

ScienceQtech Employee Performance Mapping...

The task to be performed:

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.

The screenshot shows the MySQL Workbench interface. The 'Schemas' pane on the left shows the 'employee' database selected. The 'SQL File 6' editor in the center contains the following SQL script:

```
1 --- ScienceQtech Employee Performance Mapping ---
2
3 --- Create a database named employee ---
4 create database employee;
5
6 --- Import data_science_team.csv, proj_table.csv and emp_record_table.csv into the employee database from the given resources ---
7 use employee;
8
```

The 'Output' pane at the bottom shows the execution results:

#	Time	Action	Message	Duration / Fetch
20	15:53:15	CREATE TABLE 'employee' ('proj_table' ('PROJECT_ID' text, 'PROJ_NAME' text, 'DOMAIN' text, 'START_DA...	OK	0.000 sec
21	15:53:15	PREPARE stmt FROM INSERT INTO 'employee' ('PROJECT_ID', 'PROJ_NAME', 'DOMAIN', 'STA...	OK	0.000 sec
22	15:53:15	DEALLOCATE PREPARE stmt	OK	0.000 sec
23	15:54:04	Apply changes to data_science_team	No changes detected	
24	15:59:30	use database employee	Error Code: 1064. You have an error in your SQL syntax; check the manual that corresponds to your MySQL ser...	0.015 sec
25	15:59:44	use employee	0 row(s) affected	0.016 sec

The 'Query Completed' message is displayed at the bottom.

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

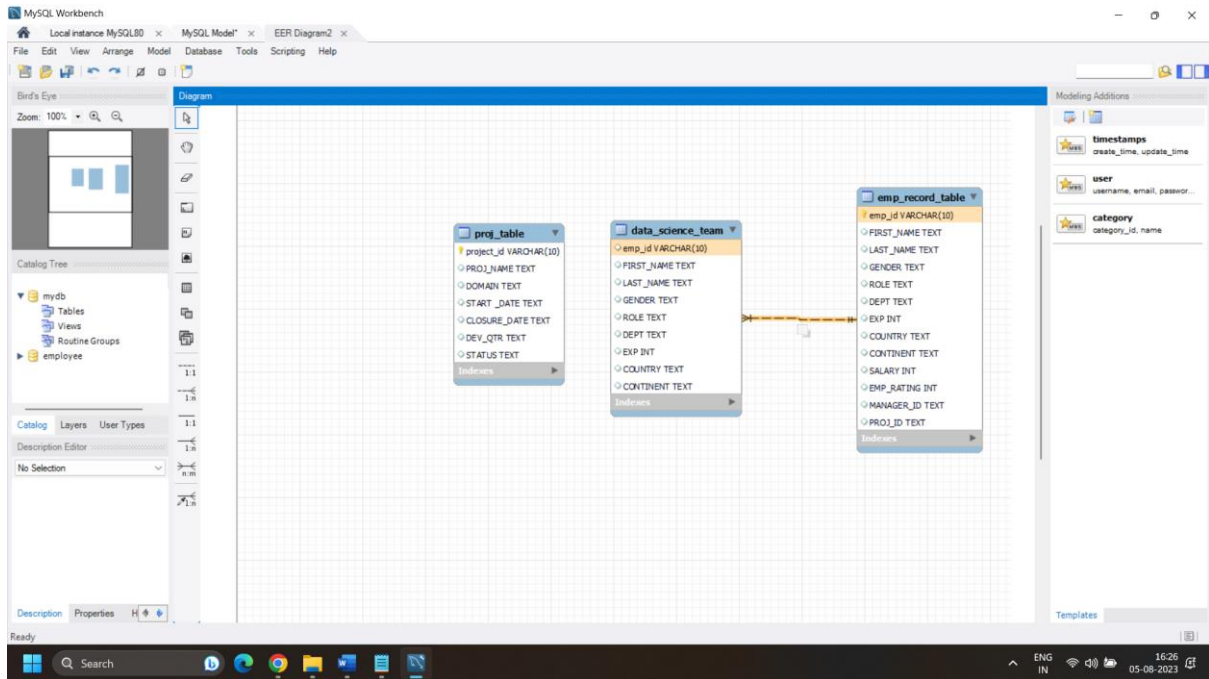
The screenshot shows the MySQL Workbench interface with the 'EER Diagram2' tab selected. The 'Schemas' pane on the left shows the 'employee' database selected. The 'SQL File 6' editor in the center contains the following SQL script:

```
1
2 --- Changing the data type and defining primary key for emp_record_table ---
3 alter table emp_record_table
4 modify column emp_id varchar(10);
5
6 alter table emp_record_variable
7 modify column project_id varchar(10);
8
9 alter table emp_record_table
10 add primary key(emp_id);
11
12 alter table emp_record_table
13 add foreign key(project_id) references proj_table(project_id);
14
15 --- Changing the data type of emp_id and defining primary key for proj_table ---
16 alter table proj_table
17 modify column project_id varchar(10);
18
19 alter table proj_table
20 add primary key(project_id);
21
22 --- Changing the data type of emp_id and defining foreign key for data_science_team ---
23 alter table data_science_team
24 modify column emp_id varchar(10);
25
26 alter table data_science_team
27 add foreign key(emp_id) references emp_record_table(emp_id);
28
29
30
31
32
33
34
35
```

The 'Output' pane at the bottom shows the execution results:

#	Time	Action	Message	Duration / Fetch
31	16:11:20	alter table proj_table add primary key(project_id)	0 row(s) affected Records: 0 Duplicates: 0 Warnings: 0	0.125 sec
32	16:16:49	alter table emp_record_variable modify column project_id varchar(10)	Error Code: 1146. Table 'employee.emp_record_variable' doesn't exist	0.000 sec
33	16:19:53	alter table emp_record_table add foreign key(project_id) references proj_table(project_id)	Error Code: 1072. Key column 'project_id' doesn't exist in table	0.016 sec
34	16:21:05	SELECT * FROM employee.proj_table LIMIT 0, 1000	6 row(s) returned	0.000 sec / 0.000 sec

The 'Query Completed' message is displayed at the bottom.



