

SIT-103 DATABASE FUNDAMENTALS

S224001588- JASVEENA

Task 5.1P BASIC SQL

Write a SQL query to retrieve names (displayed as “Employee Name”) and salary of employees.
[Relevant table: Works]

The screenshot shows a SQL IDE interface. The top pane contains a SQL script with the following queries:

```
1 create database sit103;
2 show databases;
3 use sit103;
4 show tables;
5 SELECT employeeName AS "Employee Name", salary
6 FROM works;
7
```

The bottom pane displays the results of the query in a table format:

Employee Name	salary
Adams	22000
Curry	25000
Hayes	19000
Jones	21000
Lindsay	9000
Smith	22000
Turner	20000
Williams	18000

Below the results, an 'Action Output' window shows the execution log:

#	Time	Action	Message	Duration / Fetch
116	14:50:17	select * from employee1 LIMIT 0, 1000	8 row(s) returned	0.000 sec / 0.000 sec
117	14:53:52	SELECT employeeName, street, city FROM Empl...	8 row(s) returned	0.000 sec / 0.000 sec
118	15:00:14	SELECT DISTINCT street FROM Employee1 LIM...	6 row(s) returned	0.000 sec / 0.000 sec
119	15:00:57	SELECT * FROM Works ORDER BY companyNa...	8 row(s) returned	0.000 sec / 0.000 sec
120	15:05:35	SELECT employeeName, salary FROM works ...	3 row(s) returned	0.000 sec / 0.000 sec
121	15:09:19	SELECT employeeName AS "Employee Name", s...	8 row(s) returned	0.000 sec / 0.000 sec

Write a SQL query to list name, street, and city of employees in descending order by their names.
[Relevant table: Employee]

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

```

4 • show tables;
5 • SELECT employeeName AS "Employee Name", salary
6   FROM works;
7 • SELECT employeeName, street, city
8   FROM employee
9   ORDER BY employeeName DESC;
10

```

Employee Name	salary
Adams	22000
Curry	25000
Hayes	19000
Jones	21000
Lindsay	9000
Smith	22000
Turner	20000
Williams	18000

works 12 x Read Only Context Help Snippets

Output

Action Output

#	Time	Action	Message	Duration / Fetch
✓ 121	15:09:19	SELECT employeeName AS "Employee Name", s...	8 row(s) returned	0.000 sec / 0.000 sec
✗ 122	15:11:25	SELECT employeeName, street, city FROM e...	Error Code: 1146. Table 'sit103.employee' doesn't ...	0.000 sec
✗ 123	15:11:27	SELECT employeeName, street, city FROM e...	Error Code: 1146. Table 'sit103.employee' doesn't ...	0.000 sec
✓ 124	15:11:59	SELECT employeeName AS "Employee Name", s...	8 row(s) returned	0.000 sec / 0.000 sec
✗ 125	15:12:40	SELECT employeeName, street, city FROM e...	Error Code: 1146. Table 'sit103.employee' doesn't ...	0.000 sec
✓ 126	15:13:08	SELECT employeeName AS "Employee Name", s...	8 row(s) returned	0.000 sec / 0.000 sec

Write a SQL query to get a list of unique streets from the Employee table. [Relevant table: Employee]

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

```

8 • select * from employee1;
9 • SELECT employeeName, street, city
10  FROM Employee1
11  ORDER BY employeeName DESC;
12 • SELECT DISTINCT street
13  FROM Employee1;
14

