SQL CASE STUDY

Analyzing Starbucks Employee Data Using SQL

1. Understanding Employee Demographics:

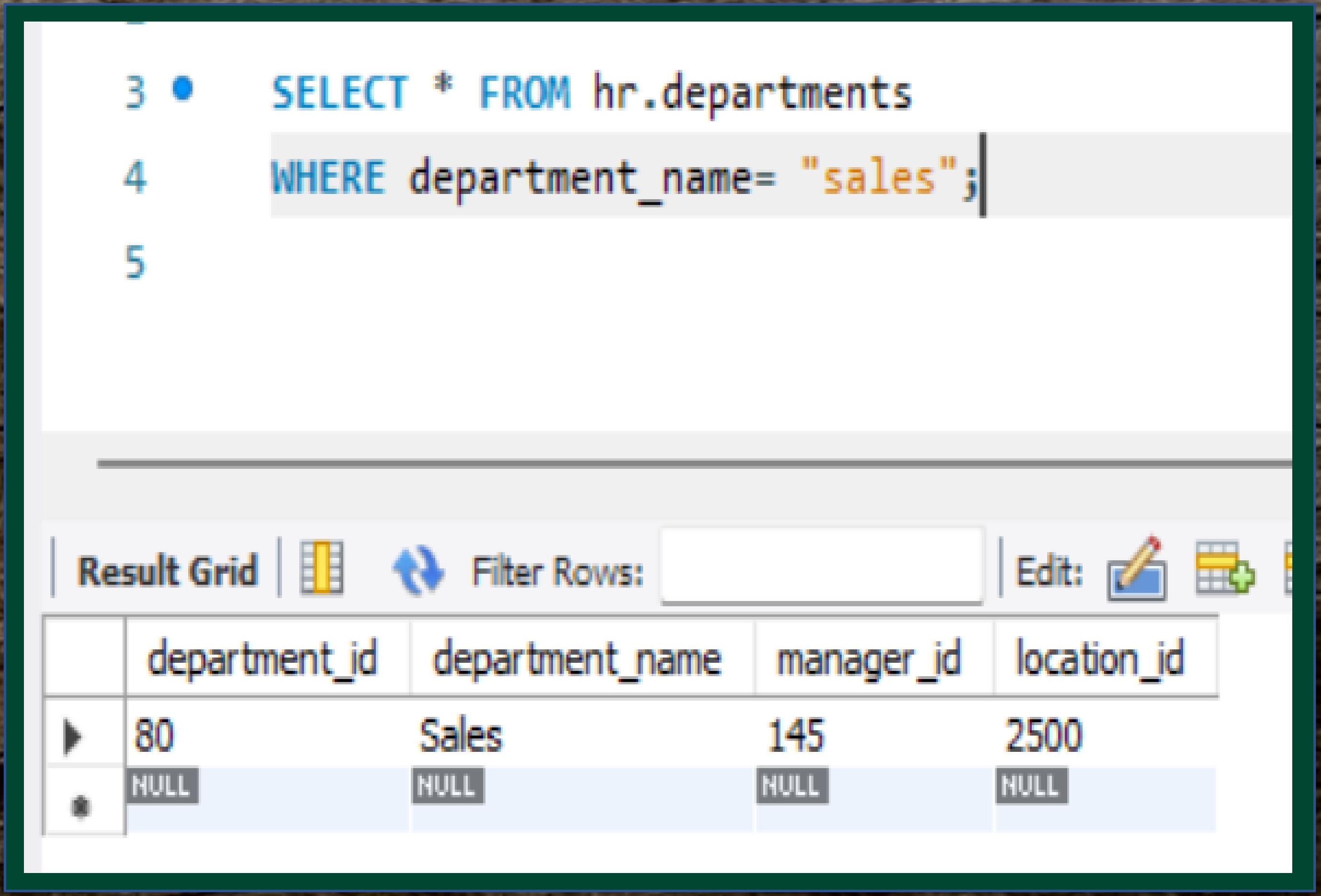
Analyze the composition of the workforce, including age, gender, and tenure, to understand Starbucks's diversity and inclusion efforts.

2. Workforce Distribution:

Examine how Starbucks distributes employees across various roles, locations, and departments.

By Shefali Datrange

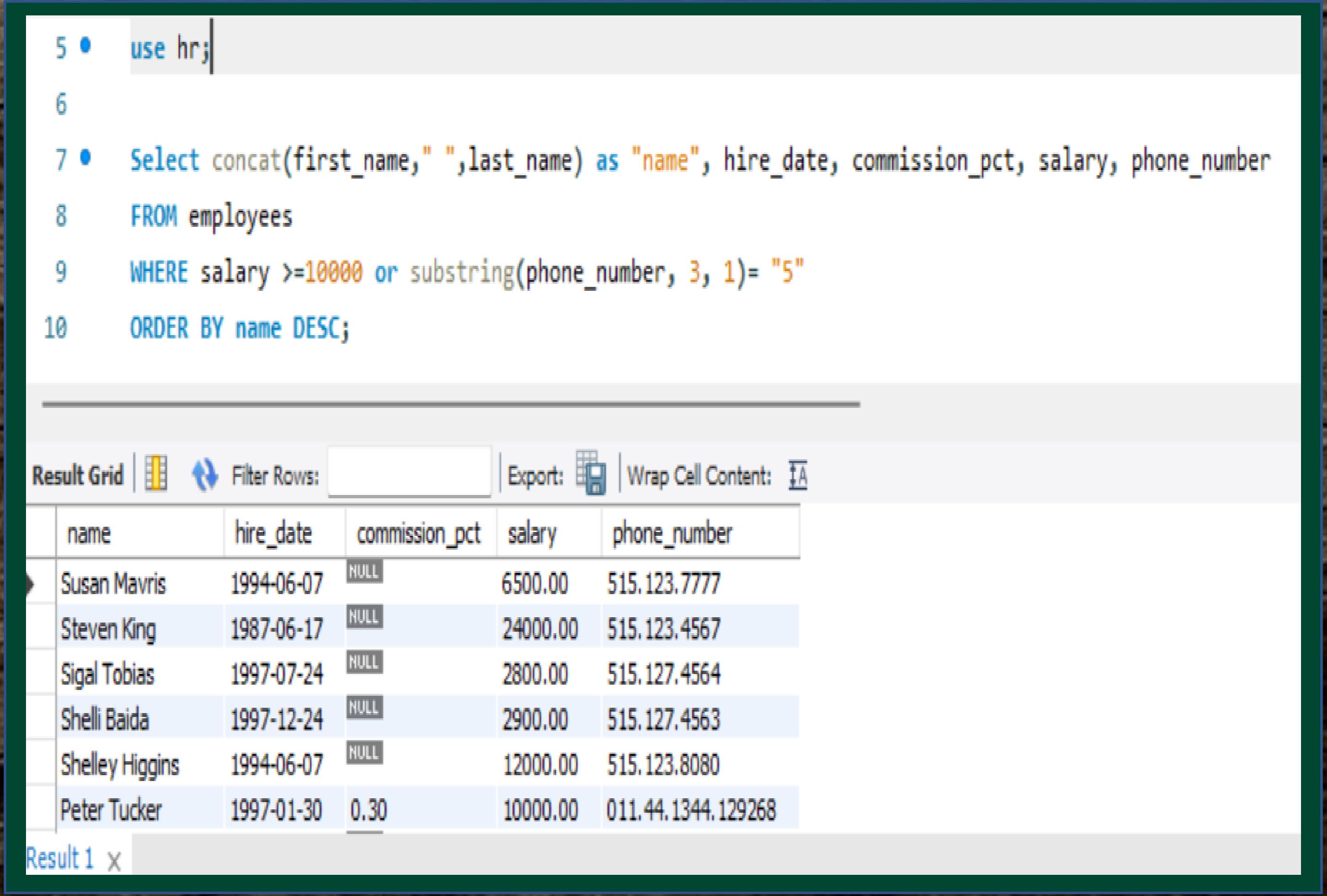
Display all data from the Department table for the Sales department



```sql
SELECT * FROM hr.departments
WHERE department_name= "sales";
```

department_id	department_name	manager_id	location_id
80	Sales	145	2500
NULL	NULL	NULL	NULL

Display the first name concatenated with last name, hire date, commission percentage, telephone, and salary for all employees whose salary exceeds 10000 or the third digit in their phone number equals 5. Sort the query in descending order by the first name

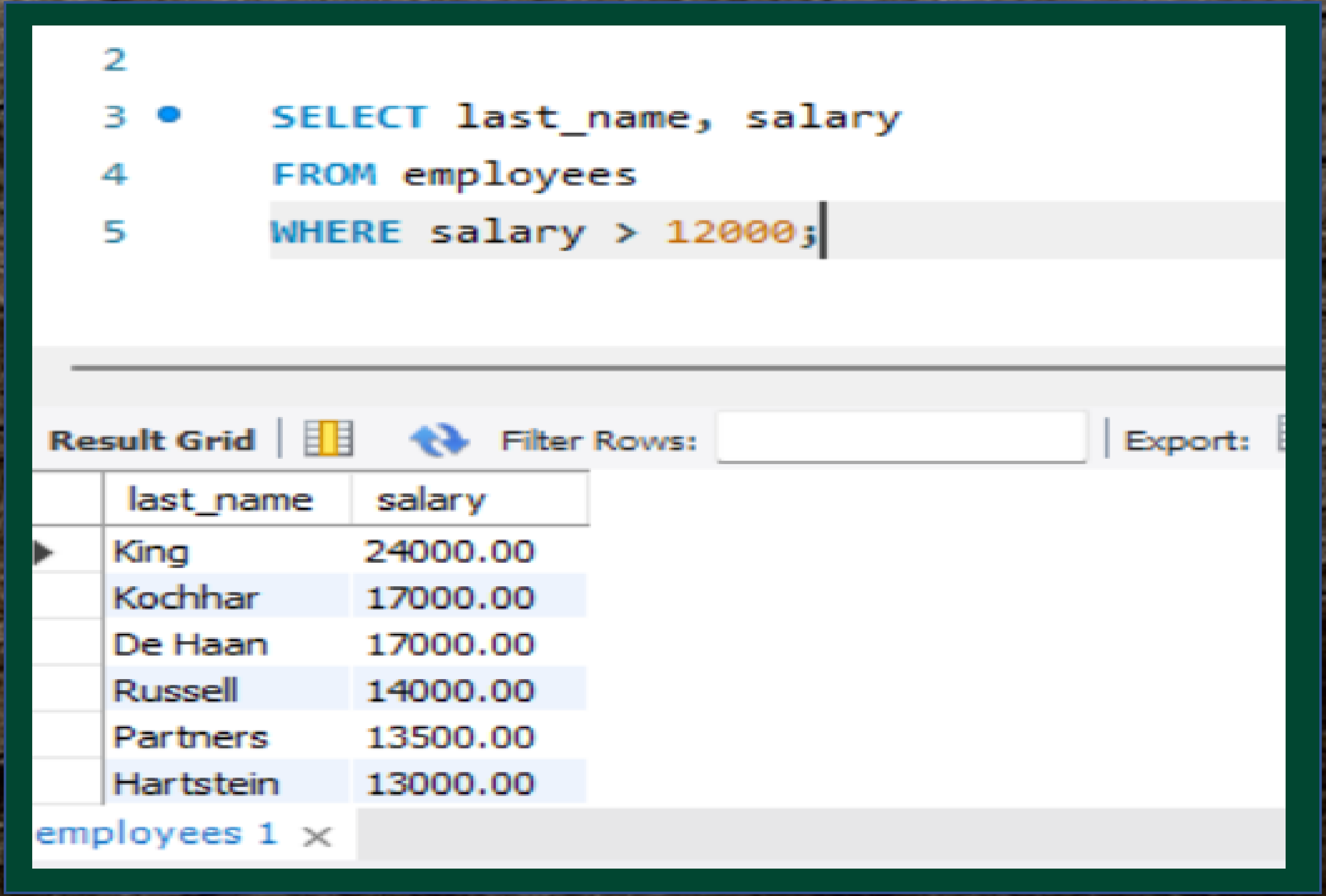


```
use hr;

Select concat(first_name," ",last_name) as "name", hire_date, commission_pct, salary, phone_number
FROM employees
WHERE salary >=10000 or substring(phone_number, 3, 1)= "5"
ORDER BY name DESC;
```

name	hire_date	commission_pct	salary	phone_number
Susan Mavris	1994-06-07	NULL	6500.00	515.123.7777
Steven King	1987-06-17	NULL	24000.00	515.123.4567
Sigal Tobias	1997-07-24	NULL	2800.00	515.127.4564
Shelli Baida	1997-12-24	NULL	2900.00	515.127.4563
Shelley Higgins	1994-06-07	NULL	12000.00	515.123.8080
Peter Tucker	1997-01-30	0.30	10000.00	011.44.1344.129268

