

SQL PROJECT-1

ScienceQtech Employee Performance Mapping



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SUBMITTED BY:

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ScienceQtech Employee Performance Mapping

Course-end Project 1

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.

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

Dataset: [scienceqtech performance mapping dataset.zip](#)



1.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;
```



93 23:32:06 CREATE DATABASE employee

1 row(s) affected

I imported the csv files using table import wizard and then altered them:

```
ALTER TABLE proj_table CHANGE `START_DATE` START_DATE varchar(10);
```

```
ALTER TABLE proj_table  
MODIFY PROJECT_ID varchar(10) primary key ,  
MODIFY PROJ_NAME varchar(50),  
MODIFY DOMAIN varchar(50),  
MODIFY CLOSURE_DATE varchar(10),  
MODIFY DEV_QTR varchar(2),  
MODIFY STATUS varchar(10);
```

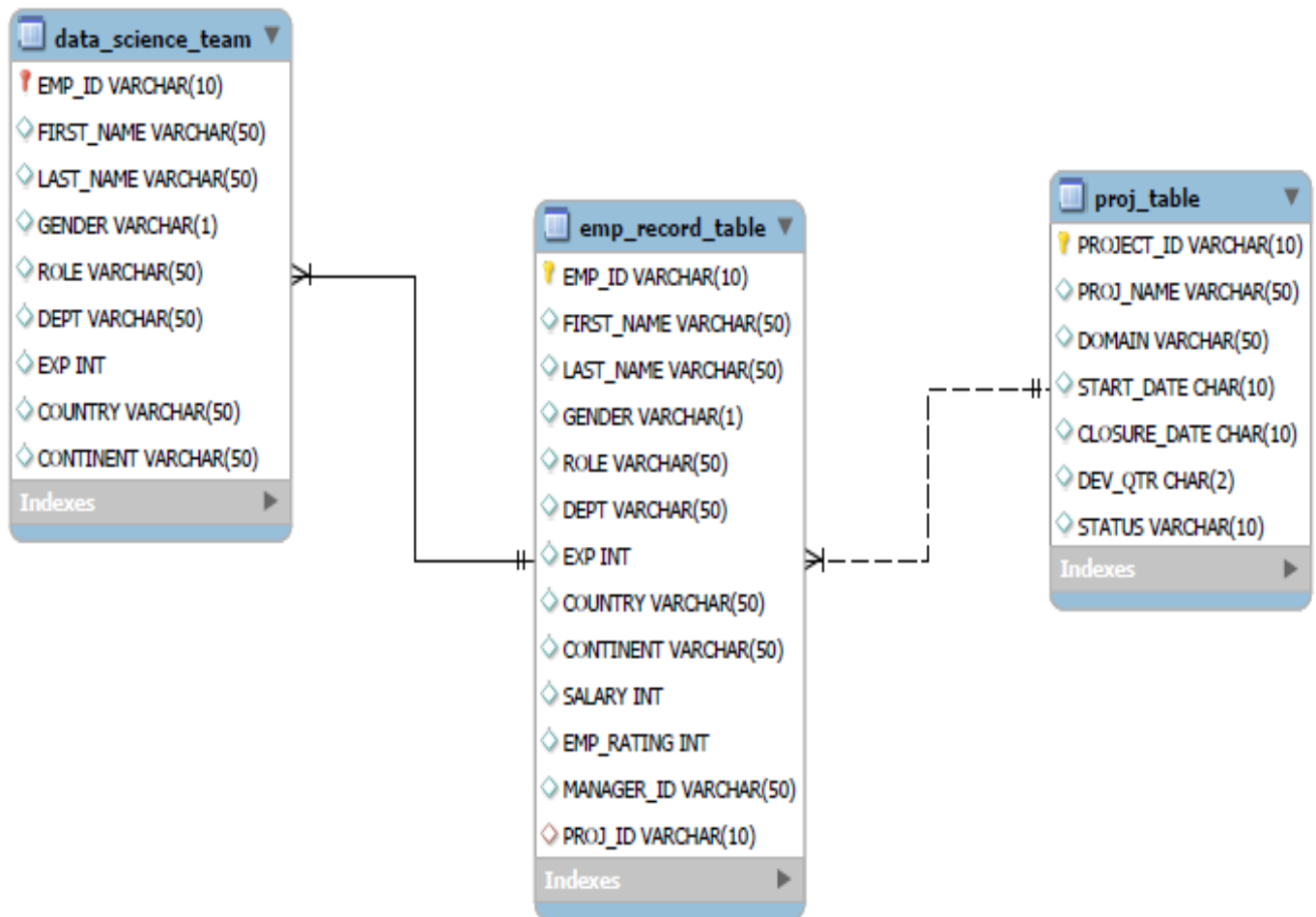
```
UPDATE emp_record_table SET PROJ_ID = NULL WHERE PROJ_ID = 'NA';
```