```

street
Spring
North
Main
Park
Pulman
Nassau

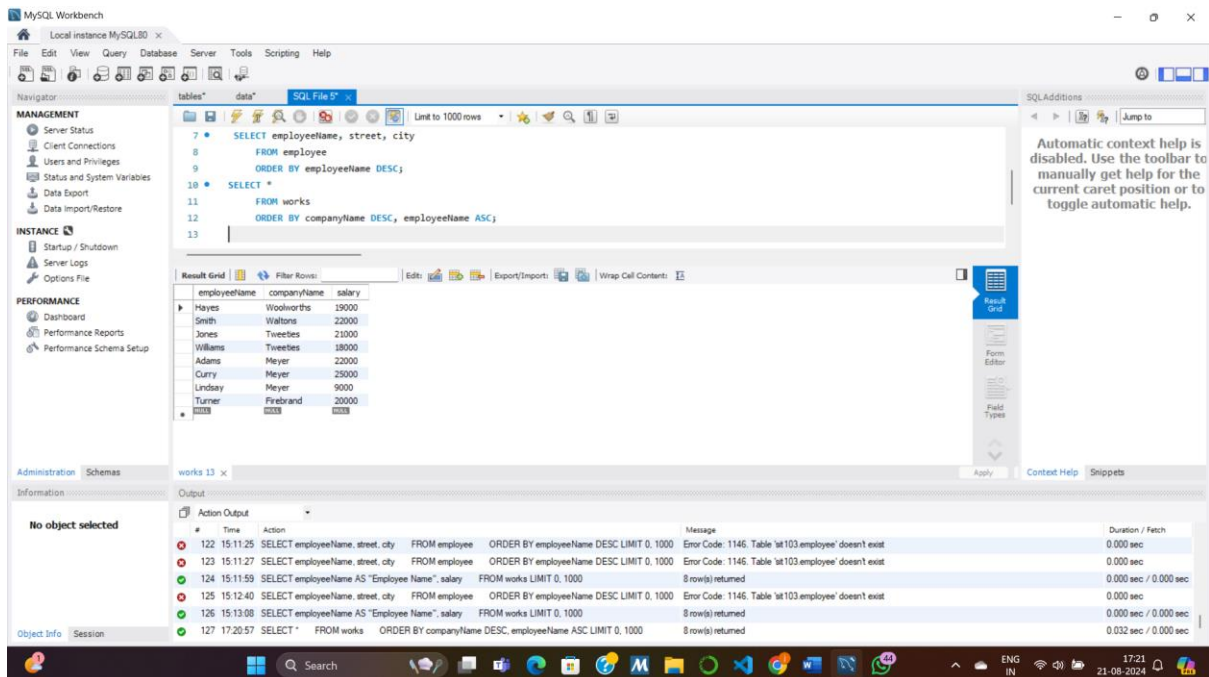
Employee1 7 x Read Only Context Help Snippets

Output

Action Output

#	Time	Action	Message	Duration / Fetch
✗ 113	14:49:13	create database sit103	Error Code: 1007. Can't create database 'sit103'; database exists	0.000 sec
✓ 114	14:49:17	rename table employee to employee1	0 row(s) affected	0.031 sec
✗ 115	14:50:15	create database sit103	Error Code: 1007. Can't create database 'sit103'; database exists	0.000 sec
✓ 116	14:50:17	select * from employee1 LIMIT 0, 1000	8 row(s) returned	0.000 sec / 0.000 sec
✓ 117	14:53:52	SELECT employeeName, street, city FROM Employee1 ORDER BY employeeName DESC LIMIT 0, 1000	8 row(s) returned	0.000 sec / 0.000 sec
✓ 118	15:00:14	SELECT DISTINCT street FROM Employee1 LIMIT 0, 1000	6 row(s) returned	0.000 sec / 0.000 sec

Write a SQL query to list all records in the works table in descending order of company names and within a company in ascending order by employee name. [Relevant table: Works]



The screenshot shows the MySQL Workbench interface. The SQL Editor contains the following query:

```

7  SELECT employeeName, street, city
8  FROM employee
9  ORDER BY employeeName DESC;
10 SELECT *
11 FROM works
12 ORDER BY companyName DESC, employeeName ASC;
13

