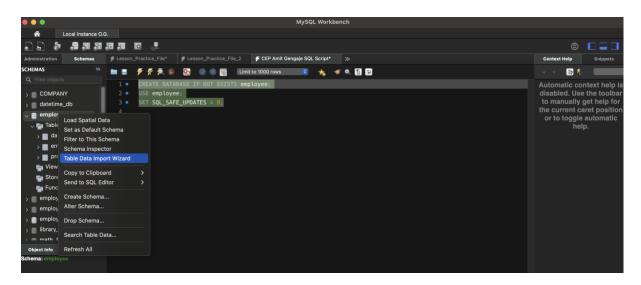
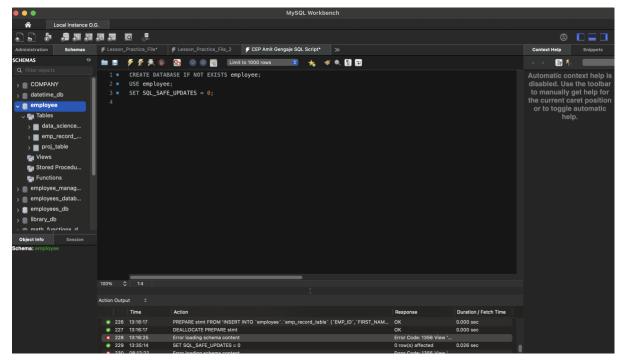
### 1. Input SQL Queries:

CREATE DATABASE IF NOT EXISTS employee; USE employee; SET SQL\_SAFE\_UPDATES = 0;

Used the Table Data Import Wizard to import the three CEP dataset CSV files as tables "data\_science\_team", "emp\_record\_table" and "proj\_table"

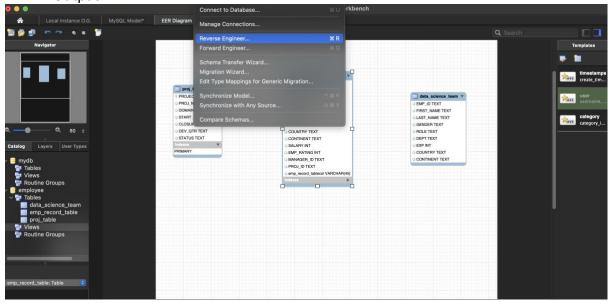




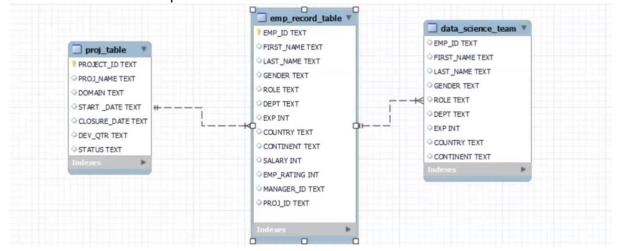
### 2. Input SQL Action:

Database tab -> Reverse Engineer DB -> Select Schemas (Chose schema created above) -> kept clicking next

Output:

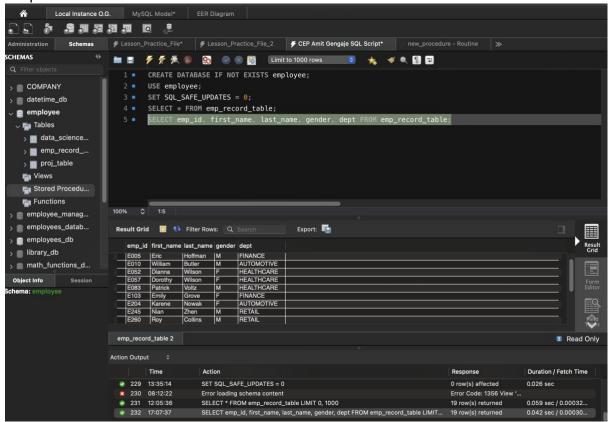


ER DIAGRAM Relationships Zoomed View:



SELECT emp\_id, first\_name, last\_name, gender, dept FROM emp\_record\_table;

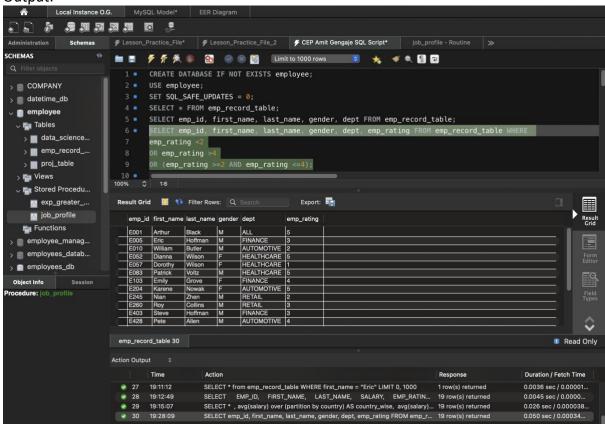
### Output:



emp_id	first_name	last_name	gender	dept
E001	Arthur	Black	М	ALL
E005	Eric	Hoffman	М	FINANCE
E010	William	Butler	М	AUTOMOTIVE
E052	Dianna	Wilson	F	HEALTHCARE
E057	Dorothy	Wilson	F	HEALTHCARE
E083	Patrick	Voltz	М	HEALTHCARE
E103	Emily	Grove	F	FINANCE
E204	Karene	Nowak	F	AUTOMOTIVE
E245	Nian	Zhen	М	RETAIL
E260	Roy	Collins	М	RETAIL
E403	Steve	Hoffman	М	FINANCE
E428	Pete	Allen	М	AUTOMOTIVE
E478	David	Smith	М	RETAIL
E505	Chad	Wilson	М	HEALTHCARE
E532	Claire	Brennan	F	AUTOMOTIVE
E583	Janet	Hale	F	RETAIL
E612	Tracy	Norris	F	RETAIL
E620	Katrina	Allen	F	RETAIL
E640	Jenifer	Jhones	F	RETAIL

SELECT emp\_id, first\_name, last\_name, gender, dept, emp\_rating FROM emp\_record\_table WHERE emp\_rating <2
OR emp\_rating >4
OR (emp\_rating >= 2 AND emp\_rating <=4);

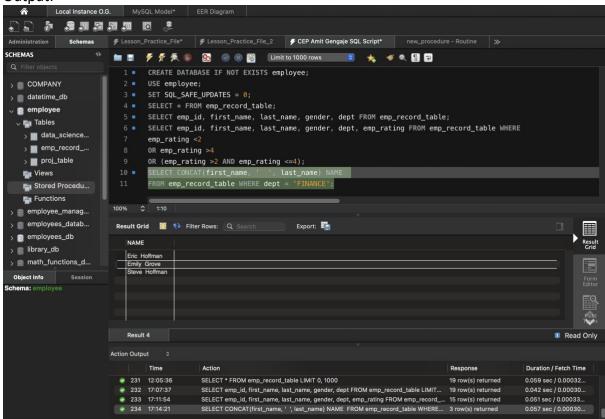
Output:



emp_id	first_name	last_name	gender	dept	emp_rating
E001	Arthur	Black	М	ALL	5
E005	Eric	Hoffman	М	FINANCE	3
E010	William	Butler	М	AUTOMOTIVE	2
E052	Dianna	Wilson	F	HEALTHCARE	5
E057	Dorothy	Wilson	F	HEALTHCARE	1
E083	Patrick	Voltz	М	HEALTHCARE	5
E103	Emily	Grove	F	FINANCE	4
E204	Karene	Nowak	F	AUTOMOTIVE	5
E245	Nian	Zhen	М	RETAIL	2
E260	Roy	Collins	М	RETAIL	3
E403	Steve	Hoffman	М	FINANCE	3
E428	Pete	Allen	М	AUTOMOTIVE	4
E478	David	Smith	М	RETAIL	4
E505	Chad	Wilson	М	HEALTHCARE	2
E532	Claire	Brennan	F	AUTOMOTIVE	1
E583	Janet	Hale	F	RETAIL	2
E612	Tracy	Norris	F	RETAIL	4
E620	Katrina	Allen	F	RETAIL	1
E640	Jenifer	Jhones	F	RETAIL	4

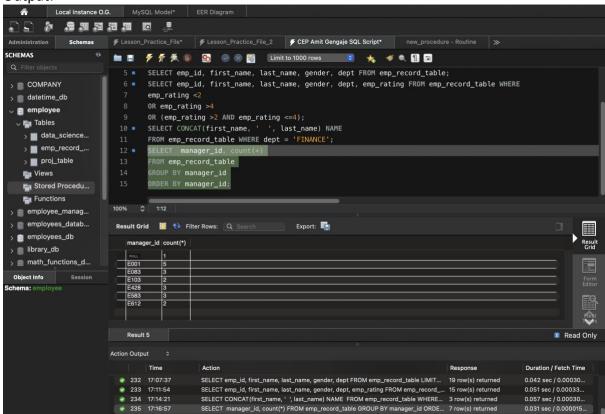
SELECT CONCAT(first\_name, ' ', last\_name) NAME FROM emp\_record\_table WHERE dept = 'FINANCE';

Output:



### 6. Input SQL Query:

SELECT manager\_id, count(\*)
FROM emp\_record\_table
GROUP BY manager\_id
ORDER BY manager id;