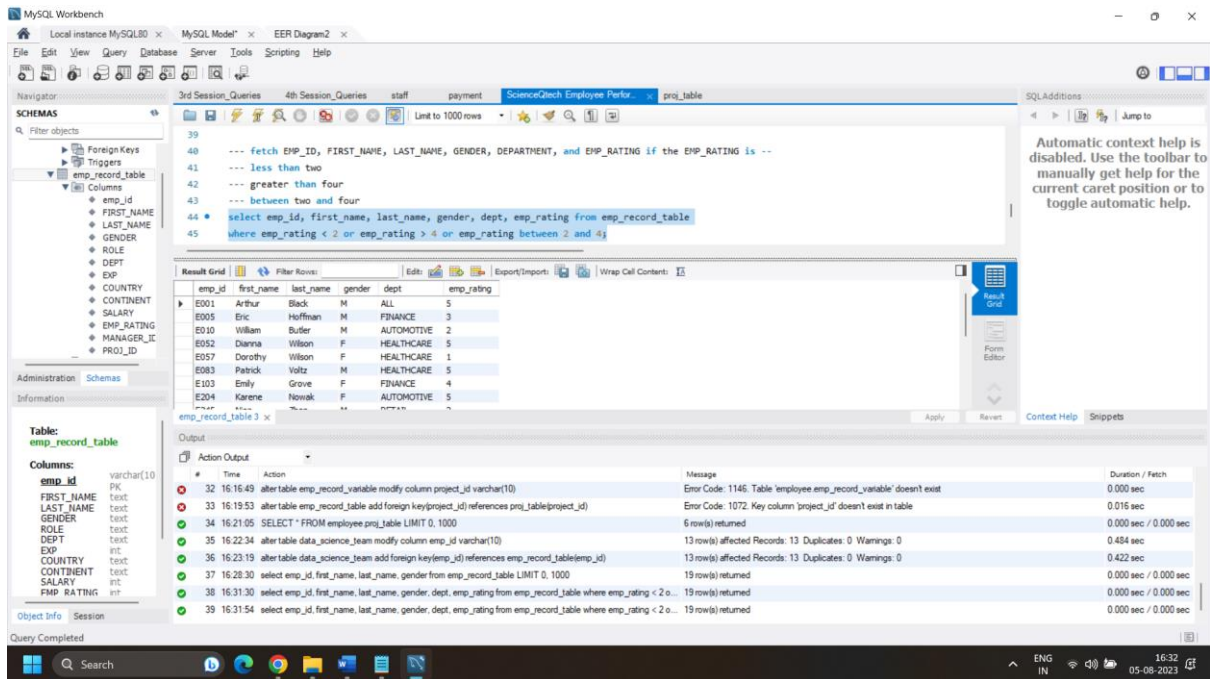
3. Write a query to fetch EMP_ID, FIRST_NAME, LAST_NAME, GENDER, and DEPARTMENT from the employee record table, and make a list of employees and details of their department.

Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.

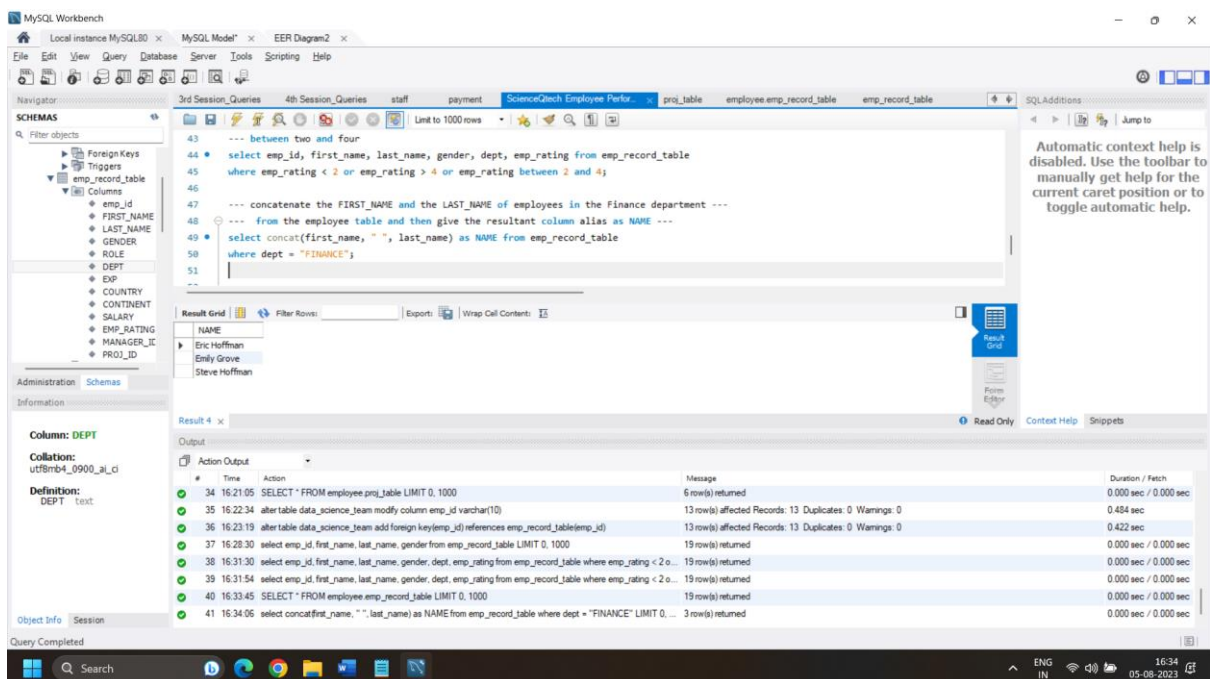
emp_id	first_name	last_name	gender
E001	Arthur	Black	M
E005	Eric	Huffman	M
E010	William	Butler	M
E052	Dianna	Wilson	F
E057	Dorothy	Wilson	F
E083	Patrick	Voltz	M
E103	Emily	Grove	F
E204	Karen	Nowak	F
E245	Nan	Zhen	M
E260	Roy	Collins	M

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



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.



