SQL Project

Name of the project:

**ScienceQtech Employee Performance Mapping.**

**Done by:**Mrinmay Saha

DESCRIPTION

ScienceQtech is a startup that works in the Data Science field. ScienceQtech has worked on fraud detection, market basket, self-driving cars, supply chain, algorithmic early detection of lung cancer, customer sentiment, and the drug discovery field. With the annual appraisal cycle around the corner, the HR department has asked you (Junior Database Administrator) to generate reports on employee details, their performance, and on the project that the employees have undertaken, to analyze the employee database and extract specific data based on different requirements.

**Objective:**

To facilitate a better understanding, managers have provided ratings for each employee which will help the HR department to finalize the employee performance mapping. As a DBA, you should find the maximum salary of the employees and ensure that all jobs are meeting the organization's profile standard. You also need to calculate bonuses to find extra cost for expenses. This will raise the overall performance of the organization by ensuring that all required employees receive training.

**Note:** You must download the dataset from the course resource section in LMS and create a table to perform the above objective.

**Dataset description:**

**emp\_record\_table:** It contains the information of all the employees.

* EMP\_ID – ID of the employee
* FIRST\_NAME – First name of the employee
* LAST\_NAME – Last name of the employee
* GENDER – Gender of the employee
* ROLE – Post of the employee
* DEPT – Field of the employee
* EXP – Years of experience the employee has
* COUNTRY – Country in which the employee is presently living
* CONTINENT – Continent in which the country is
* SALARY – Salary of the employee
* EMP\_RATING – Performance rating of the employee
* MANAGER\_ID – The manager under which the employee is assigned
* PROJ\_ID – The project on which the employee is working or has worked on

**Proj\_table:**It contains information about the projects.

* PROJECT\_ID – ID for the project
* PROJ\_Name – Name of the project
* DOMAIN – Field of the project
* START\_DATE – Day the project began
* CLOSURE\_DATE – Day the project was or will be completed
* DEV\_QTR – Quarter in which the project was scheduled
* STATUS – Status of the project currently

**Data\_science\_team:** It contains information about all the employees in the Data Science team.

* EMP\_ID – ID of the employee
* FIRST\_NAME – First name of the employee
* LAST\_NAME – Last name of the employee
* GENDER – Gender of the employee
* ROLE – Post of the employee
* DEPT – Field of the employee
* EXP – Years of experience the employee has
* COUNTRY – Country in which the employee is presently living
* CONTINENT – Continent in which the country is

**Source Code with output:**

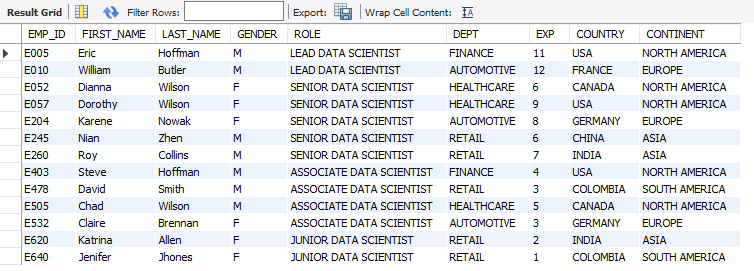
/\*Create a database named employee, then import data\_science\_team.csv proj\_table.csv and emp\_record\_table.csv

into the employee database from the given resources.\*/

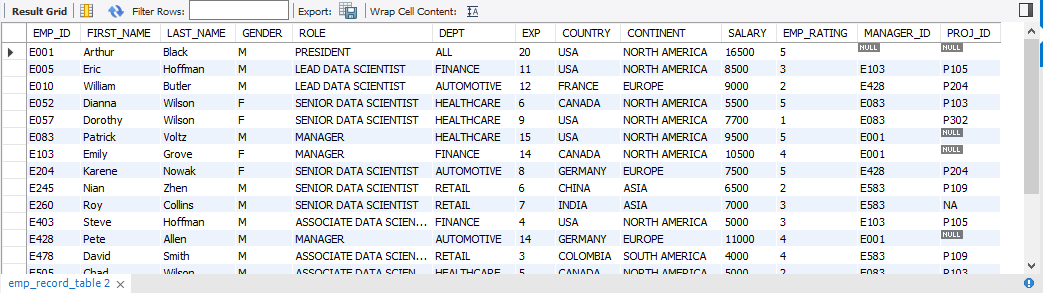
create database employee;

use employee;

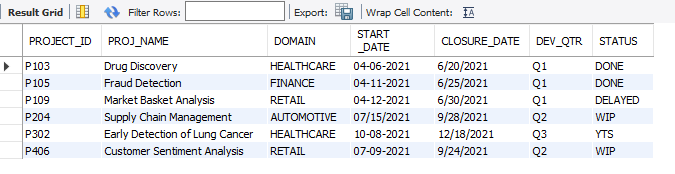
select \* from data\_science\_team;



select \* from emp\_record\_table;