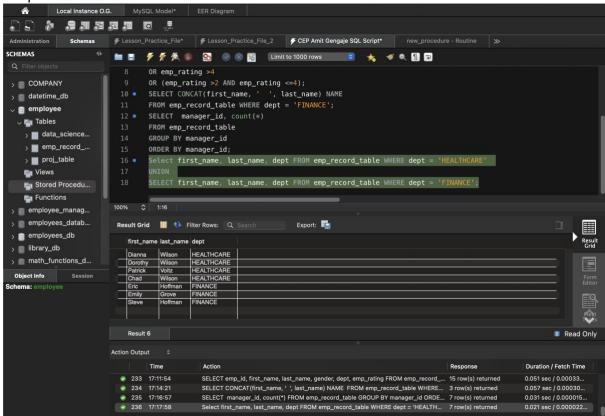


#### 7. Input SQL Query:

Select first\_name, last\_name, dept FROM emp\_record\_table WHERE dept = 'HEALTHCARE'

UNION

SELECT first\_name, last\_name, dept FROM emp\_record\_table WHERE dept = 'FINANCE';

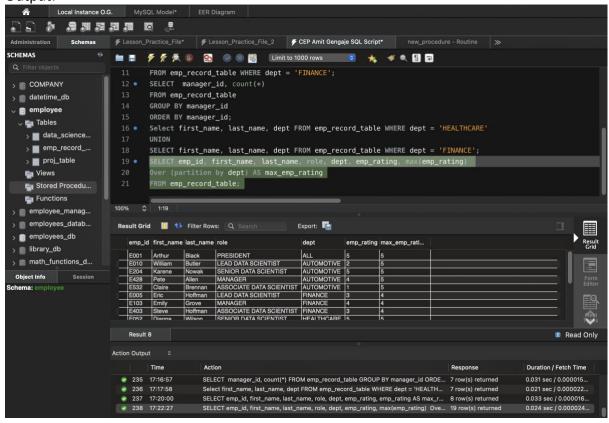


### 8. Input SQL Query:

SELECT emp\_id, first\_name, last\_name, role, dept, emp\_rating, max(emp\_rating)

Over (partition by dept) AS max\_emp\_rating

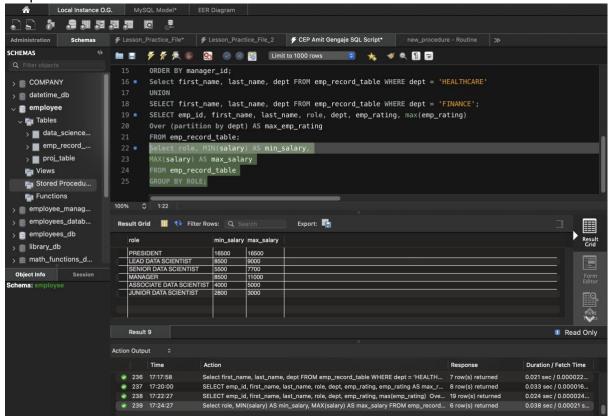
FROM emp\_record\_table;



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
E052	Dianna	Wilson	SENIOR DATA SCIENTIST	HEALTHCARE	5	5
E057	Dorothy	Wilson	SENIOR DATA SCIENTIST	HEALTHCARE	1	5
E083	Patrick	Voltz	MANAGER	HEALTHCARE	5	5
E505	Chad	Wilson	ASSOCIATE DATA SCIENTIST	HEALTHCARE	2	5
E245	Nian	Zhen	SENIOR DATA SCIENTIST	RETAIL	2	4
E260	Roy	Collins	SENIOR DATA SCIENTIST	RETAIL	3	4
E478	David	Smith	ASSOCIATE DATA SCIENTIST	RETAIL	4	4
E583	Janet	Hale	MANAGER	RETAIL	2	4
E612	Tracy	Norris	MANAGER	RETAIL	4	4
E620	Katrina	Allen	JUNIOR DATA SCIENTIST	RETAIL	1	4
E640	Jenifer	Jhones	JUNIOR DATA SCIENTIST	RETAIL	4	4

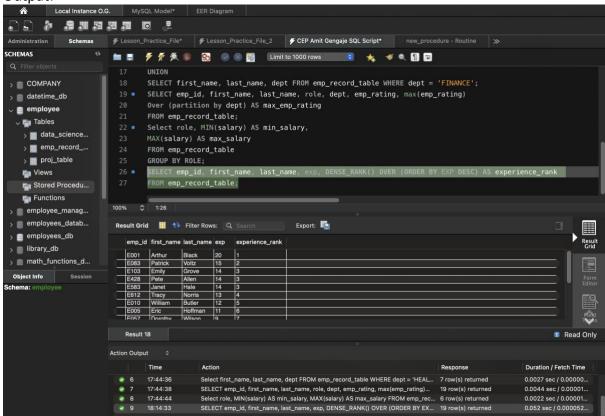
# 9. Input SQL Query:

Select role, MIN(salary) AS min\_salary, MAX(salary) AS max\_salary FROM emp\_record\_table GROUP BY ROLE;



#### 10. Input SQL Query:

SELECT emp\_id, first\_name, last\_name, exp, DENSE\_RANK() OVER (ORDER BY EXP DESC) AS experience\_rank FROM emp\_record\_table;

