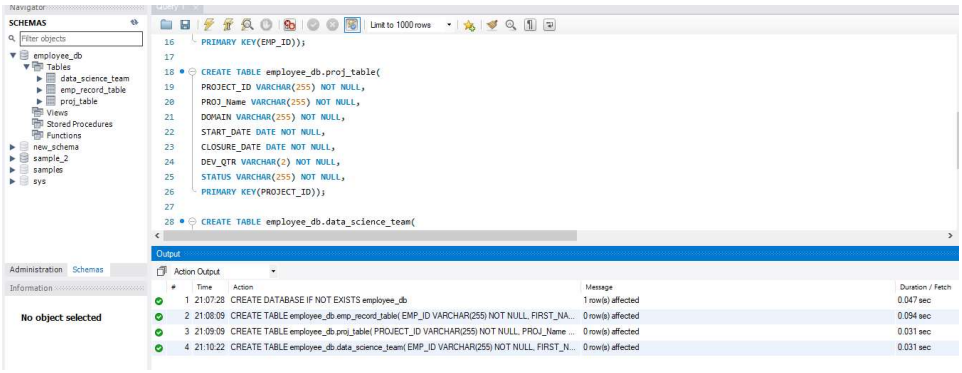
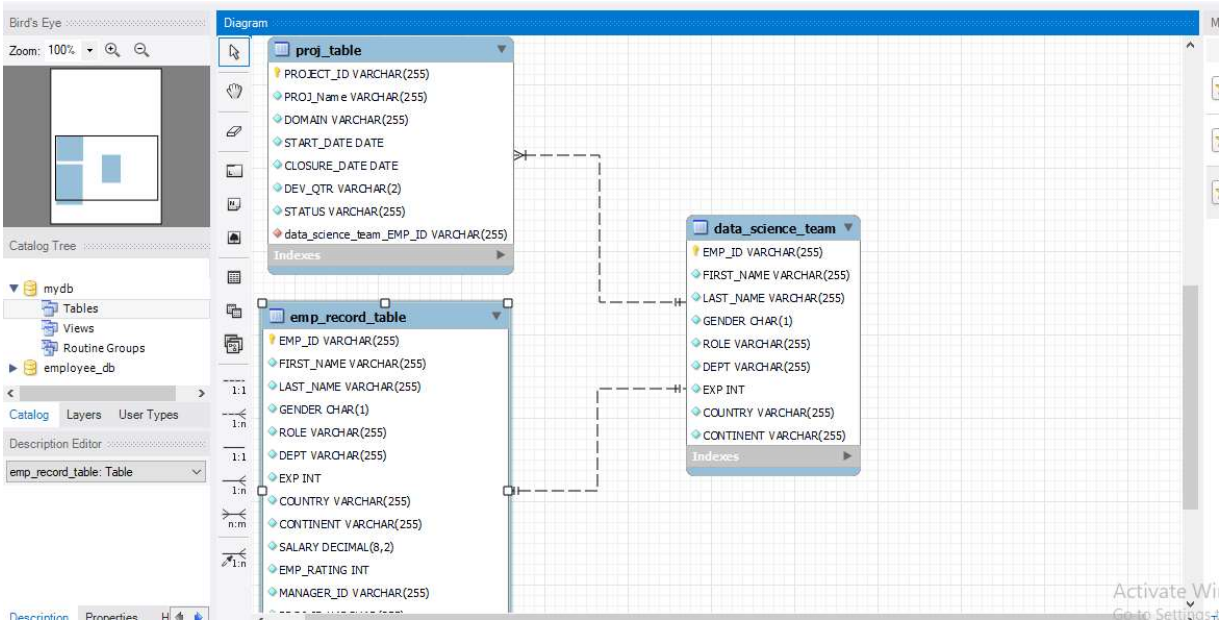
1. Create a database named employee, then import **data_science_team.csv proj_table.csv** and **emp_record_table.csv** into the **employee** database from the given resources.