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

MySQL Workbench

Local instance MySQL80

File Edit View Query Database Server Tools Scripting Help

Navigator

SCHMAS

Filter objects

employee

data_science_team

emp_record_table

proj_table

Views

Stored Procedures

Functions

mavenmovies

mydo

sakila

sys

world

Administration Schemas

Information

Connection Details

Local instance MySQL80

Host: localhost

Port: 3306

User: root

Connection String: C:\root@localhost

SSL: TLS_AES_256_GCM_SHA

Server: MySQL Community Server - GPL V8.0.34

Connector: VC++ 8.1.0

Object Info Session

ScienceQuiz Employee Perf... Administration - Server Status emp_record_table

Limit to 1000 rows

52 -- list only those employees who have someone reporting to them. Also, show the number of reporters (including the President) ----

53 create temporary table managers

54 as

55 select distinct manager_id, count(manager_id) as Number_of_reporters from emp_record_table

56 group by manager_id;

57 select manager_id, Number_of_reporters from managers;

58 select first_name, Number_of_reporters from managers as m

59 inner join emp_record_table as e

60 where e.emp_id = m.manager_id;

61

Result Grid

first_name	Number_of_reporters
Emily	2
Pete	3
Patrick	3
Arthur	5
Janet	3
Tracy	2

Result 5 x

Output

Action Output

#	Time	Action	Message	Duration / Fetch
10	22:13:09	create temporary table managers as select distinct manager_id, count(manager_id) from emp_record_table group by manager_id;	7 row(s) affected Records: 7 Duplicates: 0 Warnings: 0	0.125 sec
11	22:14:10	create temporary table managers as select distinct manager_id, count(manager_id) as Number_of_reporters from emp_record_table group by manager_id;	Error Code: 1050. Table 'managers' already exists	0.000 sec
12	22:14:22	drop table managers;	0 row(s) affected	0.000 sec
13	22:14:29	create temporary table managers as select distinct manager_id, count(manager_id) as Number_of_reporters from emp_record_table group by manager_id;	7 row(s) affected Records: 7 Duplicates: 0 Warnings: 0	0.000 sec
14	22:16:28	select manager_id, Number_of_reporters from managers LIMIT 0, 1000	7 row(s) returned	0.000 sec / 0.000 sec
15	22:16:45	select manager_id, Number_of_reporters from managers LIMIT 0, 1000	7 row(s) returned	0.000 sec / 0.000 sec
16	22:17:14	select first_name, Number_of_reporters from managers as m inner join emp_record_table as e where e.emp_id = m.manager_id;	Error Code: 1055. Expression #2 of SELECT list is not in GROUP BY clause and contains nonaggregated column 'emp_record_table.e.emp_id'	0.000 sec
17	22:19:45	select first_name, Number_of_reporters from managers as m inner join emp_record_table as e where e.emp_id = m.manager_id;	6 row(s) returned	0.000 sec / 0.000 sec

Read Only Context Help Snippets

Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.

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.

MySQL Workbench

Local instance MySQL80

File Edit View Query Database Server Tools Scripting Help

Navigator

SCHMAS

Filter objects

employee

data_science_team

emp_record_table

Columns

emp_id

FIRST_NAME

LAST_NAME

GENDER

ROLE

DEPT

COUNTRY

CONTINENT

SALARY

EMP_RATING

MANAGER_ID

PROJ_ID

Administration Schemas

Information

Connection Details

Local instance MySQL80

Host: localhost

Port: 3306

User: root

Connection String: C:\root@localhost

SSL: TLS_AES_256_GCM_SHA

Server: MySQL Community Server - GPL V8.0.34

Connector: VC++ 8.1.0

Object Info Session

ScienceQuiz Employee Perf... Administration - Server Status emp_record_table

Limit to 1000 rows

60

61 --- list down all the employees from the healthcare and finance departments using union ---

62 select * from emp_record_table where dept="healthcare"

63 union

64 select * from emp_record_table where dept="finance";

65

66

67

68

Result Grid

emp_id	FIRST_NAME	LAST_NAME	GENDER	ROLE	DEPT	EXP	COUNTRY	CONTINENT	SALARY	EMP_RATING	MANAGER_ID	PROJ_ID
E052	Danna	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	M	MANAGER	HEALTHCARE	15	USA	NORTH AMERICA	9500	5	E001	
E505	Chad	Wilson	M	ASSOCIATE DATA SCIENTIST	HEALTHCARE	5	CANADA	NORTH AMERICA	9000	2	E083	P103
E005	Eric	Hoffman	M	LEAD DATA SCIENTIST	FINANCE	11	USA	NORTH AMERICA	8500	3	E103	P105
E103	Emily	Grove	F	MANAGER	FINANCE	14	CANADA	NORTH AMERICA	10500	4	E001	
E403	Steve	Hoffman	M	ASSOCIATE DATA SCIENTIST	FINANCE	4	USA	NORTH AMERICA	5000	3	E103	P105

Result 1 x

Output

Action Output

#	Time	Action	Message	Duration / Fetch
1	22:02:06	SELECT * FROM employee.emp_record_table LIMIT 0, 1000	19 row(s) returned	0.000 sec / 0.000 sec
2	22:03:39	select * from emp_record_table where dept="Healthcare" union select * from emp_record_table where dept="Finance";	Error Code: 1046. No database selected Select the default DB to be used by double-clicking its name in the SCH...	0.000 sec
3	22:03:55	use employee	0 row(s) affected	0.000 sec
4	22:04:01	select * from emp_record_table where dept="Healthcare" union select * from emp_record_table where dept="Finance";	7 row(s) returned	0.000 sec / 0.000 sec

Read Only Context Help Snippets

Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.

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.

MySQL Workbench

Local instance MySQL80

File Edit View Query Database Server Tools Scripting Help

Navigation: SCHEMAS, Filter objects, employee, Tables, Views, Stored Procedures, Functions, mavenmovies, mydb, sakila, sys, world

Administration: Schemas, Information, Connection Details, Local instance MySQL80, Hlocalhost, P8306, L0, User, C:\root@localhost, User, SSL_TLS_AES_256_GCM_SHA, ciphe, Server, MySQL Community, Server - GPL, V8.0.34, Connector, VC++ 8.1.0, Object Info, Session

ScienceQuiz Employee Perfor... Administration - Server Status

Limit to 1000 rows

SQL Editor:

```

-- Also include the respective employee rating along with the max emp rating for the department ...
68 create table rating
69 as
70 select dept, max(emp_rating) as Max_emp_rating from emp_record_table
71 group by dept;
72
73 alter table rating
74 add column dept to department;
75
76 select * from rating;
77
78 select emp_id, first_name, last_name, role, dept, emp_rating, Max_emp_rating from emp_record_table
79 inner join rating
80 on emp_record_table.dept = rating.department;

```

Result Grid:

emp_id	first_name	last_name	role	dept	emp_rating	Max_emp_rating
E001	Arthur	Black	PRESIDENT	ALL	5	5
E005	Eric	Hoffman	LEAD DATA SCIENTIST	FINANCE	3	4
E010	William	Butler	LEAD DATA SCIENTIST	AUTOMOTIVE	2	5
E052	Dianna	Wilson	SENIOR DATA SCIENTIST	HEALTHCARE	5	5
E057	Dorothy	Wilson	SENIOR DATA SCIENTIST	HEALTHCARE	1	5