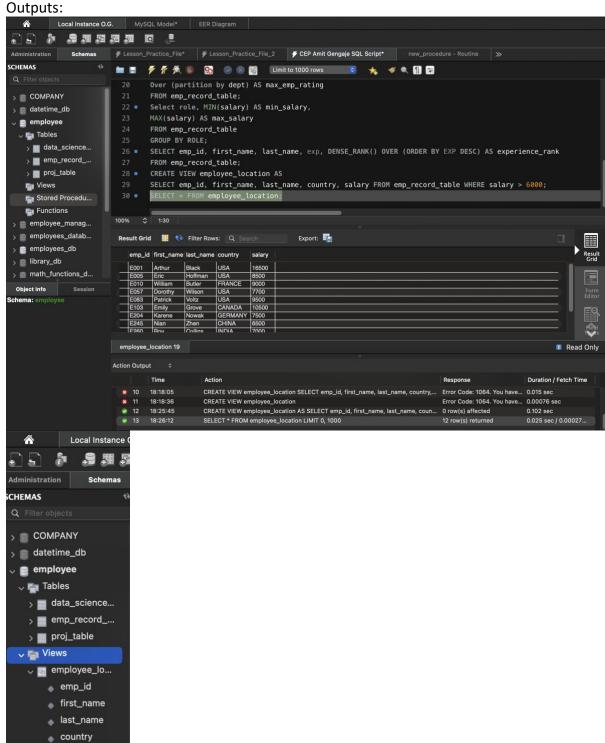


emp_id	first_name	last_name	ехр	experience_rank
E001	Arthur	Black	20	1
E083	Patrick	Voltz	15	2
E103	Emily	Grove	14	3
E428	Pete	Allen	14	3
E583	Janet	Hale	14	3
E612	Tracy	Norris	13	4
E010	William	Butler	12	5
E005	Eric	Hoffman	11	6
E057	Dorothy	Wilson	9	7
E204	Karene	Nowak	8	8
E260	Roy	Collins	7	9
E052	Dianna	Wilson	6	10
E245	Nian	Zhen	6	10
E505	Chad	Wilson	5	11
E403	Steve	Hoffman	4	12
E478	David	Smith	3	13
E532	Claire	Brennan	3	13
E620	Katrina	Allen	2	14
E640	Jenifer	Jhones	1	15

CREATE VIEW employee location AS SELECT emp id, first name, last name, country, salary FROM emp record table WHERE salary > 6000;

SELECT \* FROM employee\_location;

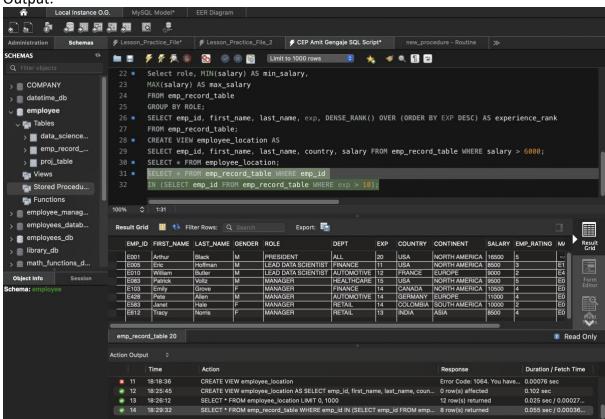
salary



emp_id	first_name	last_name	country	salary
E001	Arthur	Black	USA	16500
E005	Eric	Hoffman	USA	8500
E010	William	Butler	FRANCE	9000
E057	Dorothy	Wilson	USA	7700
E083	Patrick	Voltz	USA	9500
E103	Emily	Grove	CANADA	10500
E204	Karene	Nowak	GERMANY	7500
E245	Nian	Zhen	CHINA	6500
E260	Roy	Collins	INDIA	7000
E428	Pete	Allen	GERMANY	11000
E583	Janet	Hale	COLOMBIA	10000
E612	Tracy	Norris	INDIA	8500

### 12. Input SQL Query:

SELECT \* FROM emp\_record\_table WHERE emp\_id IN (SELECT emp\_id FROM emp\_record\_table WHERE exp > 10);

