Project name: Science Qtech Employee Performance Mapping

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1. Introduction

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.

2. 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.

3. Sql code

```
1.create database employee;


3. SELECT EMP_ID, FIRST_NAME, LAST_NAME, GENDER, DEPT
FROM emp_record_table;
SELECT * FROM emp_record_table;

4. 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;

5. SELECT CONCAT(FIRST_NAME, ' ', LAST_NAME) AS NAME
FROM emp_record_table
WHERE DEPT = 'Finance';
6. SELECT *
FROM emp_record_table
WHERE emp_id IN (
   SELECT DISTINCT manager_id
   FROM emp_record_table
```

```
   WHERE manager_id IS NOT NULL
);
```

7.
```
SELECT EMP_ID, FIRST_NAME, LAST_NAME, DEPT
FROM emp_record_table
WHERE DEPT = "HEALTHCARE"
UNION
SELECT EMP_ID, FIRST_NAME, LAST_NAME, DEPT
FROM emp_record_table
WHERE DEPT = "FINANCE"
```

8.
```
SELECT dept, emp_id, first_name, last_name, role, emp_rating, MAX(emp_rating) OVER (PARTITION BY dept) AS max_emp_rating
FROM emp_record_table
GROUP BY dept, emp_id, first_name, last_name, role, emp_rating;
```

9.
```
SELECT role, MIN(salary) AS min_salary, MAX(salary) AS max_salary
FROM emp_record_table
GROUP BY role;
```

10.
```
SELECT emp_id,FIRST_NAME,DEPT, exp, RANK() OVER (ORDER BY exp DESC)
FROM emp_record_table;
```

11.
```
CREATE VIEW employee_salary_view AS
SELECT *
FROM emp_record_table
WHERE salary > 6000
GROUP BY country;
```

12. SELECT *

FROM emp_record_table

WHERE exp > 10;

13. DELIMITER &&

CREATE PROCEDURE sp_employee_experience()

BEGIN

SELECT *

FROM emp_record_table

WHERE exp > 3;

END;

CALL sp_employee_experience()

14. DELIMITER &&

CREATE FUNCTION EMPLOYEE_ROLE_MATCH (EXP INT) RETURNS VARCHAR (50) DETERMINISTIC

BEGIN

DECLARE STANDARD_ROLE VARCHAR (50);

IF EXP < 2 THEN

SET STANDARD_ROLE ='JUNIOR DATA SCIENTIST';

ELSEIF (EXP >=2 and EXP <5) THEN

SET STANDARD_ROLE ='ASSOCIATE DATA SCIENTIST';

ELSEIF (EXP >=5 and EXP <10) THEN

SET STANDARD_ROLE ='SENIOR DATA SCIENTIST';

ELSEIF (EXP >=10 and EXP <12) THEN

SET STANDARD_ROLE ='LEAD DATA SCIENTIST';

ELSEIF (EXP >=12 and EXP <16) THEN

SET STANDARD_ROLE ='MANAGER';

```
    END IF;
    RETURN (STANDARD_ROLE);
END &&
```

15.
```
SELECT EMP.EMP_ID, DS.ROLE, EMP.EXP, EMPLOYEE_ROLE_MATCH(EMP.EXP)
FROM emp_record_table EMP
JOIN data_science_team DS ON EMP.EMP_ID = DS.EMP_ID;
```

