica	Brown
David	Jones
Sarah	Anderson
Christopher	Davis
Anna	Miller
Ryan	Moore
Amanda	Wilson

Problem Statement:

Find the department numbers and names.

Query:

```
SELECT dep_no, dep_name FROM departments;
```

Output:

dep_no	dep_name
d001	HR
d002	Finance
d003	Marketing
d004	Engineering
d005	Sales
d006	IT
d007	Operations
d008	Research
d009	Quality Assurance
d010	Customer Service

Problem Statement:

Get the total number of employees.

Query:

```
SELECT COUNT(emp_no) AS "Total number of employees" FROM  
employee;
```

Output:

Total number of employees
10

Problem Statement:

Find the average salary of all employees.

Query:

```
SELECT AVG(salary) AS "Average salary of all employees" FROM  
salaries;
```

Output:

average salary of all employees
62666.66667

Problem Statement:

Retrieve the birth date and hire date of employee with emp_no 10003.

Query:

```
SELECT birth_date, hire_date FROM employee WHERE  
emp_no=10003;
```

Output:

birth_date	hire_date
10/12/1975	10/11/2003

Problem Statement:

Find the titles of all employees.

Query:

```
SELECT title AS emp_title FROM employee_titles;
```

Output:

emp_title
Manager
Senior Manager
Analyst
Senior Analyst
Coordinator
Manager
Engineer
Sales Associate
Analyst
Manager
Coordinator
Engineer
Sales Associate

Problem Statement:

Get the total number of departments.

Query:

```
SELECT COUNT(dep_name) AS 'Total number of departments' FROM  
departments;
```

Output:

Total number of departments
10

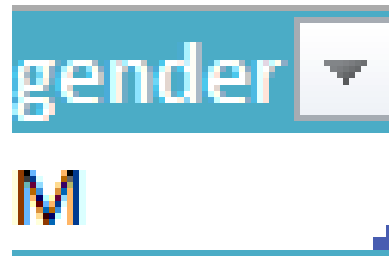
Problem Statement:

Find the gender of employee with emp_no 10007.

Query:

```
SELECT gender FROM employee WHERE emp_no=10007;
```

Output:



Problem Statement:

Retrieve the employee number, first name, last name, and salary of employees earning more than \$60,000.

Query:

```
SELECT employee.emp_no, employee.first_name, employee.last_name,  
       salaries.salary FROM employee INNER JOIN salaries ON  
       employee.emp_no=salaries.emp_no WHERE salary>60000;
```

Output:

emp_no	first_name	last_name	salary
10001	John	Smith	65000
10001	John	Smith	70000
10003	Michael	Williams	62000
10003	Michael	Williams	65000
10004	Jessica	Brown	70000
10005	David	Jones	62000
10006	Sarah	Anderson	63000
10008	Anna	Miller	64000
10009	Ryan	Moore	67000

Problem Statement:

Retrieve the employee number, first name, last name, and title of all employees who are currently managers.

Query:

```
SELECT employee.emp_no, employee.first_name, employee.last_name,  
employee_titles.title FROM employee INNER JOIN employee_titles ON  
employee.emp_no = employee_titles.emp_no WHERE title="Manager";
```

Output:

emp_no	first_name	last_name	title
10001	John	Smith	Manager
10003	Michael	Williams	Manager
10007	Christopher	Davis	Manager

Problem Statement:

Retrieve the employee number, first name, last name, and title of employees whose hire date is between '2005-01-01' and '2006-01-01'.

Query:

```
SELECT employee.emp_no, employee.first_name, employee.last_name,  
employee_titles.title FROM employee INNER JOIN employee_titles ON  
employee.emp_no = employee_titles.emp_no WHERE hire_date  
BETWEEN '2005-01-01' and '2006-01-01';
```

Output:

emp_no	first_name	last_name	title
10002	Emily	Johnson	Analyst
10002	Emily	Johnson	Senior Analyst

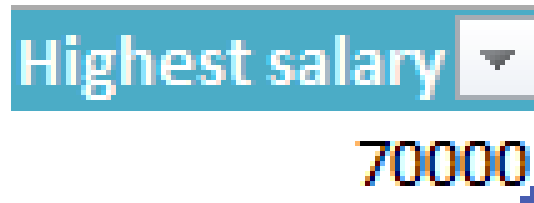
Problem Statement:

Get the highest salary among all employees.

Query:

```
SELECT MAX(salary) AS "Highest Salary" FROM salaries;
```

Output:

A screenshot of a database query result. It shows a single row with two columns. The first column is labeled 'Highest salary' in white text on a blue background. The second column contains the value '70000' in orange text. A small dropdown arrow is visible next to the column header.

Highest salary	70000
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Insights from Sample Dataset Analysis

Although this was a sample dataset, the analysis yielded several notable insights:

- **Company Size and Structure:** The dataset represents a small company with 10 distinct departments.
- **Salary Insights:**
 - **Maximum Salary:** The highest salary offered by the company is \$70,000.
 - **Average Salary:** The average salary across all employees is approximately \$63,000.

These findings provide a snapshot of the company's departmental structure and compensation trends, offering valuable benchmarks for further analysis and comparison with industry standards.