```

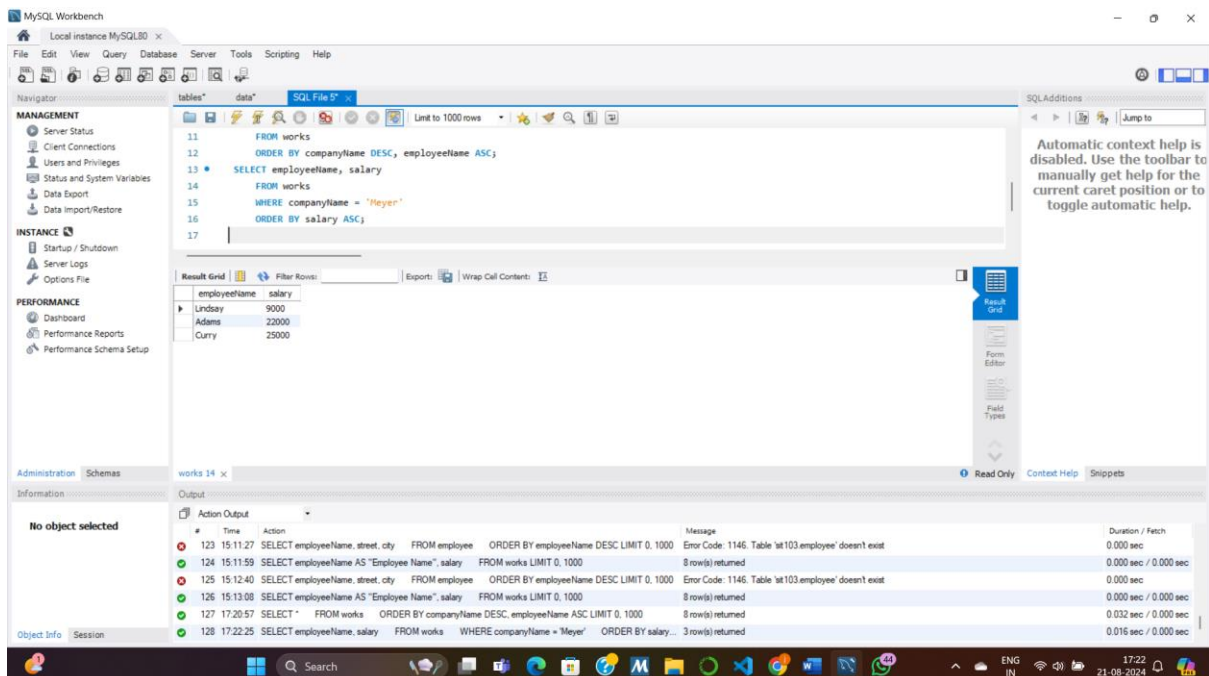
The Result Grid displays the following data:

employeeName	companyName	salary
Hayes	Woolworths	19000
Smith	Waltons	22000
Jones	Tweetees	21000
Williams	Tweetees	18000
Adams	Meyer	22000
Curry	Meyer	25000
Lindsay	Meyer	9000
Turner	Frebrand	20000

The Output tab shows the execution log with the following entries:

#	Time	Action	Message	Duration / Fetch
122	15:11:25	SELECT employeeName, street, city FROM employee ORDER BY employeeName DESC LIMIT 0, 1000	Error Code: 1146. Table 'at103.employee' doesn't exist	0.000 sec
123	15:11:27	SELECT employeeName, street, city FROM employee ORDER BY employeeName DESC LIMIT 0, 1000	Error Code: 1146. Table 'at103.employee' doesn't exist	0.000 sec
124	15:11:59	SELECT employeeName AS "Employee Name", salary FROM works LIMIT 0, 1000	8 row(s) returned	0.000 sec / 0.000 sec
125	15:12:40	SELECT employeeName, street, city FROM employee ORDER BY employeeName DESC LIMIT 0, 1000	Error Code: 1146. Table 'at103.employee' doesn't exist	0.000 sec
126	15:13:08	SELECT employeeName AS "Employee Name", salary FROM works LIMIT 0, 1000	8 row(s) returned	0.000 sec / 0.000 sec
127	17:20:57	SELECT * FROM works ORDER BY companyName DESC, employeeName ASC LIMIT 0, 1000	8 row(s) returned	0.032 sec / 0.000 sec

Write a SQL query to list name and salary of all employees who work in Meyer and sort the records in ascending order by their incomes. [Relevant table: Works]



The screenshot shows the MySQL Workbench interface. The SQL Editor contains the following query:

```

11 FROM works
12 ORDER BY companyName DESC, employeeName ASC;
13 SELECT employeeName, salary
14 FROM works
15 WHERE companyName = "Meyer"
16 ORDER BY salary ASC;
17

```

The Result Grid displays the following data:

employeeName	salary
Lindsay	9000
Adams	22000
Curry	25000

The Output tab shows the execution log with the following entries:

#	Time	Action	Message	Duration / Fetch
123	15:11:27	SELECT employeeName, street, city FROM employee ORDER BY employeeName DESC LIMIT 0, 1000	Error Code: 1146. Table 'at103.employee' doesn't exist	0.000 sec
124	15:11:59	SELECT employeeName AS "Employee Name", salary FROM works LIMIT 0, 1000	8 row(s) returned	0.000 sec / 0.000 sec
125	15:12:40	SELECT employeeName, street, city FROM employee ORDER BY employeeName DESC LIMIT 0, 1000	Error Code: 1146. Table 'at103.employee' doesn't exist	0.000 sec
126	15:13:08	SELECT employeeName AS "Employee Name", salary FROM works LIMIT 0, 1000	8 row(s) returned	0.000 sec / 0.000 sec
127	17:20:57	SELECT * FROM works ORDER BY companyName DESC, employeeName ASC LIMIT 0, 1000	8 row(s) returned	0.032 sec / 0.000 sec
128	17:22:25	SELECT employeeName, salary FROM works WHERE companyName = "Meyer" ORDER BY salary...	3 row(s) returned	0.016 sec / 0.000 sec

Assuming that the salary in the Works table is annual salary, write a SQL query to retrieve names (displayed as "Employee Name") and monthly salary as "Monthly Salary" of employees. [Relevant table: Works]

The screenshot shows the MySQL Workbench interface. The SQL Editor contains the following query:

```

13 SELECT employeeName, salary
14 FROM works
15 WHERE companyName = 'Meyer'
16 ORDER BY salary ASC;
17 SELECT employeeName AS "Employee Name", salary / 12 AS "Monthly Salary"
18 FROM works;
19

```

The Result Grid displays the following data:

Employee Name	Monthly Salary
Adams	1833.3333
Curry	2083.3333
Hayes	1583.3333
Jones	1750.0000
Lindsay	750.0000
Smith	1833.3333
Turner	1666.6667
Williams	1500.0000

The Action Output pane shows the execution of the query, including the message: "Error Code: 1146. Table 'at103 employee' doesn't exist".

Write a SQL query to list names and salaries of all employees who work in Meyer and earn more than 20000. [Relevant table: Works]

The screenshot shows the MySQL Workbench interface. The SQL Editor contains the following query:

```

16 ORDER BY salary ASC;
17 SELECT employeeName AS "Employee Name", salary / 12 AS "Monthly Salary"
18 FROM works;
19 SELECT employeeName, salary
20 FROM works
21 WHERE companyName = 'Meyer' AND salary > 20000;
22

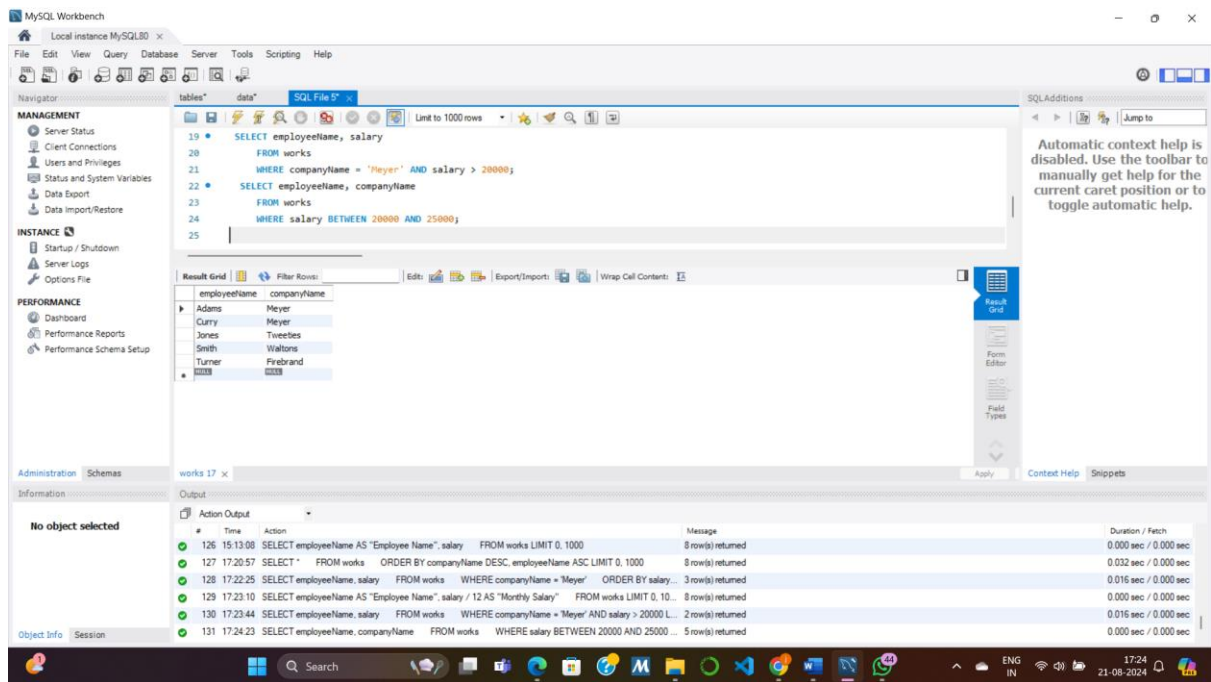
```