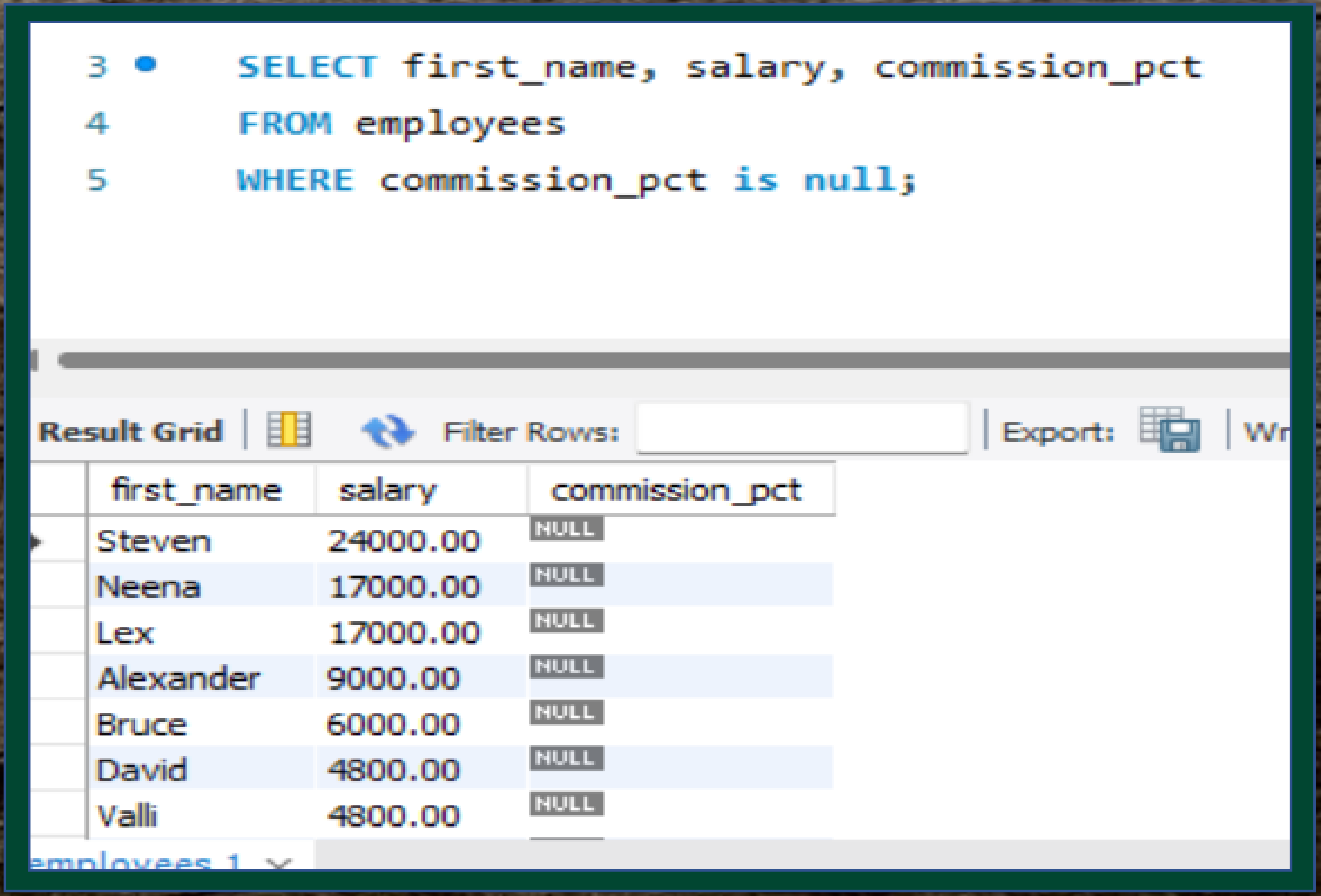
Display the last name and salary for all employees who earn more than 12000



```
SELECT last_name, salary
FROM employees
WHERE salary > 12000;
```

last_name	salary
King	24000.00
Kochhar	17000.00
De Haan	17000.00
Russell	14000.00
Partners	13500.00
Hartstein	13000.00

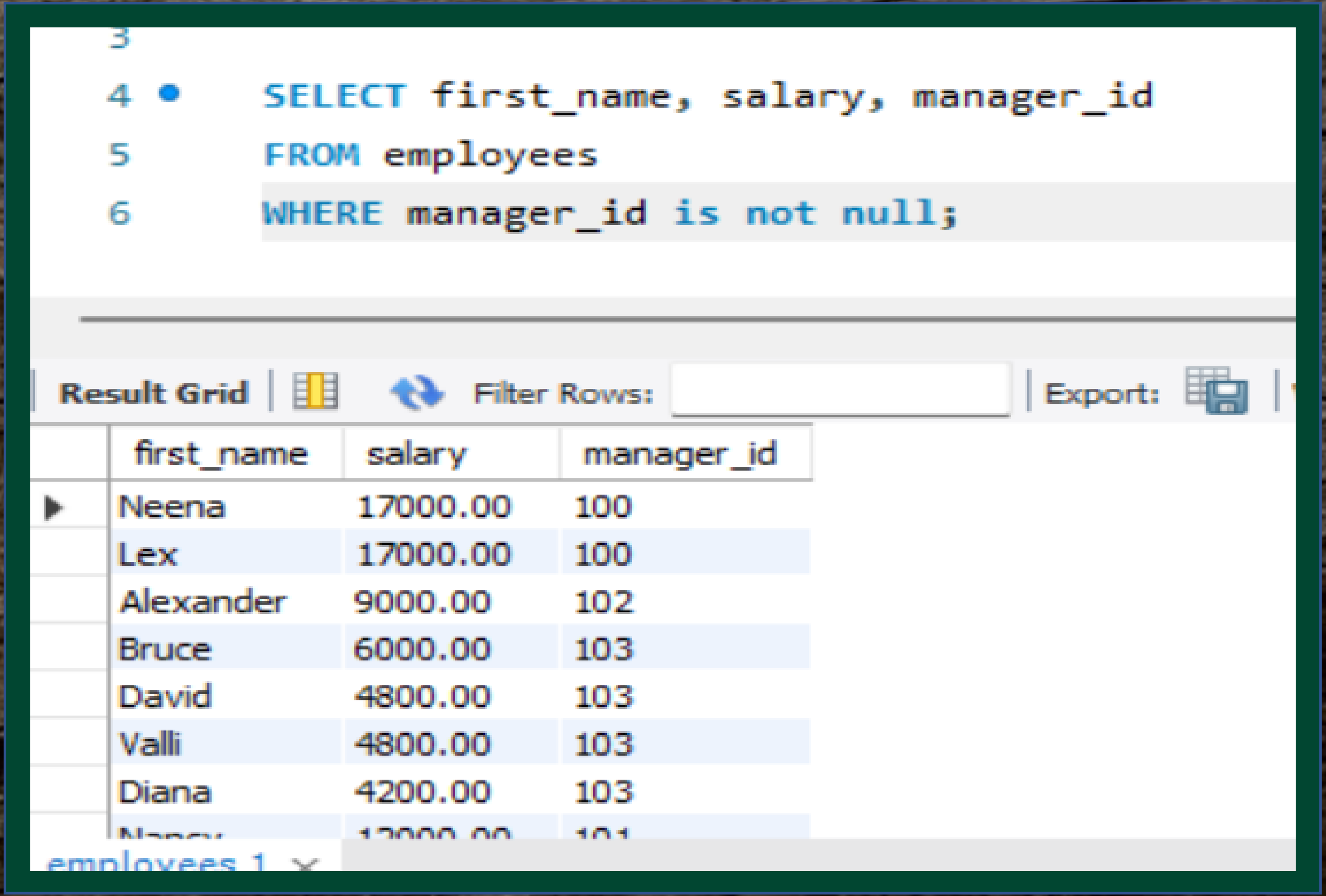
Display the first name and salary for all employees who don’t earn any commission.



```
SELECT first_name, salary, commission_pct
FROM employees
WHERE commission_pct is null;
```

first_name	salary	commission_pct
Steven	24000.00	NULL
Neena	17000.00	NULL
Lex	17000.00	NULL
Alexander	9000.00	NULL
Bruce	6000.00	NULL
David	4800.00	NULL
Valli	4800.00	NULL