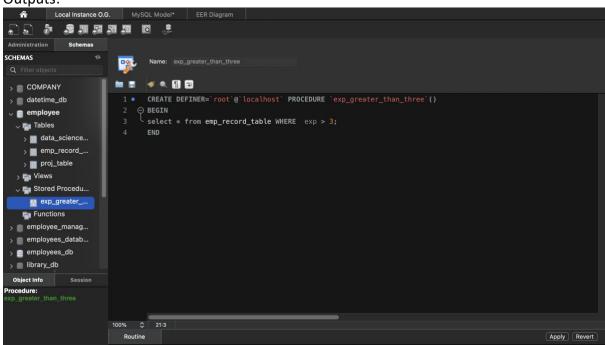


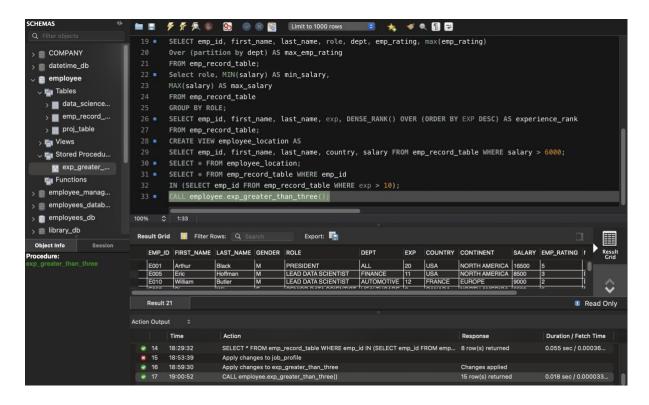
EMP_ID	FIRST_NAME	LAST_NAME	GENDER	ROLE	DEPT	EXP	COUNTRY	CONTINENT	SALARY	EMP_RATING	MANAGER_ID	PROJ_ID
E001	Arthur	Black	М	PRESIDENT	ALL	20	USA	NORTH AMERICA	16500	5	NULL	NULL
E005	Eric	Hoffman	М	LEAD DATA SCIENTIST	FINANCE	11	USA	NORTH AMERICA	8500	3	E103	P105
E010	William	Butler	М	LEAD DATA SCIENTIST	AUTOMOTIVE	12	FRANCE	EUROPE	9000	2	E428	P204
E083	Patrick	Voltz	М	MANAGER	HEALTHCARE	15	USA	NORTH AMERICA	9500	5	E001	NULL
E103	Emily	Grove	F	MANAGER	FINANCE	14	CANADA	NORTH AMERICA	10500	4	E001	NULL
E428	Pete	Allen	М	MANAGER	AUTOMOTIVE	14	GERMANY	EUROPE	11000	4	E001	NULL
E583	Janet	Hale	F	MANAGER	RETAIL	14	COLOMBIA	SOUTH AMERICA	10000	2	E001	NULL
E612	Tracy	Norris	F	MANAGER	RETAIL	13	INDIA	ASIA	8500	4	E001	NULL

### 13. Input SQL Query:

CREATE DEFINER=`root`@`localhost` PROCEDURE `exp\_greater\_than\_three`()
BEGIN
select \* from emp\_record\_table WHERE exp > 3;
END

CALL employee.exp\_greater\_than\_three();



