

SQL- PROJECT

Employee Performance Mapping

Problem Statement 1:

Create a database named employee_performance_mapping, then import data_science_team.csv, proj_table.csv and emp_record_table.csv into the employee database from the given resources.

SQL QUERY :- CREATE DATABASE employee_performance_mapping;

Output:-

| | | | |
|---|----------|--|-------------------|
| 6 | 05:57:18 | create database employee_performance_mapping | 1 row(s) affected |
|---|----------|--|-------------------|

Importing 3 tables into employee_performance_mapping the data base - A)data_science_team.csv, B)proj_table.csv, C)emp_record_table.csv

- 1) Use Employee database by right clicking on it.
- 2) Right Click on table appearing inside employee database dropdown.
- 3) Click on 'Table data import wizard' and complete the import process for all three tables.

Now to check if the tables are successfully imported, we will use the below query

SQL QUERY:-

SELECT * FROM data_science_team;

SELECT * FROM emp_record_table;

SELECT * FROM proj_table;

Output:-

| EMP_ID | FIRST_NAME | LAST_NAME | GENDER | ROLE | DEPT | EXP | COUNTRY | CONTINENT |
|--------|------------|-----------|--------|--------------------------|------------|-----|---------|---------------|
| E005 | Eric | Hoffman | M | LEAD DATA SCIENTIST | FINANCE | 11 | USA | NORTH AMERICA |
| E010 | William | Butler | M | LEAD DATA SCIENTIST | AUTOMOTIVE | 12 | FRANCE | EUROPE |
| E052 | Dianna | Wilson | F | SENIOR DATA SCIENTIST | HEALTHCARE | 6 | CANADA | NORTH AMERICA |
| E057 | Dorothy | Wilson | F | SENIOR DATA SCIENTIST | HEALTHCARE | 9 | USA | NORTH AMERICA |
| E204 | Karene | Nowak | F | SENIOR DATA SCIENTIST | AUTOMOTIVE | 8 | GERMANY | EUROPE |
| E245 | Nian | Zhen | M | SENIOR DATA SCIENTIST | RETAIL | 6 | CHINA | ASIA |
| E260 | Roy | Collins | M | SENIOR DATA SCIENTIST | RETAIL | 7 | INDIA | ASIA |
| E403 | Steve | Hoffman | M | ASSOCIATE DATA SCIENTIST | FINANCE | 4 | USA | NORTH AMERICA |

| EMP_ID | FIRST_NAME | LAST_NAME | GENDER | ROLE | DEPT | EXP | COUNTRY | CONTINENT |
|--------|------------|-----------|--------|-----------------------|------------|-----|---------|---------------|
| E001 | Arthur | Black | M | PRESIDENT | ALL | 20 | USA | NORTH AMERICA |
| E005 | Eric | Hoffman | M | LEAD DATA SCIENTIST | FINANCE | 11 | USA | NORTH AMERICA |
| E010 | William | Butler | M | LEAD DATA SCIENTIST | AUTOMOTIVE | 12 | FRANCE | EUROPE |
| E052 | Dianna | Wilson | F | SENIOR DATA SCIENTIST | HEALTHCARE | 6 | CANADA | NORTH AMERICA |
| E057 | Dorothy | Wilson | F | SENIOR DATA SCIENTIST | HEALTHCARE | 9 | USA | NORTH AMERICA |
| E083 | Patrick | Voltz | M | MANAGER | HEALTHCARE | 15 | USA | NORTH AMERICA |
| E103 | Emily | Grove | F | MANAGER | FINANCE | 14 | CANADA | NORTH AMERICA |
| E204 | Karene | Nowak | F | SENIOR DATA SCIENTIST | AUTOMOTIVE | 8 | GERMANY | EUROPE |