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



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.

```
39 • SELECT EMP_ID, FIRST_NAME, LAST_NAME, GENDER,DEPT
40   FROM employee_db.emp_record_table;
41
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

EMP_ID	FIRST_NAME	LAST_NAME	GENDER	DEPT
E005	Eric	Hoffman	M	FINANCE
E010	William	Butler	M	AUTOMOTIVE
E052	Dianna	Wilson	F	HEALTHCARE
E057	Dorothy	Wilson	F	HEALTHCARE
E204	Karene	Nowak	F	AUTOMOTIVE
E245	Nian	Zhen	M	RETAIL
E260	Roy	Collins	M	RETAIL
E403	Steve	Hoffman	M	FINANCE

cord_table 1 ×

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

```
44 • SELECT EMP_ID, FIRST_NAME, LAST_NAME, GENDER,DEPT,EMP_RATING FROM employee_db.emp_record_table
45   WHERE EMP_RATING < 2;
46
47
```

Result Grid | Filter Rows: | Edit: | Export/Import: | 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
NULL	NULL	NULL	NULL	NULL	NULL

```
47 • SELECT EMP_ID, FIRST_NAME, LAST_NAME, GENDER,DEPT,EMP_RATING FROM employee_db.emp_record_table
48   WHERE EMP_RATING > 4;
49
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

EMP_ID	FIRST_NAME	LAST_NAME	GENDER	DEPT	EMP_RATING
E052	Dianna	Wilson	F	HEALTHCARE	5
E204	Karene	Nowak	F	AUTOMOTIVE	5
NULL	NULL	NULL	NULL	NULL	NULL

```
50 •  SELECT EMP_ID, FIRST_NAME, LAST_NAME, GENDER,DEPT,EMP_RATING FROM employee_db.emp_record_table
51    WHERE EMP_RATING between 2 and 4 ORDER BY EMP_RATING;
52
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

EMP_ID	FIRST_NAME	LAST_NAME	GENDER	DEPT	EMP_RATING
E010	William	Butler	M	AUTOMOTIVE	2
E245	Nian	Zhen	M	RETAIL	2
E505	Chad	Wilson	M	HEALTHCARE	2
E005	Eric	Hoffman	M	FINANCE	3
E260	Roy	Collins	M	RETAIL	3
E403	Steve	Hoffman	M	FINANCE	3
E478	David	Smith	M	RETAIL	4

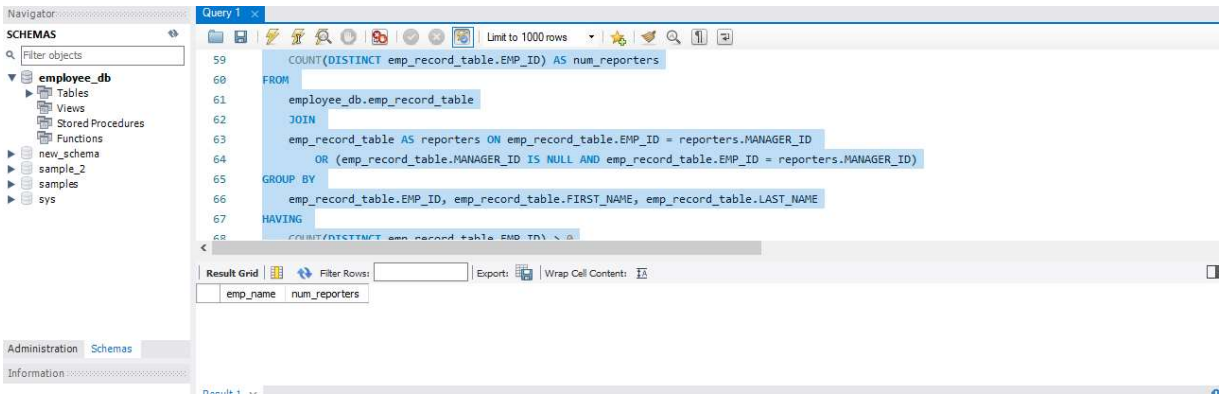
5. Write a query to concatenate the FIRST_NAME and the LAST_NAME of employees in the Finance department from the employee table and then give the resultant column alias as NAME.