The Result Grid displays the following data:

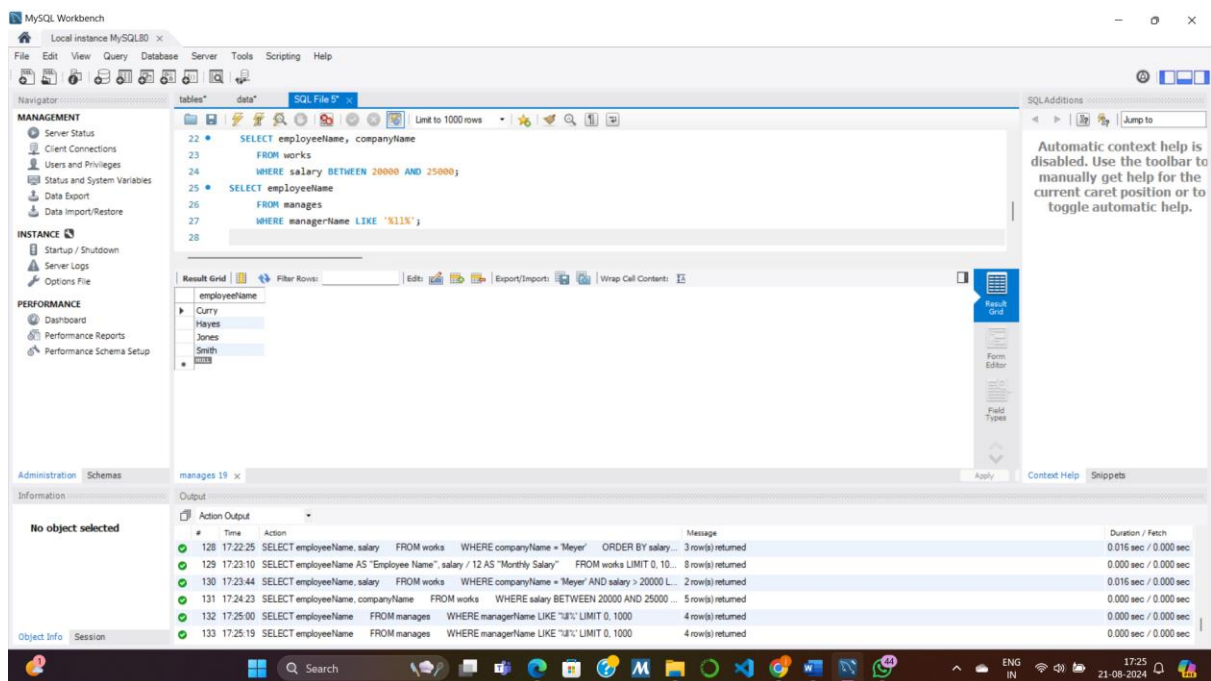
employeeName	salary
Adams	22000
Curry	25000

The Action Output pane shows the execution of the query, including the message: "Error Code: 1146. Table 'at103 employee' doesn't exist".