Output:

Action Output:

#	Time	Action	Message	Duration / Fetch
6	07:09:15	select * from rating LIMIT 0, 1000	5 row(s) returned	0.000 sec / 0.000 sec
7	07:10:07	select emp_id, first_name, last_name, role, dept, emp_rating, max(emp_rating) as Max_emp_rating from emp_re...	Error Code: 1140. In aggregated query without GROUP BY, expression #1 of SELECT list contains nonaggrega...	0.000 sec
8	07:11:37	drop table rating	0 row(s) affected	0.016 sec
9	07:11:42	create table rating as select dept, max(emp_rating) as Max_emp_rating from emp_record_table group by dept	5 row(s) affected Records: 5 Duplicates: 0 Warnings: 0	0.125 sec
10	07:14:08	alter table rating rename column dept to department	0 row(s) affected Records: 0 Duplicates: 0 Warnings: 0	0.344 sec
11	07:14:13	select * from rating LIMIT 0, 1000	5 row(s) returned	0.000 sec / 0.000 sec
12	07:14:34	select emp_id, first_name, last_name, role, dept, emp_rating, Max_emp_rating from emp_record_table inner join...	19 row(s) returned	0.000 sec / 0.000 sec
13	07:15:15	select emp_id, first_name, last_name, role, dept, emp_rating, Max_emp_rating from emp_record_table inner join...	19 row(s) returned	0.000 sec / 0.000 sec

SQL Additions: Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.

Using Windows function –

MySQL Workbench

Local instance MySQL80

File Edit View Query Database Server Tools Scripting Help

Navigation: SCHEMAS, Filter objects, employee, Tables, Views, Stored Procedures, Functions, mavenmovies, mydb, sakila, sys, world

Administration: Schemas, Information, Connection Details, Local instance MySQL80, Hlocalhost, P8306, L0, User, C:\root@localhost, User, SSL_TLS_AES_256_GCM_SHA, ciphe, Server, MySQL Community, Server - GPL, V8.0.34, Connector, VC++ 8.1.0, Object Info, Session

ScienceQuiz Employee Perfor... Administration - Server Status

Limit to 1000 rows

SQL Editor:

```

-- using window function ...
84 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
85 order by dept;
86
87
88 -- calculate the minimum and the maximum salary of the employees in each role ...

```

Result Grid:

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	Karen	Nowak	SENIOR DATA SCIENTIST	AUTOMOTIVE	5	5
E428	Pete	Allen	MANAGER	AUTOMOTIVE	4	5
E532	Clare	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

Output:

Action Output:

#	Time	Action	Message	Duration / Fetch
4	10:43:28	create procedure sp_DS_team() begin if role = "JUNIOR DATA SCIENTIST" then select "if exp < 2, "Yes", "N..."	Error Code: 1064. You have an error in your SQL syntax; check the manual that corresponds to your MySQL se...	0.000 sec
5	11:05:37	SELECT * FROM employee emp_record_table LIMIT 0, 1000	19 row(s) returned	0.000 sec / 0.000 sec
6	11:09:02	select (.05*salary)/emp_rating as Bonus from emp_record_table LIMIT 0, 1000	19 row(s) returned	0.000 sec / 0.000 sec
7	11:11:27	select . avg(salary) from emp_record_table group by continent, country LIMIT 0, 1000	Error Code: 1055. Expression #1 of SELECT list is not in GROUP BY clause and contains nonaggregated colu...	0.000 sec
8	11:12:07	select . continent, country, avg(salary) from emp_record_table group by continent, country LIMIT 0, 1000	Error Code: 1055. Expression #1 of SELECT list is not in GROUP BY clause and contains nonaggregated colu...	0.000 sec
9	11:12:29	select avg(salary) from emp_record_table group by continent, country LIMIT 0, 1000	7 row(s) returned	0.016 sec / 0.000 sec
10	11:12:50	select continent, country, avg(salary) from emp_record_table group by continent, country LIMIT 0, 1000	7 row(s) returned	0.016 sec / 0.000 sec
11	11:19:22	select emp_id, first_name, last_name, role, dept, emp_rating, max(emp_rating) over (partition by dept) as Max_e...	19 row(s) returned	0.016 sec / 0.000 sec

SQL Additions: Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.

- Write a query to calculate the minimum and the maximum salary of the employees in each role. Take data from the employee record table.

MySQL Workbench interface showing a query to calculate the minimum and maximum salary for each role. The query is executed, and the result grid shows the output.

```

75 create column dept to department;
76
77 select * from rating;
78
79 select emp_id, first_name, last_name, role, dept, emp_rating, Max_emp_rating from emp_record_table
80 inner join rating
81 on emp_record_table.dept = rating.department;
82
83 --- calculate the minimum and the maximum salary of the employees in each role ---
84 select role, max(salary) as Max_salary, min(salary) as Min_salary from emp_record_table
85 group by role;

```

role	Max_salary	Min_salary
PRESIDENT	16500	16500
LEAD DATA SCIENTIST	9000	8500
SENIOR DATA SCIENTIST	7700	5900
MANAGER	11000	8500
ASSOCIATE DATA SCIENTIST	5000	4000

Result 5 x

Output

Action Output

#	Time	Action	Message	Duration / Fetch
7	07:10:07	select emp_id, first_name, last_name, role, dept, emp_rating, max(emp_rating) as Max_emp_rating from emp_re...	Error Code: 1140. In aggregated query without GROUP BY, expression #1 of SELECT list contains nonaggrega...	0.000 sec
8	07:11:37	drop table rating	0 row(s) affected	0.016 sec
9	07:11:42	create table rating as select dept, max(emp_rating) as Max_emp_rating from emp_record_table group by dept	5 row(s) affected Records: 0 Duplicates: 0 Warnings: 0	0.125 sec
10	07:14:08	alter table rating rename column dept to department	0 row(s) affected Records: 0 Duplicates: 0 Warnings: 0	0.344 sec
11	07:14:13	select * from rating LIMIT 0, 1000	5 row(s) returned	0.000 sec / 0.000 sec
12	07:14:34	select emp_id, first_name, last_name, role, dept, emp_rating, Max_emp_rating from emp_record_table inner join...	19 row(s) returned	0.000 sec / 0.000 sec
13	07:15:15	select emp_id, first_name, last_name, role, dept, emp_rating, Max_emp_rating from emp_record_table inner join...	19 row(s) returned	0.000 sec / 0.000 sec
14	07:17:11	select role, max(salary) as Max_salary, min(salary) as Min_salary from emp_record_table group by role LIMIT 0...	6 row(s) returned	0.000 sec / 0.000 sec