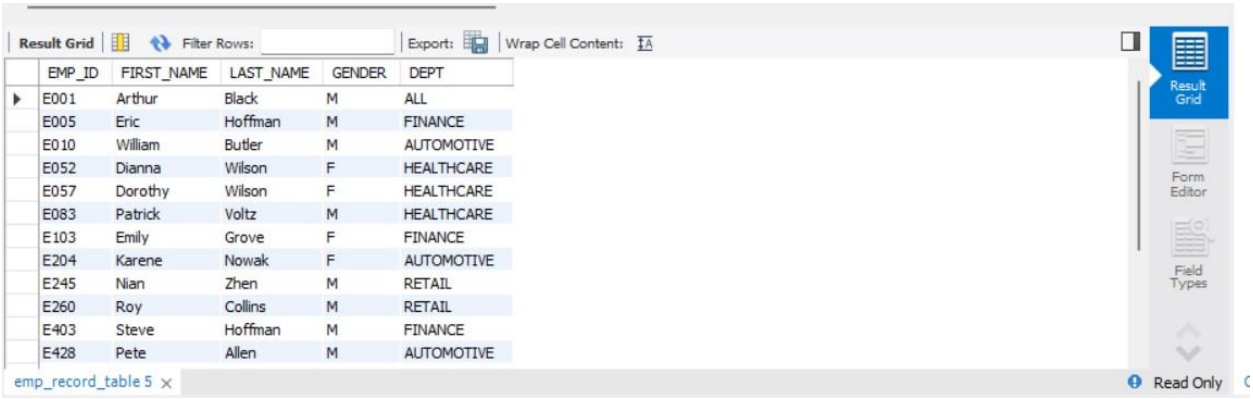
16.
```
CREATE INDEX idx_employee_firstname ON emp_record_table (FIRST_NAME);
```

17.
```
SELECT EMP_ID, SALARY, emp_rating, 0.05 * SALARY * emp_rating AS bonus
FROM emp_record_table;
```

18.
```
SELECT
    continent,
    country,
    AVG(salary) AS avg_salary
FROM
    emp_record_table
GROUP BY
    continent,
    country;
```

Output screenshots

3.



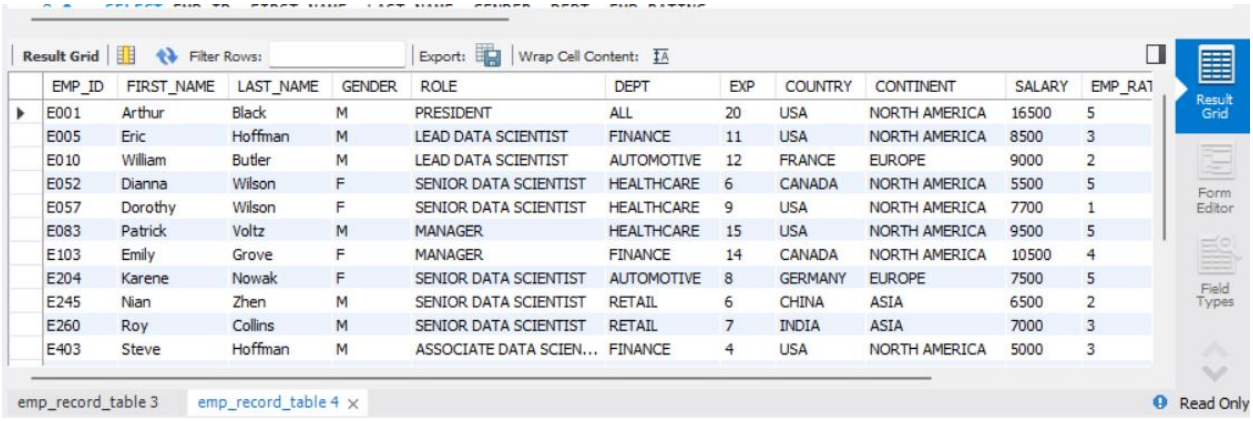
Result Grid | Filter Rows: | Export: | Wrap Cell Content:

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
E245	Nian	Zhen	M	RETAIL
E260	Roy	Collins	M	RETAIL
E403	Steve	Hoffman	M	FINANCE
E428	Pete	Allen	M	AUTOMOTIVE

Result Grid | Form Editor | Field Types

emp_record_table 5 | Read Only

4.

