

Subquery Question

1. Write a query to find the name (first_name, last_name) and the salary of the employees who have a higher salary than the employee whose last_name='Bull'.

```
select concat(first_name," ",last_name) as Name , salary
from employees
where salary> (select salary from employees where last_name='Bull')
```

The screenshot shows a SQL query editor with the following code:

```
4
5 select concat(first_name," ",last_name) as Name , salary
6 from employees
7 where salary> (select salary from employees where last_name='Bull')
```

Below the editor is a 'Result Grid' showing the results of the query. The grid has two columns: 'Name' and 'salary'. The results are as follows:

Name	salary
Steven King	24000.00
Neena Kochhar	17000.00
Lex De Haan	17000.00
Alexander Hunold	9000.00
Bruce Ernst	6000.00
David Austin	4800.00
Valli Pataballa	4800.00
Diana Lorentz	4200.00
Nancy Greenberg	12000.00

2. Write a query to find the name (first_name, last_name) of all employees who works in the IT department.

```
select concat(first_name," ",last_name) as Name
from employees
where department_id = (select department_id from departments where department_name = "IT" )
```

The screenshot shows a SQL query editor with the following code:

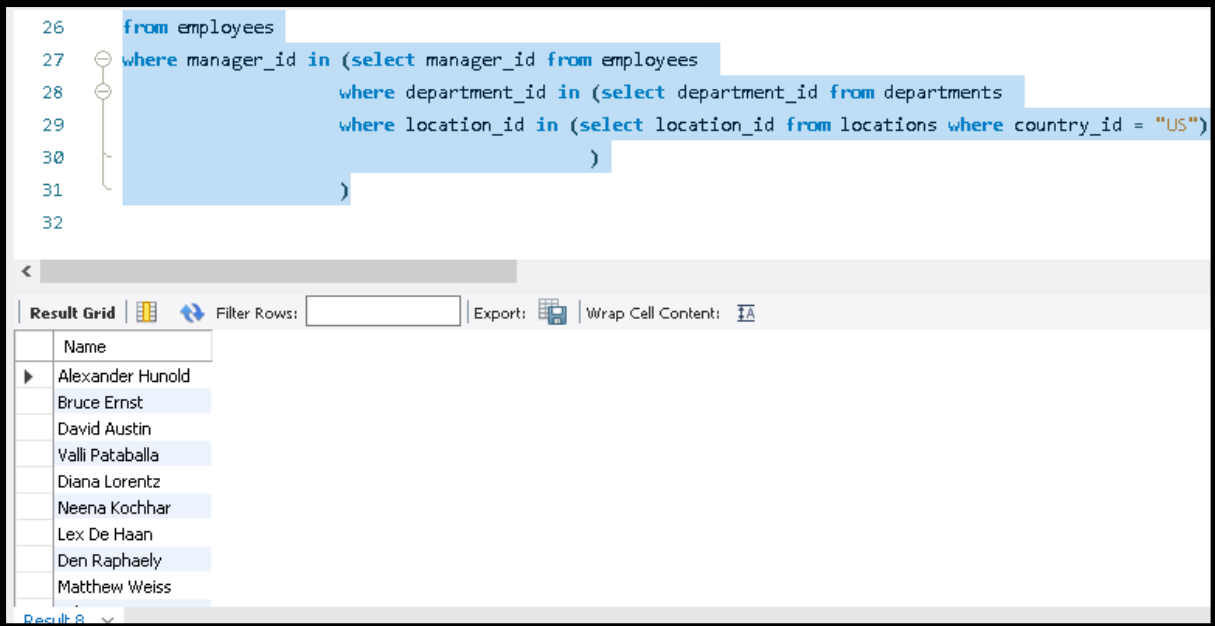
```
15
16 select concat(first_name," ",last_name) as Name
17 from employees
18 where department_id = (select department_id from departments where department_name = "IT" )
```

Below the editor is a 'Result Grid' showing the results of the query. The grid has one column: 'Name'. The results are as follows:

Name
Alexander Hunold
Bruce Ernst
David Austin
Valli Pataballa
Diana Lorentz

3. Write a query to find the name (first_name, last_name) of the employees who have a manager and worked in a USA based department.

```
SELECT first_name, last_name FROM employees
WHERE manager_id in (select employee_id
FROM employees WHERE department_id
IN (SELECT department_id FROM departments WHERE location_id
IN (select location_id from locations where country_id='US')));
```



The screenshot shows a SQL query editor with the following query highlighted in blue:

```
26 from employees
27 where manager_id in (select manager_id from employees
28                       where department_id in (select department_id from departments
29                                               where location_id in (select location_id from locations where country_id = "US"))
30                       )
31 )
32
```

Below the query editor is a 'Result Grid' showing a list of employee names. The grid has a header row with 'Name' and a list of names below it:

Name
Alexander Hunold
Bruce Ernst
David Austin
Valli Pataballa
Diana Lorentz
Neena Kochhar
Lex De Haan
Den Raphaely
Matthew Weiss

4. Write a query to find the name (first_name, last_name) of the employees who are managers.

```
select concat(first_name," ",last_name) as Name
from employees
where employee_id in (select manager_id from employees)
```

```

33
34
35 select concat(first_name," ",last_name) as Name
36 from employees
37 where employee_id in (select manager_id from employees)

```

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

Name
Steven King
Neena Kochhar
Lex De Haan
Alexander Hunold
Nancy Greenberg
Den Raphaely
Matthew Weiss
Adam Fripp
Payam Kaufling

Result 9 x

5. Write a query to find the name (first_name, last_name), and salary of the employees whose salary is greater than the average salary.

```

select concat(first_name," ",last_name) as Name from employees
where salary > (select avg(salary) from employees)

```

```

43
44
45 select concat(first_name," ",last_name) as Name from employees
46 where salary > (select avg(salary) from employees)

```

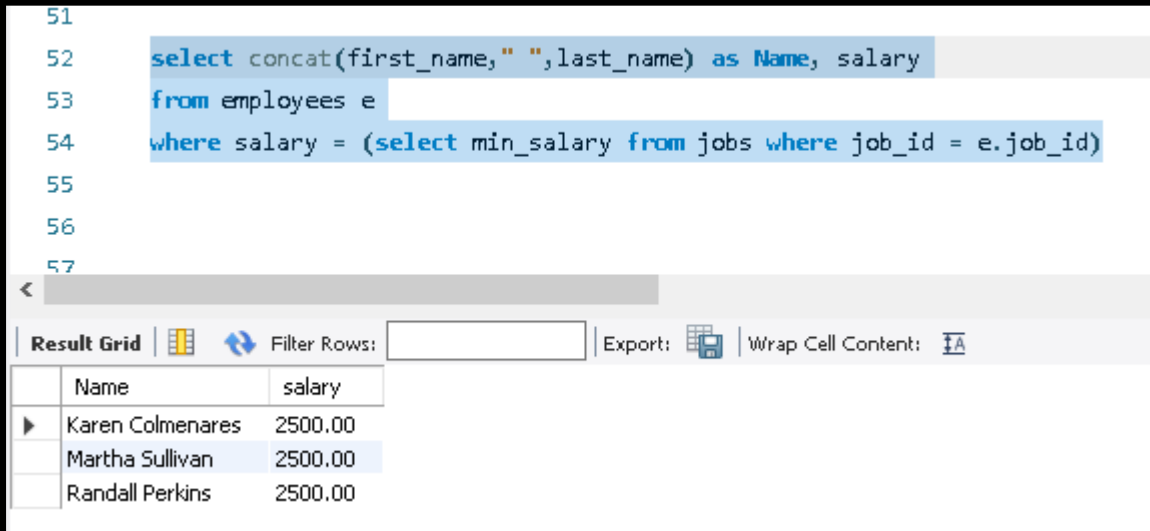
Result Grid | Filter Rows: | Export: | Wrap Cell Content: |

Name
Steven King
Neena Kochhar
Lex De Haan
Alexander Hunold
Nancy Greenberg
Daniel Faviet
John Chen
Ismael Sciarra
Jose Manuel Urman

Result 11 x

6. Write a query to find the name (first_name, last_name), and salary of the employees whose salary is equal to the minimum salary for their job grade.

```
select concat(first_name," ",last_name) as Name, salary
from employees e
where salary = (select min_salary from jobs where job_id = e.job_id)
```



The screenshot shows a SQL query editor with a query on lines 52-54. Below the editor is a 'Result Grid' showing the output of the query. The grid has two columns: 'Name' and 'salary'. It contains three rows of data, all with a salary of 2500.00.