```
ALTER TABLE emp_record_table  
MODIFY EMP_ID varchar(10) PRIMARY KEY,  
MODIFY FIRST_NAME varchar(50),  
MODIFY LAST_NAME varchar(50),  
MODIFY GENDER varchar(1),  
MODIFY ROLE varchar(50),  
MODIFY DEPT varchar(50),  
MODIFY EXP int,  
MODIFY COUNTRY varchar(50),  
MODIFY CONTINENT varchar(50),
```

```
MODIFY SALARY int,  
MODIFY EMP_RATING int,  
MODIFY MANAGER_ID varchar(50),  
MODIFY PROJ_ID varchar(10),  
ADD FOREIGN KEY (PROJ_ID) REFERENCES proj_table(PROJECT_ID);
```

```
ALTER TABLE data_science_team  
MODIFY EMP_ID varchar(10) primary key,  
MODIFY FIRST_NAME varchar(50),  
MODIFY LAST_NAME varchar(50),  
MODIFY GENDER varchar(1),  
MODIFY ROLE varchar(50),  
MODIFY DEPT varchar(50),  
MODIFY EXP int,  
MODIFY COUNTRY varchar(50),  
MODIFY CONTINENT varchar(50),  
ADD foreign key (EMP_ID) REFERENCES emp_record_table(EMP_ID);
```

2.Create an ER diagram for the given employee database.



science q tech er
diagram pdf.pdf

PDF link: [science q tech er diagram pdf.pdf](#)

3. 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;
```

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
	F478	David	Smith	M	RFTATI

emp_record_table 5 x

Output

Action Output

#	Time	Action	Message
✓ 193	13:29:11	SELECT emp_id, first_name, last_name, gender, dept FROM emp_record_table	19 row(s) returned

4. 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;

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

	emp_id	first_name	last_name	gender	dept	emp_rating
▶	E057	Dorothy	Wilson	F	HEALTHCARE	1
	E532	Claire	Brennan	F	AUTOMOTIVE	1
	E620	Katrina	Allen	F	RETAIL	1

emp_record_table 7 x

Output

Action Output

#	Time	Action	Message
✓ 195	13:34:20	SELECT emp_id, first_name, last_name, gender, dept, emp_rating FROM emp_record_tab...	3 row(s) returned

SELECT emp_id, first_name, last_name, gender, dept, emp_rating FROM emp_record_table WHERE emp_rating>4;

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

emp_record_table 9 ×

Output

Action Output

#	Time	Action	Message
✓ 197	13:35:35	SELECT emp_id, first_name, last_name, gender, dept, emp_rating FROM emp_record_tab...	4 row(s) returned

SELECT emp_id, first_name, last_name, gender, dept, emp_rating FROM emp_record_table WHERE emp_rating BETWEEN 2 AND 4;

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

emp_record_table 11 ×

Output

Action Output

#	Time	Action	Message
✓ 199	13:36:52	SELECT emp_id, first_name, last_name, gender, dept, emp_rating FROM emp_record_tab...	12 row(s) returned