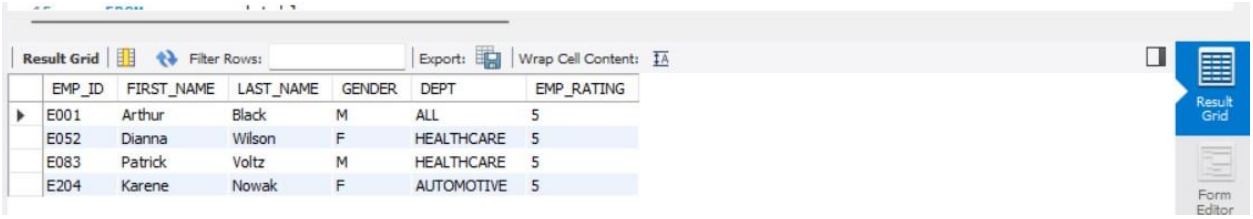


Result Grid | Filter Rows: | Export: | Wrap Cell Content:

EMP_ID	FIRST_NAME	LAST_NAME	GENDER	ROLE	DEPT	EXP	COUNTRY	CONTINENT	SALARY	EMP_RAT
E001	Arthur	Black	M	PRESIDENT	ALL	20	USA	NORTH AMERICA	16500	5
E005	Eric	Hoffman	M	LEAD DATA SCIENTIST	FINANCE	11	USA	NORTH AMERICA	8500	3
E010	William	Butler	M	LEAD DATA SCIENTIST	AUTOMOTIVE	12	FRANCE	EUROPE	9000	2
E052	Dianna	Wilson	F	SENIOR DATA SCIENTIST	HEALTHCARE	6	CANADA	NORTH AMERICA	5500	5
E057	Dorothy	Wilson	F	SENIOR DATA SCIENTIST	HEALTHCARE	9	USA	NORTH AMERICA	7700	1
E083	Patrick	Voltz	M	MANAGER	HEALTHCARE	15	USA	NORTH AMERICA	9500	5
E103	Emily	Grove	F	MANAGER	FINANCE	14	CANADA	NORTH AMERICA	10500	4
E204	Karene	Nowak	F	SENIOR DATA SCIENTIST	AUTOMOTIVE	8	GERMANY	EUROPE	7500	5
E245	Nian	Zhen	M	SENIOR DATA SCIENTIST	RETAIL	6	CHINA	ASIA	6500	2
E260	Roy	Collins	M	SENIOR DATA SCIENTIST	RETAIL	7	INDIA	ASIA	7000	3
E403	Steve	Hoffman	M	ASSOCIATE DATA SCIEN...	FINANCE	4	USA	NORTH AMERICA	5000	3

Result Grid | Form Editor | Field Types

emp_record_table 3 | emp_record_table 4 | Read Only



Result Grid | Filter Rows: | Export: | Wrap Cell Content:

EMP_ID	FIRST_NAME	LAST_NAME	GENDER	DEPT	EMP_RATING
E001	Arthur	Black	M	ALL	5
E052	Dianna	Wilson	F	HEALTHCARE	5
E083	Patrick	Voltz	M	HEALTHCARE	5
E204	Karene	Nowak	F	AUTOMOTIVE	5

Result Grid | Form Editor

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

EMP_ID	FIRST_NAME	LAST_NAME	GENDER	DEPT	EMP_RATING
E005	Eric	Hoffman	M	FINANCE	3
E010	William	Butler	M	AUTOMOTIVE	2
E103	Emily	Grove	F	FINANCE	4
E245	Nian	Zhen	M	RETAIL	2
E260	Roy	Collins	M	RETAIL	3
E403	Steve	Hoffman	M	FINANCE	3
E428	Pete	Allen	M	AUTOMOTIVE	4
E478	David	Smith	M	RETAIL	4
E505	Chad	Wilson	M	HEALTHCARE	2
E583	Janet	Hale	F	RETAIL	2
E612	Tracy	Norris	F	RETAIL	4
E640	Jenifer	Jhones	F	RETAIL	4

5.

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

NAME
Eric Hoffman
Emily Grove
Steve Hoffman

6.