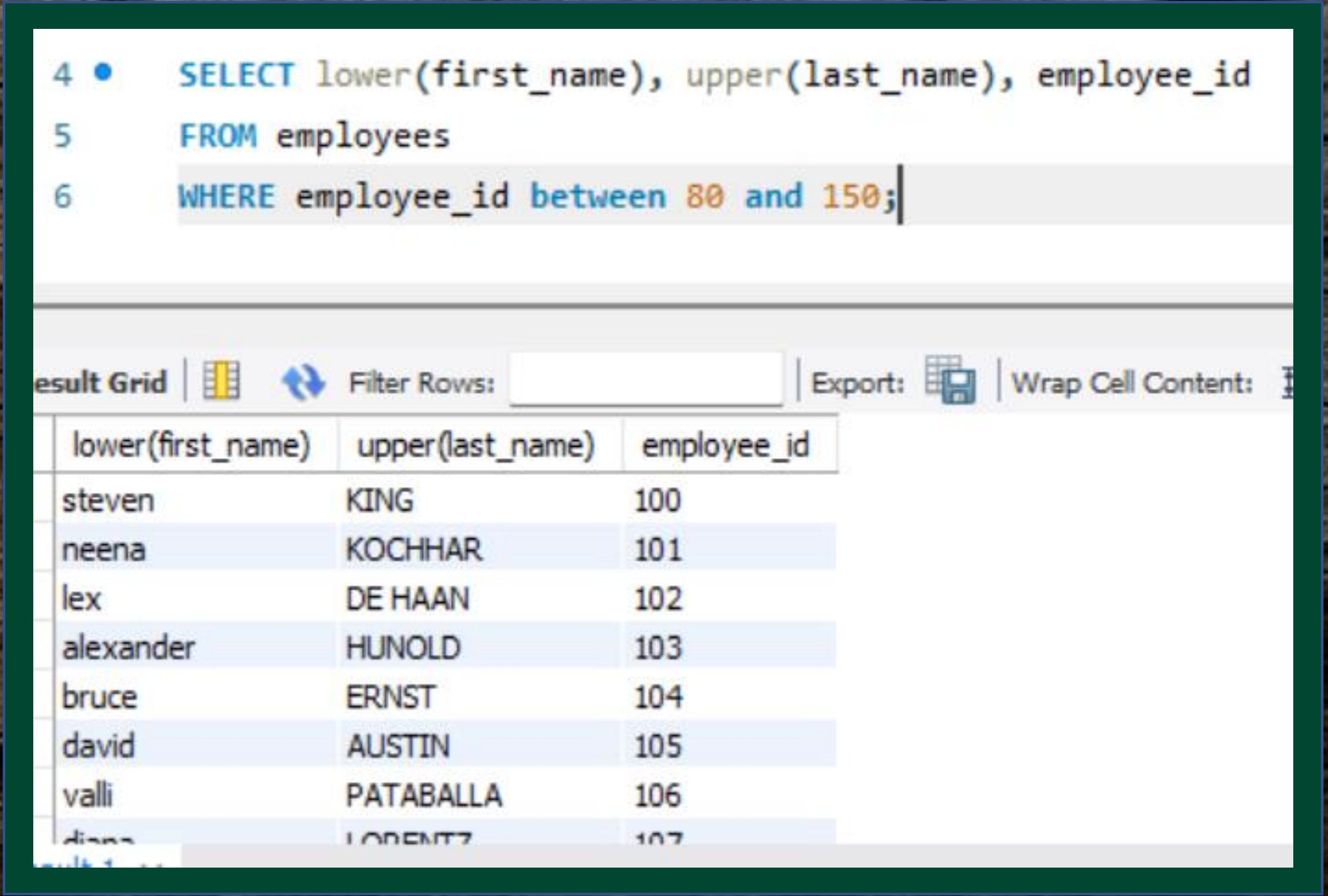
Display the first name, salary, and manager number for all employees whose manager number is not null



```sql
SELECT first_name, salary, manager_id
FROM employees
WHERE manager_id is not null;
```

first_name	salary	manager_id
Neena	17000.00	100
Lex	17000.00	100
Alexander	9000.00	102
Bruce	6000.00	103
David	4800.00	103
Valli	4800.00	103
Diana	4200.00	103
Nancy	12000.00	101

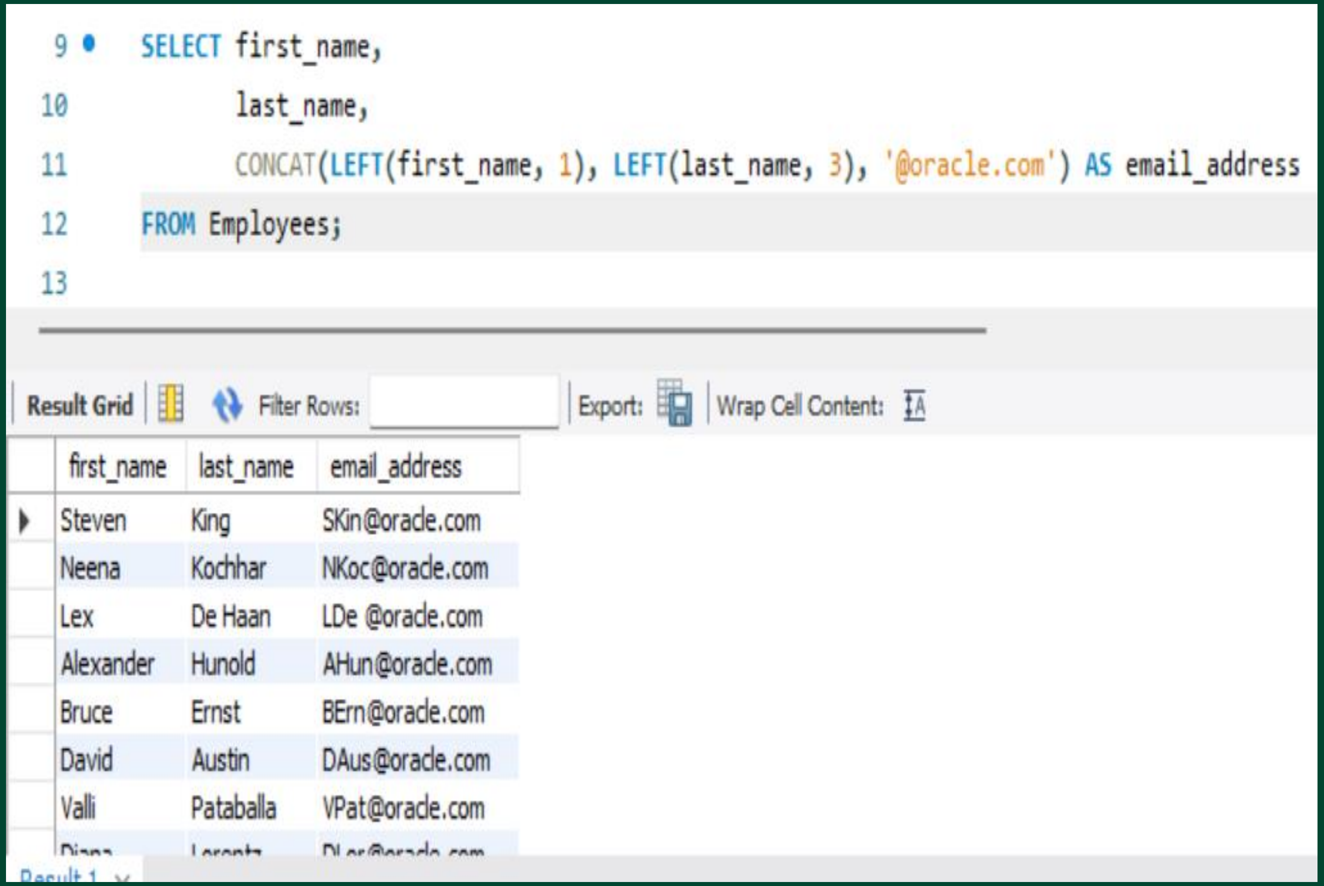
Display the first name in lower case and last name in upper case, for all employees whose-- employee number is between 80 and 150.



```
SELECT lower(first_name), upper(last_name), employee_id
FROM employees
WHERE employee_id between 80 and 150;
```

lower(first_name)	upper(last_name)	employee_id
steven	KING	100
neena	KOCHHAR	101
lex	DE HAAN	102
alexander	HUNOLD	103
bruce	ERNST	104
david	AUSTIN	105
valli	PATABALLA	106
diana	LORENTZ	107

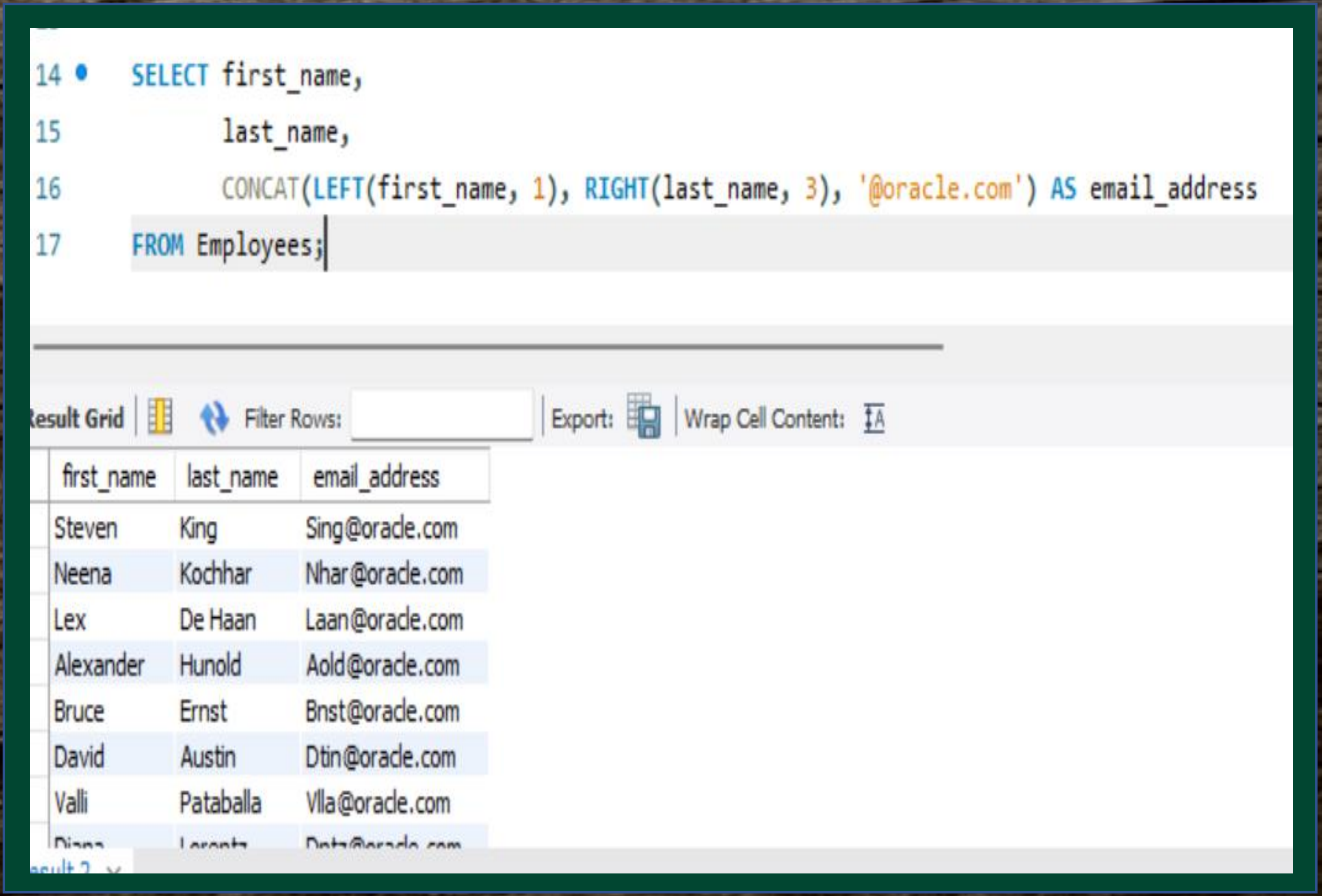
For each employee, display the first name, last name, and email address. The email address will be composed of the first letter of first name, concatenated with the three first letters of last name, concatenated with @oracle.com.



```
SELECT first_name,
       last_name,
       CONCAT(LEFT(first_name, 1), LEFT(last_name, 3), '@oracle.com') AS email_address
FROM Employees;
```

first_name	last_name	email_address
Steven	King	SKin@oracle.com
Neena	Kochhar	NKoc@oracle.com
Lex	De Haan	LDe @oracle.com
Alexander	Hunold	AHun@oracle.com
Bruce	Ernst	BErn@oracle.com
David	Austin	DAus@oracle.com
Valli	Pataballa	VPat@oracle.com
Diana	Lorentz	DLor@oracle.com

