

Project Title: Hands on project on SQL statements, functions, clauses Using MySQL on employee's database of an organization.



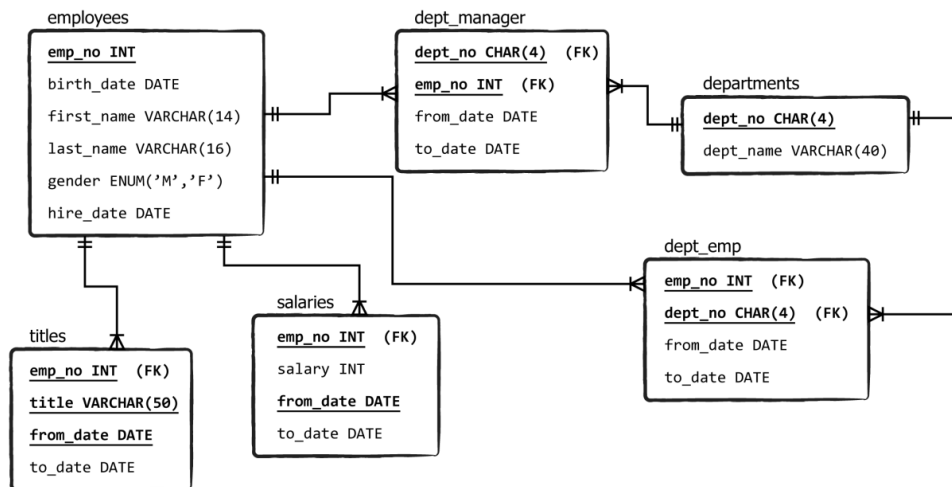
DONE BY:

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Project Overview:

To analyze the hierarchy system of the organization by helping the human resource department of the organization. The system aims to provide actionable insights to improve decision-making and optimize human resource department.

Employees database structure:



Key Components of SQL query used:

1. **SELECT statement:** Used to retrieve data from one or more database tables. It specifies the columns that should be included in the query result set.
2. **CASE statement:** The CASE statement is a conditional expression that allows to perform conditional logic within a SQL query. It is often used to create custom calculations or apply different logic based on specified conditions.
3. **MAX() function:** It is an aggregate function in SQL that returns the maximum value of a numeric column in a selected group of rows. It can be used in conjunction with the SELECT statement to find the maximum value within a dataset.
4. **FROM clause:** The FROM clause specifies the tables from which the data will be retrieved in the SELECT statement. It indicates the source or sources of the data being queried.

5. JOIN: JOIN is used to combine rows from two or more tables based on a related column between them. It allows you to retrieve data from multiple tables simultaneously by specifying how the tables are related.

6. GROUP BY Clause: The GROUP BY clause is used to group rows that have the same values into summary rows, often used with aggregate functions like SUM(), COUNT(), AVG(), etc. It divides the result set into groups based on specified columns, and aggregate functions can then be applied to each group separately.

Task 1:

Obtain a result set containing the employee number, first name, and last name of all employees with a number higher than 109990. Create a fourth column in the query, indicating whether this employee is also a manager, according to the data provided in the *dept_manager* table, or a regular employee.

</SQL>

SELECT

e.emp_no,

e.first_name,

e.last_name,

CASE

WHEN dm.emp_no IS NOT NULL THEN 'Manager'

ELSE 'Employee'

END AS manager_or_employee

FROM

employees e

LEFT JOIN

dept_manager dm ON dm.emp_no = e.emp_no

WHERE

e.emp_no > 109990

Limit 10;

Output:

emp_no	first_name	last_name	is_manager
109991	Jinxi	Reistad	Employee
109992	Cheong	Heering	Employee
109993	Danel	Furudate	Employee
109994	Guangming	Takkinen	Employee
109995	Constantijn	Anido	Employee
109996	Dines	Gelosh	Employee
109997	Miquel	Borovoy	Employee
109998	Mizuhito	Heping	Employee
109999	Janche	Coombs	Employee
110000	Supot	Herath	Employee

Task :2

Extract a dataset containing the following information about the managers: employee number, first name, and last name. Add two columns at the end – one showing the difference between the maximum and minimum salary of that employee, and another one saying whether this salary raise was higher than \$30,000 or NOT.

</SQL>

SELECT

e.emp_no,

e.first_name,

e.last_name,

max(s.salary)-min(s.salary) as salary_difference,

```

CASE
when max(s.salary)- min(s.salary) > 30000 then 'yes' else 'no'
end as is_salary_30000
FROM
employees e
JOIN
dept_manager dm
ON e.emp_no=dm.emp_no
JOIN
salaries s
ON dm.emp_no=s.emp_no
WHERE e.emp_no=dm.emp_no
GROUP BY e.emp_no
LIMIT 10;

```

OUTPUT:

emp_no	first_name	last_name	salary_difference	is_salary_30000
110022	Margareta	Markovitch	37241	yes
110039	Vishwani	Minakawa	36550	yes
110085	Ebru	Alpin	28417	no
110114	Isamu	Legleitner	31387	yes
110183	Shirish	Ossenbruggen	30938	yes
110228	Karsten	Sigstam	25400	no
110303	Krassimir	Wegerle	30490	yes
110344	Rosine	Cools	24756	no
110386	Shem	Kieras	26995	no
110420	Oscar	Ghazalie	16654	no

TASK 3:

Extract the employee number, first name, and last name of the first 100 employees, and add a fourth column, called “current_employee” saying “Is still employed” if the employee is still working in the company, or “Not an employee anymore” if they aren’t.

</SQL>

SELECT

e.emp_no, e.first_name, e.last_name ,

CASE

WHEN MAX(dm.to_date) > SYSDATE() THEN 'Is still employed'

ELSE 'Not an employee anymore'

END AS current_employees

FROM employees e join dept_emp dm

on e.emp_no=dm.emp_no

WHERE e.emp_no=dm.emp_no

GROUP BY e.emp_no

LIMIT 10;

OUTPUT:

emp_no	first_name	last_name	current_employees
10001	Georgi	Facello	Is still employed
10002	Bezalel	Simmell	Is still employed
10003	Parto	Bamford	Is still employed
10004	Christian	Koblick	Is still employed
10005	Kyoichi	Maliniak	Is still employed
10006	Anneke	Preusig	Is still employed
10007	Tzvetan	Zielinski	Is still employed
10008	Saniya	Kalloufi	Not an employee anymore
10009	Sumant	Peac	Is still employed
10010	Duangkaew	Piveteau	Is still employed

Conclusion: All the three tasks were performed successfully