

ScienceQtech Employee Performance Mapping.

Task

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.

Emp_table

The screenshot displays the SQL Server Enterprise Manager interface. On the left, the 'Schemas' pane shows a tree view of the database structure, including 'employee' and 'emp_table'. The 'emp_table' is highlighted, showing its columns and constraints. The 'Query 1' window on the right contains the following SQL script:

```

1 create table emp_table(
2     Emp_id varchar(4) not null primary key,
3     First_name varchar(100) not null,
4     Gender varchar(1) not null,
5     Role_emp varchar(100) not null,
6     Dept varchar(100) not null,
7     Exp_emp varchar(100) not null,
8     Country varchar(100) not null,
9     Continent varchar(100) not null,
10    Salary varchar(100) not null,
11    Emp_rating varchar(100) not null,
12    Manager_id varchar(100) not null,
13    Proj_id varchar(4) not null,
14    constraint empid_check check( substr(Emp_id,1,1)='E'),
15    constraint manid_check check( substr(Manager_id,1,1)='E'),
16    constraint gender_check check( Gender in ('M','F','O'))
17 )Engine=InnoDB;
18 select * from emp_table;

```

[illegible]

DS_team

File Edit View Query Database Server Tools Scripting Help

Navigator: Query 1 x

Limit to 1000 rows

```
1 • create table if not exists DS_team(
2   Emp_id varchar(4) not null primary key,
3   First_name varchar(100) not null,
4   Last_name varchar(100) not null,
5   Gender varchar(1) not null,
6   Role_emp varchar(100) not null,
7   Dept varchar(100) not null,
8   Exp_emp int not null check (Exp_emp>=0),
9   Country varchar(100) not null,
10  Continent varchar(100) not null,
11  constraint dsid_check check( substr(Emp_id,1,1)='E'),
12  constraint dsgender_check check(Gender in ('M','F','O'))
13 )Engine=InnoDB;
14 • select * from DS_team;
15
```

Administration Schemas

Information

Table: ds_team

Columns:

- Emp_id varchar(4) PK
- First_name varchar(10)
- Last_name varchar(10)
- Gender varchar(1)
- Role_emp varchar(10)
- Dept varchar(10)

Result Grid

Emp_id	First_name	Last_name	Gender	Role_emp	Dept	Exp_emp	Country	Continent
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

DS_team 3 x

Output

File Edit View Query Database Server Tools Scripting Help

Navigator: Query 1 ds_team x

Limit to 1000 rows

```
1 • SELECT * FROM employee.ds_team;
```

Administration Schemas

Information

Table: ds_team

Columns:

- Emp_id varchar(4) PK
- First_name varchar(10)
- Last_name varchar(10)
- Gender varchar(1)
- Role_emp varchar(10)
- Dept varchar(10)

Result Grid

Emp_id	First_name	Last_name	Gender	Role_emp	Dept	Exp_emp	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
E478	David	Smith	M	ASSOCIATE DATA SCIENTIST	RETAIL	3	COLOMBIA	SOUTH AMERICA
E505	Chad	Wilson	M	ASSOCIATE DATA SCIENTIST	HEALTHCARE	5	CANADA	NORTH AMERICA
E532	Claire	Brennan	F	ASSOCIATE DATA SCIENTIST	AUTOMOTIVE	3	GERMANY	EUROPE
E620	Katrina	Allen	F	JUNIOR DATA SCIENTIST	RETAIL	2	INDIA	ASIA
E640	Jenifer	Jhones	F	JUNIOR DATA SCIENTIST	RETAIL	1	COLOMBIA	SOUTH AMERICA
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

ds_team 1 x

Output

Project_records

FileEditViewQueryDatabaseServerToolsScriptingHelp

Navigator

SCHEMAS

Filter objects

employee

Tables

ds_teamemptableproject_records

ViewsStored ProceduresFunctions

Query 1project_records

Limit to 1000 rows

1 • create table if not exists Project_records(
2 Proj_id varchar(4) not null primary key,
3 Proj_name varchar(100) not null,
4 Domain varchar(100) not null,
5 Start_date varchar(100) not null,
6 Closure_date varchar(100) not null,
7 Dev_qtr varchar(100) not null,
8 Status_pr varchar(100) not null,
9 constraint projid_check check(substr(Proj_id,1,1)='P'),
10 constraint check_qtr check(Dev_qtr in ('Q1','Q2','Q3','Q4')),
11 constraint check_status check(Status_pr in ('YTS','WIP','DONE','DELAYED'))
12)Engine=InnoDB;
13 • select * from proj_table;

AdministrationSchemas

Information

Table: project_records

Columns:

Proj_idvarchar(4)PK
Proj_namevarchar(100)
Domainvarchar(100)
Start_datevarchar(100)
Closure_datevarchar(100)
Dev_qtrvarchar(100)
Status_prvarchar(100)

Object Info

Session

Output

Action Output

#	Time	Action	Message
2	15:09:44	select * from proj_table LIMIT 0, 1000	Error Code: 1146. Table 'employee.proj_table' doesn't exist
3	15:10:26	SELECT * FROM employee.project_records LIMIT 0, 1000	0 row(s) returned
4	15:10:41	SELECT * FROM employee.project_records LIMIT 0, 1000	0 row(s) returned

FileEditViewQueryDatabaseServerToolsScriptingHelp

Navigator

SCHEMAS

Filter objects

employee

Tables

ds_teamemptableproject_records

ViewsStored ProceduresFunctions

Query 1project_records

Limit to 1000 rows

1 • SELECT * FROM employee.project_records;

Result Grid

Proj_id	Proj_name	Domain	Start_date	Closure_date	Dev_qtr	Status_pr
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

Table: project_records

Columns:

Proj_idvarchar(4)PK
Proj_namevarchar(100)
Domainvarchar(100)
Start_datevarchar(100)
Closure_datevarchar(100)
Dev_qtrvarchar(100)
Status_prvarchar(100)