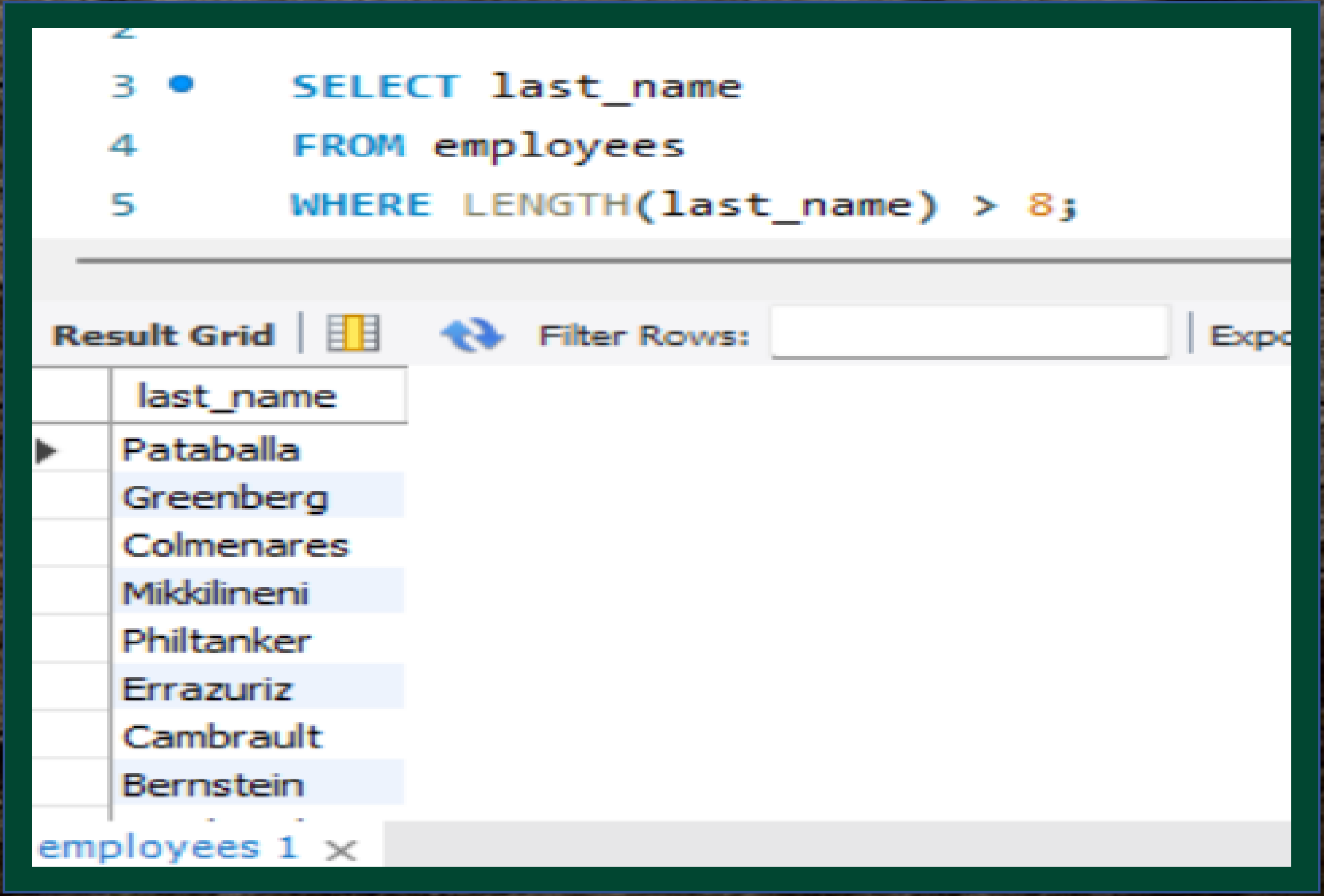
For each employee, display the first name, last name, and email address. The email-- address will be composed from the first letter of first name, concatenated with the three last-- letters of last name, concatenated with @oracle.com.



```sql
SELECT first_name,
       last_name,
       CONCAT(LEFT(first_name, 1), RIGHT(last_name, 3), '@oracle.com') AS email_address
FROM Employees;
```

first_name	last_name	email_address
Steven	King	Sing@oracle.com
Neena	Kochhar	Nhar@oracle.com
Lex	De Haan	Laan@oracle.com
Alexander	Hunold	Aold@oracle.com
Bruce	Ernst	Bnst@oracle.com
David	Austin	Dtin@oracle.com
Valli	Pataballa	Vlla@oracle.com
Diana	Lorentz	Dntz@oracle.com

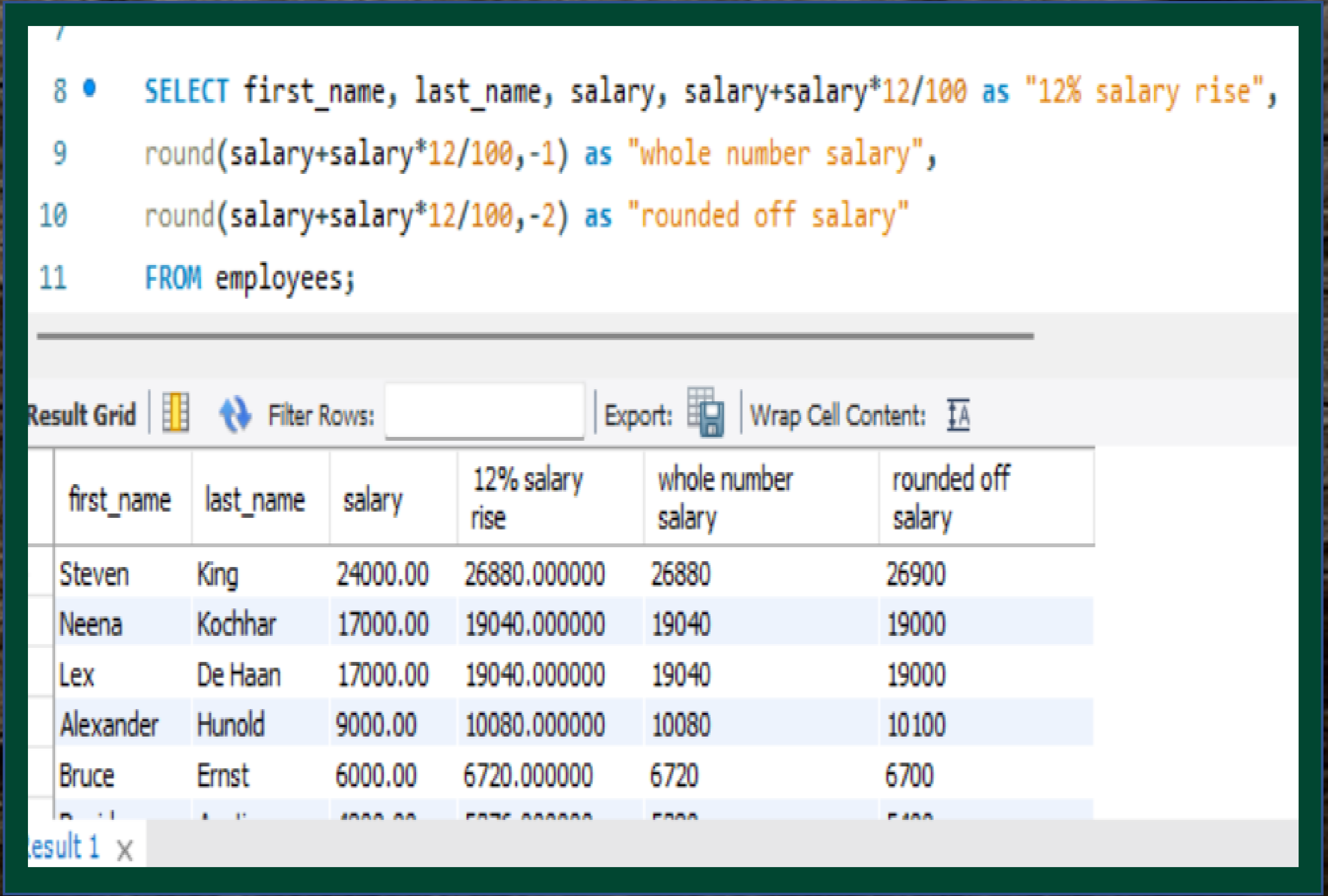
Display the last name for all employees where last name’s length is greater than 8 characters.



```
SELECT last_name
FROM employees
WHERE LENGTH(last_name) > 8;
```

```
last_name
Pataballa
Greenberg
Colmenares
Mikkilineni
Philtanker
Errazuriz
Cambrault
Bernstein
```

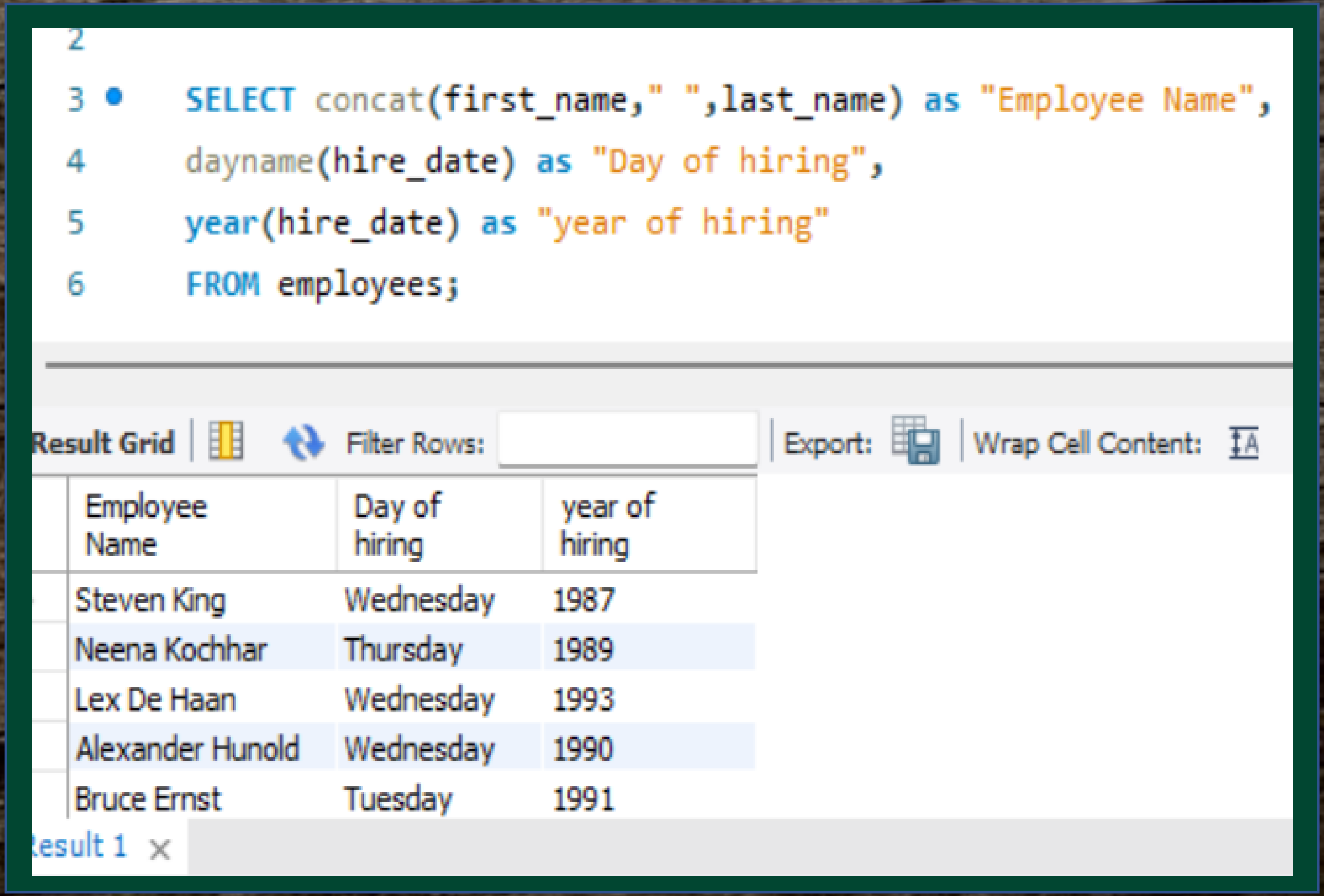
For each employee, display: a. first name b. salary c. salary after a raise of 12% d. salary after a raise of 12%, expressed as a whole number (ROUND) e. salary after a raise of 12%, round off to the nearest whole number.



```
SELECT first_name, last_name, salary, salary+salary*12/100 as "12% salary rise",
round(salary+salary*12/100,-1) as "whole number salary",
round(salary+salary*12/100,-2) as "rounded off salary"
FROM employees;
```

first_name	last_name	salary	12% salary rise	whole number salary	rounded off salary
Steven	King	24000.00	26880.000000	26880	26900
Neena	Kochhar	17000.00	19040.000000	19040	19000
Lex	De Haan	17000.00	19040.000000	19040	19000
Alexander	Hunold	9000.00	10080.000000	10080	10100
Bruce	Ernst	6000.00	6720.000000	6720	6700