	Name	salary
▶	Karen Colmenares	2500.00
	Martha Sullivan	2500.00
	Randall Perkins	2500.00

7. Write a query to find the name (first_name, last_name), and salary of the employees who earns more than the average salary and works in any of the IT departments.

```
select concat(first_name," ",last_name) as Name, salary
from employees
where salary > (select format(avg(salary),2)
                from employees
                )
and job_id = 'IT_PROG'
```

```

61
62 select concat(first_name," ",last_name) as Name, salary
63 from employees
64 where salary > (select format(avg(salary),2)
65                from employees
66                )

```

Result Grid

Name	salary
Alexander Hunold	9000.00
Bruce Ernst	6000.00
David Austin	4800.00
Valli Pataballa	4800.00
Diana Lorentz	4200.00

8. Write a query to find the name (first_name, last_name), and salary of the employees who earns more than the earning of Mr. Bell.

```

select concat(first_name," ",last_name) as Name , salary
from employees
where salary > (select salary from employees where last_name = "Bell")

```

```

72
73 select concat(first_name," ",last_name) as Name , salary
74 from employees
75 where salary > (select salary from employees where last_name = "Bell")
76
77

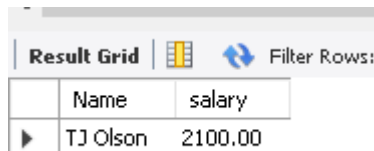
```

Result Grid

Name	salary
Steven King	24000.00
Neena Kochhar	17000.00
Lex De Haan	17000.00
Alexander Hunold	9000.00
Bruce Ernst	6000.00
David Austin	4800.00
Valli Pataballa	4800.00
Diana Lorentz	4200.00
Nancy Greenberg	12000.00

9. Write a query to find the name (first_name, last_name), and salary of the employees who earn the same salary as the minimum salary for all departments.

```
select concat(first_name," ",last_name) as Name, salary
from employees e
where salary = (select min(salary) from employees)
```