Object Info

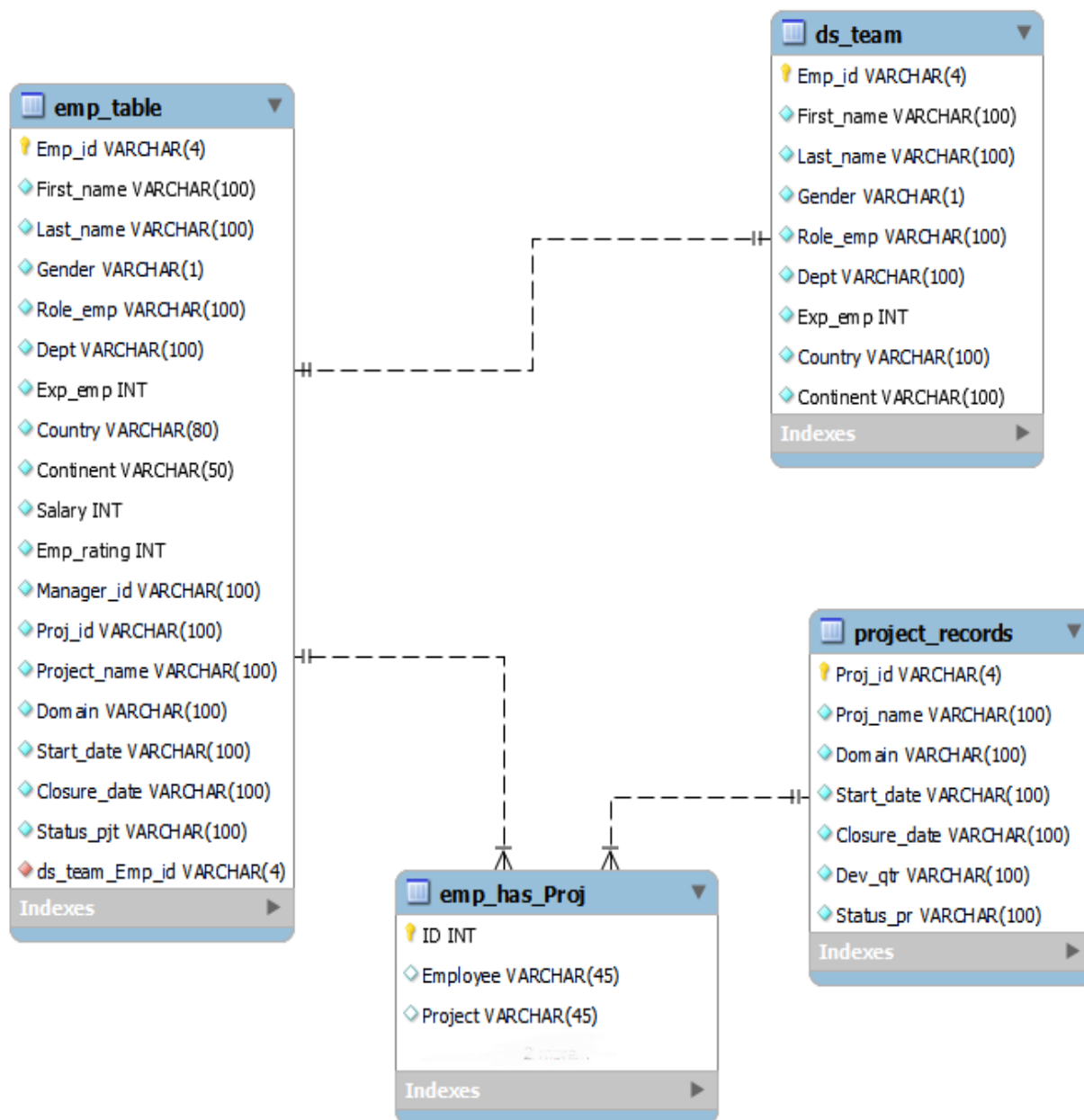
Session

Output

Action Output

#	Time	Action	Message
14	15:13:13	SHOW COLUMNS FROM 'employee'.project_records	OK
15	15:13:18	PREPARE stmt FROM INSERT INTO 'employee'.project_records ('Proj_id','Proj_name':...	OK
16	15:13:19	DEALLOCATE PREPARE stmt	OK

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

The screenshot shows the SQL Developer interface. The left pane displays the 'SCHEMAS' tree with 'employee' expanded, showing 'emp_table'. The main query window contains the following SQL code:

```
1 -- to fetch Emp_id, First_name, Last_name, Gender and Department from the employee record table
2 • select Emp_id, First_name, Last_name, Gender, Dept from emp_table order by Dept;
```

The 'Result Grid' at the bottom shows the following data:

Emp_id	First_name	Last_name	Gender	Dept
E010	William	Butler	M	AUTOMOTIVE
E204	Karene	Nowak	F	AUTOMOTIVE
E532	Claire	Brennan	F	AUTOMOTIVE
E005	Eric	Hoffman	M	FINANCE
E403	Steve	Hoffman	M	FINANCE
E052	Dianna	Wilson	F	HEALTHCARE
E057	Dorothy	Wilson	F	HEALTHCARE
E505	Chad	Wilson	M	HEALTHCARE
E245	Nian	Zhen	M	RETAIL
E260	Roy	Collins	M	RETAIL
E478	David	Smith	M	RETAIL
E620	Katrina	Allen	F	RETAIL
E640	Jenifer	Jhones	F	RETAIL
NULL	NULL	NULL	NULL	NULL

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

The screenshot shows the SQL Developer interface. The left pane displays the 'SCHEMAS' tree with 'employee' expanded, showing 'emp_table'. The main query window contains the following SQL code:

```
1 -- to fetch Emp_id, First_name, Last_name, Gender and Department from the employee record table
2 • select Emp_id,First_name,Last_name,Gender,Dept from emp_table order by Dept;
3 -- to fetch fetch Emp_id, First_name, Last_name, Gender, Department and Emp_rating is less than two
4 • select Emp_id,First_name,Last_name,Gender,Dept,Emp_rating from emp_table where Emp_rating<2;
```

The 'Result Grid' at the bottom shows the following data:

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

File Edit View Query Database Server Tools Scripting Help

Navigator: Query 1 x project_records emp_table

SCHEMAS

Filter objects

- employee
 - Tables
 - ds_team
 - Columns
 - Indexes
 - Foreign Keys
 - Triggers
 - emp_table
 - project_records
 - Views
 - Stored Procedures
 - Functions

```

2 • select Emp_id,First_name,Last_name,Gender,Dept from emp_table order by Dept;
3 -- to fetch fetch Emp_id, First_name, Last_name, Gender, Department and Emp_rating is less than two
4 • select Emp_id,First_name,Last_name,Gender,Dept,Emp_rating from emp_table where Emp_rating<2;
5 -- to fetch fetch Emp_id, First_name, Last_name, Gender, Department and Emp_rating is greater than four
6 • select Emp_id,First_name,Last_name,Gender,Dept,Emp_rating from emp_table where Emp_rating>4;
7

```

Result Grid Filter Rows: Edit Export/Import: Wrap Cell Content: [IA](#)

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

Result Grid Form Editor

File Edit View Query Database Server Tools Scripting Help

Navigator: Query 1 x project_records emp_table

SCHEMAS

Filter objects

- employee
 - Tables
 - ds_team
 - Columns
 - Indexes
 - Foreign Keys
 - Triggers
 - emp_table
 - project_records
 - Views
 - Stored Procedures
 - Functions

```

3 -- to fetch fetch Emp_id, First_name, Last_name, Gender, Department and Emp_rating is less than two
4 • select Emp_id,First_name,Last_name,Gender,Dept,Emp_rating from emp_table where Emp_rating<2;
5 -- to fetch fetch Emp_id, First_name, Last_name, Gender, Department and Emp_rating is greater than four
6 • select Emp_id,First_name,Last_name,Gender,Dept,Emp_rating from emp_table where Emp_rating>4;
7 -- to fetch fetch Emp_id, First_name, Last_name, Gender, Department and Emp_rating is between 2 and 4
8 • select Emp_id,First_name,Last_name,Gender,Dept,Emp_rating from emp_table where Emp_rating between 2 and 4;