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

MySQL Workbench interface showing a query to assign ranks to each employee based on their experience. The query is executed, and the result grid shows the output.

```

86
87 --- assign ranks to each employee based on their experience ---
88 select first_name, exp, rank() over (order by exp desc) as Rank_Exp from emp_record_table;
89
90
91
92

```

first_name	exp	Rank_Exp
Arthur	20	1
Patrick	15	2
Emily	14	3
Pete	14	3
Janet	14	3
Tracy	13	6
William	12	7
Eric	11	8
Dorothy	9	9
Karen	8	10

Result 14 x

Output

Action Output

#	Time	Action	Message	Duration / Fetch
21	07:39:55	select first_name, exp, rank() over (order by exp desc) from emp_record_table	19 row(s) returned	0.000 sec / 0.000 sec
22	07:40:28	select first_name, exp, rank() over (order by exp desc) from emp_record_table	19 row(s) returned	0.000 sec / 0.000 sec
23	07:53:25	select first_name, exp, rank() over (order by exp desc) from emp_record_table	19 row(s) returned	0.000 sec / 0.000 sec
24	07:53:51	select first_name, exp, rank() over (order by exp desc) as rank from emp_record_table	Error Code: 1064. You have an error in your SQL syntax; check the manual that corresponds to your MySQL se...	0.000 sec
25	07:54:12	select first_name, exp, rank() over (order by exp desc) as rank from emp_record_table	Error Code: 1064. You have an error in your SQL syntax; check the manual that corresponds to your MySQL se...	0.000 sec
26	07:54:32	select first_name, exp, rank() over (order by exp desc) as rank from emp_record_table	Error Code: 1064. You have an error in your SQL syntax; check the manual that corresponds to your MySQL se...	0.000 sec
27	07:54:48	select first_name, exp, rank() over (order by exp desc) from emp_record_table	19 row(s) returned	0.000 sec / 0.000 sec
28	07:56:19	select first_name, exp, rank() over (order by exp desc) as Rank_Exp from emp_record_table	19 row(s) returned	0.000 sec / 0.000 sec

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.

MySQL Workbench

Local instance MySQL80

File Edit View Query Database Server Tools Scripting Help

Navigation: Schemas, Tables, Columns

SCHEMAS: employee, data_science_team, emp_record_table

Columns: emp_id, FIRST_NAME, LAST_NAME, GENDER, ROLE, DEPT, EXP, COUNTRY, CONTINENT, SALARY, EMP_RATING, MANAGER_ID

Administration: Schemas, Information, Connection Details

Connection Details: Local instance MySQL80, Host: localhost, Port: 3306, User: root, Password: C:\root@localhost, SSL: TLS_AES_256_GCM_SHA384, Server: MySQL Community Server - GPL V8.0.34, Connector: VC++ 8.1.0

SQL Editor: ScienceGleach Employee Perfor... Administration - Server Status emp_record_table

```

99 --- create a view that displays employees in various countries whose salary is more than six thousand ---
100 create view vw_emp1 as
101 as
102 select first_name, country, salary from emp_record_table
103 where salary > 6000
104 order by country;
105 select * from vw_emp1;

```

Result Grid: first_name, country, salary

first_name	country	salary
Emily	CANADA	10500
Nian	CHINA	6500
Janet	COLOMBIA	10000
William	FRANCE	9000
Karen	GERMANY	7500
Pete	GERMANY	11000
Roy	INDIA	7000
Tracy	INDIA	8500
Arthur	USA	16500
Eric	USA	8500

Output: vw_emp1 17 x

Action Output:

#	Time	Action	Message	Duration / Fetch
30	08:08:06	SELECT * FROM employee.emp_record_table LIMIT 0, 1000	15 row(s) returned	0.015 sec / 0.000 sec
31	08:10:55	select first_name, country, salary from emp_record_table where salary > 6000	Error Code: 1064. You have an error in your SQL syntax; check the manual that corresponds to your MySQL se...	0.000 sec / 0.000 sec
32	08:11:27	select first_name, country, salary from emp_record_table where salary > 6000 LIMIT 0, 1000	12 row(s) returned	0.000 sec / 0.000 sec
33	08:12:16	create view vw_emp1 as select first_name, country, salary from emp_record_table where salary > 6000	0 row(s) affected	0.453 sec / 0.000 sec
34	08:12:28	select * from vw_emp1 LIMIT 0, 1000	12 row(s) returned	0.406 sec / 0.000 sec
35	08:13:34	drop view vw_emp1	0 row(s) affected	0.000 sec / 0.000 sec
36	08:13:40	create view vw_emp1 as select first_name, country, salary from emp_record_table where salary > 6000 order...	0 row(s) affected	0.015 sec / 0.000 sec
37	08:13:44	select * from vw_emp1 LIMIT 0, 1000	12 row(s) returned	0.000 sec / 0.000 sec

SQL Additions: Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.

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

MySQL Workbench

Local instance MySQL80

File Edit View Query Database Server Tools Scripting Help

Navigation: Schemas, Tables, Columns

SCHEMAS: employee, data_science_team, emp_record_table

Columns: emp_id, FIRST_NAME, LAST_NAME, GENDER, ROLE, DEPT, EXP, COUNTRY, CONTINENT, SALARY, EMP_RATING, MANAGER_ID

Administration: Schemas, Information, Connection Details

Connection Details: Local instance MySQL80, Host: localhost, Port: 3306, User: root, Password: C:\root@localhost, SSL: TLS_AES_256_GCM_SHA384, Server: MySQL Community Server - GPL V8.0.34, Connector: VC++ 8.1.0

SQL Editor: ScienceGleach Employee Perfor... Administration - Server Status emp_record_table

```

103 --- nested query to find employees with experience of more than ten years ---
104 select first_name, last_name from (
105 select * from emp_record_table
106 where exp > 10) as B;
107
108
109 --- create a stored procedure to retrieve the details of the employees whose experience is more tha
110 delimiter //

```

Result Grid: first_name, LAST_NAME

first_name	LAST_NAME
Arthur	Black
Eric	Hoffman
William	Butler
Patrick	Voltz
Emily	Grove
Pete	Allen
Janet	Hale
Tracy	Norris