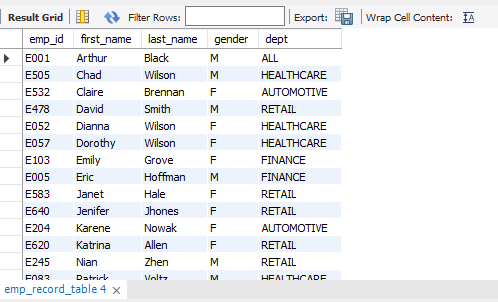
select \* from proj\_table;



/\*Write a query to fetch EMP\_ID, FIRST\_NAME, LAST\_NAME, GENDER, and DEPARTMENT from the employee record table,

and make a list of employees and details of their department.\*/

select emp\_id,first\_name,last\_name,gender,dept from emp\_record\_table order by first\_name;



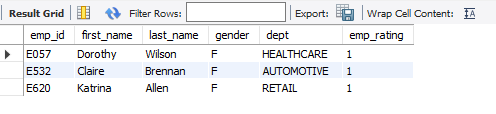
/\*Write a query to fetch EMP\_ID, FIRST\_NAME, LAST\_NAME, GENDER, DEPARTMENT, and EMP\_RATING if the EMP\_RATING is:

less than two

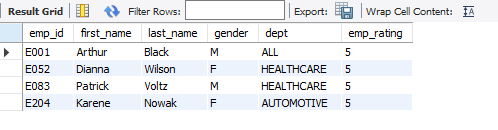
greater than four

between two and four\*/

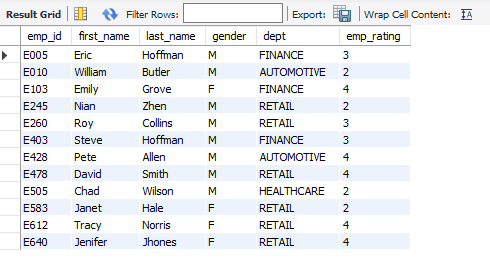
select emp\_id,first\_name,last\_name,gender,dept,emp\_rating from emp\_record\_table where emp\_rating<2;



select emp\_id,first\_name,last\_name,gender,dept,emp\_rating from emp\_record\_table where emp\_rating>4;



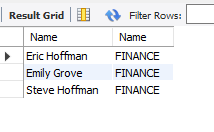
select emp\_id,first\_name,last\_name,gender,dept,emp\_rating from emp\_record\_table where emp\_rating between 2 and 4;



/\*Write a query to concatenate the FIRST\_NAME and the LAST\_NAME of employees in the

Finance department from the employee table and then give the resultant column alias as NAME.\*/

select concat(first\_name,' ',last\_name) as Name from emp\_record\_table where dept='Finance';

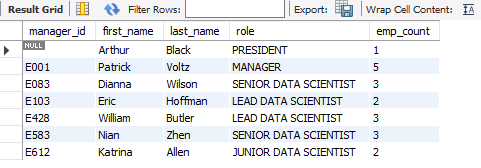


/\*Write a query to list only those employees who have someone reporting to them.

Also, show the number of reporters (including the President).\*/

select manager\_id,first\_name,last\_name,role,count(emp\_id) as emp\_count

from emp\_record\_table group by manager\_id order by manager\_id;



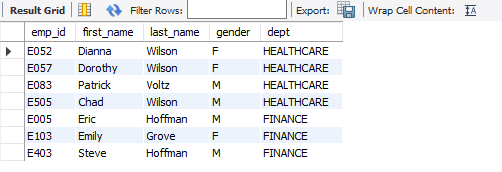
/\*Write a query to list down all the employees from the healthcare and finance departments using union.

Take data from the employee record table.\*/

select emp\_id,first\_name,last\_name,gender,dept from emp\_record\_table where dept='healthcare'

union

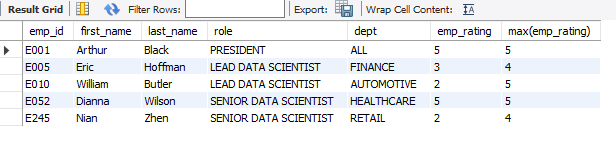
select emp\_id,first\_name,last\_name,gender,dept from emp\_record\_table where dept='finance';



/\*Write a query to list down employee details such as EMP\_ID, FIRST\_NAME, LAST\_NAME, ROLE, DEPARTMENT,and EMP\_RATING grouped by dept.

Also include the respective employee rating along with the max emp rating for the department.\*/

select emp\_id,first\_name,last\_name,role,dept,emp\_rating,max(emp\_rating) from emp\_record\_table group by dept;



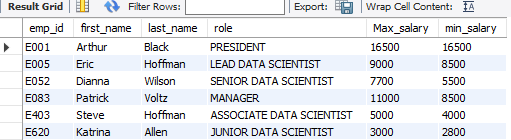
/\*Write a query to calculate the minimum and the maximum salary of the employees in each role.