5. 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), dept FROM emp_record_table WHERE dept="Finance";

Result Grid	Filter Rows:	Export:	Wrap Cell Content:
concat(first_name, " ", last_name)	dept		
Eric Hoffman	FINANCE		
Emily Grove	FINANCE		
Steve Hoffman	FINANCE		

Result 13 x

Output

Action Output

#	Time	Action	Message
201	13:41:26	SELECT concat(first_name, " ", last_name),dept FROM emp_record_table WHERE dept=...	3 row(s) returned

6. Write a query to list only those employees who have someone reporting to them. Also, show the number of reporters (including the President).

```
SELECT DISTINCT manager_id, count(emp_id) OVER (PARTITION BY manager_id) no_of_reporters FROM emp_record_table WHERE manager_id IS NOT NULL;
```

Result Grid	Filter Rows:	Export:	Wrap Cell Content:
manager_id	no_of_reporters		
E001	5		
E083	3		
E103	2		
E428	3		
E583	3		
E612	2		

Result 15 x

Output

Action Output

#	Time	Action	Message
210	13:53:00	SELECT DISTINCT manager_id, count(emp_id) OVER (PARTITION BY manager_id) no_...	6 row(s) returned

7. 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,dept FROM emp_record_table WHERE dept="healthcare"
UNION
SELECT emp_id,first_name,last_name,dept FROM emp_record_table WHERE dept="finance";
```

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				

Result 17 x

Output

Action Output

#	Time	Action	Message
212	13:58:32	SELECT emp_id,first_name,last_name,dept FROM emp_record_table WHERE dept="heal...	7 row(s) returned

8. 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, emp_rating, dept, max(emp_rating) OVER (PARTITION BY dept)
max_dept_rating FROM emp_record_table;
```

Result Grid								Filter Rows:	Export:	Wrap Cell Content:
emp_id	first_name	last_name	role	emp_rating	dept	max_dept_rating				
E001	Arthur	Black	PRESIDENT	5	ALL	5				
E010	William	Butler	LEAD DATA SCIENTIST	2	AUTOMOTIVE	5				
E204	Karene	Nowak	SENIOR DATA SCIENTIST	5	AUTOMOTIVE	5				
E428	Pete	Allen	MANAGER	4	AUTOMOTIVE	5				
E532	Claire	Brennan	ASSOCIATE DATA SCIENTIST	1	AUTOMOTIVE	5				
E005	Eric	Hoffman	LEAD DATA SCIENTIST	3	FINANCE	4				
E103	Emily	Grove	MANAGER	4	FINANCE	4				
E403	Steve	Hoffman	ASSOCIATE DATA SCIENTIST	3	FINANCE	4				
E052	Dianna	Wilson	SENIOR DATA SCIENTIST	5	HEALTHCARE	5				
E057	Dorothy	Wilson	SENIOR DATA SCIENTIST	1	HEALTHCARE	5				
E083	Patrick	Voltz	MANAGER	5	HEALTHCARE	5				
E505	Chad	Wilson	ASSOCIATE DATA SCIENTIST	2	HEALTHCARE	5				
F245	Nian	Zhen	SENIOR DATA SCIENTIST	2	HEALTHCARE	4				

Result 19 x

Output

Action Output

#	Time	Action	Message
214	14:01:27	SELECT emp_id,first_name,last_name,role,emp_rating,dept,max(emp_rating) OVER (PAR...	19 row(s) returned

9. 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 role, MAX(salary) maximum_salary, MIN(salary) minimum_salary FROM emp_record_table GROUP BY role;

Result Grid			
	Filter Rows:	Export:	Wrap Cell Content:
role	maximum_salary	minimum_salary	
PRESIDENT	16500	16500	
LEAD DATA SCIENTIST	9000	8500	
SENIOR DATA SCIENTIST	7700	5500	
MANAGER	11000	8500	
ASSOCIATE DATA SCIENTIST	5000	4000	
JUNIOR DATA SCIENTIST	3000	2800	