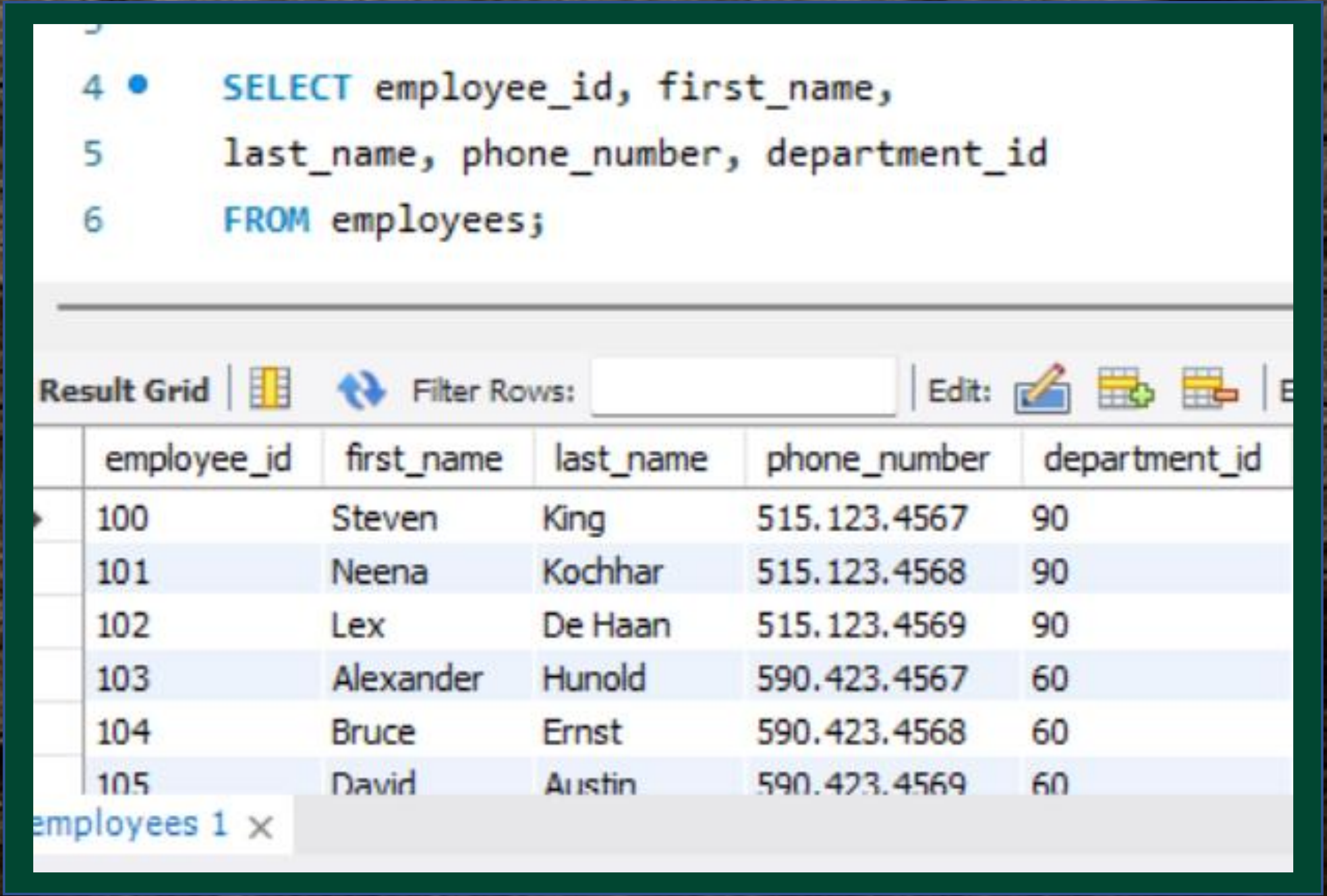
For each employee, display the first name, the day of his hire date, and the year of his hire date.



```
SELECT concat(first_name," ",last_name) as "Employee Name",
dayname(hire_date) as "Day of hiring",
year(hire_date) as "year of hiring"
FROM employees;
```

Employee Name	Day of hiring	year of hiring
Steven King	Wednesday	1987
Neena Kochhar	Thursday	1989
Lex De Haan	Wednesday	1993
Alexander Hunold	Wednesday	1990
Bruce Ernst	Tuesday	1991

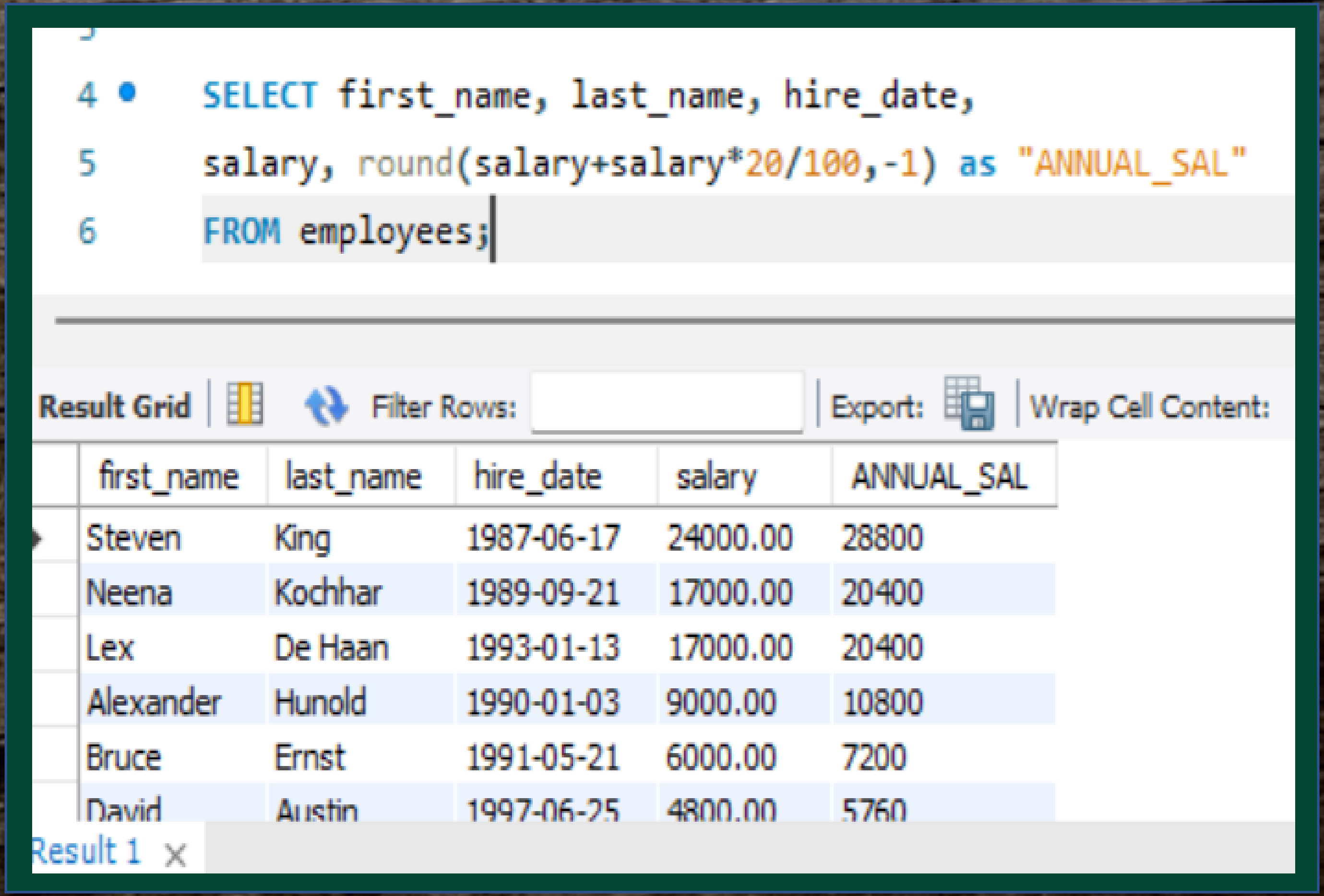
Create a query to display the employee number, first name, last name, phone number and-- department number



```
SELECT employee_id, first_name,
last_name, phone_number, department_id
FROM employees;
```

employee_id	first_name	last_name	phone_number	department_id
100	Steven	King	515.123.4567	90
101	Neena	Kochhar	515.123.4568	90
102	Lex	De Haan	515.123.4569	90
103	Alexander	Hunold	590.423.4567	60
104	Bruce	Ernst	590.423.4568	60
105	David	Austin	590.423.4569	60