data_science_team 1 emp_record_table 2 × proj_table 3

| Proj_ID | PROJ_NAME | DOMAIN | START_DATE | CLOSURE_DATE | DEV_QTR | STATUS |
|---------|--------------------------------|------------|------------|--------------|---------|---------|
| P103 | Drug Discovery | HEALTHCARE | 04-06-2021 | 6/20/2021 | Q1 | DONE |
| P105 | Fraud Detection | FINANCE | 04-11-2021 | 6/25/2021 | Q1 | DONE |
| P109 | Market Basket Analysis | RETAIL | 04-12-2021 | 6/30/2021 | Q1 | DELAYED |
| P204 | Supply Chain Management | AUTOMOTIVE | 07/15/2021 | 9/28/2021 | Q2 | WIP |
| P302 | Early Detection of Lung Cancer | HEALTHCARE | 10-08-2021 | 12/18/2021 | Q3 | YTS |
| P406 | Customer Sentiment Analysis | RETAIL | 07-09-2021 | 9/24/2021 | Q2 | WIP |
| NULL | NULL | NULL | NULL | NULL | NULL | NULL |

data_science_team 1 emp_record_table 2 proj_table 3 ×

Problem Statement 2:

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.

SQL QUERY:- `SELECT EMP_ID, FIRST_NAME, LAST_NAME, GENDER, DEPT FROM emp_record_table;`

Output:-

| EMP_ID | FIRST_NAME | LAST_NAME | GENDER | DEPT |
|--------|------------|-----------|--------|------------|
| E001 | Arthur | Black | M | ALL |
| E005 | Eric | Hoffman | M | FINANCE |
| E010 | William | Butler | M | AUTOMOTIVE |
| E052 | Dianna | Wilson | F | HEALTHCARE |
| E057 | Dorothy | Wilson | F | HEALTHCARE |
| E083 | Patrick | Voltz | M | HEALTHCARE |
| E103 | Emily | Grove | F | FINANCE |
| E204 | Karene | Nowak | F | AUTOMOTIVE |

emp_record_table 4 ×

Problem Statement 3:

Write a query to fetch EMP_ID, FIRST_NAME, LAST_NAME, GENDER, DEPARTMENT, and EMP_RATING if the EMP_RATING is:

- 1) less than two
- 2) greater than four
- 3) between two and four

SQL QUERY:-

```
SELECT EMP_ID, FIRST_NAME, LAST_NAME, GENDER,DEPT, emp_rating,
```

```
CASE
```

```
    WHEN emp_rating < 2 THEN 'Less than 2'
```

```
    WHEN emp_rating < 4 THEN 'Between two and four'
```

```
    ELSE 'Greater then 4'
```

```
END AS emp_rating_Status
```

```
FROM emp_record_table ;
```

Output:-

Result Grid

Filter Rows:

Export:

Wrap Cell Content:

| | EMP_ID | FIRST_NAME | LAST_NAME | GENDER | DEPT | emp_rating | emp_rating_Status |
|---|--------|------------|-----------|--------|------------|------------|----------------------|
| ▶ | E001 | Arthur | Black | M | ALL | 5 | Greater then 4 |
| | E005 | Eric | Hoffman | M | FINANCE | 3 | Between two and four |
| | E010 | William | Butler | M | AUTOMOTIVE | 2 | Between two and four |
| | E052 | Dianna | Wilson | F | HEALTHCARE | 5 | Greater then 4 |
| | E057 | Dorothy | Wilson | F | HEALTHCARE | 1 | Less than 2 |
| | E083 | Patrick | Voltz | M | HEALTHCARE | 5 | Greater then 4 |
| | E103 | Emily | Grove | F | FINANCE | 4 | Greater then 4 |
| | E204 | Karene | Nowak | F | AUTOMOTIVE | 5 | Greater then 4 |

Result 5

Problem Statement 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.

SQL QUERY:-

```
SELECT * FROM emp_record_table;
```

```
SELECT CONCAT(First_NAME, ' ',LAST_NAME) AS 'NAME' FROM emp_record_table WHERE DEPT = 'FINANCE';
```

Output:-

| | | | | |
|-------------|---------------|---|---|--------|
| Result Grid | |  |  | Filter |
| | NAME | | | |
| ▶ | Eric Hoffman | | | |
| | Emily Grove | | | |
| | Steve Hoffman | | | |

Problem Statement 5:

Write a query to list down all the employees from the healthcare and finance departments using union. Take data from the employee record table.