Result 21 x

Output

Action Output

#	Time	Action	Message
216	14:04:46	SELECT role, MAX(salary) maximum_salary, MIN(salary) minimum_salary FROM emp_recor...	6 row(s) returned

10. 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, dept, exp, dense_rank() OVER (ORDER BY exp desc) rank_ FROM emp_record_table;

Result Grid

Filter Rows:

Export:

Wrap Cell Content:

	emp_id	first_name	last_name	dept	exp	rank_
▶	E001	Arthur	Black	ALL	20	1
	E083	Patrick	Voltz	HEALTHCARE	15	2
	E103	Emily	Grove	FINANCE	14	3
	E428	Pete	Allen	AUTOMOTIVE	14	3
	E583	Janet	Hale	RETAIL	14	3
	E612	Tracy	Norris	RETAIL	13	4
	E010	William	Butler	AUTOMOTIVE	12	5
	E005	Eric	Hoffman	FINANCE	11	6
	E057	Dorothy	Wilson	HEALTHCARE	9	7
	E204	Karene	Nowak	AUTOMOTIVE	8	8
	E260	Roy	Collins	RETAIL	7	9
	E052	Dianna	Wilson	HEALTHCARE	6	10
	F245	Nian	Zhen	RFTATI	6	10

Result 23

Output

Action Output

#	Time	Action	Message
218	14:08:04	SELECT emp_id, first_name, last_name, dept, exp, dense_rank() OVER (ORDER BY exp de...	19 row(s) returned

11. 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 employee_salary_more_than_6000 AS

SELECT country, emp_id, concat(first_name," ",last_name) emp_name, salary, emp_rating, role, dept, manager_id, proj_id, gender, continent FROM emp_record_table WHERE salary>6000 ORDER BY country asc;

SELECT * FROM employee_salary_more_than_6000;

country	emp_id	emp_name	salary	emp_rating	role	dept	manager_id	proj_id	gender	continent
CANADA	E103	Emily Grove	10500	4	MANAGER	FINANCE	E001	NULL	F	NORTH AMER
CHINA	E245	Nian Zhen	6500	2	SENIOR DATA SCIENTIST	RETAIL	E583	P109	M	ASIA
COLOMBIA	E583	Janet Hale	10000	2	MANAGER	RETAIL	E001	NULL	F	SOUTH AMER
FRANCE	E010	William Butler	9000	2	LEAD DATA SCIENTIST	AUTOMOTIVE	E428	P204	M	EUROPE
GERMANY	E204	Karene Nowak	7500	5	SENIOR DATA SCIENTIST	AUTOMOTIVE	E428	P204	F	EUROPE
GERMANY	E428	Pete Allen	11000	4	MANAGER	AUTOMOTIVE	E001	NULL	M	EUROPE
INDIA	E260	Roy Collins	7000	3	SENIOR DATA SCIENTIST	RETAIL	E583	NULL	M	ASIA
INDIA	E612	Tracy Norris	8500	4	MANAGER	RETAIL	E001	NULL	F	ASIA
USA	E001	Arthur Black	16500	5	PRESIDENT	ALL	NULL	NULL	M	NORTH AMER
USA	E005	Eric Hoffman	8500	3	LEAD DATA SCIENTIST	FINANCE	E103	P105	M	NORTH AMER
USA	E057	Dorothy Wilson	7700	1	SENIOR DATA SCIENTIST	HEALTHCARE	E083	P302	F	NORTH AMER
USA	E083	Patrick Voltz	9500	5	MANAGER	HEALTHCARE	E001	NULL	M	NORTH AMER

#	Time	Action	Message
223	14:22:34	SELECT * FROM employee_salary_more_than_6000	12 row(s) returned

12. 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>10;

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
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