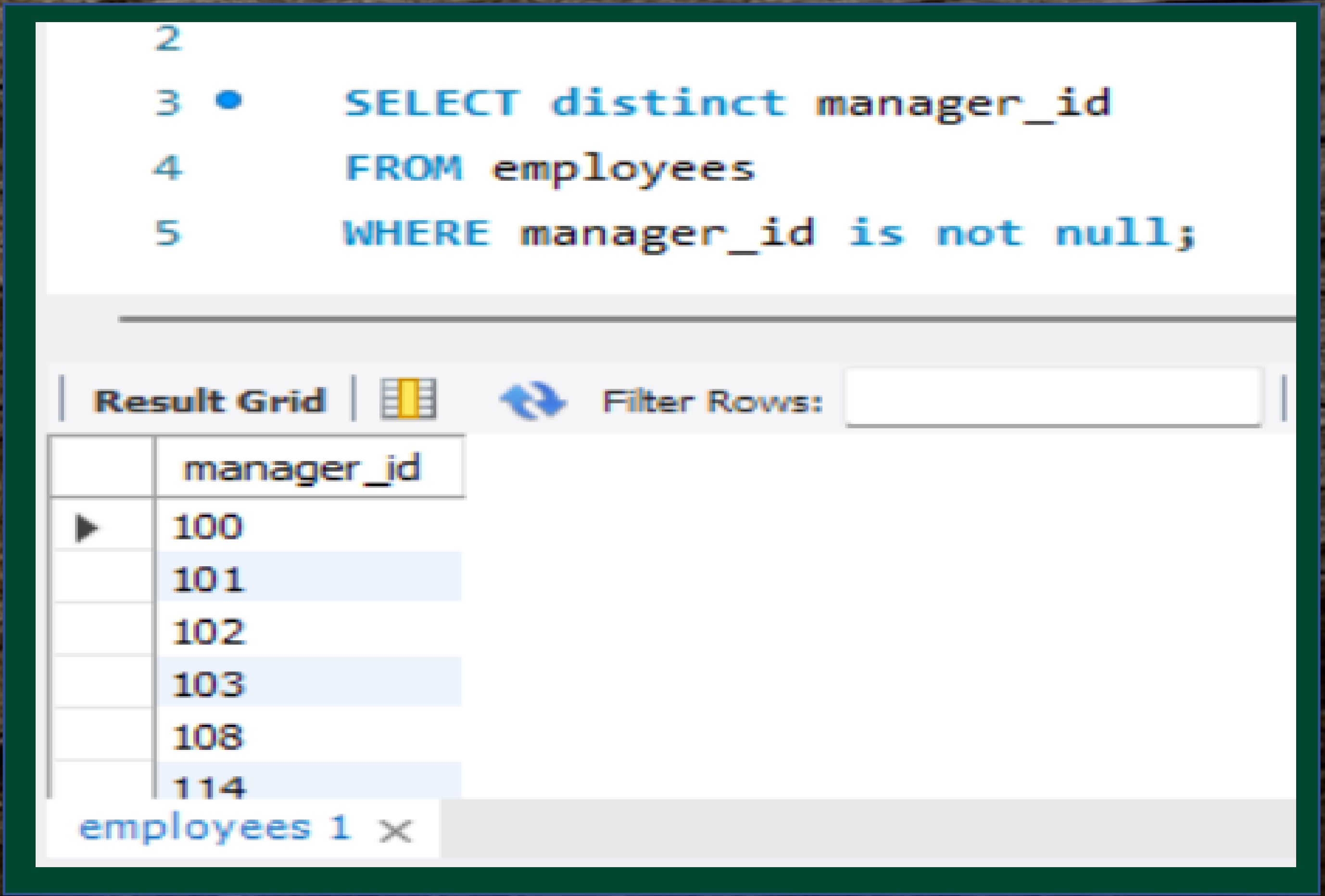
Create a query to display the first name, last name, hire date, salary, and salary after a raise of-- 20%. Name the last column (salary after a raise) heading as “ANNUAL_SAL”



```
SELECT first_name, last_name, hire_date,
salary, round(salary+salary*20/100,-1) as "ANNUAL_SAL"
FROM employees;
```

first_name	last_name	hire_date	salary	ANNUAL_SAL
Steven	King	1987-06-17	24000.00	28800
Neena	Kochhar	1989-09-21	17000.00	20400
Lex	De Haan	1993-01-13	17000.00	20400
Alexander	Hunold	1990-01-03	9000.00	10800
Bruce	Ernst	1991-05-21	6000.00	7200
David	Austin	1997-06-25	4800.00	5760

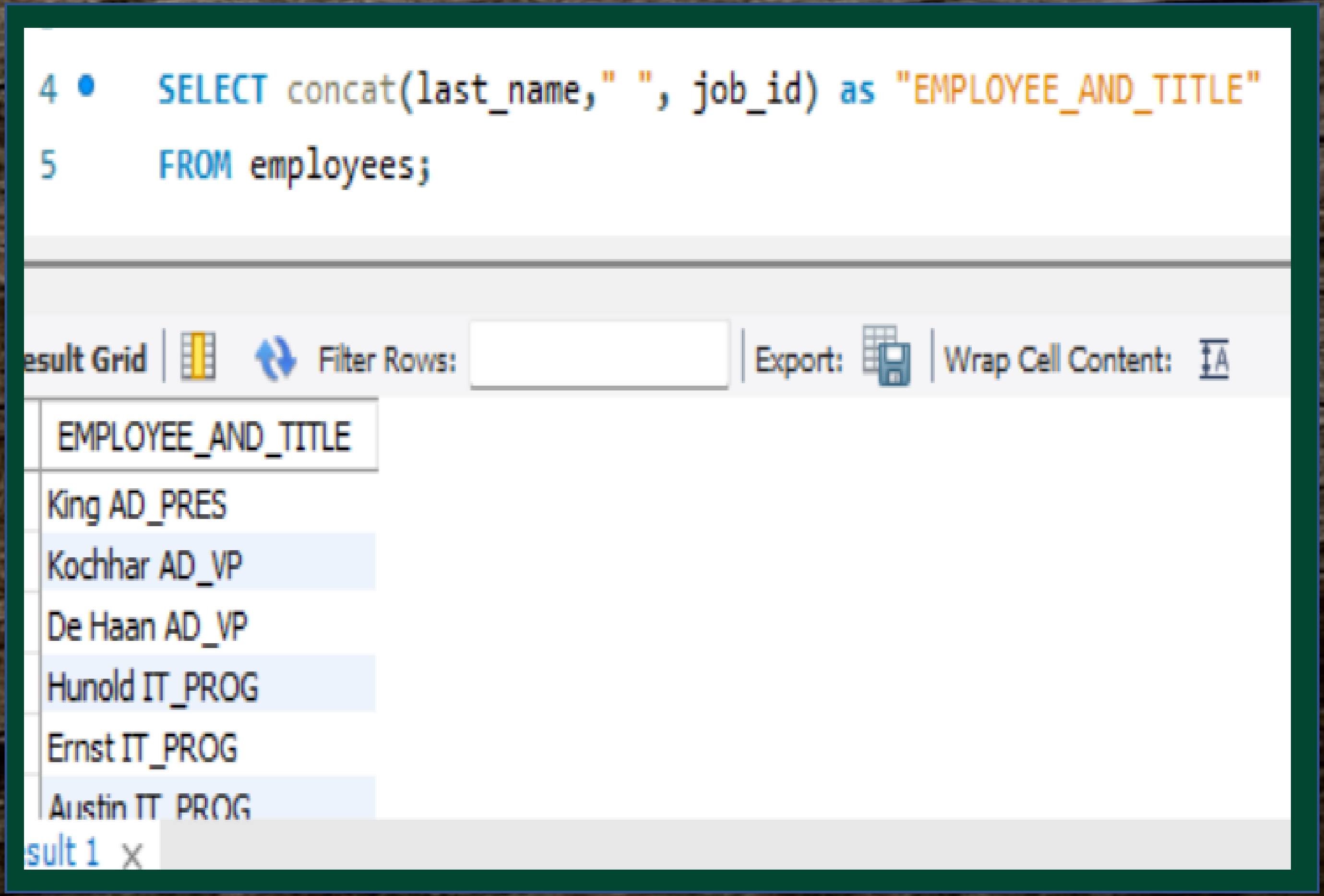
Create a query to display the unique manager numbers from the Employees table.



```
SELECT distinct manager_id
FROM employees
WHERE manager_id is not null;
```

```
manager_id
100
101
102
103
108
114
```

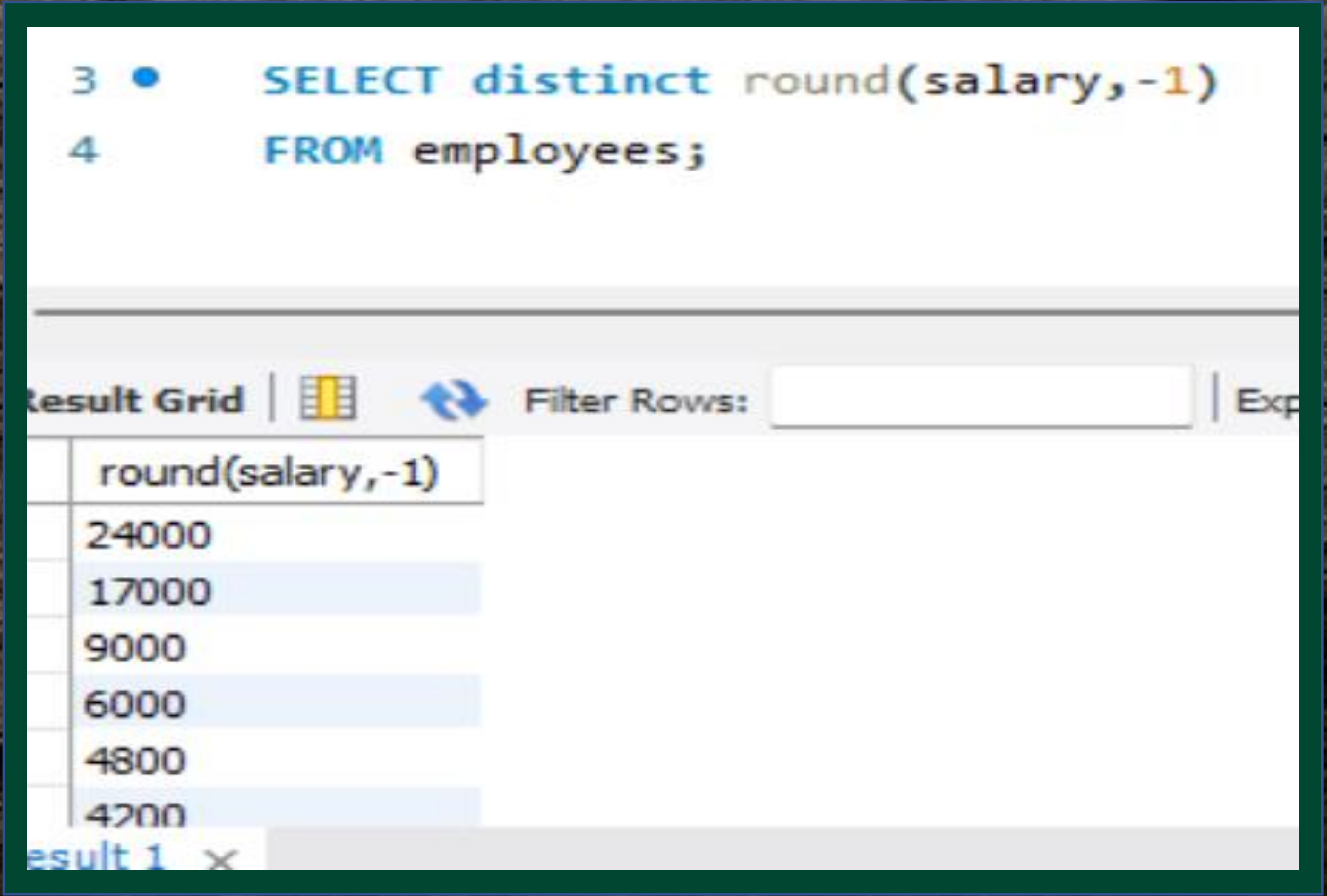
Create a query to display the last name concatenated with the job id column, separated by space.-- Name this column heading as "EMPLOYEE_AND_TITLE".



```
SELECT concat(last_name," ", job_id) as "EMPLOYEE_AND_TITLE"
FROM employees;
```

EMPLOYEE_AND_TITLE
King AD_PRES
Kochhar AD_VP
De Haan AD_VP
Hunold IT_PROG
Ernst IT_PROG
Austin IT_PROG