```

Result Grid Filter Rows: Edit Export/Import: Wrap Cell Content: [IA](#)

Emp_id	First_name	Last_name	Gender	Dept	Emp_rating
E005	Eric	Hoffman	M	FINANCE	3
E010	William	Butler	M	AUTOMOTIVE	2
E245	Nian	Zhen	M	RETAIL	2
E260	Roy	Collins	M	RETAIL	3
E403	Steve	Hoffman	M	FINANCE	3
E478	David	Smith	M	RETAIL	4
E505	Chad	Wilson	M	HEALTHCARE	2
E640	Jenifer	Jhones	F	RETAIL	4
NULL	NULL	NULL	NULL	NULL	NULL

Administration Schemas Information

Result Grid Form Editor Field Types

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.

The screenshot shows the SQL Developer interface. The left pane displays the 'SCHEMAS' tree with 'employee' expanded, showing 'emp_table'. The main query window contains the following SQL code:

```

1  -- to concatenate First_name and Last_name in emp_table of Finance department
2  -- and give the resultant column alias as Name
3  • select concat_ws(' ',First_name,Last_name) as Name from employee.emp_table where Dept="Finance";

```

The 'Result Grid' at the bottom shows the output of the query:

Name
Erichoffman
SteveHoffman

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.

The screenshot shows the SQL Developer interface. The left pane displays the 'SCHEMAS' tree with 'employee' expanded, showing 'emp_table'. The main query window contains the following SQL code:

```

1  -- to list down all the employees from the healthcare and finance departments using union
2  -- Take data from the employee record table
3  • select m.Emp_id,m.First_name,m.Last_name,m.Dept from emp_table m
4  where m.Dept in("HEALTHCARE","FINANCE")
5  union
6  select m.Emp_id,m.First_name,m.Last_name,m.Dept from emp_table m
7  where m.Dept in("HEALTHCARE","FINANCE")
8  order by Dept;
9

```

The 'Result Grid' at the bottom shows the output of the query:

Emp_id	First_name	Last_name	Dept
E005	Eric	Hoffman	FINANCE
E403	Steve	Hoffman	FINANCE
E052	Dianna	Wilson	HEALTHCARE
E057	Dorothy	Wilson	HEALTHCARE
E505	Chad	Wilson	HEALTHCARE

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

The screenshot shows the SQL Developer interface. The query editor contains the following SQL statement:

```
1 • select Emp_id, First_name, Last_name, Role_emp, Dept, Emp_rating, Max(Emp_rating) as Max_rating from emp_table group by Dept;
```

The results are displayed in the Result Grid, showing employee details grouped by department. The columns are Emp_id, First_name, Last_name, Role_emp, Dept, Emp_rating, and Max_rating.

Emp_id	First_name	Last_name	Role_emp	Dept	Emp_rating	Max_rating
E005	Eric	Hoffman	LEAD DATA SCIENTIST	FINANCE	3	3
E010	William	Butler	LEAD DATA SCIENTIST	AUTOMOTIVE	2	5
E052	Dianna	Wilson	SENIOR DATA SCIENTIST	HEALTHCARE	5	5
E245	Nian	Zhen	SENIOR DATA SCIENTIST	RETAIL	2	4

Second variant

The screenshot shows the SQL Developer interface. The query editor contains the following SQL statement:

```
1 • Emp_id, First_name, Last_name, Role_emp, Dept, Emp_rating, Max(Emp_rating) over(partition by Dept) as Max_rating from emp_table;
```

The results are displayed in the Result Grid, showing employee details grouped by department. The columns are Emp_id, First_name, Last_name, Role_emp, Dept, Emp_rating, and Max_rating.

Emp_id	First_name	Last_name	Role_emp	Dept	Emp_rating	Max_rating
E010	William	Butler	LEAD DATA SCIENTIST	AUTOMOTIVE	2	5
E204	Karene	Nowak	SENIOR DATA SCIENTIST	AUTOMOTIVE	5	5
E532	Claire	Brennan	ASSOCIATE DATA SCIENTIST	AUTOMOTIVE	1	5
E005	Eric	Hoffman	LEAD DATA SCIENTIST	FINANCE	3	3
E403	Steve	Hoffman	ASSOCIATE DATA SCIENTIST	FINANCE	3	3
E052	Dianna	Wilson	SENIOR DATA SCIENTIST	HEALTHCARE	5	5
E057	Dorothy	Wilson	SENIOR DATA SCIENTIST	HEALTHCARE	1	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
E620	Katrina	Allen	JUNIOR DATA SCIENTIST	RETAIL	1	4
E640	Jenifer	Jhones	JUNIOR DATA SCIENTIST	RETAIL	4	4

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.