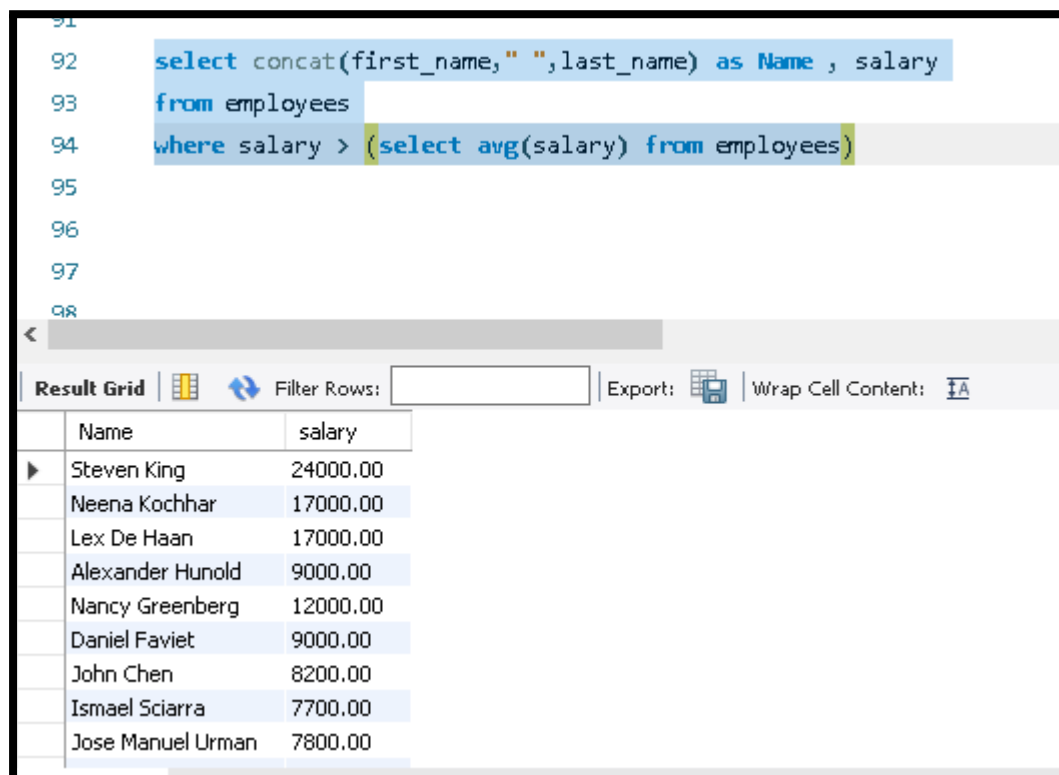


Result Grid

	Name	salary
▶	TJ Olson	2100.00

10. Write a query to find the name (first_name, last_name), and salary of the employees whose salary is greater than the average salary of all departments.

```
select concat(first_name," ",last_name) as Name , salary
from employees
where salary > (select avg(salary) from employees)
```