```
53 •  SELECT CONCAT_WS(', ',FIRST_NAME,LAST_NAME) AS 'FULL NAME'
54    FROM employee_db.emp_record_table
55    WHERE DEPT = "FINANCE";
```

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

FULL NAME
Eric, Hoffman
Steve, Hoffman

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



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 * FROM employee_db.emp_record_table WHERE DEPT="Finance"
UNION
SELECT * FROM employee_db.emp_record_table WHERE DEPT="Healthcare";
```

EMP_ID	FIRST_NAME	LAST_NAME	GENDER	ROLE	DEPT	EXP	COUNTRY	CONTINENT	SALARY	EMP_RATING	MANAGER_ID	PROJ_ID
E005	Eric	Hoffman	M	LEAD DATA SCIENTIST	FINANCE	11	USA	NORTH AMERICA	8500.00	3	E103	P105
E403	Steve	Hoffman	M	ASSOCIATE DATA SCIENTIST	FINANCE	4	USA	NORTH AMERICA	5000.00	3	E103	P105
E052	Dianna	Wilson	F	SENIOR DATA SCIENTIST	HEALTHCARE	6	CANADA	NORTH AMERICA	5500.00	5	E083	P103
E057	Dorothy	Wilson	F	SENIOR DATA SCIENTIST	HEALTHCARE	9	USA	NORTH AMERICA	7700.00	1	E083	P302
E505	Chad	Wilson	M	ASSOCIATE DATA SCIENTIST	HEALTHCARE	5	CANADA	NORTH AMERICA	5000.00	2	E083	P103

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 * FROM employee_db.emp_record_table;
```

EMP_ID	FIRST_NAME	LAST_NAME	GENDER	ROLE	DEPT	EXP	COUNTRY	CONTINENT	SALARY	EMP_RATING	MANAGER_ID	PROJ_ID
E005	Eric	Hoffman	M	LEAD DATA SCIENTIST	FINANCE	11	USA	NORTH AMERICA	8500.00	3	E103	P105
E010	William	Butler	M	LEAD DATA SCIENTIST	AUTOMOTIVE	12	FRANCE	EUROPE	9000.00	2	E428	P204
E052	Dianna	Wilson	F	SENIOR DATA SCIENTIST	HEALTHCARE	6	CANADA	NORTH AMERICA	5500.00	5	E083	P103
E057	Dorothy	Wilson	F	SENIOR DATA SCIENTIST	HEALTHCARE	9	USA	NORTH AMERICA	7700.00	1	E083	P302
E204	Karene	Nowak	F	SENIOR DATA SCIENTIST	AUTOMOTIVE	8	GERMANY	EUROPE	7500.00	5	E428	P204
E245	Nian	Zhen	M	SENIOR DATA SCIENTIST	RETAIL	6	CHINA	ASIA	6500.00	2	E583	P109
E260	Roy	Collins	M	SENIOR DATA SCIENTIST	RETAIL	7	INDIA	ASIA	7000.00	3	E583	NA
E403	Steve	Hoffman	M	ASSOCIATE DATA SCIENTIST	FINANCE	4	USA	NORTH AMERICA	5000.00	3	E103	P105

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) AS max_salary, MIN(SALARY) AS min_salary
FROM employee_db.emp_record_table
GROUP BY ROLE
ORDER BY ROLE;
```