The screenshot shows the SQL Developer interface. The 'SCHEMAS' pane on the left shows the 'employee' schema with tables 'ds_team', 'emp_table', and 'project_records'. The 'Query 1' editor shows the following SQL query:

```
select Role_emp, Max(Salary) as Max_Salary, Min(Salary) as Min_Salary from emp_table group by Role_emp;
```

The 'Result Grid' shows the following data:

Role_emp	Max_Salary	Min_Salary
LEAD DATA SCIENTIST	9000	8500
SENIOR DATA SCIENTIST	7700	5500
ASSOCIATE DATA SCIENTIST	5000	4000
JUNIOR DATA SCIENTIST	3000	2800

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

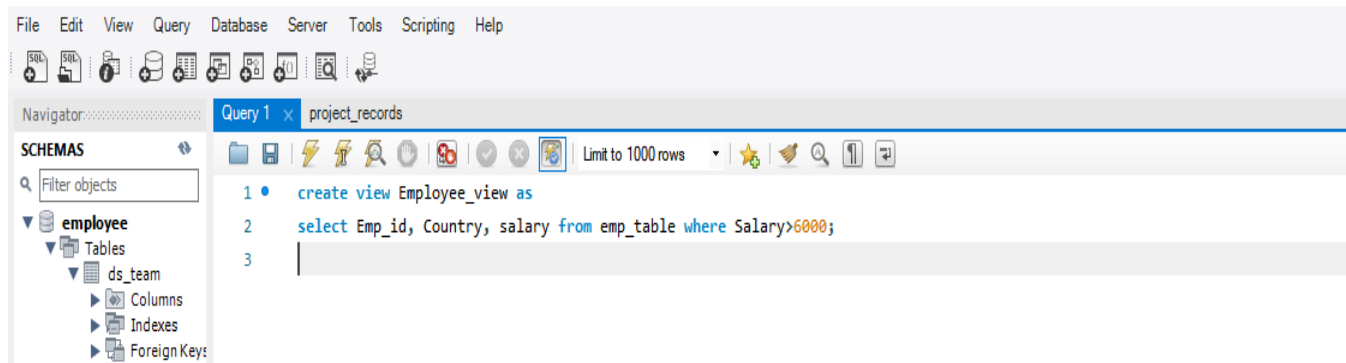
The screenshot shows the SQL Developer interface. The 'SCHEMAS' pane on the left shows the 'employee' schema with tables 'ds_team', 'emp_table', and 'project_records'. The 'Query 1' editor shows the following SQL query:

```
select Emp_id,First_name,Last_name,Role_emp,Dept,Exp_emp,rank() over (order by Exp_emp) emp_experience_rank,
dense_rank() over (order by Exp_emp) emp_experience_denserank from emp_table;
```

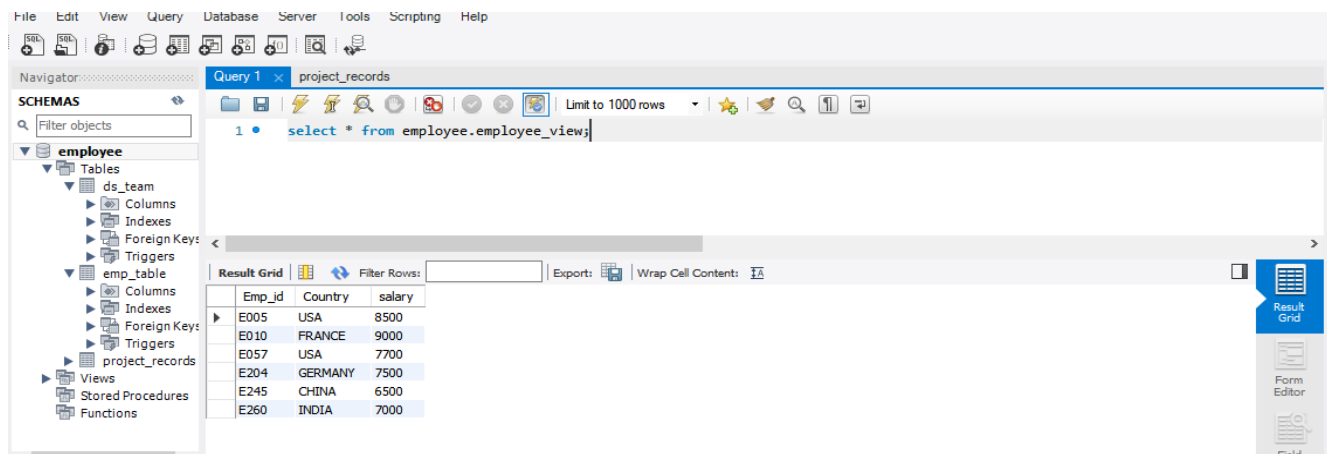
The 'Result Grid' shows the following data:

Emp_id	First_name	Last_name	Role_emp	Dept	Exp_emp	emp_experience_rank	emp_experience_denserank
E640	Jenifer	Jhones	JUNIOR DATA SCIENTIST	RETAIL	1	1	1
E005	Eric	Hoffman	LEAD DATA SCIENTIST	FINANCE	11	2	2
E010	William	Butler	LEAD DATA SCIENTIST	AUTOMOTIVE	12	3	3
E620	Katrina	Allen	JUNIOR DATA SCIENTIST	RETAIL	2	4	4
E478	David	Smith	ASSOCIATE DATA SCIENTIST	RETAIL	3	5	5
E532	Claire	Brennan	ASSOCIATE DATA SCIENTIST	AUTOMOTIVE	3	5	5
E403	Steve	Hoffman	ASSOCIATE DATA SCIENTIST	FINANCE	4	7	6
E505	Chad	Wilson	ASSOCIATE DATA SCIENTIST	HEALTHCARE	5	8	7
E052	Dianna	Wilson	SENIOR DATA SCIENTIST	HEALTHCARE	6	9	8
E245	Nian	Zhen	SENIOR DATA SCIENTIST	RETAIL	6	9	8
E260	Roy	Collins	SENIOR DATA SCIENTIST	RETAIL	7	11	9
E204	Karene	Nowak	SENIOR DATA SCIENTIST	AUTOMOTIVE	8	12	10
E057	Dorothy	Wilson	SENIOR DATA SCIENTIST	HEALTHCARE	9	13	11

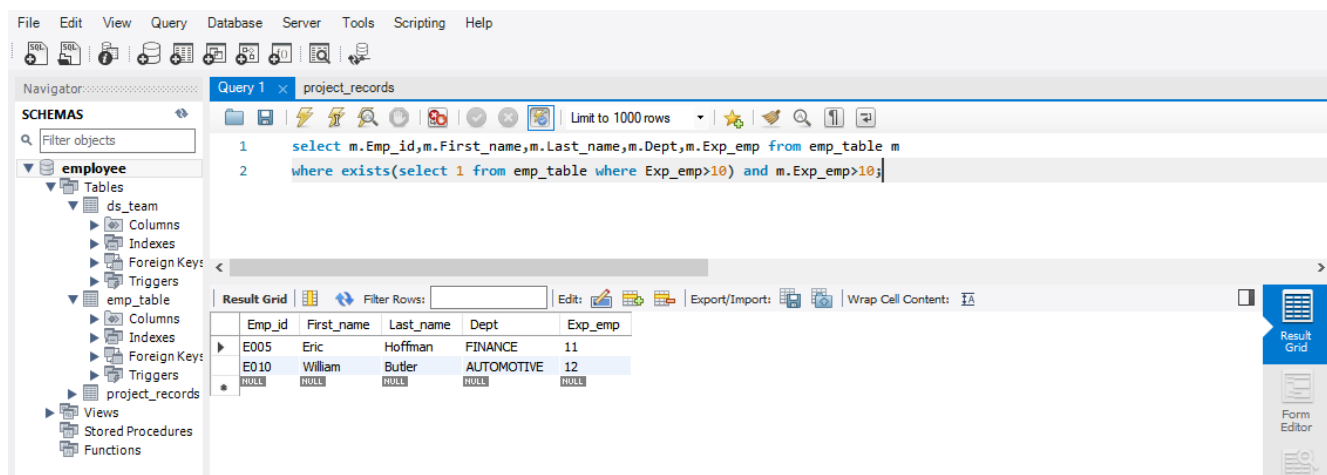
11. Write a query to create a view that displays employees in various countries whose salary is more than six thousand. Take data from the employee record table.



Then run:



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.