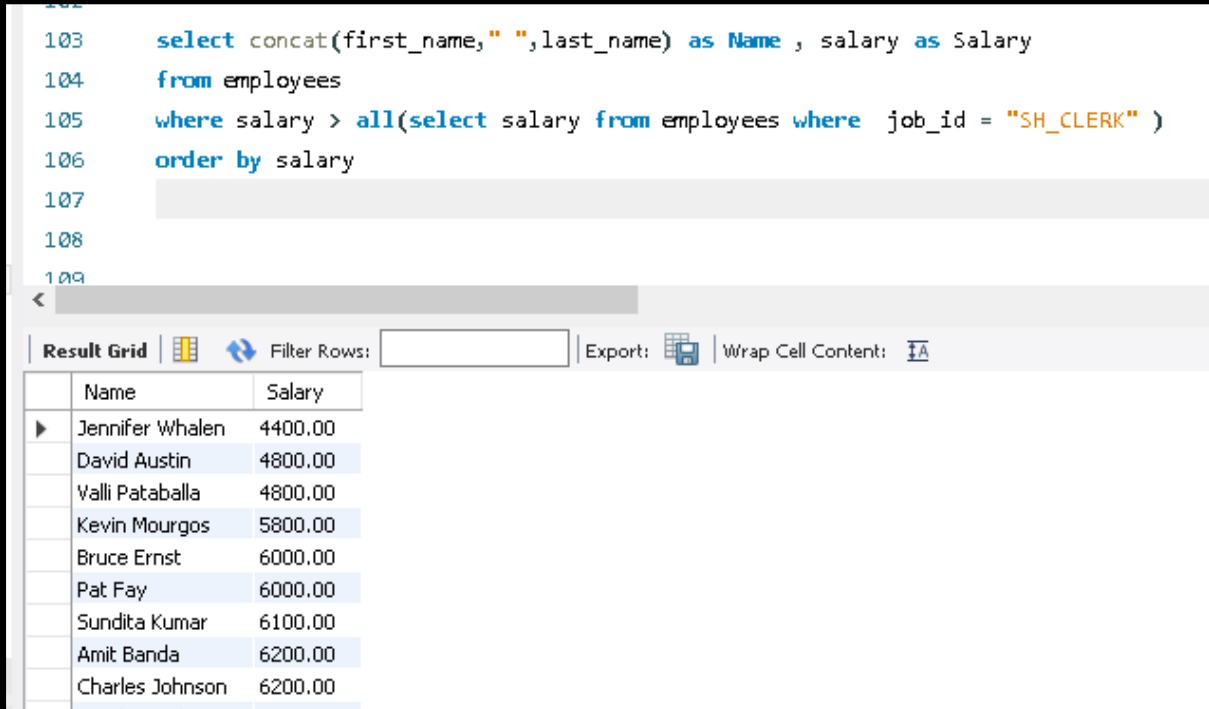


Result Grid

	Name	salary
▶	Steven King	24000.00
	Neena Kochhar	17000.00
	Lex De Haan	17000.00
	Alexander Hunold	9000.00
	Nancy Greenberg	12000.00
	Daniel Faviet	9000.00
	John Chen	8200.00
	Ismael Sciarra	7700.00
	Jose Manuel Urman	7800.00

11. Write a query to find the name (first_name, last_name) and salary of the employees who earn a salary that is higher than the salary of all the Shipping Clerk (JOB_ID = 'SH_CLERK'). Sort the results of the salary of the lowest to highest.

```
select concat(first_name," ",last_name) as Name , salary as Salary
from employees
where salary > all(select salary from employees where job_id = "SH_CLERK" )
order by salary
```



The screenshot shows a SQL query editor with the following code:

```
103 select concat(first_name," ",last_name) as Name , salary as Salary
104 from employees
105 where salary > all(select salary from employees where job_id = "SH_CLERK" )
106 order by salary
107
108
109
```

Below the query editor is a "Result Grid" showing the results of the query. The grid has two columns: "Name" and "Salary". The results are sorted by salary in ascending order.

Name	Salary
Jennifer Whalen	4400.00
David Austin	4800.00
Valli Pataballa	4800.00
Kevin Mourgog	5800.00
Bruce Ernst	6000.00
Pat Fay	6000.00
Sundita Kumar	6100.00
Amit Banda	6200.00
Charles Johnson	6200.00

12. Write a query to find the name (first_name, last_name) of the employees who are not supervisors.

```
select concat(first_name," ",last_name) as Name
from employees
where department_id != (select department_id from departments where department_name = "Executive")
```

```

112 select concat(first_name," ",last_name) as Name
113 from employees
114 where department_id != (select department_id from departments where department_name = "Executive")
115
116

```

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

Name
Alexander Hunold
Bruce Ernst
David Austin
Valli Pataballa
Diana Lorentz
Nancy Greenberg
Daniel Faviot
John Chen
Ismael Sciarra

Result 34 x

13. Write a query to display the employee ID, first name, last name, and department names of all employees.

```

select e.employee_id,concat(e.first_name," ",e.last_name) as Name,
(select department_name from departments d where d.department_id = e.department_id) as
Department_Name
from employees e

```

```

119
120 select e.employee_id,concat(e.first_name," ",e.last_name) as Name,
121 (select department_name from departments d where d.department_id = e.department_id) as Department_Name
122 from employees e
123
124

```

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

employee_id	Name	Department_Name
100	Steven King	Executive
101	Neena Kochhar	Executive
102	Lex De Haan	Executive
103	Alexander Hunold	IT
104	Bruce Ernst	IT
105	David Austin	IT
106	Valli Pataballa	IT
107	Diana Lorentz	IT
108	Nancy Greenberg	Finance

Result 37 x

14. Write a query to display the employee ID, first name, last name, salary of all employees whose salary is above average for their departments.

```
select employee_id , first_name , last_name , salary
from employees e1
where salary > (select avg(salary) from employees e2 where e2.department_id =
e1.department_id)
```

126
127
128
129
130
131

```
select employee_id , first_name , last_name , salary
from employees e1
where salary > (select avg(salary) from employees e2 where e2.department_id = e1.department_id)
```

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

	employee_id	first_name	last_name	salary
▶	100	Steven	King	24000.00
	103	Alexander	Hunold	9000.00
	104	Bruce	Ernst	6000.00
	108	Nancy	Greenberg	12000.00
	109	Daniel	Faviet	9000.00
	114	Den	Raphaely	11000.00
	120	Matthew	Weiss	8000.00
	121	Adam	Fripp	8200.00
	122	Payam	Kaufling	7900.00

employees 28

15. Write a query to fetch even numbered records from employees table.

```
select *
from employees
where employee_id%2 = 0
```