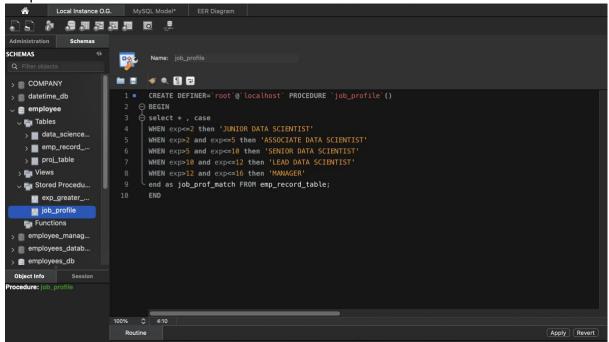


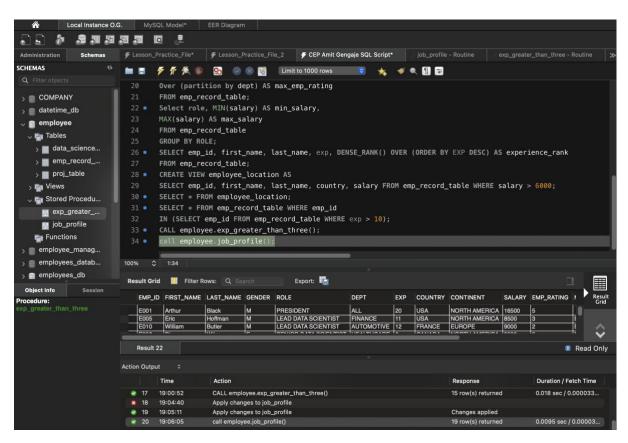
EMP_ID	FIRST_NAME	LAST_NAME	GENDER	ROLE	DEPT	EXP	COUNTRY	CONTINENT	SALARY	EMP_RATING	MANAGER_ID	PROJ_ID
E001	Arthur	Black	М	PRESIDENT	ALL	20	USA	NORTH AMERICA	16500	5	NULL	NULL
E005	Eric	Hoffman	М	LEAD DATA SCIENTIST	FINANCE	11	USA	NORTH AMERICA	8500	3	E103	P105
E010	William	Butler	М	LEAD DATA SCIENTIST	AUTOMOTIVE	12	FRANCE	EUROPE	9000	2	E428	P204
E052	Dianna	Wilson	F	SENIOR DATA SCIENTIST	HEALTHCARE	6	CANADA	NORTH AMERICA	5500	5	E083	P103
E057	Dorothy	Wilson	F	SENIOR DATA SCIENTIST	HEALTHCARE	9	USA	NORTH AMERICA	7700	1	E083	P302
E083	Patrick	Voltz	М	MANAGER	HEALTHCARE	15	USA	NORTH AMERICA	9500	5	E001	NULL
E103	Emily	Grove	F	MANAGER	FINANCE	14	CANADA	NORTH AMERICA	10500	4	E001	NULL
E204	Karene	Nowak	F	SENIOR DATA SCIENTIST	AUTOMOTIVE	8	GERMANY	EUROPE	7500	5	E428	P204
E245	Nian	Zhen	М	SENIOR DATA SCIENTIST	RETAIL	6	CHINA	ASIA	6500	2	E583	P109
E260	Roy	Collins	М	SENIOR DATA SCIENTIST	RETAIL	7	INDIA	ASIA	7000	3	E583	NA
E403	Steve	Hoffman	М	ASSOCIATE DATA SCIENTIST	FINANCE	4	USA	NORTH AMERICA	5000	3	E103	P105
E428	Pete	Allen	М	MANAGER	AUTOMOTIVE	14	GERMANY	EUROPE	11000	4	E001	NULL
E505	Chad	Wilson	М	ASSOCIATE DATA SCIENTIST	HEALTHCARE	5	CANADA	NORTH AMERICA	5000	2	E083	P103
E583	Janet	Hale	F	MANAGER	RETAIL	14	COLOMBIA	SOUTH AMERICA	10000	2	E001	NULL
E612	Tracy	Norris	F	MANAGER	RETAIL	13	INDIA	ASIA	8500	4	E001	NULL

### 14. Input SQL Query:

CREATE DEFINER=`root`@`localhost` PROCEDURE `job\_profile`()
BEGIN
select \* , case
WHEN exp<=2 then 'JUNIOR DATA SCIENTIST'
WHEN exp>2 and exp<=5 then 'ASSOCIATE DATA SCIENTIST'
WHEN exp>5 and exp<=10 then 'SENIOR DATA SCIENTIST'
WHEN exp>10 and exp<=12 then 'LEAD DATA SCIENTIST'
WHEN exp>12 and exp<=16 then 'MANAGER'
end as job\_prof\_match FROM emp\_record\_table;
END

call employee.job profile();