#	Time	Action	Message
225	14:26:53	SELECT * FROM emp_record_table WHERE exp>10	8 row(s) returned

13. 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 exp_more_than_three()

BEGIN

SELECT * FROM emp_record_table WHERE exp > 3;

END //

DELIMITER ;

CALL exp_more_than_three();

94 • CALL exp_more_than_three();

EMP_ID	FIRST_NAME	LAST_NAME	GENDER	ROLE	DEPT	EXP	COUNTRY	CONTINENT	SALARY	EMP_R
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 SCIENTIST	FINANCE	4	USA	NORTH AMERICA	5000	3
F478	Pete	Allen	M	MANAGER	AUTOMOTIVE	14	GERMANY	EUROPE	11000	4

Result 30

Output

Action Output

#	Time	Action	Message
228	14:33:06	CALL exp_more_than_three()	15 row(s) returned

14. Write a query using stored functions in the project table to check whether the job profile assigned to each employee in the data science team matches the organization's set standard.

The standard being:

For an employee with experience less than or equal to 2 years assign 'JUNIOR DATA SCIENTIST',

For an employee with the experience of 2 to 5 years assign 'ASSOCIATE DATA SCIENTIST',

For an employee with the experience of 5 to 10 years assign 'SENIOR DATA SCIENTIST',

For an employee with the experience of 10 to 12 years assign 'LEAD DATA SCIENTIST',

For an employee with the experience of 12 to 16 years assign 'MANAGER'.

DELIMITER //

CREATE FUNCTION get_expected_job_profile(exp INT)

RETURNS VARCHAR(50)

DETERMINISTIC

BEGIN

DECLARE job_profile VARCHAR(50);

IF exp <= 2 THEN

SET job_profile = 'JUNIOR DATA SCIENTIST';

ELSEIF exp > 2 AND exp <= 5 THEN

SET job_profile = 'ASSOCIATE DATA SCIENTIST';

ELSEIF exp > 5 AND exp <= 10 THEN

SET job_profile = 'SENIOR DATA SCIENTIST';

ELSEIF exp > 10 AND exp <= 12 THEN

SET job_profile = 'LEAD DATA SCIENTIST';

ELSEIF exp > 12 AND exp <= 16 THEN

SET job_profile = 'MANAGER';

ELSE

SET job_profile = 'UNKNOWN PROFILE';

END IF;

RETURN job_profile;

END //

DELIMITER ;

```

SELECT
    d.EMP_ID,
    d.FIRST_NAME,
    d.LAST_NAME,
    d.EXP,
    d.ROLE AS assigned_role,
    get_expected_job_profile(d.EXP) AS expected_role,
    CASE
        WHEN d.ROLE = get_expected_job_profile(d.EXP) THEN 'MATCH'
        ELSE 'DOES NOT MATCH'
    END AS profile_check
FROM
    data_science_team d;

```

Result Grid							
		Filter Rows:		Export:		Wrap Cell Content:	
	EMP_ID	FIRST_NAME	LAST_NAME	EXP	assigned_role	expected_role	profile_check
▶	E005	Eric	Hoffman	11	LEAD DATA SCIENTIST	LEAD DATA SCIENTIST	MATCH
	E010	William	Butler	12	LEAD DATA SCIENTIST	LEAD DATA SCIENTIST	MATCH
	E052	Dianna	Wilson	6	SENIOR DATA SCIENTIST	SENIOR DATA SCIENTIST	MATCH
	E057	Dorothy	Wilson	9	SENIOR DATA SCIENTIST	SENIOR DATA SCIENTIST	MATCH
	E204	Karene	Nowak	8	SENIOR DATA SCIENTIST	SENIOR DATA SCIENTIST	MATCH
	E245	Nian	Zhen	6	SENIOR DATA SCIENTIST	SENIOR DATA SCIENTIST	MATCH
	E260	Roy	Collins	7	SENIOR DATA SCIENTIST	SENIOR DATA SCIENTIST	MATCH
	E403	Steve	Hoffman	4	ASSOCIATE DATA SCIENTIST	ASSOCIATE DATA SCIENTIST	MATCH
	E478	David	Smith	3	ASSOCIATE DATA SCIENTIST	ASSOCIATE DATA SCIENTIST	MATCH
	E505	Chad	Wilson	5	ASSOCIATE DATA SCIENTIST	ASSOCIATE DATA SCIENTIST	MATCH
	E532	Claire	Brennan	3	ASSOCIATE DATA SCIENTIST	ASSOCIATE DATA SCIENTIST	MATCH
	E620	Katrina	Allen	2	JUNIOR DATA SCIENTIST	JUNIOR DATA SCIENTIST	MATCH
	F640	Jennifer	Thones	1	JUNIOR DATA SCIENTIST	JUNIOR DATA SCIENTIST	MATCH