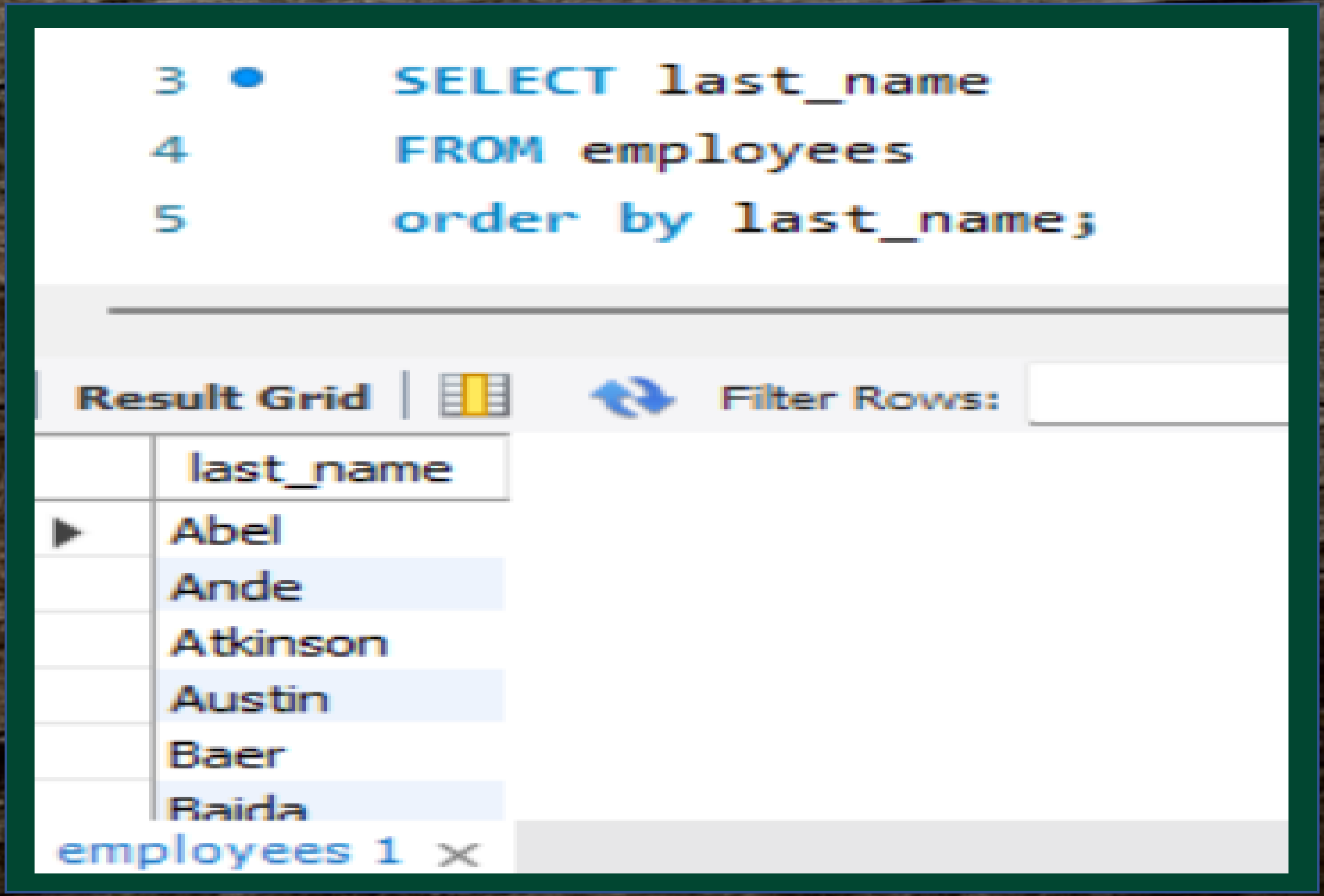
Create a query to display the unique salaries in Employees tables.



```sql
SELECT distinct round(salary,-1)
FROM employees;
```

```
round(salary,-1)
24000
17000
9000
6000
4800
4200
```

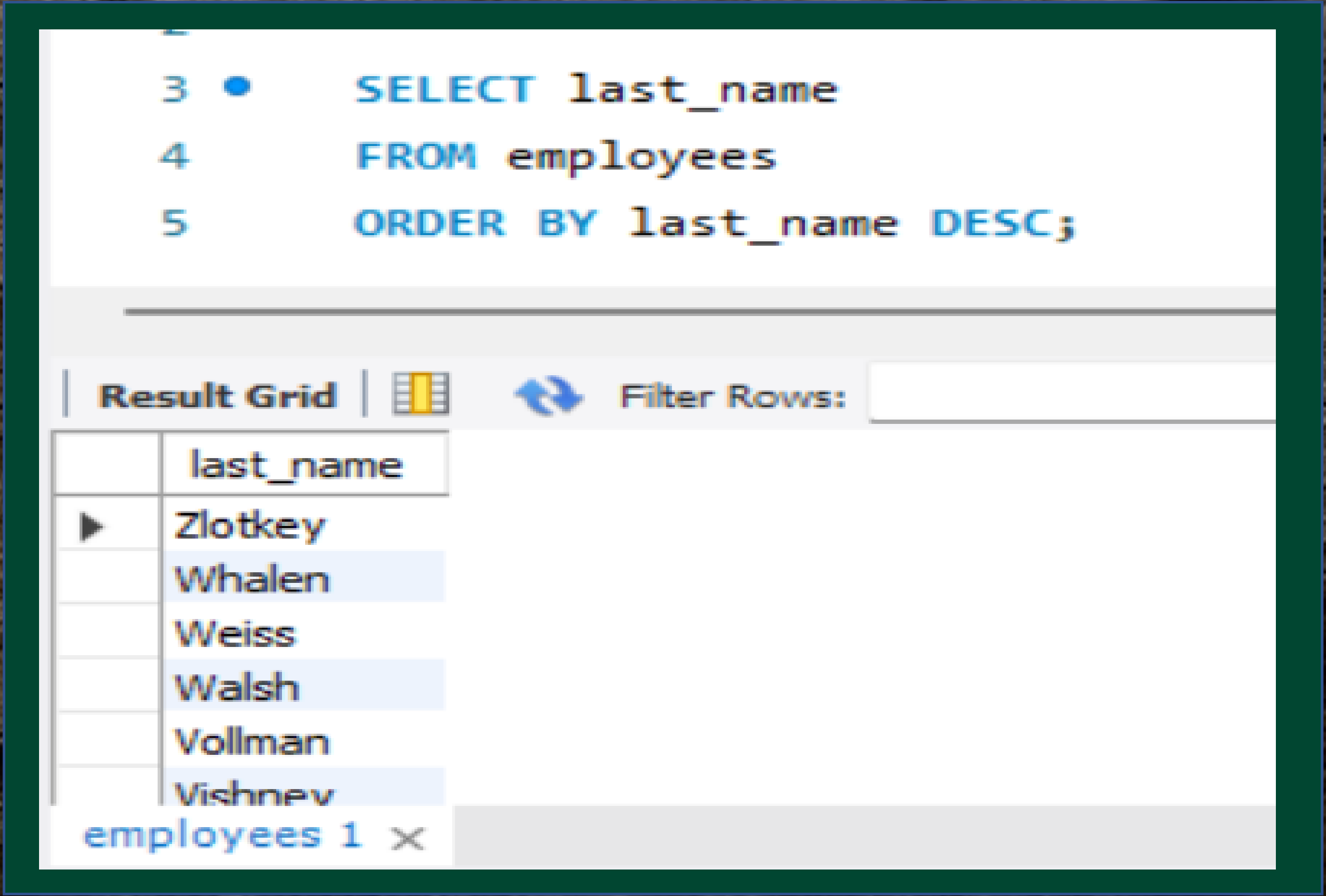
Display the lowest last name alphabetically



```sql
SELECT last_name
FROM employees
order by last_name;
```

```
last_name
Abel
Ande
Atkinson
Austin
Baer
Baida
```

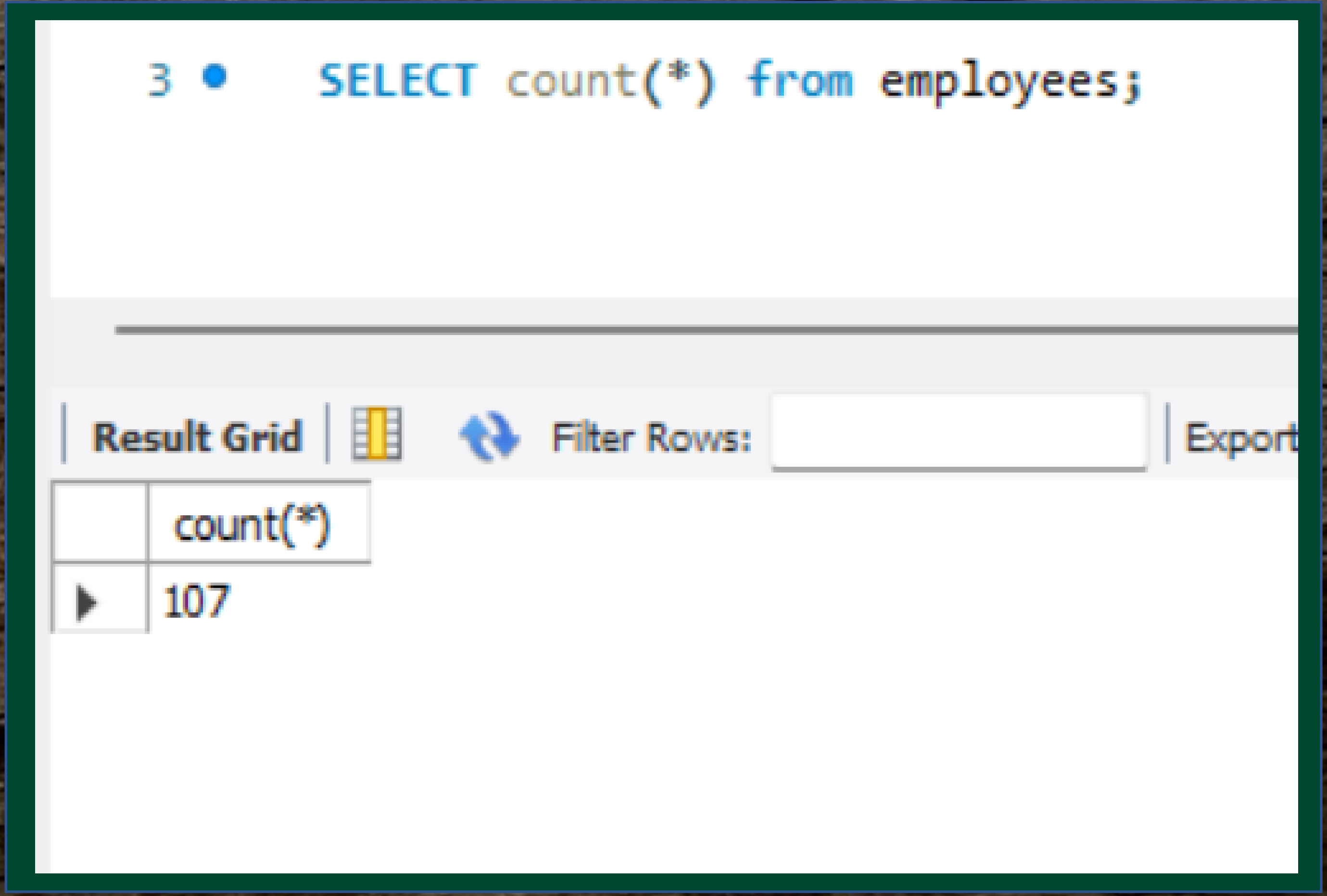
Display the highest last name alphabetically



```sql
SELECT last_name
FROM employees
ORDER BY last_name DESC;
```

```
last_name
Zlotkey
Whalen
Weiss
Walsh
Vollman
Vishney
```