ROLE	max_salary	min_salary
ASSOCIATE DATA SCIENTIST	5000.00	4000.00
JUNIOR DATA SCIENTIST	3000.00	2800.00
LEAD DATA SCIENTIST	9000.00	8500.00
SENIOR DATA SCIENTIST	7700.00	5500.00

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

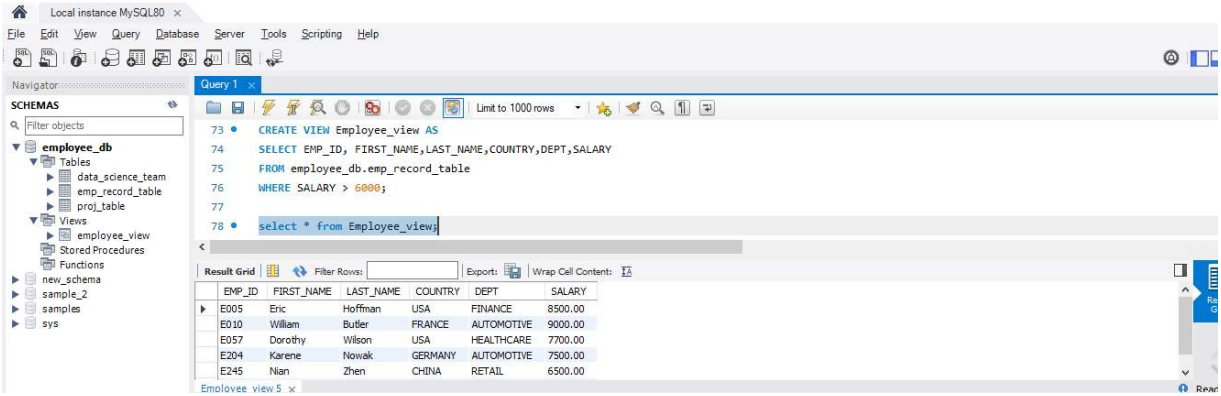
```
SELECT *,
RANK() OVER( order by EXP) as 'rank'
FROM employee_db.emp_record_table;
```

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

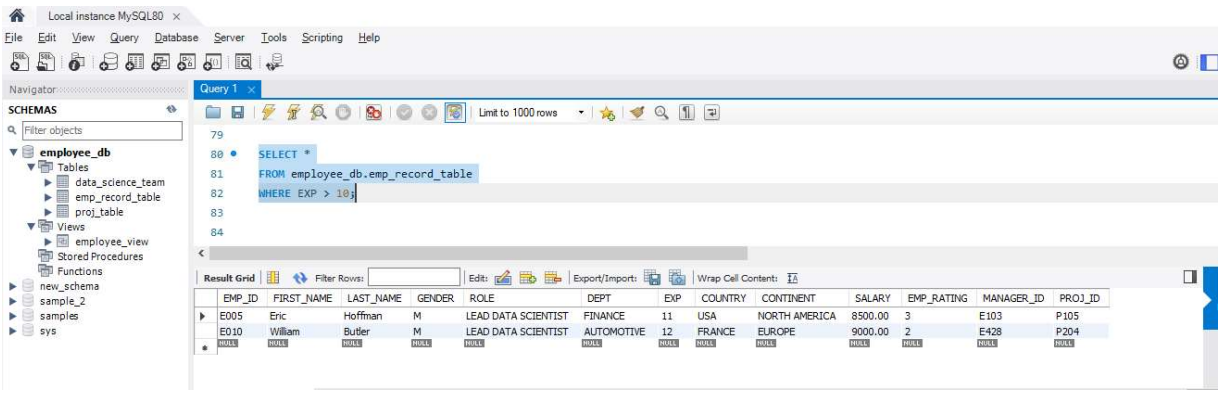
EMP_ID	FIRST_NAME	LAST_NAME	GENDER	ROLE	DEPT	EXP	COUNTRY	CONTINENT	SALARY	EMP_RATING	MANAGER_ID	PROJ_ID	rank
E640	Jenifer	Jhones	F	JUNIOR DATA SCIENTIST	RETAIL	1	COLOMBIA	SOUTH AMERICA	2800.00	4	E612	P406	1
E620	Katrina	Allen	F	JUNIOR DATA SCIENTIST	RETAIL	2	INDIA	ASIA	3000.00	1	E612	P406	2
E478	David	Smith	M	ASSOCIATE DATA SCIENTIST	RETAIL	3	COLOMBIA	SOUTH AMERICA	4000.00	4	E583	P109	3
E532	Claire	Brennan	F	ASSOCIATE DATA SCIENTIST	AUTOMOTIVE	3	GERMANY	EUROPE	4300.00	1	E428	P204	3
E403	Steve	Hoffman	M	ASSOCIATE DATA SCIENTIST	FINANCE	4	USA	NORTH AMERICA	5000.00	3	E103	P105	5