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

EMP_ID	FIRST_NAME	LAST_NAME	GENDER	ROLE	DEPT	EXP	COUNTRY	CONTINENT	SALARY	EMP_RATING	MANAGE
E001	Arthur	Black	M	PRESIDENT	ALL	20	USA	NORTH AMERICA	16500	5	NULL
E083	Patrick	Voltz	M	MANAGER	HEALTHCARE	15	USA	NORTH AMERICA	9500	5	E001
E103	Emily	Grove	F	MANAGER	FINANCE	14	CANADA	NORTH AMERICA	10500	4	E001
E428	Pete	Allen	M	MANAGER	AUTOMOTIVE	14	GERMANY	EUROPE	11000	4	E001
E583	Janet	Hale	F	MANAGER	RETAIL	14	COLOMBIA	SOUTH AMERICA	10000	2	E001
E612	Tracy	Norris	F	MANAGER	RETAIL	13	INDIA	ASIA	8500	4	E001

8500

7.

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

EMP_ID	FIRST_NAME	LAST_NAME	DEPT
E052	Dianna	Wilson	HEALTHCARE
E057	Dorothy	Wilson	HEALTHCARE
E083	Patrick	Voltz	HEALTHCARE
E505	Chad	Wilson	HEALTHCARE
E005	Eric	Hoffman	FINANCE
E103	Emily	Grove	FINANCE
E403	Steve	Hoffman	FINANCE

8.

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

dept	emp_id	first_name	last_name	role	emp_rating	max_emp_rating
ALL	E001	Arthur	Black	PRESIDENT	5	5
AUTOMOTIVE	E010	William	Butler	LEAD DATA SCIENTIST	2	5
AUTOMOTIVE	E204	Karene	Nowak	SENIOR DATA SCIENTIST	5	5
AUTOMOTIVE	E428	Pete	Allen	MANAGER	4	5
AUTOMOTIVE	E532	Claire	Brennan	ASSOCIATE DATA SCIENTIST	1	5
FINANCE	E005	Eric	Hoffman	LEAD DATA SCIENTIST	3	4
FINANCE	E103	Emily	Grove	MANAGER	4	4
FINANCE	E403	Steve	Hoffman	ASSOCIATE DATA SCIENTIST	3	4
HEALTHCARE	E052	Dianna	Wilson	SENIOR DATA SCIENTIST	5	5
HEALTHCARE	E057	Dorothy	Wilson	SENIOR DATA SCIENTIST	1	5
HEALTHCARE	E083	Patrick	Voltz	MANAGER	5	5
HEALTHCARE	E505	Chad	Wilson	ASSOCIATE DATA SCIENTIST	2	5

9.

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

role	min_salary	max_salary
PRESIDENT	16500	16500
LEAD DATA SCIENTIST	8500	9000
SENIOR DATA SCIENTIST	5500	7700
MANAGER	8500	11000
ASSOCIATE DATA SCIENTIST	4000	5000
JUNIOR DATA SCIENTIST	2800	3000

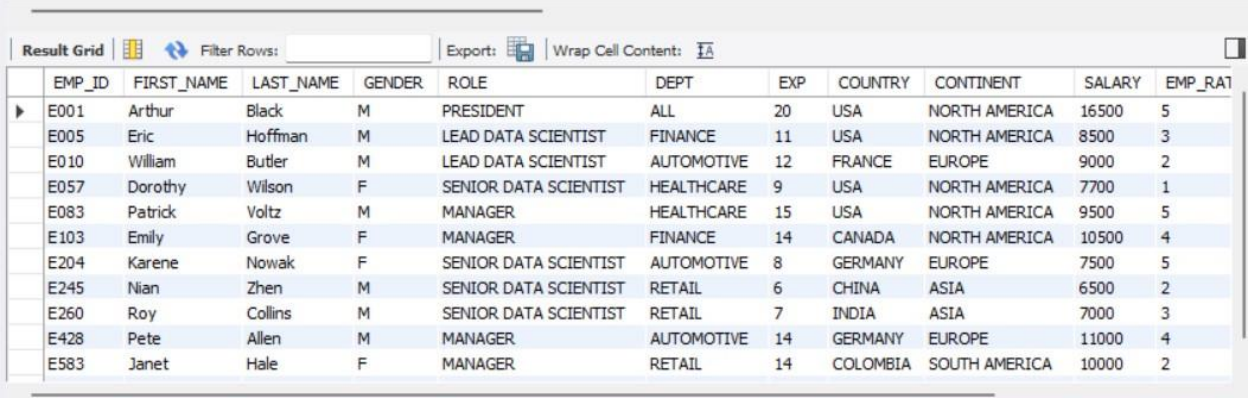
10.