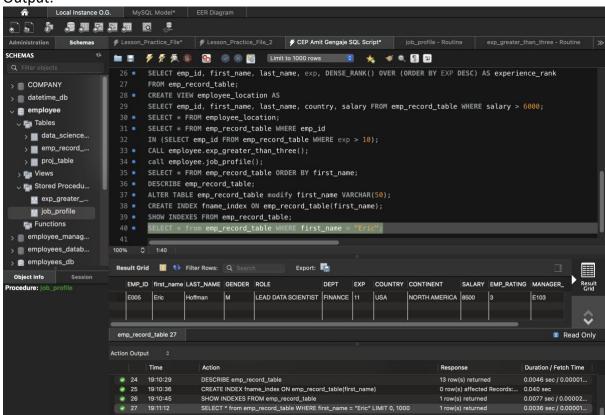




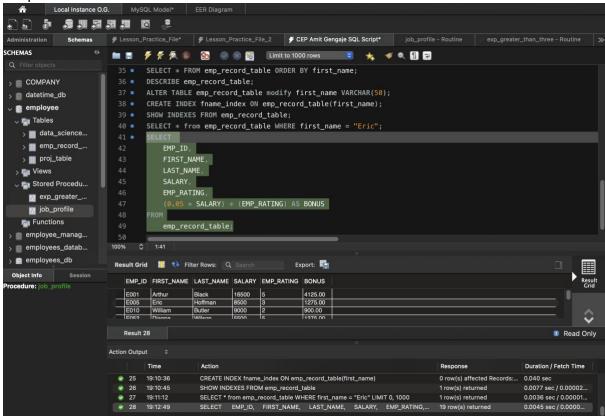
EMP_ID	FIRST_NAME	LAST_NAME	GENDER	ROLE	DEPT	EXP	COUNTRY	CONTINENT	SALARY	EMP_RATING	MANAGER_ID	PROJ_ID	job_prof_match
E001	Arthur	Black	М	PRESIDENT	ALL	20	USA	NORTH AMERICA	16500	5	NULL	NULL	NULL
E005	Eric	Hoffman	М	LEAD DATA SCIENTIST	FINANCE	11	USA	NORTH AMERICA	8500	3	E103	P105	LEAD DATA SCIENTIST
E010	William	Butler	М	LEAD DATA SCIENTIST	AUTOMOTIVE	12	FRANCE	EUROPE	9000	2	E428	P204	LEAD DATA SCIENTIST
E052	Dianna	Wilson	F	SENIOR DATA SCIENTIST	HEALTHCARE	6	CANADA	NORTH AMERICA	5500	5	E083	P103	SENIOR DATA SCIENTIST
E057	Dorothy	Wilson	F	SENIOR DATA SCIENTIST	HEALTHCARE	9	USA	NORTH AMERICA	7700	1	E083	P302	SENIOR DATA SCIENTIST
E083	Patrick	Voltz	М	MANAGER	HEALTHCARE	15	USA	NORTH AMERICA	9500	5	E001	NULL	MANAGER
E103	Emily	Grove	F	MANAGER	FINANCE	14	CANADA	NORTH AMERICA	10500	4	E001	NULL	MANAGER
E204	Karene	Nowak	F	SENIOR DATA SCIENTIST	AUTOMOTIVE	8	GERMANY	EUROPE	7500	5	E428	P204	SENIOR DATA SCIENTIST
E245	Nian	Zhen	М	SENIOR DATA SCIENTIST	RETAIL	6	CHINA	ASIA	6500	2	E583	P109	SENIOR DATA SCIENTIST
E260	Roy	Collins	М	SENIOR DATA SCIENTIST	RETAIL	7	INDIA	ASIA	7000	3	E583	NA	SENIOR DATA SCIENTIST
E403	Steve	Hoffman	М	ASSOCIATE DATA SCIENTIST	FINANCE	4	USA	NORTH AMERICA	5000	3	E103	P105	ASSOCIATE DATA SCIENTIST
E428	Pete	Allen	М	MANAGER	AUTOMOTIVE	14	GERMANY	EUROPE	11000	4	E001	NULL	MANAGER
E478	David	Smith	М	ASSOCIATE DATA SCIENTIST	RETAIL	3	COLOMBIA	SOUTH AMERICA	4000	4	E583	P109	ASSOCIATE DATA SCIENTIST
E505	Chad	Wilson	М	ASSOCIATE DATA SCIENTIST	HEALTHCARE	5	CANADA	NORTH AMERICA	5000	2	E083	P103	ASSOCIATE DATA SCIENTIST
E532	Claire	Brennan	F	ASSOCIATE DATA SCIENTIST	AUTOMOTIVE	3	GERMANY	EUROPE	4300	1	E428	P204	ASSOCIATE DATA SCIENTIST
E583	Janet	Hale	F	MANAGER	RETAIL	14	COLOMBIA	SOUTH AMERICA	10000	2	E001	NULL	MANAGER
E612	Tracy	Norris	F	MANAGER	RETAIL	13	INDIA	ASIA	8500	4	E001	NULL	MANAGER
E620	Katrina	Allen	F	JUNIOR DATA SCIENTIST	RETAIL	2	INDIA	ASIA	3000	1	E612	P406	JUNIOR DATA SCIENTIST
E640	Jenifer	Jhones	F	JUNIOR DATA SCIENTIST	RETAIL	1	COLOMBIA	SOUTH AMERICA	2800	4	E612	P406	JUNIOR DATA SCIENTIST

#### 15. Input SQL Query:

SELECT \* FROM emp\_record\_table ORDER BY first\_name;
DESCRIBE emp\_record\_table;
ALTER TABLE emp\_record\_table modify first\_name VARCHAR(50);
CREATE INDEX fname\_index ON emp\_record\_table(first\_name);
SHOW INDEXES FROM emp\_record\_table;
SELECT \* from emp\_record\_table WHERE first\_name = "Eric";



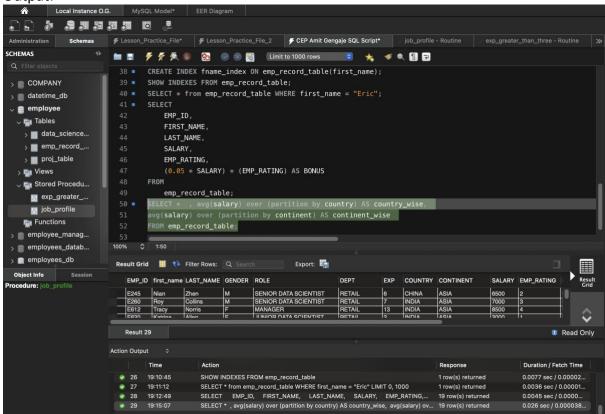
```
SELECT
EMP_ID,
FIRST_NAME,
LAST_NAME,
SALARY,
EMP_RATING,
(0.05 * SALARY) * (EMP_RATING) AS BONUS
FROM
emp_record_table;
```