Result 4

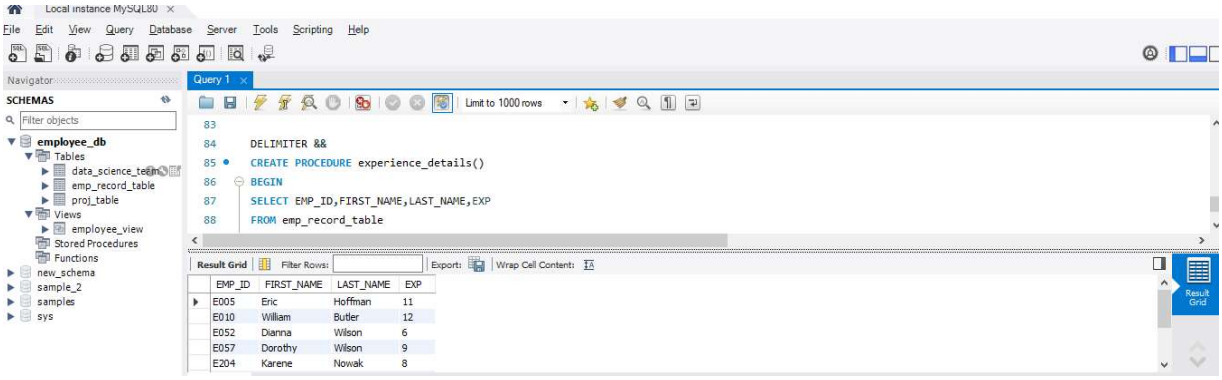
11. Write a query to create a view that displays employees in various countries whose salary is more than six thousand. Take data from the employee record table.



12. Write a nested query to find employees with experience of more than ten years. Take data from the employee record table.



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.



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:

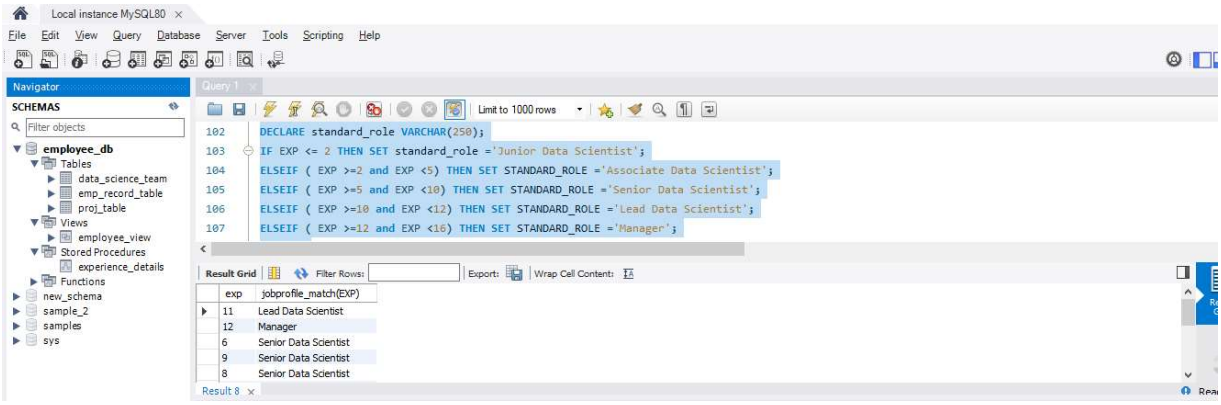
For an employee with experience less than or equal to 2 years assign 'JUNIOR DATA SCIENTIST',