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

emp_id	FIRST_NAME	DEPT	exp	RANK() OVER (ORDER BY exp DESC)
E001	Arthur	ALL	20	1
E083	Patrick	HEALTHCARE	15	2
E103	Emily	FINANCE	14	3
E428	Pete	AUTOMOTIVE	14	3
E583	Janet	RETAIL	14	3
E612	Tracy	RETAIL	13	6
E010	William	AUTOMOTIVE	12	7
E005	Eric	FINANCE	11	8
E057	Dorothy	HEALTHCARE	9	9
E204	Karene	AUTOMOTIVE	8	10
E260	Roy	RETAIL	7	11

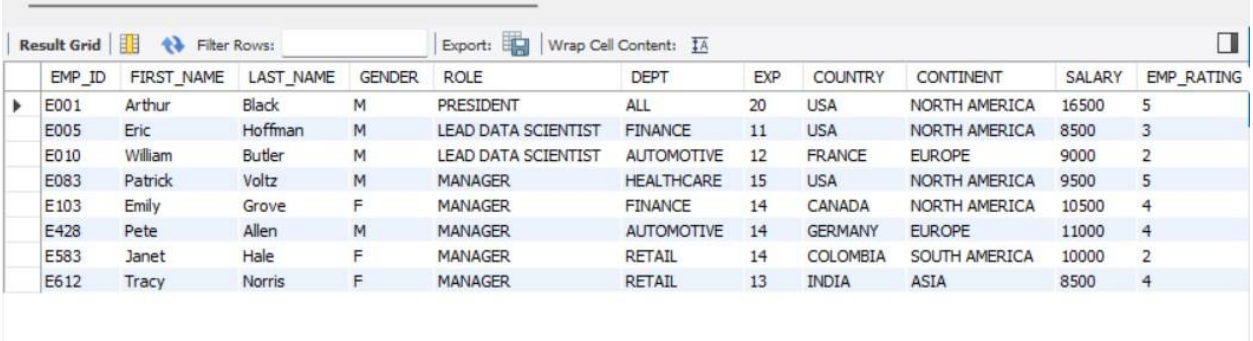
Result 15 ×

11.