SQL QUERY:-

```
SELECT * FROM emp_record_table WHERE Dept = 'healthcare'  
  
UNION
```

```
SELECT * FROM emp_record_table WHERE Dept = 'finance';
```

Output:-

Result Grid

Filter Rows:

Export:

Wrap Cell Content:

| | EMP_ID | FIRST_NAME | LAST_NAME | GENDER | ROLE | DEPT |
|---|--------|------------|-----------|--------|--------------------------|------------|
| ▶ | E052 | Dianna | Wilson | F | SENIOR DATA SCIENTIST | HEALTHCARE |
| | E057 | Dorothy | Wilson | F | SENIOR DATA SCIENTIST | HEALTHCARE |
| | E083 | Patrick | Voltz | M | MANAGER | HEALTHCARE |
| | E505 | Chad | Wilson | M | ASSOCIATE DATA SCIENTIST | HEALTHCARE |
| | E005 | Eric | Hoffman | M | LEAD DATA SCIENTIST | FINANCE |
| | E103 | Emily | Grove | F | MANAGER | FINANCE |
| | E403 | Steve | Hoffman | M | ASSOCIATE DATA SCIENTIST | FINANCE |

Result 9

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Problem Statement 6:

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.

SQL QUERY:-

```
SELECT EMP_ID, FIRST_NAME, LAST_NAME, ROLE, DEPT, EMP_RATING,  
       MAX(EMP_RATING) OVER(PARTITION BY dept) AS Max_Emp_Rating  
FROM emp_record_table;
```

Output:-

Result Grid

Filter Rows:

Export:

Wrap Cell Content:

| | EMP_ID | FIRST_NAME | LAST_NAME | ROLE | DEPT | EMP_RATING | Max_Emp_Rating |
|---|--------|------------|-----------|--------------------------|------------|------------|----------------|
| ▶ | E001 | Arthur | Black | PRESIDENT | ALL | 5 | 5 |
| | E010 | William | Butler | LEAD DATA SCIENTIST | AUTOMOTIVE | 2 | 5 |
| | E204 | Karene | Nowak | SENIOR DATA SCIENTIST | AUTOMOTIVE | 5 | 5 |
| | E428 | Pete | Allen | MANAGER | AUTOMOTIVE | 4 | 5 |
| | E532 | Claire | Brennan | ASSOCIATE DATA SCIENTIST | AUTOMOTIVE | 1 | 5 |
| | E005 | Eric | Hoffman | LEAD DATA SCIENTIST | FINANCE | 3 | 4 |
| | E103 | Emily | Grove | MANAGER | FINANCE | 4 | 4 |
| | E403 | Steve | Hoffman | ASSOCIATE DATA SCIENTIST | FINANCE | 3 | 4 |

Result 10

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Result

Problem Statement 7:

Write a query to calculate the minimum and the maximum salary of the employees in each role. Take data from the employee record table.

SQL QUERY:-

```
SELECT EMP_ID, FIRST_NAME, LAST_NAME, GENDER, DEPT, ROLE, SALARY,
       max(salary) OVER(PARTITION BY ROLE) as Max_Salary,
       min(salary) OVER(PARTITION BY ROLE) AS Min_Salary
FROM emp_record_table;
```