The screenshot shows a database IDE with a SQL query editor and a result grid. The query is as follows:

```

1 Delimiter &&
2 • create procedure get_experience()
3 begin
4 select * from emp_table where Exp_emp>3;
5 end &&
6 • call get_experience();

```

The result grid displays the following data:

Emp_id	First_name	Last_name	Gender	Role_emp	Dept	Exp_emp	Country	Continent	Salary	Emp_rating	Manager_id	Proj_id
E005	Eric	Hoffman	M	LEAD DATA SCIENTIST	FINANCE	11	USA	NORTH AMERICA	8500	3	E103	P105
E010	William	Butler	M	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
E204	Karene	Nowak	F	SENIOR DATA SCIENTIST	AUTOMOTIVE	8	GERMANY	EUROPE	7500	5	E428	P204
E245	Nian	Zhen	M	SENIOR DATA SCIENTIST	RETAIL	6	CHINA	ASIA	6500	2	E583	P109
E260	Roy	Collins	M	SENIOR DATA SCIENTIST	RETAIL	7	INDIA	ASIA	7000	3	E583	NA
E403	Steve	Hoffman	M	ASSOCIATE DATA SCIENTIST	FINANCE	4	USA	NORTH AMERICA	5000	3	E103	P105
E505	Chad	Wilson	M	ASSOCIATE DATA SCIENTIST	HEALTHCARE	5	CANADA	NORTH AMERICA	5000	2	E083	P103

Task

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 is:

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',

The screenshot shows a database IDE with a SQL query editor and a result grid. The query is as follows:

```

1 Delimiter $$
2 • drop function if exists employee.job_profile;
3 create function job_profile(Exp_emp int)
4 returns varchar(2000) deterministic
5 begin declare job_profile varchar(2000);
6 if Exp_emp <=2 then set job_profile="Junior Data Scientist";
7 elseif Exp_emp<=5 then set job_profile="Associate Data Scientist";
8 elseif Exp_emp<=10 then set job_profile="Senior Data Scientist";
9 elseif Exp_emp<=12 then set job_profile="Lead Data Scientist";
10 end if; return (job_profile);
11 End $$
12 Delimiter $$;
13 • select First_name,Last_name,Exp_emp,Role_emp,job_profile(Exp_emp) as Employee_profile from employee.emp_table order by Exp_emp;

```

The result grid displays the following data:

First_name	Last_name	Exp_emp	Role_emp	Employee_profile
Eric	Hoffman	11	LEAD DATA SCIENTIST	Lead Data Scientist
William	Butler	12	LEAD DATA SCIENTIST	Lead Data Scientist
Dianna	Wilson	6	SENIOR DATA SCIENTIST	Senior Data Scientist
Dorothy	Wilson	9	SENIOR DATA SCIENTIST	Senior Data Scientist
Karene	Nowak	8	SENIOR DATA SCIENTIST	Senior Data Scientist
Nian	Zhen	6	SENIOR DATA SCIENTIST	Senior Data Scientist
Roy	Collins	7	SENIOR DATA SCIENTIST	Senior Data Scientist
Steve	Hoffman	4	ASSOCIATE DATA SCIENTIST	Associate Data Scientist
Chad	Wilson	5	ASSOCIATE DATA SCIENTIST	Associate Data Scientist

Output:

Result Grid

Filter Rows:

Export:

Wrap Cell Content:

	First_name	Last_name	Exp_emp	Role_emp	Employee_profile
▶	Jenifer	Jhones	1	JUNIOR DATA SCIENTIST	Junior Data Scientist
	Eric	Hoffman	11	LEAD DATA SCIENTIST	Lead Data Scientist
	William	Butler	12	LEAD DATA SCIENTIST	Lead Data Scientist
	Katrina	Allen	2	JUNIOR DATA SCIENTIST	Junior Data Scientist
	David	Smith	3	ASSOCIATE DATA SCIENTIST	Associate Data Scientist
	Claire	Brennan	3	ASSOCIATE DATA SCIENTIST	Associate Data Scientist
	Steve	Hoffman	4	ASSOCIATE DATA SCIENTIST	Associate Data Scientist
	Chad	Wilson	5	ASSOCIATE DATA SCIENTIST	Associate Data Scientist
	Dianna	Wilson	6	SENIOR DATA SCIENTIST	Senior Data Scientist
	Nian	Zhen	6	SENIOR DATA SCIENTIST	Senior Data Scientist
	Roy	Collins	7	SENIOR DATA SCIENTIST	Senior Data Scientist
	Karene	Nowak	8	SENIOR DATA SCIENTIST	Senior Data Scientist
	Dorothy	Wilson	9	SENIOR DATA SCIENTIST	Senior Data Scientist

Result Grid

Form Editor

Field Types

Query Stats

Task

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.