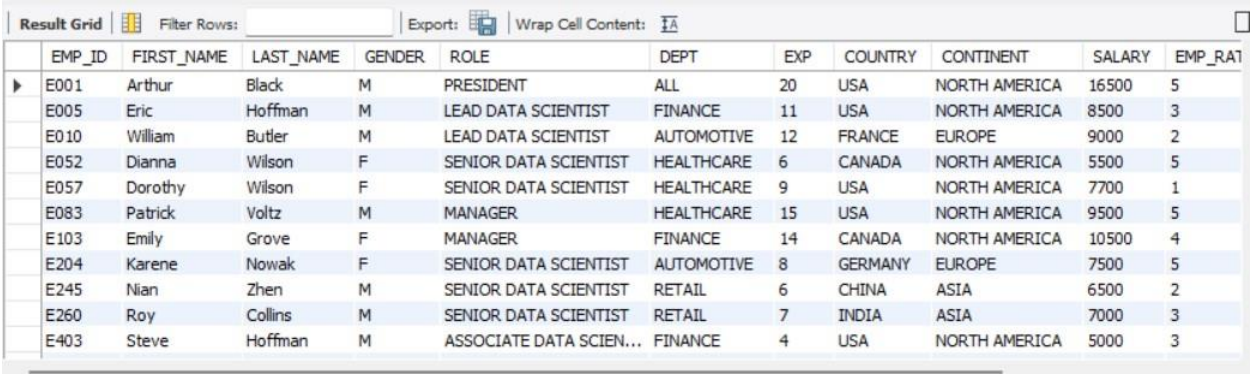
EMP_ID	FIRST_NAME	LAST_NAME	GENDER	ROLE	DEPT	EXP	COUNTRY	CONTINENT	SALARY	EMP_RAT
E001	Arthur	Black	M	PRESIDENT	ALL	20	USA	NORTH AMERICA	16500	5
E005	Eric	Hoffman	M	LEAD DATA SCIENTIST	FINANCE	11	USA	NORTH AMERICA	8500	3
E010	William	Butler	M	LEAD DATA SCIENTIST	AUTOMOTIVE	12	FRANCE	EUROPE	9000	2
E057	Dorothy	Wilson	F	SENIOR DATA SCIENTIST	HEALTHCARE	9	USA	NORTH AMERICA	7700	1
E083	Patrick	Voltz	M	MANAGER	HEALTHCARE	15	USA	NORTH AMERICA	9500	5
E103	Emily	Grove	F	MANAGER	FINANCE	14	CANADA	NORTH AMERICA	10500	4
E204	Karene	Nowak	F	SENIOR DATA SCIENTIST	AUTOMOTIVE	8	GERMANY	EUROPE	7500	5
E245	Nian	Zhen	M	SENIOR DATA SCIENTIST	RETAIL	6	CHINA	ASIA	6500	2
E260	Roy	Collins	M	SENIOR DATA SCIENTIST	RETAIL	7	INDIA	ASIA	7000	3
E428	Pete	Allen	M	MANAGER	AUTOMOTIVE	14	GERMANY	EUROPE	11000	4
E583	Janet	Hale	F	MANAGER	RETAIL	14	COLOMBIA	SOUTH AMERICA	10000	2

12.



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

13.



EMP_ID	FIRST_NAME	LAST_NAME	GENDER	ROLE	DEPT	EXP	COUNTRY	CONTINENT	SALARY	EMP_RAT
E001	Arthur	Black	M	PRESIDENT	ALL	20	USA	NORTH AMERICA	16500	5
E005	Eric	Hoffman	M	LEAD DATA SCIENTIST	FINANCE	11	USA	NORTH AMERICA	8500	3
E010	William	Butler	M	LEAD DATA SCIENTIST	AUTOMOTIVE	12	FRANCE	EUROPE	9000	2
E052	Dianna	Wilson	F	SENIOR DATA SCIENTIST	HEALTHCARE	6	CANADA	NORTH AMERICA	5500	5
E057	Dorothy	Wilson	F	SENIOR DATA SCIENTIST	HEALTHCARE	9	USA	NORTH AMERICA	7700	1
E083	Patrick	Voltz	M	MANAGER	HEALTHCARE	15	USA	NORTH AMERICA	9500	5
E103	Emily	Grove	F	MANAGER	FINANCE	14	CANADA	NORTH AMERICA	10500	4
E204	Karene	Nowak	F	SENIOR DATA SCIENTIST	AUTOMOTIVE	8	GERMANY	EUROPE	7500	5
E245	Nian	Zhen	M	SENIOR DATA SCIENTIST	RETAIL	6	CHINA	ASIA	6500	2
E260	Roy	Collins	M	SENIOR DATA SCIENTIST	RETAIL	7	INDIA	ASIA	7000	3
E403	Steve	Hoffman	M	ASSOCIATE DATA SCIEN...	FINANCE	4	USA	NORTH AMERICA	5000	3

14.

EMPLOYEE_ROLE_MATCH(5)
SENIOR DATA SCIENTIST

15.