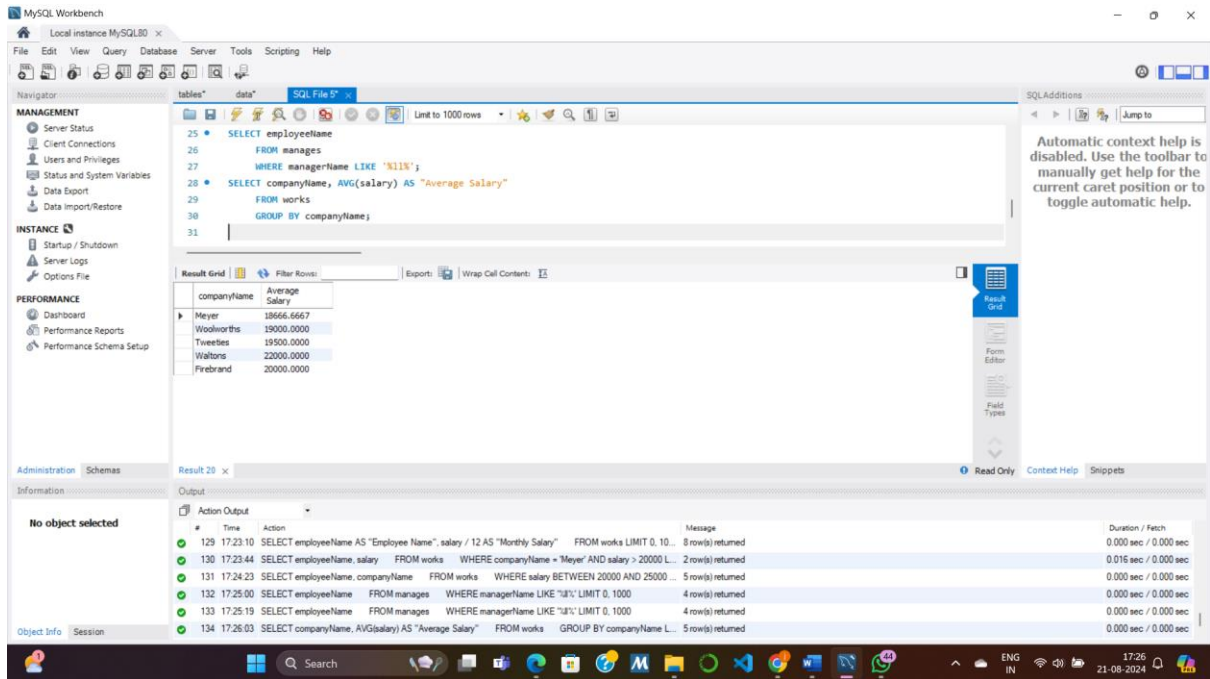
Write a SQL query to list names and companies of the employees who earn in the range of 20000 to 25000 (inclusive). [Relevant table: Works]



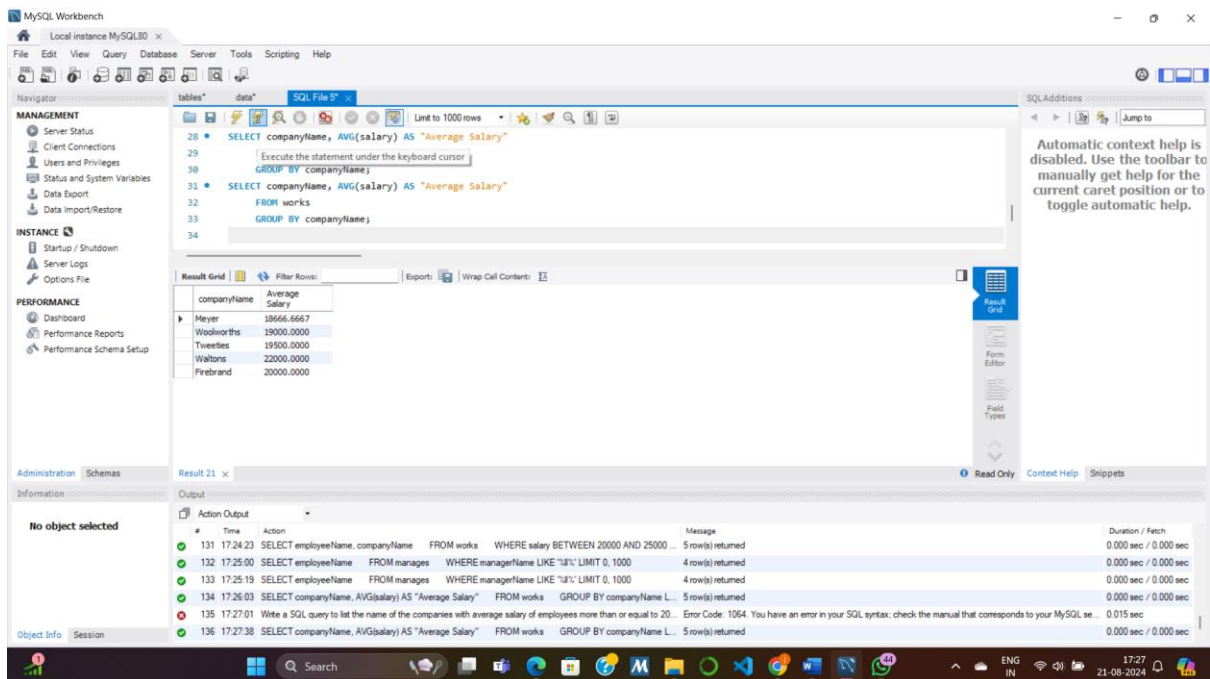
Write a SQL query to list names of employees whose managers have "ll" (double ls) in their names. [Relevant table: Manages]