EMP_ID	FIRST_NAME	LAST_NAME	SALARY	EMP_RATING	BONUS
E001	Arthur	Black	16500	5	4125.00
E005	Eric	Hoffman	8500	3	1275.00
E010	William	Butler	9000	2	900.00
E052	Dianna	Wilson	5500	5	1375.00
E057	Dorothy	Wilson	7700	1	385.00
E083	Patrick	Voltz	9500	5	2375.00
E103	Emily	Grove	10500	4	2100.00
E204	Karene	Nowak	7500	5	1875.00
E245	Nian	Zhen	6500	2	650.00
E260	Roy	Collins	7000	3	1050.00
E403	Steve	Hoffman	5000	3	750.00
E428	Pete	Allen	11000	4	2200.00
E478	David	Smith	4000	4	800.00
E505	Chad	Wilson	5000	2	500.00
E532	Claire	Brennan	4300	1	215.00
E583	Janet	Hale	10000	2	1000.00
E612	Tracy	Norris	8500	4	1700.00
E620	Katrina	Allen	3000	1	150.00
E640	Jenifer	Jhones	2800	4	560.00

# 17. Input SQL Query:

SELECT \* , avg(salary) over (partition by country) AS country\_wise, avg(salary) over (partition by continent) AS continent\_wise FROM emp\_record\_table;



EMP_ID	first_name	LAST_NAME	GENDER	ROLE	DEPT	EXP	COUNTRY	CONTINENT	SALARY	EMP_RATING	MANAGER_ID	PROJ_ID	country_wise	continent_wise
E245	Nian	Zhen	М	SENIOR DATA SCIENTIST	RETAIL	6	CHINA	ASIA	6500	2	E583	P109	6500.0000	6250.0000
E260	Roy	Collins	М	SENIOR DATA SCIENTIST	RETAIL	7	INDIA	ASIA	7000	3	E583	NA	6166.6667	6250.0000
E612	Tracy	Norris	F	MANAGER	RETAIL	13	INDIA	ASIA	8500	4	E001	NULL	6166.6667	6250.0000
E620	Katrina	Allen	F	JUNIOR DATA SCIENTIST	RETAIL	2	INDIA	ASIA	3000	1	E612	P406	6166.6667	6250.0000
E010	William	Butler	М	LEAD DATA SCIENTIST	AUTOMOTIVE	12	FRANCE	EUROPE	9000	2	E428	P204	9000.0000	7950.0000
E204	Karene	Nowak	F	SENIOR DATA SCIENTIST	AUTOMOTIVE	8	GERMANY	EUROPE	7500	5	E428	P204	7600.0000	7950.0000
E428	Pete	Allen	М	MANAGER	AUTOMOTIVE	14	GERMANY	EUROPE	11000	4	E001	NULL	7600.0000	7950.0000
E532	Claire	Brennan	F	ASSOCIATE DATA SCIENTIST	AUTOMOTIVE	3	GERMANY	EUROPE	4300	1	E428	P204	7600.0000	7950.0000
E052	Dianna	Wilson	F	SENIOR DATA SCIENTIST	HEALTHCARE	6	CANADA	NORTH AMERICA	5500	5	E083	P103	7000.0000	8525.0000
E103	Emily	Grove	F	MANAGER	FINANCE	14	CANADA	NORTH AMERICA	10500	4	E001	NULL	7000.0000	8525.0000
E505	Chad	Wilson	М	ASSOCIATE DATA SCIENTIST	HEALTHCARE	5	CANADA	NORTH AMERICA	5000	2	E083	P103	7000.0000	8525.0000
E001	Arthur	Black	М	PRESIDENT	ALL	20	USA	NORTH AMERICA	16500	5	NULL	NULL	9440.0000	8525.0000
E005	Eric	Hoffman	М	LEAD DATA SCIENTIST	FINANCE	11	USA	NORTH AMERICA	8500	3	E103	P105	9440.0000	8525.0000
E057	Dorothy	Wilson	F	SENIOR DATA SCIENTIST	HEALTHCARE	9	USA	NORTH AMERICA	7700	1	E083	P302	9440.0000	8525.0000
E083	Patrick	Voltz	М	MANAGER	HEALTHCARE	15	USA	NORTH AMERICA	9500	5	E001	NULL	9440.0000	8525.0000
E403	Steve	Hoffman	М	ASSOCIATE DATA SCIENTIST	FINANCE	4	USA	NORTH AMERICA	5000	3	E103	P105	9440.0000	8525.0000
E478	David	Smith	М	ASSOCIATE DATA SCIENTIST	RETAIL	3	COLOMBIA	SOUTH AMERICA	4000	4	E583	P109	5600.0000	5600.0000
E583	Janet	Hale	F	MANAGER	RETAIL	14	COLOMBIA	SOUTH AMERICA	10000	2	E001	NULL	5600.0000	5600.0000
E640	Jenifer	Jhones	F	JUNIOR DATA SCIENTIST	RETAIL	1	COLOMBIA	SOUTH AMERICA	2800	4	E612	P406	5600.0000	5600.0000