Output:-

| Result Grid | | Filter Rows: | | Export: | | Wrap Cell Content: | | | |
|-------------|--------|--------------|-----------|---------|------------|--------------------------|--------|------------|------------|
| | EMP_ID | FIRST_NAME | LAST_NAME | GENDER | DEPT | ROLE | SALARY | Max_Salary | Min_Salary |
| ▶ | E403 | Steve | Hoffman | M | FINANCE | ASSOCIATE DATA SCIENTIST | 5000 | 5000 | 4000 |
| | E478 | David | Smith | M | RETAIL | ASSOCIATE DATA SCIENTIST | 4000 | 5000 | 4000 |
| | E505 | Chad | Wilson | M | HEALTHCARE | ASSOCIATE DATA SCIENTIST | 5000 | 5000 | 4000 |
| | E532 | Claire | Brennan | F | AUTOMOTIVE | ASSOCIATE DATA SCIENTIST | 4300 | 5000 | 4000 |
| | E620 | Katrina | Allen | F | RETAIL | JUNIOR DATA SCIENTIST | 3000 | 3000 | 2800 |
| | E640 | Jenifer | Jhones | F | RETAIL | JUNIOR DATA SCIENTIST | 2800 | 3000 | 2800 |
| | E005 | Eric | Hoffman | M | FINANCE | LEAD DATA SCIENTIST | 8500 | 9000 | 8500 |
| | E010 | William | Butler | M | AUTOMOTIVE | LEAD DATA SCIENTIST | 9000 | 9000 | 8500 |

Problem Statement 8:

Write a query to assign ranks to each employee based on their experience. Take data from the employee record table.

SQL QUERY:-

```
SELECT EMP_ID, FIRST_NAME, LAST_NAME, GENDER, ROLE, DEPT, COUNTRY, CONTINENT, SALARY, EMP_RATING, EXP, DENSE_RANK() OVER(ORDER BY exp DESC) AS Rank_based_on_exp FROM emp_record_table;
```

Output:-

| EMP_ID | FIRST_NAME | LAST_NAME | GENDER | ROLE | DEPT | COUNTRY | CONTINENT | SALARY | EMP_RATING | EXP | Rank_based_on_exp |
|--------|------------|-----------|--------|---------------------|------------|----------|---------------|--------|------------|-----|-------------------|
| E001 | Arthur | Black | M | PRESIDENT | ALL | USA | NORTH AMERICA | 16500 | 5 | 20 | 1 |
| E083 | Patrick | Voltz | M | MANAGER | HEALTHCARE | USA | NORTH AMERICA | 9500 | 5 | 15 | 2 |
| E103 | Emily | Grove | F | MANAGER | FINANCE | CANADA | NORTH AMERICA | 10500 | 4 | 14 | 3 |
| E428 | Pete | Allen | M | MANAGER | AUTOMOTIVE | GERMANY | EUROPE | 11000 | 4 | 14 | 3 |
| E583 | Janet | Hale | F | MANAGER | RETAIL | COLOMBIA | SOUTH AMERICA | 10000 | 2 | 14 | 3 |
| E612 | Tracy | Norris | F | MANAGER | RETAIL | INDIA | ASIA | 8500 | 4 | 13 | 4 |
| E010 | William | Butler | M | LEAD DATA SCIENTIST | AUTOMOTIVE | FRANCE | EUROPE | 9000 | 2 | 12 | 5 |
| E005 | Eric | Hoffman | M | LEAD DATA SCIENTIST | FINANCE | USA | NORTH AMERICA | 8500 | 3 | 11 | 6 |

Problem Statement 9:

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.

SQL QUERY:-

```
CREATE VIEW Emp_country AS
```

```
SELECT emp_id,first_name,last_name,salary,country FROM emp_record_table WHERE salary >6000 ORDER BY COUNTRY;
```

Now to check the view is created successfully imported, we will use the below query.

```
SELECT * FROM emp_country
```

Output:-

| emp_id | first_name | last_name | salary | country |
|--------|------------|-----------|--------|----------|
| E103 | Emily | Grove | 10500 | CANADA |
| E245 | Nian | Zhen | 6500 | CHINA |
| E583 | Janet | Hale | 10000 | COLOMBIA |
| E010 | William | Butler | 9000 | FRANCE |
| E204 | Karene | Nowak | 7500 | GERMANY |
| E428 | Pete | Allen | 11000 | GERMANY |
| E260 | Roy | Collins | 7000 | INDIA |
| E612 | Tracy | Norris | 8500 | INDIA |