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

EMP_ID	ROLE	EXP	EMPLOYEE_ROLE_MATCH(EMP.EXP)
E005	LEAD DATA SCIENTIST	11	LEAD DATA SCIENTIST
E010	LEAD DATA SCIENTIST	12	MANAGER
E052	SENIOR DATA SCIENTIST	6	SENIOR DATA SCIENTIST
E057	SENIOR DATA SCIENTIST	9	SENIOR DATA SCIENTIST
E204	SENIOR DATA SCIENTIST	8	SENIOR DATA SCIENTIST
E245	SENIOR DATA SCIENTIST	6	SENIOR DATA SCIENTIST
E260	SENIOR DATA SCIENTIST	7	SENIOR DATA SCIENTIST
E403	ASSOCIATE DATA SCIENTIST	4	ASSOCIATE DATA SCIENTIST
E478	ASSOCIATE DATA SCIENTIST	3	ASSOCIATE DATA SCIENTIST
E505	ASSOCIATE DATA SCIENTIST	5	SENIOR DATA SCIENTIST
E532	ASSOCIATE DATA SCIENTIST	3	ASSOCIATE DATA SCIENTIST
E620	JUNIOR DATA SCIENTIST	2	ASSOCIATE DATA SCIENTIST

16.

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

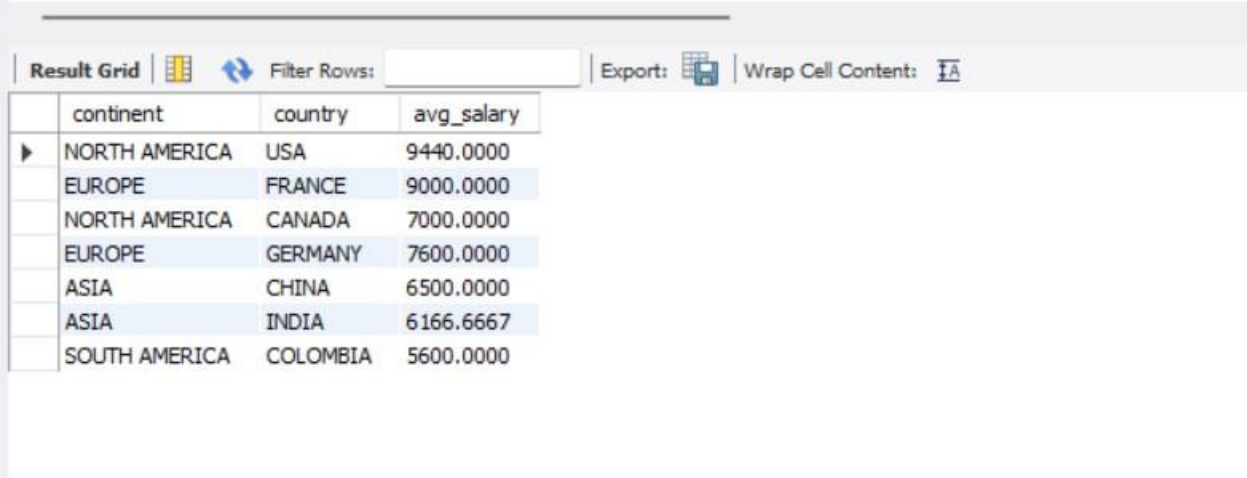
EMP_ID	FIRST_NAME	LAST_NAME	GENDER	ROLE	DEPT	EXP	COUNTRY	CONTINENT	SALARY	EMP_RATING	MA
E005	Eric	Hoffman	M	LEAD DATA SCIENTIST	FINANCE	11	USA	NORTH AMERICA	8500	3	E10

17.

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

EMP_ID	SALARY	emp_rating	bonus
E001	16500	5	4125.00
E005	8500	3	1275.00
E010	9000	2	900.00
E052	5500	5	1375.00
E057	7700	1	385.00
E083	9500	5	2375.00
E103	10500	4	2100.00
E204	7500	5	1875.00
E245	6500	2	650.00
E260	7000	3	1050.00
E403	5000	3	750.00
E428	11000	4	2200.00

18.



continent	country	avg_salary
NORTH AMERICA	USA	9440.0000
EUROPE	FRANCE	9000.0000
NORTH AMERICA	CANADA	7000.0000
EUROPE	GERMANY	7600.0000
ASIA	CHINA	6500.0000
ASIA	INDIA	6166.6667
SOUTH AMERICA	COLOMBIA	5600.0000