Take data from the employee record table.\*/

select emp\_id,first\_name,last\_name,role,

max(salary) as Max\_salary,min(salary) as min\_salary

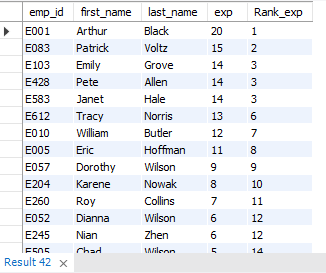
from emp\_record\_table group by role;



/\*Write a query to assign ranks to each employee based on their experience.

Take data from the employee record table.\*/

select emp\_id,first\_name,last\_name,exp,rank() over(order by exp desc) as Rank\_exp from emp\_record\_table;



/\*Write a query to create a view that displays employees in various countries whose salary is more than six thousand.

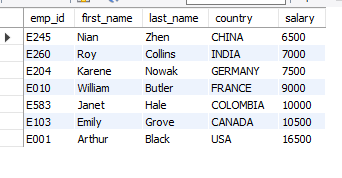
Take data from the employee record table.\*/

create view emp\_sal as

select emp\_id,first\_name,last\_name,country,salary from emp\_record\_table

where salary> 6000 group by country order by salary;

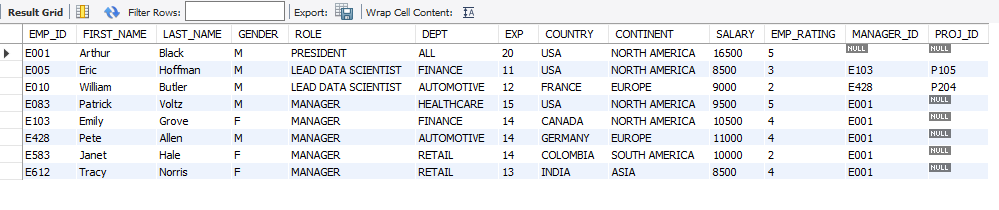
select \* from emp\_sal;



/\*Write a nested query to find employees with experience of more than ten years.

Take data from the employee record table.\*/

select \* from emp\_record\_table where exp in

(select exp from emp\_record\_table where exp> 10);

/\*Write a query to create a stored procedure to retrieve the details of the

employees whose experience is more than three years.

Take data from the employee record table.\*/

delimiter \

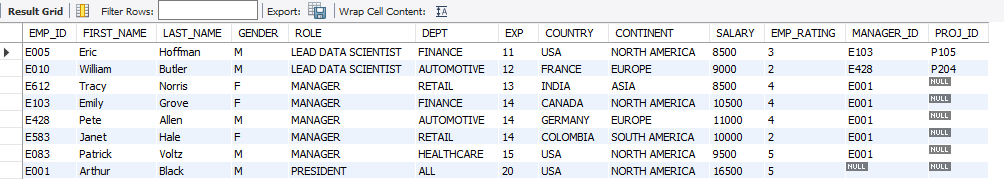
create procedure emp\_exp()

begin

select \* from emp\_record\_table where exp>10 order by exp desc;

end \

call emp\_exp();



/\*Create an index to improve the cost and performance of the query to find the

employee whose FIRST\_NAME is ‘Eric’ in the employee table after checking the execution plan.\*/

create index indx on emp\_record\_table(role);

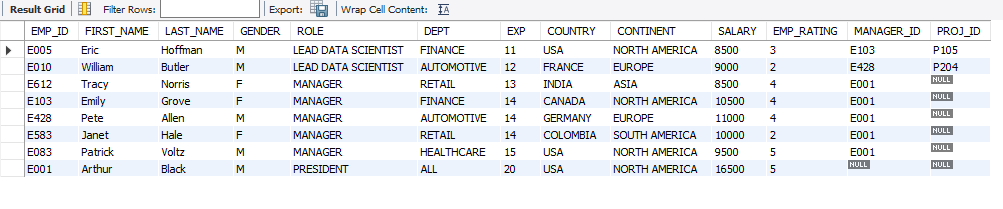
explain select \* from emp\_record\_table WHERE first\_name = 'Eric';



/\*Write a query to calculate the bonus for all the employees,

based on their ratings and salaries (Use the formula: 5% of salary \* employee rating).\*/

select emp\_id,salary,emp\_rating,((salary\*5/100)\*emp\_rating) as bonus FROM emp\_record\_table;



/\*Write a query to calculate the average salary distribution based on the continent and country. \

Take data from the employee record table.\*/

SELECT continent, avg(Salary) FROM emp\_record\_table group by continent;

SELECT country, avg(Salary) FROM emp\_record\_table group by country;

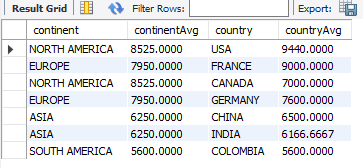
select continent,

(select avg(b.Salary) from emp\_record\_table b where a.continent = b.continent) as continentAvg,

country,

(select avg(c.Salary) from emp\_record\_table c where a.country = c.country) as countryAvg

FROM emp\_record\_table a

group by continent,country;