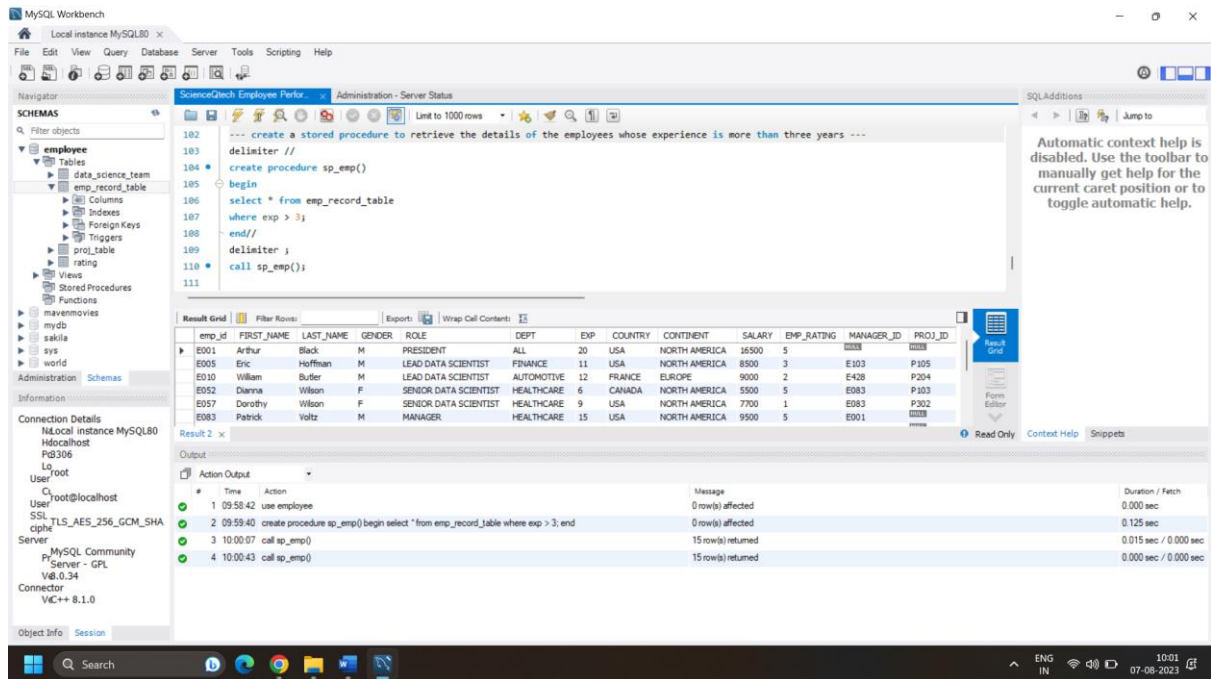
Output: Result 30 x

Action Output:

#	Time	Action	Message	Duration / Fetch
52	12:21:34	call sp_DS_team()	18 row(s) returned	0.000 sec / 0.000 sec
53	12:27:16	select *, case when role = "JUNIOR DATA SCIENTIST" and exp < 2 then "Yes" when role = "ASSOCIATE..."	19 row(s) returned	0.000 sec / 0.000 sec
54	12:50:58	select first_name, last_name from (select * from emp_record_table where exp > 10) LIMIT 0, 1000	Error Code: 1248. Every derived table must have its own alias	0.000 sec / 0.000 sec
55	12:51:14	select first_name, last_name from (select * from emp_record_table where exp > 10) as B LIMIT 0, 1000	8 row(s) returned	0.000 sec / 0.000 sec

SQL Additions: Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.

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'.

MySQL Workbench

Local instance MySQL80 x

File Edit View Query Database Server Tools Scripting Help

Navigator

Schemas

Filter objects

employee

Tables

data_science_team

emp_record_table

Columns

emp_id

first_name

LAST_NAME

GENDER

ROLE

DEPT

EXP

COUNTRY

CONTINENT

SALARY

EMP_RATING

MANAGER_ID

PROJ_ID

Job_Profile_Match

Administration - Server Status emp_record_table

ScienceQuiz Employee Perfor

Limit to 1000 rows

```

117 -- Query using stored functions in the project table to check whether the job profile assigned to each employee ---
118 --- In the data science team matches the organization's set standard ---
119 delimiter //
120 create procedure sp_DS_team()
121 begin
122 select *,if(exp<2,"Yes","No") as Job_Profile_Match from emp_record_table where role = "JUNIOR DATA SCIENTIST"
123 union
124 select *,if(exp between 2 and 5,"Yes","No") as Job_Profile_Match from emp_record_table where role = "ASSOCIATE DATA SCIENTIST"
125 union
126 select *,if(exp between 5 and 10,"Yes","No") as Job_Profile_Match from emp_record_table where role = "SENIOR DATA SCIENTIST"
127 union
128 select *,if(exp between 10 and 12,"Yes","No") as Job_Profile_Match from emp_record_table where role = "LEAD DATA SCIENTIST"
129 union
130 select *,if(exp between 12 and 16,"Yes","No") as Job_Profile_Match from emp_record_table where role = "MANAGER"
131 end //
132 delimiter ;
133 call sp_DS_team();

```

Result Grid

LAST_NAME	GENDER	ROLE	DEPT	EXP	COUNTRY	CONTINENT	SALARY	EMP_RATING	MANAGER_ID	PROJ_ID	Job_Profile_Match
Allen	F	JUNIOR DATA SCIENTIST	RETAIL	2	INDIA	ASIA	3000	1	E612	P406	Yes
Jhones	F	JUNIOR DATA SCIENTIST	RETAIL	1	COLOMBIA	SOUTH AMERICA	2800	4	E612	P406	Yes
Hoffman	M	ASSOCIATE DATA SCIENTIST	FINANCE	4	USA	NORTH AMERICA	5000	3	E103	P105	Yes
Smith	M	ASSOCIATE DATA SCIENTIST	RETAIL	3	COLOMBIA	SOUTH AMERICA	4000	4	E583	P109	Yes
Wilson	M	ASSOCIATE DATA SCIENTIST	HEALTHCARE	5	CANADA	NORTH AMERICA	5000	2	E083	P103	Yes
Brennan	F	ASSOCIATE DATA SCIENTIST	AUTOMOTIVE	3	GERMANY	EUROPE	4300	1	E428	P204	Yes

Result 28 x

Output

Action Output

Message

Error Code: 1305. PROCEDURE employee.sp_DS_team does not exist

Duration / Fetch

0.000 sec

46 12:14:45 drop procedure sp_DS_team begin select *, if role = "JUNIOR DATA SCIENTIST" then if exp < 2, "Yes", "N

Error Code: 1064. You have an error in your SQL syntax; check the manual that corresponds to your MySQL se...