Result 39 x

Output

Action Output

#	Time	Action	Message
✓ 241	15:14:12	SELECT emp.EMP_ID, emp.FIRST_NAME, emp.LAST_NAME, emp.EXP, e...	13 row(s) returned

15. 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 idx_first_name ON emp_record_table(first_name);
```

EXPLAIN SELECT * FROM emp_record_table WHERE first_name="Eric";

Result Grid												
		Filter Rows:			Export:			Wrap Cell Content:				
	id	select_type	table	partitions	type	possible_keys	key	key_len	ref	rows	filtered	Extra
▶	1	SIMPLE	emp_record_table	<small>NULL</small>	ref	idx_first_name	idx_first_name	203	const	1	100.00	<small>NULL</small>

Result 33 ×

Output

Action Output

#	Time	Action	Message
✓ 232	14:41:35	EXPLAIN SELECT * FROM emp_record_table WHERE first_name="Eric"	1 row(s) returned

16. 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,concat(first_name," ",last_name) emp_name, emp_rating, salary, (0.05*salary*emp_rating) bonus FROM emp_record_table;

Result Grid

Filter Rows:

Export:

Wrap Cell Content:

	emp_id	emp_name	emp_rating	salary	bonus
▶	E001	Arthur Black	5	16500	4125.00
	E005	Eric Hoffman	3	8500	1275.00
	E010	William Butler	2	9000	900.00
	E052	Dianna Wilson	5	5500	1375.00
	E057	Dorothy Wilson	1	7700	385.00
	E083	Patrick Voltz	5	9500	2375.00
	E103	Emily Grove	4	10500	2100.00
	E204	Karene Nowak	5	7500	1875.00
	E245	Nian Zhen	2	6500	650.00
	E260	Roy Collins	3	7000	1050.00
	E403	Steve Hoffman	3	5000	750.00
	E428	Pete Allen	4	11000	2200.00
	F478	David Smith	4	4000	800.00

Result 35

×

Output

Action Output

#	Time	Action	Message
✓ 236	14:47:11	SELECT emp_id,concat(first_name," "last_name) emp_name, emp_rating, salary, (0.05*s...	19 row(s) returned

17. Write a query to calculate the average salary distribution based on the continent and country. Take data from the employee record table.

```
SELECT DISTINCT continent, country, AVG(salary) OVER (PARTITION BY continent, country) average_salary
FROM emp_record_table;
```

Result Grid				Filter Rows:		Export:	Wrap Cell Content:
	continent	country	average_salary				
▶	ASIA	CHINA	6500.0000				
	ASIA	INDIA	6166.6667				
	EUROPE	FRANCE	9000.0000				
	EUROPE	GERMANY	7600.0000				
	NORTH AMERICA	CANADA	7000.0000				
	NORTH AMERICA	USA	9440.0000				
	SOUTH AMERICA	COLOMBIA	5600.0000				

Result 37 ×

Output

Action Output

	#	Time	Action	Message
✓	238	14:50:09	SELECT DISTINCT continent, country, AVG(salary) OVER (PARTITION BY continent, cou...	7 row(s) returned