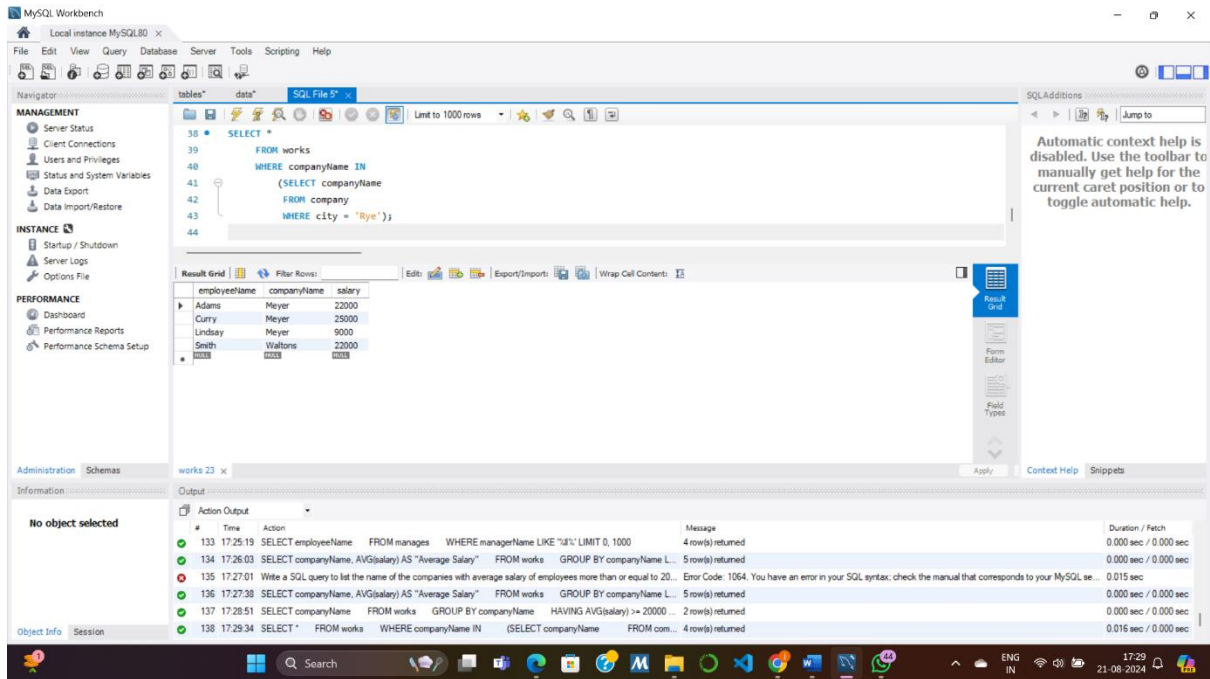
Write a SQL query to list company names and the average salary of their employees. [Relevant table: Works]