0.000 sec

47 12:18:59 select "if exp < 2, "Yes", "No" as Job_Profile_Match from emp_record_table where role = "JUNIOR DATA SCI...

2 row(s) returned

0.000 sec / 0.000 sec

48 12:18:59 union select "if exp between 2 and 5, "Yes", "No" as Job_Profile_Match from emp_record_table where role = ...

Error Code: 1064. You have an error in your SQL syntax; check the manual that corresponds to your MySQL se...

0.000 sec

49 12:35:00 select "if exp < 2, "Yes", "No" as Job_Profile_Match from emp_record_table where role = "JUNIOR DATA SCI...

6 row(s) returned

0.000 sec / 0.000 sec

12:22 08-06-2023

Using Case statements –

MySQL Workbench

Local instance MySQL80 x

File Edit View Query Database Server Tools Scripting Help

Navigator

Schemas

Filter objects

employee

Tables

data_science_team

emp_record_table

Columns

emp_id

first_name

LAST_NAME

GENDER

ROLE

DEPT

EXP

COUNTRY

CONTINENT

SALARY

EMP_RATING

MANAGER_ID

PROJ_ID

Job_Profile_Match

Administration - Server Status emp_record_table

ScienceQuiz Employee Perfor

Limit to 1000 rows

```

134 -- Using Case Statement ---
135
136 select *,
137 case when role = "JUNIOR DATA SCIENTIST" and exp < 2 then "Yes"
138 when role = "ASSOCIATE DATA SCIENTIST" and exp between 2 and 5 then "Yes"
139 when role = "SENIOR DATA SCIENTIST" and exp between 5 and 10 then "Yes"
140 when role = "LEAD DATA SCIENTIST" and exp between 10 and 12 then "Yes"
141 when role = "MANAGER" and exp between 12 and 16 then "Yes"
142 else "No" end as Job_Profile_Match
143 from emp_record_table;

```

Result Grid

emp_id	first_name	LAST_NAME	GENDER	ROLE	DEPT	EXP	COUNTRY	CONTINENT	SALARY	EMP_RATING	MANAGER_ID	PROJ_ID	Job_Profile_Match
E001	Arthur	Black	M	PRESIDENT	ALL	20	USA	NORTH AMERICA	16500	5	E088	E088	No
E005	Eric	Hoffman	M	LEAD DATA SCIENTIST	FINANCE	11	USA	NORTH AMERICA	8500	3	E103	P105	Yes
E010	William	Butler	M	LEAD DATA SCIENTIST	AUTOMOTIVE	12	FRANCE	EUROPE	9000	2	E428	P204	Yes
E052	Dianna	Wilson	F	SENIOR DATA SCIENTIST	HEALTHCARE	6	CANADA	NORTH AMERICA	5500	5	E083	P103	Yes
E057	Dorothy	Wilson	F	SENIOR DATA SCIENTIST	HEALTHCARE	9	USA	NORTH AMERICA	7700	1	E083	P302	Yes
E083	Patrick	Voltz	M	MANAGER	HEALTHCARE	15	USA	NORTH AMERICA	9500	5	E001	E088	Yes
E103	Emily	Grove	F	MANAGER	FINANCE	14	CANADA	NORTH AMERICA	10500	4	E001	E088	Yes
E204	Karen	Novak	F	SENIOR DATA SCIENTIST	AUTOMOTIVE	8	GERMANY	EUROPE	7500	5	E428	P204	Yes
E245	Nian	Zhen	M	SENIOR DATA SCIENTIST	RETAIL	6	CHINA	ASIA	6500	2	E583	P109	Yes
E260	Roy	Collins	M	SENIOR DATA SCIENTIST	RETAIL	7	INDIA	ASIA	7000	3	E583	NA	Yes

Result 29 x

Output

Action Output

Message

Error Code: 1305. PROCEDURE employee.sp_DS_team does not exist

Duration / Fetch

0.000 sec

51 12:21:19 drop procedure sp_DS_team begin select *, if exp < 2, "Yes", "No" as Job_Profile_Match from emp_record...

0 row(s) affected

0.016 sec

52 12:21:34 call sp_DS_team()

18 row(s) returned

0.000 sec / 0.000 sec

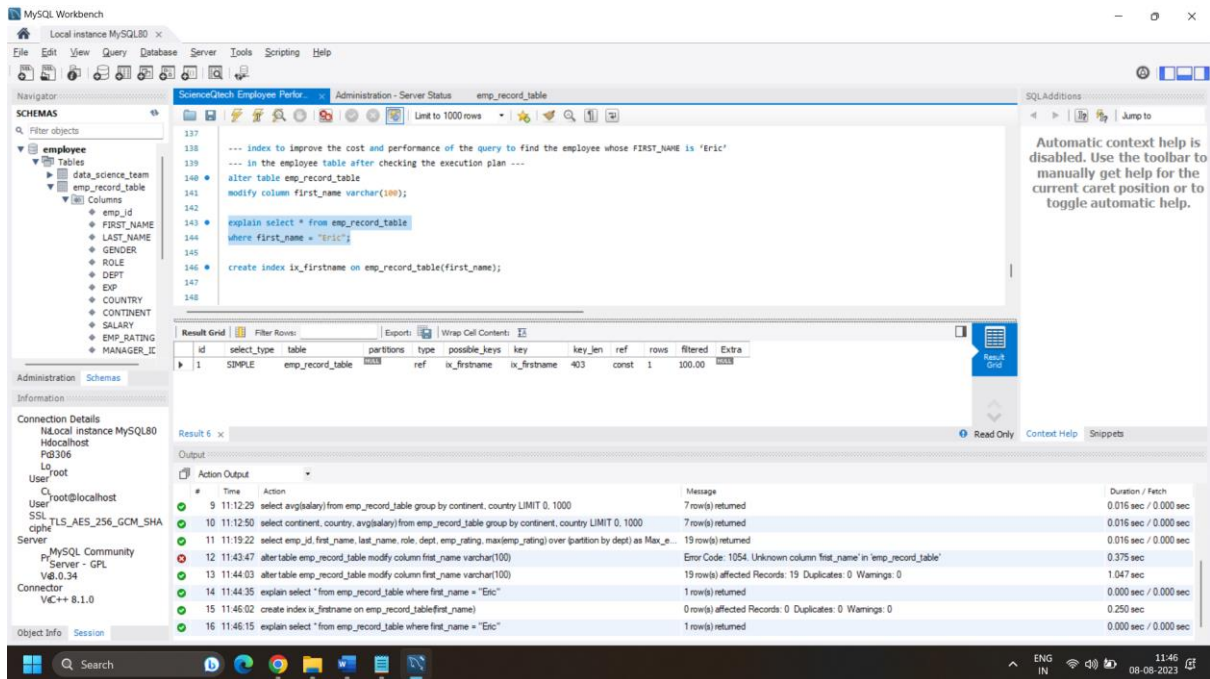
53 12:27:16 select *, case when role = "JUNIOR DATA SCIENTIST" and exp < 2 then "Yes" when role = "ASSOCIATE...