136
137
138
139
140
141
142

```
select *
from employees
where employee_id%2 = 0
```

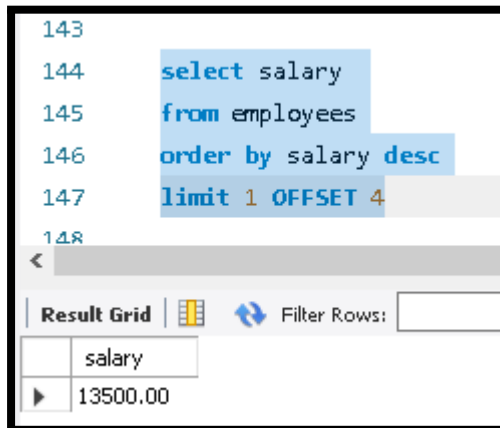
Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content: |

	employee_id	first_name	last_name	email	phone_number	hire_date	job_id	salary	commission_pct	manager_id
▶	100	Steven	King	SKING	515.123.4567	1987-06-17	AD_PRES	24000.00	NULL	NULL
	102	Lex	De Haan	LDEHAAN	515.123.4569	1993-01-13	AD_VP	17000.00	NULL	100
	104	Bruce	Ernst	BERNST	590.423.4568	1991-05-21	IT_PROG	6000.00	NULL	103
	106	Valli	Pataballa	VPATABAL	590.423.4560	1998-02-05	IT_PROG	4800.00	NULL	103
	108	Nancy	Greenberg	NGREENBE	515.124.4569	1994-08-17	FI_MGR	12000.00	NULL	101
	110	John	Chen	JCHEN	515.124.4269	1997-09-28	FI_ACCOUNT	8200.00	NULL	108
	112	Jose Manuel	Urman	JMURMAN	515.124.4469	1998-03-07	FI_ACCOUNT	7800.00	NULL	108
	114	Den	Raphaely	DRAPHEAL	515.127.4561	1994-12-07	PU_MAN	11000.00	NULL	100

employees 28

16. Write a query to find the 5th maximum salary in the employees table.

```
select salary
from employees
order by salary desc
limit 1 OFFSET 4
```

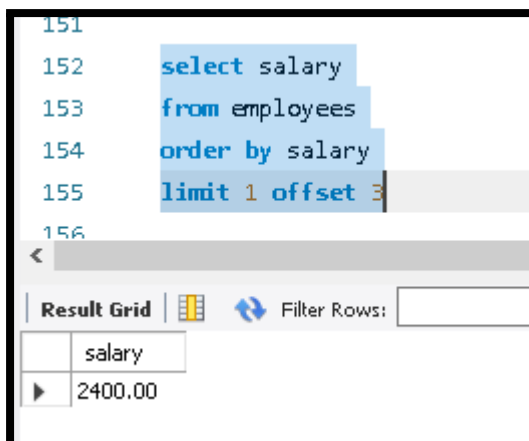


The screenshot shows a SQL query editor with line numbers 143 to 148. The query is: `select salary from employees order by salary desc limit 1 OFFSET 4`. Below the editor is a 'Result Grid' with a 'Filter Rows' button. The result grid shows a single row with the column 'salary' and the value '13500.00'.

salary
13500.00

17. Write a query to find the 4th minimum salary in the employees table

```
select salary
from employees
order by salary
limit 1 offset 3
```