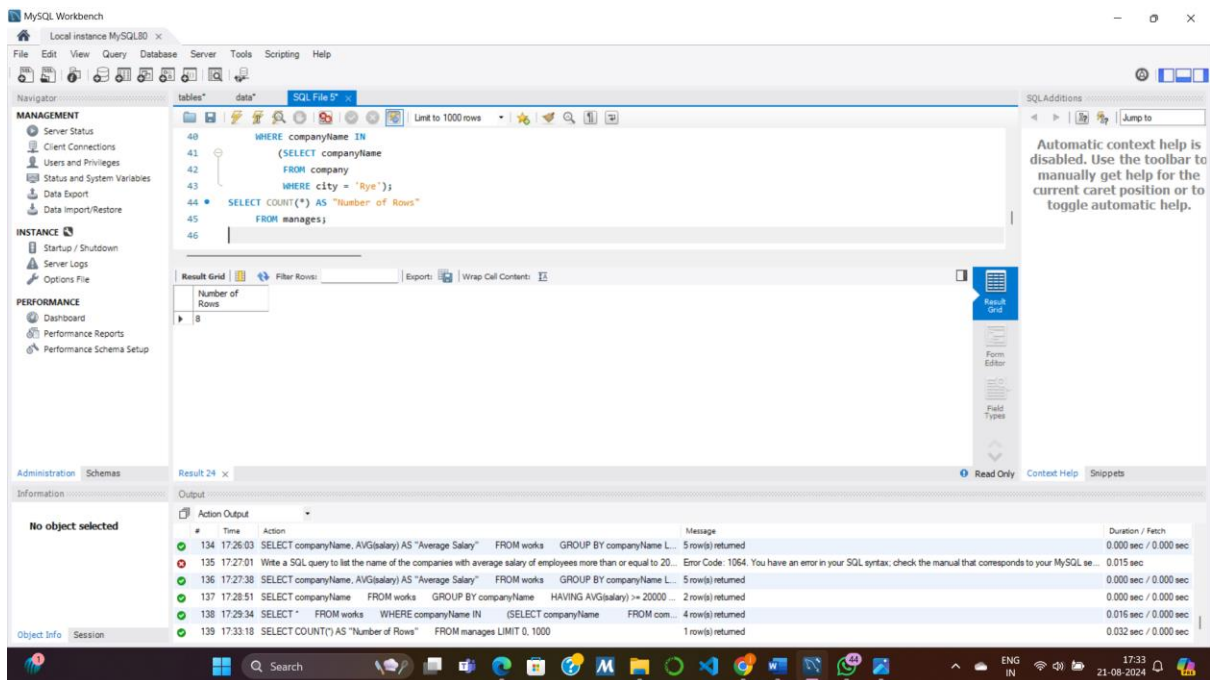
Write a SQL query to list the name of the companies with average salary of employees more than or equal to 20000. [Relevant table: Works]



Write a SQL query to select details of the employees who works in companies located in Rye. [Relevant tables: Works and Company; Hint: use a subquery]



Write a SQL query find the number of rows in the Manages table. [Relevant tables: Manages; Hint: use COUNT()]



Write a SQL query to find the name and company of the employee earning the highest salary. [Relevant tables: Works; Hint: use a subquery using max() to find the highest salary.]

MySQL Workbench

Local instance MySQL80 x

File Edit View Query Database Server Tools Scripting Help

Navigator

MANAGEMENT

- Server Status
- Client Connections
- Users and Privileges
- Status and System Variables
- Data Export
- Data Import/Restore

INSTANCE

- Startup / Shutdown
- Server Logs
- Options File

PERFORMANCE

- Dashboard
- Performance Reports
- Performance Schema Setup

Administration Schemas

Information

No object selected

Object Info Session

tables* data* SQL File 5* x

Limit to 1000 rows

```
49 SELECT employeeName, companyName
50 FROM works
51 WHERE salary = (SELECT MAX(salary) FROM works);
52 SELECT employeeName, companyName
53 FROM works
54 WHERE salary = (SELECT MAX(salary) FROM works);
55
```

Result Grid

employeeName	companyName
Curry	Meyer
DATA	DATA

SQLAdditions

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

Output

#	Time	Action	Message	Duration / Fetch
135	17:27:01	Write a SQL query to list the name of the companies with average salary of employees more than or equal to 20...	Error Code: 1064. You have an error in your SQL syntax; check the manual that corresponds to your MySQL se...	0.015 sec
136	17:27:38	SELECT companyName, AVG(salary) AS "Average Salary" FROM works GROUP BY companyName L...	5 row(s) returned	0.000 sec / 0.000 sec
137	17:28:51	SELECT companyName FROM works GROUP BY companyName HAVING AVG(salary) >= 20000 ...	2 row(s) returned	0.000 sec / 0.000 sec
138	17:29:34	SELECT * FROM works WHERE companyName IN (SELECT companyName FROM com...	4 row(s) returned	0.016 sec / 0.000 sec
139	17:33:18	SELECT COUNT(*) AS "Number of Rows" FROM manages LIMIT 0.1000	1 row(s) returned	0.032 sec / 0.000 sec
140	17:34:07	SELECT employeeName, companyName FROM works WHERE salary = (SELECT MAX(salary) FROM ...	1 row(s) returned	0.000 sec / 0.000 sec

17:38 21-08-2024