File Edit View Query Database Server Tools Scripting Help

Navigator **Query 1** ds_team

SCHEMAS

Filter objects

employee

Tables

ds_t

empt

Views

Stored P

Function

1 • create index idx_word on emp_table(First_name);

2 • select * from emp_table where First_name="Eric";

Limit to 1000 rows

Result Grid

Filter Rows:

Edit: Export/Import: Wrap Cell Content:

	Emp_id	First_name	Last_name	Gender	Role_emp	Dept	Exp_emp	Country	Continent	Salary	Emp_rating	Manager_id	Proj_id
▶	E005	Eric	Hoffman	M	LEAD DATA SCIENTIST	FINANCE	11	USA	NORTH AMERICA	8500	3	E103	P105
*	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

Result Grid

Form Editor

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).

File Edit View Query Database Server Tools Scripting Help

Navigator: Query 1 x ds_team

SCHEMAS

Filter objects

employee

Tables

ds_team

emptable

Views

Stored Procedure

Functions

Limit to 1000 rows

1 • select Emp_id,First_name,Last_name,Role_emp,Salary,Emp_rating, 0.05*Salary*Emp_rating as BONUS from emp_table order by BONUS;

Result Grid

Emp_id	First_name	Last_name	Role_emp	Salary	Emp_rating	BONUS
E620	Katrina	Allen	JUNIOR DATA SCIENTIST	3000	1	150
E532	Claire	Brennan	ASSOCIATE DATA SCIENTIST	4300	1	215
E057	Dorothy	Wilson	SENIOR DATA SCIENTIST	7700	1	385
E505	Chad	Wilson	ASSOCIATE DATA SCIENTIST	5000	2	500
E640	Jenifer	Jhones	JUNIOR DATA SCIENTIST	2800	4	560
E245	Nian	Zhen	SENIOR DATA SCIENTIST	6500	2	650
E403	Steve	Hoffman	ASSOCIATE DATA SCIENTIST	5000	3	750
E478	David	Smith	ASSOCIATE DATA SCIENTIST	4000	4	800
E010	William	Butler	LEAD DATA SCIENTIST	9000	2	900
E260	Roy	Collins	SENIOR DATA SCIENTIST	7000	3	1050
E005	Eric	Hoffman	LEAD DATA SCIENTIST	8500	3	1275
E052	Dianna	Wilson	SENIOR DATA SCIENTIST	5500	5	1375
E204	Karene	Nowak	SENIOR DATA SCIENTIST	7500	5	1875

Administration

Information

No object selected

Result Grid

Form Editor

Field Types

Query Stats

Execution Plan

File Edit View Query Database Server Tools Scripting Help

Navigator: Query 1 x ds_team

SCHEMAS

Filter objects

employee

Tables

ds_team

emptable

Views

Stored Procedure

Functions

Limit to 1000 rows

1 • select Emp_id,First_name,Last_name,Role_emp,Salary,Emp_rating, 0.05*Salary*Emp_rating as BONUS from emp_table order by BONUS;

2 • select Emp_id,First_name,Last_name,Role_emp, Sum(0.05*Salary*Emp_rating) as BONUS_Total from emp_table;

Result Grid

Emp_id	First_name	Last_name	Role_emp	BONUS_Total
E005	Eric	Hoffman	LEAD DATA SCIENTIST	10485

Administration

Result Grid

Form Editor

Field Types

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

The screenshot shows a database query editor interface. The top menu bar includes File, Edit, View, Query, Database, Server, Tools, Scripting, and Help. The left sidebar shows a 'SCHEMAS' tree with 'employee' expanded, containing 'Tables' (ds_team, emptable), 'Views', 'Stored Procedure', and 'Functions'. The main area displays a SQL query in 'Query 1' for 'ds_team'.

```
1 • select Country,Continent,avg(Salary) over(Partition by Country) AVG_Salary_Distr_Country,  
2 avg(Salary) over( partition by Continent) AVG_Salary_Distr_Continent from emp_table;
```

Below the query, the 'Result Grid' shows the output. The grid has columns: Country, Continent, AVG_Salary_Distr_Country, and AVG_Salary_Distr_Continent. The data is as follows:

Country	Continent	AVG_Salary_Distr_Country	AVG_Salary_Distr_Continent
CHINA	ASIA	6500	5500
INDIA	ASIA	5000	5500
INDIA	ASIA	5000	5500
FRANCE	EUROPE	9000	6933.333333333333
GERMANY	EUROPE	5900	6933.333333333333
GERMANY	EUROPE	5900	6933.333333333333
CANADA	NORTH AMERICA	5250	6340
CANADA	NORTH AMERICA	5250	6340
USA	NORTH AMERICA	7066.666666666667	6340
USA	NORTH AMERICA	7066.666666666667	6340
USA	NORTH AMERICA	7066.666666666667	6340
COLOMBIA	SOUTH AMERICA	3400	3400
COLOMBIA	SOUTH AMERICA	3400	3400

The bottom left shows 'Administration' and 'Information' tabs, with a message 'No object selected'.