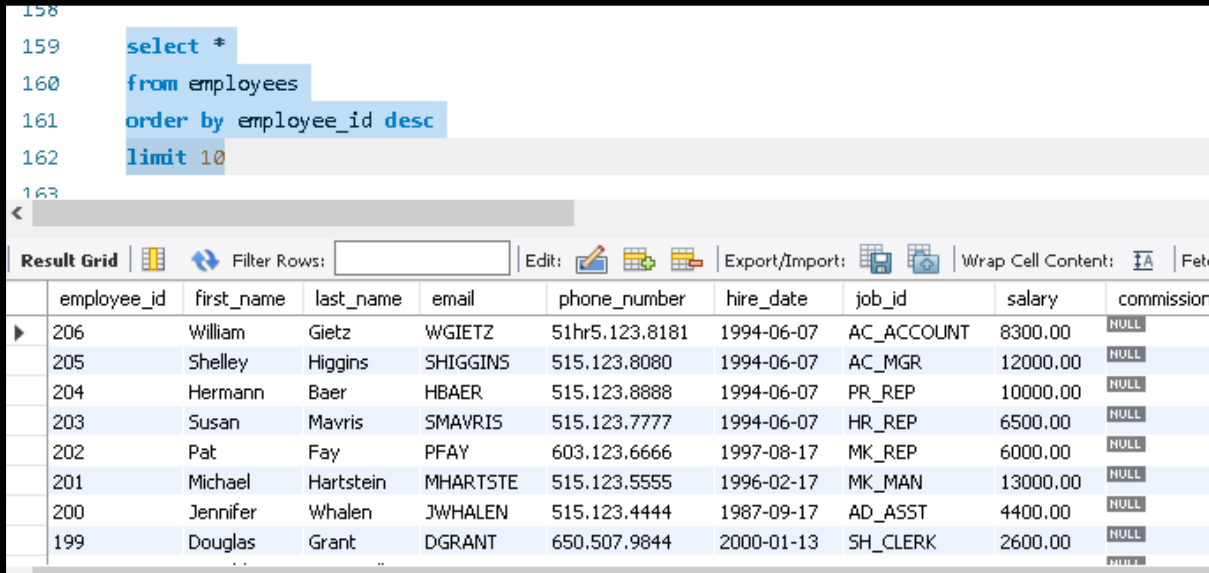


The screenshot shows a SQL query editor with line numbers 151 to 156. The query is: `select salary from employees order by salary limit 1 offset 3`. Below the editor is a 'Result Grid' with a 'Filter Rows' button. The result grid shows a single row with the column 'salary' and the value '2400.00'.

salary
2400.00

18. Write a query to select last 10 records from a table.

```
select *  
from employees  
order by employee_id desc  
limit 10
```

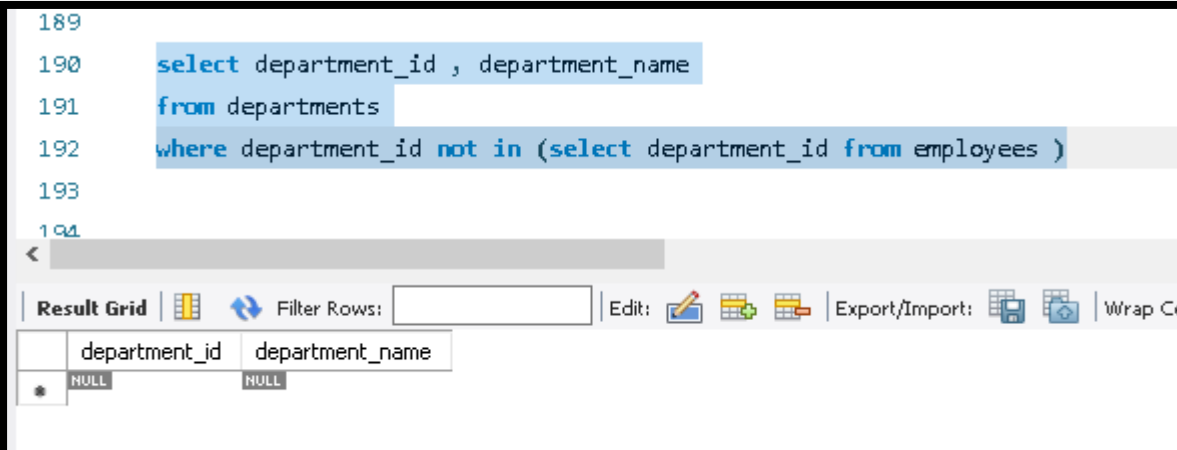


```
158  
159 select *  
160 from employees  
161 order by employee_id desc  
162 limit 10  
163
```