19 row(s) returned

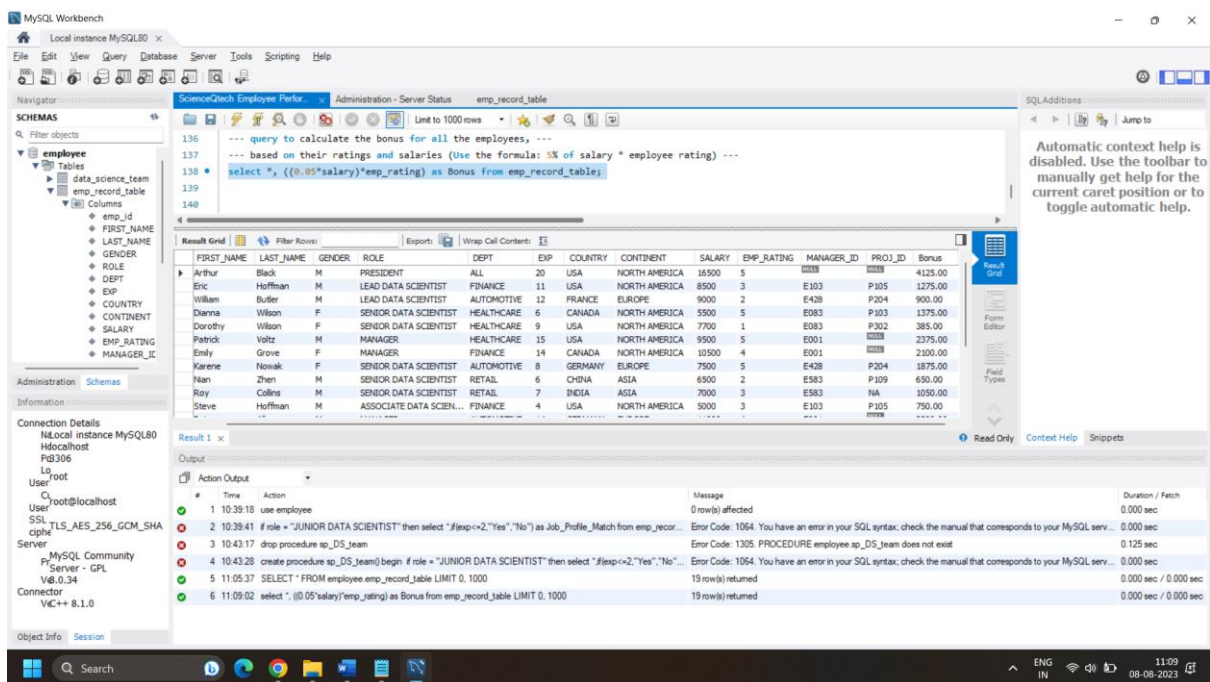
0.000 sec / 0.000 sec

12:27 08-06-2023

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.

MySQL Workbench

Local instance MySQL80 x

File Edit View Query Database Server Tools Scripting Help

Navigation ScienceQuest Employee Perf... Administration - Server Status emp_record_table

SCHEMAS

Filter objects

employee

Tables

data_science_team

emp_record_table

Columns

emp_id

FIRST_NAME

LAST_NAME

GENDER

ROLE

DEPT

EXP

COUNTRY

CONTINENT

SALARY

EMP_RATING

MANAGER_ID

Administration Schemas

Information

Connection Details

NLocal instance MySQL80

Host: localhost

Port: 3306

User: root

Connect to: localhost

User: root

SSL: TLS_AES_256_GCM_SHA384

Server: MySQL Community Server - GPL V8.0.34

Connector: VC++ 8.1.0

Object Info Session

Limit to 1000 rows

--- query to calculate the average salary distribution based on the continent and country ---

```
141 select continent, country, avg(salary) from emp_record_table
142 group by continent, country;
143
144
```

Result Grid

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

Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.

Read Only Context Help Snippets

Output

Action Output

#	Time	Action	Message	Duration / Fetch
3	10:43:17	drop procedure sp_DS_team	Error Code: 1305. PROCEDURE employee.sp_DS_team does not exist	0.125 sec
4	10:43:28	create procedure sp_DS_team() begin if role = "JUNIOR DATA SCIENTIST" then select "if exp < 2, 'Yes', 'N..."	Error Code: 1064. You have an error in your SQL syntax; check the manual that corresponds to your MySQL se...	0.000 sec
5	11:05:37	SELECT * FROM employee emp_record_table LIMIT 0, 1000	19 row(s) returned	0.000 sec / 0.000 sec
6	11:09:02	select *, ((0.05*salary)/(emp_rating)) as Bonus from emp_record_table LIMIT 0, 1000	19 row(s) returned	0.000 sec / 0.000 sec
7	11:11:27	select *, avg(salary) from emp_record_table group by continent, country LIMIT 0, 1000	Error Code: 1055. Expression #1 of SELECT list is not in GROUP BY clause and contains nonaggregated colu...	0.000 sec
8	11:12:07	select *, continent, country, avg(salary) from emp_record_table group by continent, country LIMIT 0, 1000	Error Code: 1055. Expression #1 of SELECT list is not in GROUP BY clause and contains nonaggregated colu...	0.000 sec
9	11:12:29	select avg(salary) from emp_record_table group by continent, country LIMIT 0, 1000	7 row(s) returned	0.016 sec / 0.000 sec
10	11:12:50	select continent, country, avg(salary) from emp_record_table group by continent, country LIMIT 0, 1000	7 row(s) returned	0.016 sec / 0.000 sec

ENG IN 11:13 08-08-2023