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

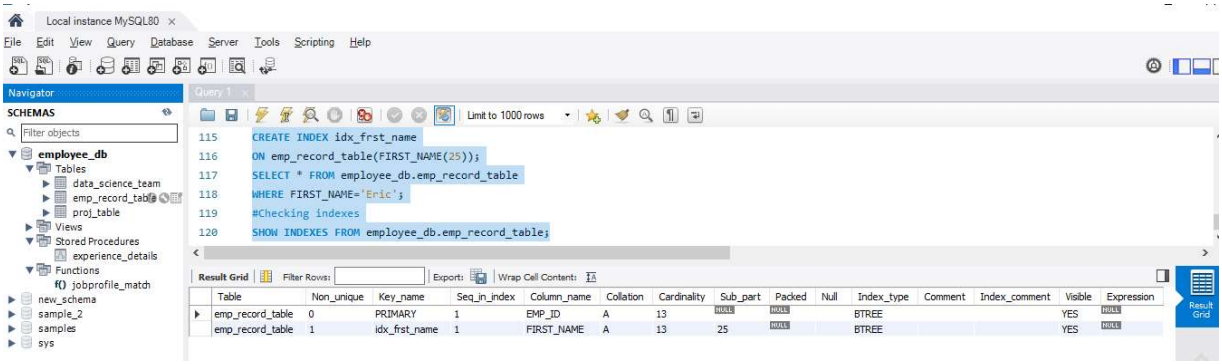
For an employee with the experience of 5 to 10 years assign 'SENIOR DATA SCIENTIST',

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

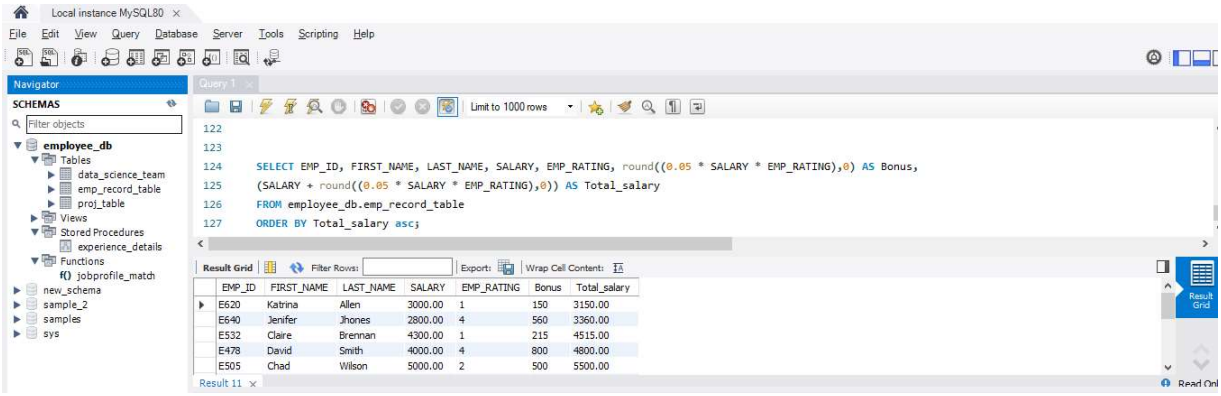
For an employee with the experience of 12 to 16 years assign 'MANAGER'.



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.



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).



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