	employee_id	first_name	last_name	email	phone_number	hire_date	job_id	salary	commission
▶	206	William	Gietz	WGIEZT	51hr5.123.8181	1994-06-07	AC_ACCOUNT	8300.00	NULL
	205	Shelley	Higgins	SHIGGINS	515.123.8080	1994-06-07	AC_MGR	12000.00	NULL
	204	Hermann	Baer	HBAER	515.123.8888	1994-06-07	PR_REP	10000.00	NULL
	203	Susan	Mavris	SMAVRIS	515.123.7777	1994-06-07	HR_REP	6500.00	NULL
	202	Pat	Fay	PFAY	603.123.6666	1997-08-17	MK_REP	6000.00	NULL
	201	Michael	Hartstein	MHARTSTE	515.123.5555	1996-02-17	MK_MAN	13000.00	NULL
	200	Jennifer	Whalen	JWHALEN	515.123.4444	1987-09-17	AD_ASST	4400.00	NULL
	199	Douglas	Grant	DGRANT	650.507.9844	2000-01-13	SH_CLERK	2600.00	NULL

19. Write a query to list the department ID and name of all the departments where no employee is working.

```
select department_id , department_name  
from departments  
where department_id not in (select department_id from employees )
```

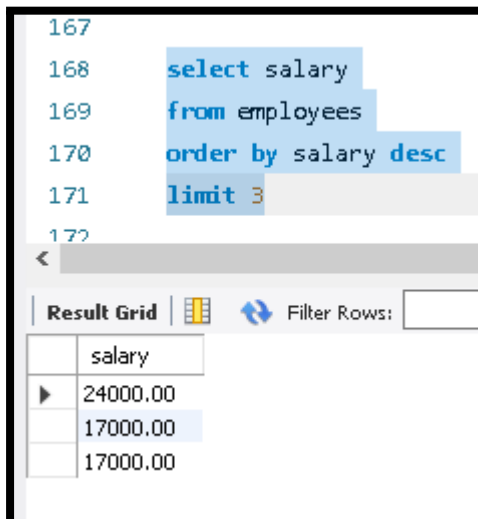


```
189  
190 select department_id , department_name  
191 from departments  
192 where department_id not in (select department_id from employees )  
193  
194
```

	department_id	department_name
*	NULL	NULL

20. Write a query to get 3 maximum salaries.

```
select salary
from employees
order by salary desc
limit 3
```



The screenshot shows a SQL query editor with the following code:

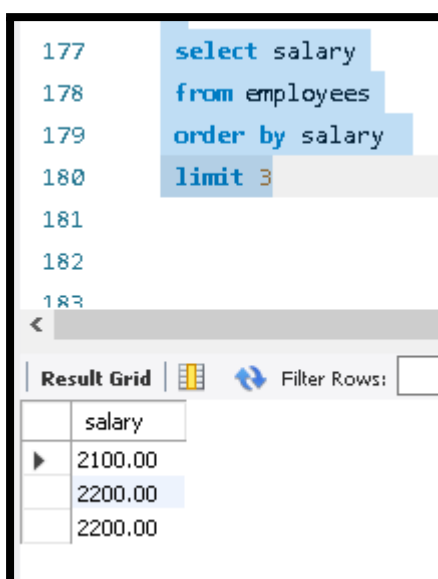
```
167
168 select salary
169 from employees
170 order by salary desc
171 limit 3
172
```

Below the editor is a "Result Grid" with a "Filter Rows:" input field. The grid displays the results of the query:

salary
24000.00
17000.00
17000.00

21. Write a query to get 3 minimum salaries.

```
select salary
from employees
order by salary
limit 3
```



The screenshot shows a SQL query editor with the following code:

```
177 select salary
178 from employees
179 order by salary
180 limit 3
181
182
183
```

Below the editor is a "Result Grid" with a "Filter Rows:" input field. The grid displays the results of the query:

salary
2100.00
2200.00
2200.00

22. Write a query to get nth maximum salaries of employees.

```
select salary  
from employees  
order by salary desc  
LIMIT 1 OFFSET (n-1)
```