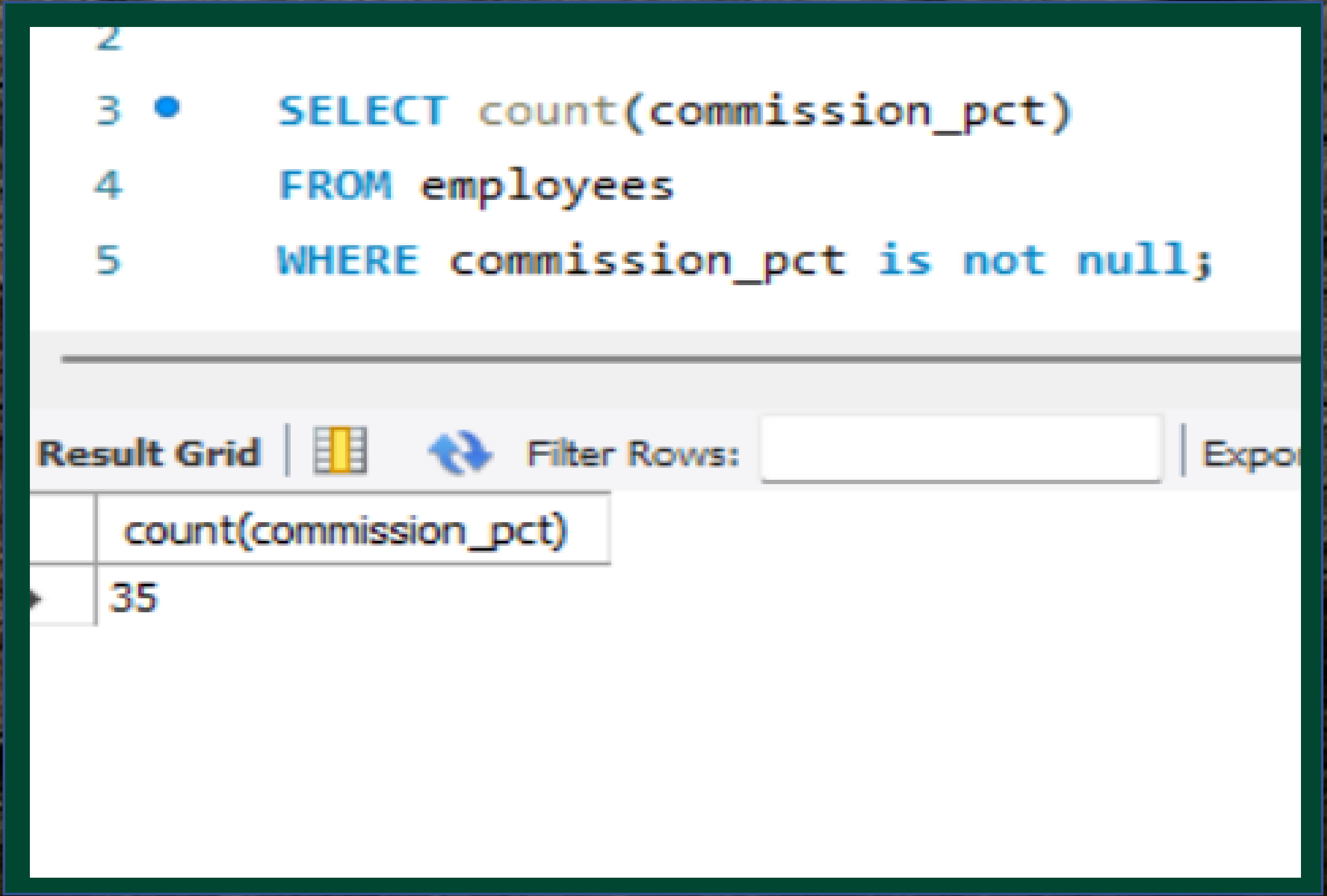
Display the number of rows in Employees table.



```sql
SELECT count(*) from employees;
```

```
count(*)
107
```

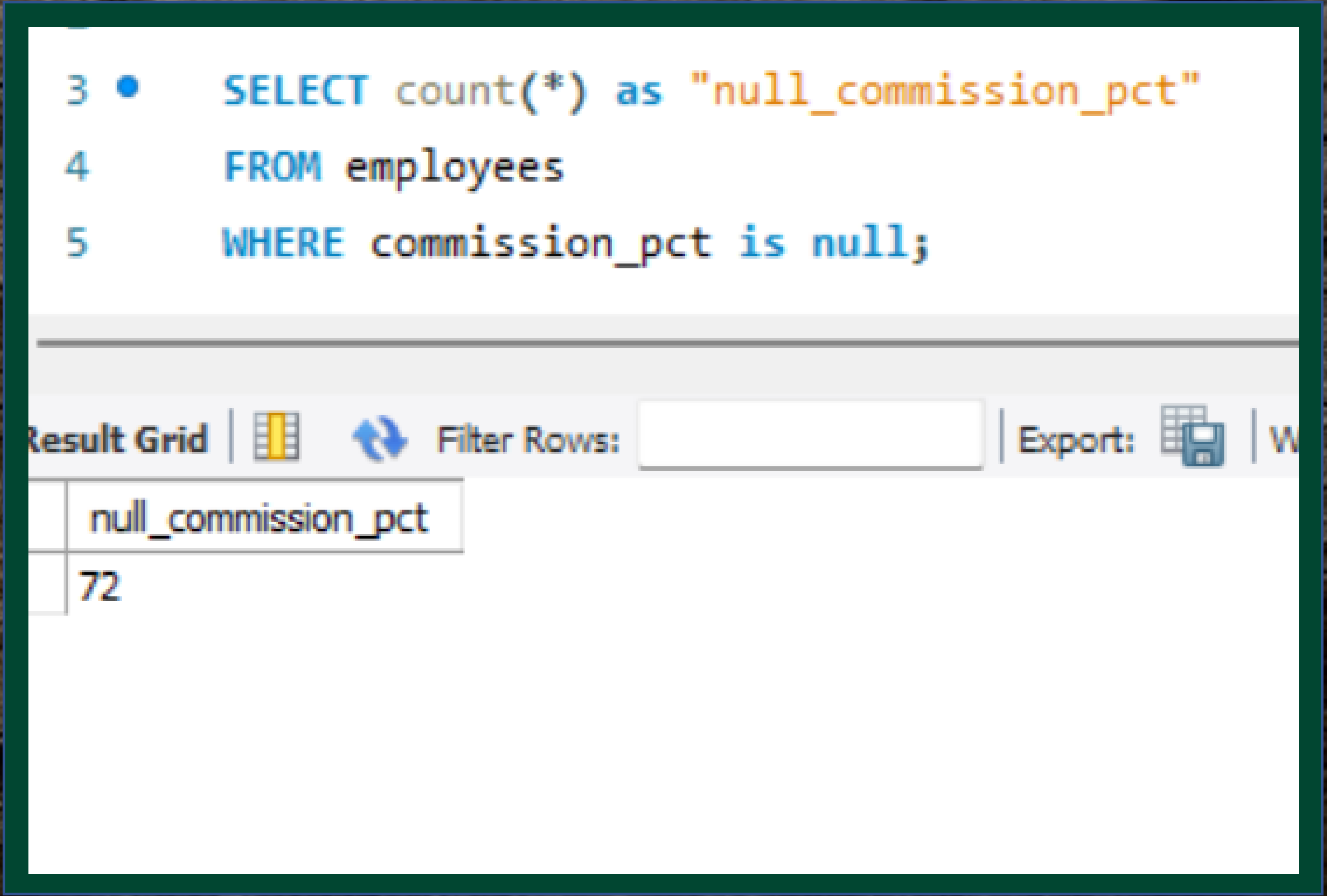
Display the number of values (exclude NULLs) in the commission_pct column



```sql
SELECT count(commission_pct)
FROM employees
WHERE commission_pct is not null;
```

```
count(commission_pct)
35
```

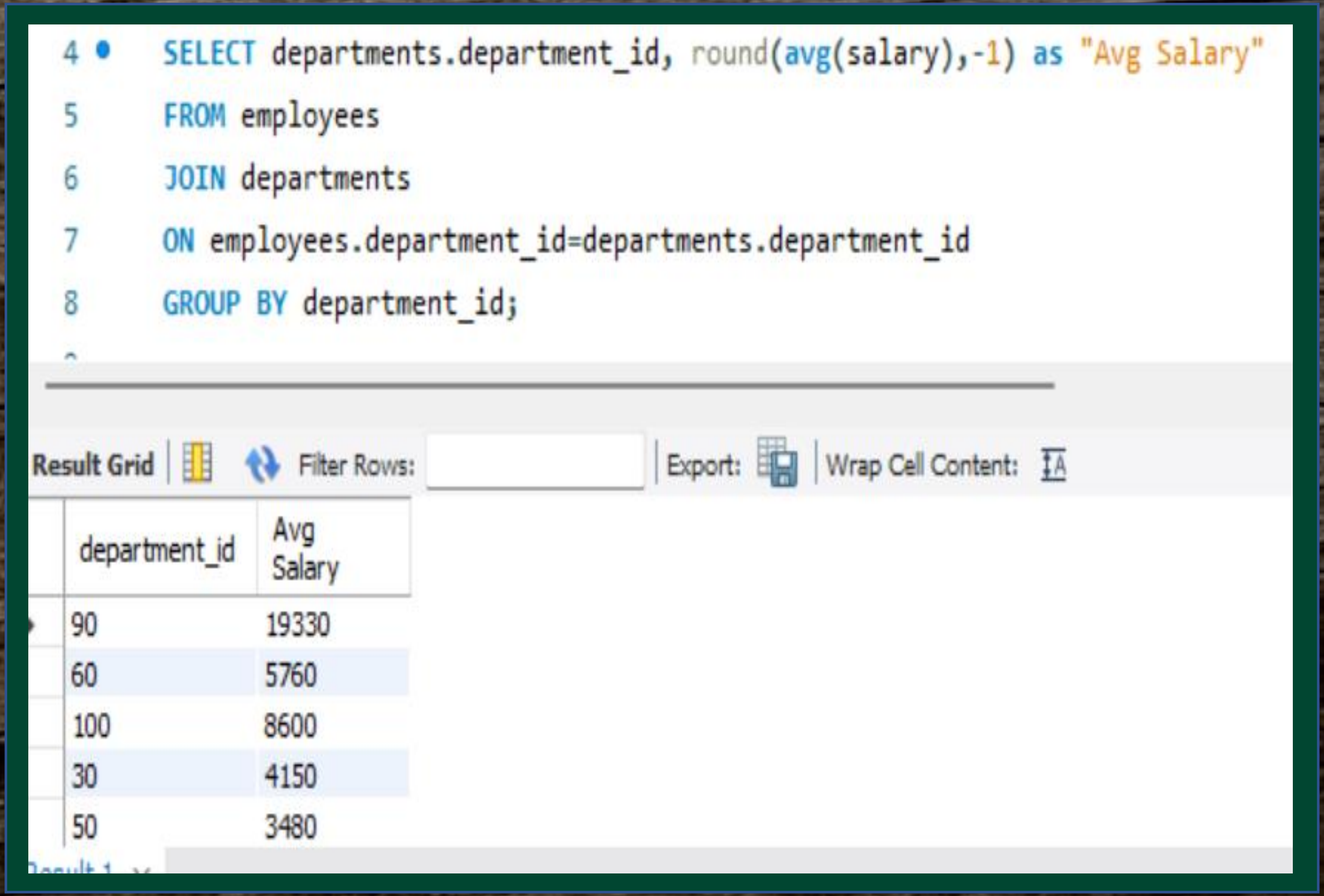
Display the number of NULL values in commission_pct column



```
SELECT count(*) as "null_commission_pct"
FROM employees
WHERE commission_pct is null;
```

```
null_commission_pct
72
```

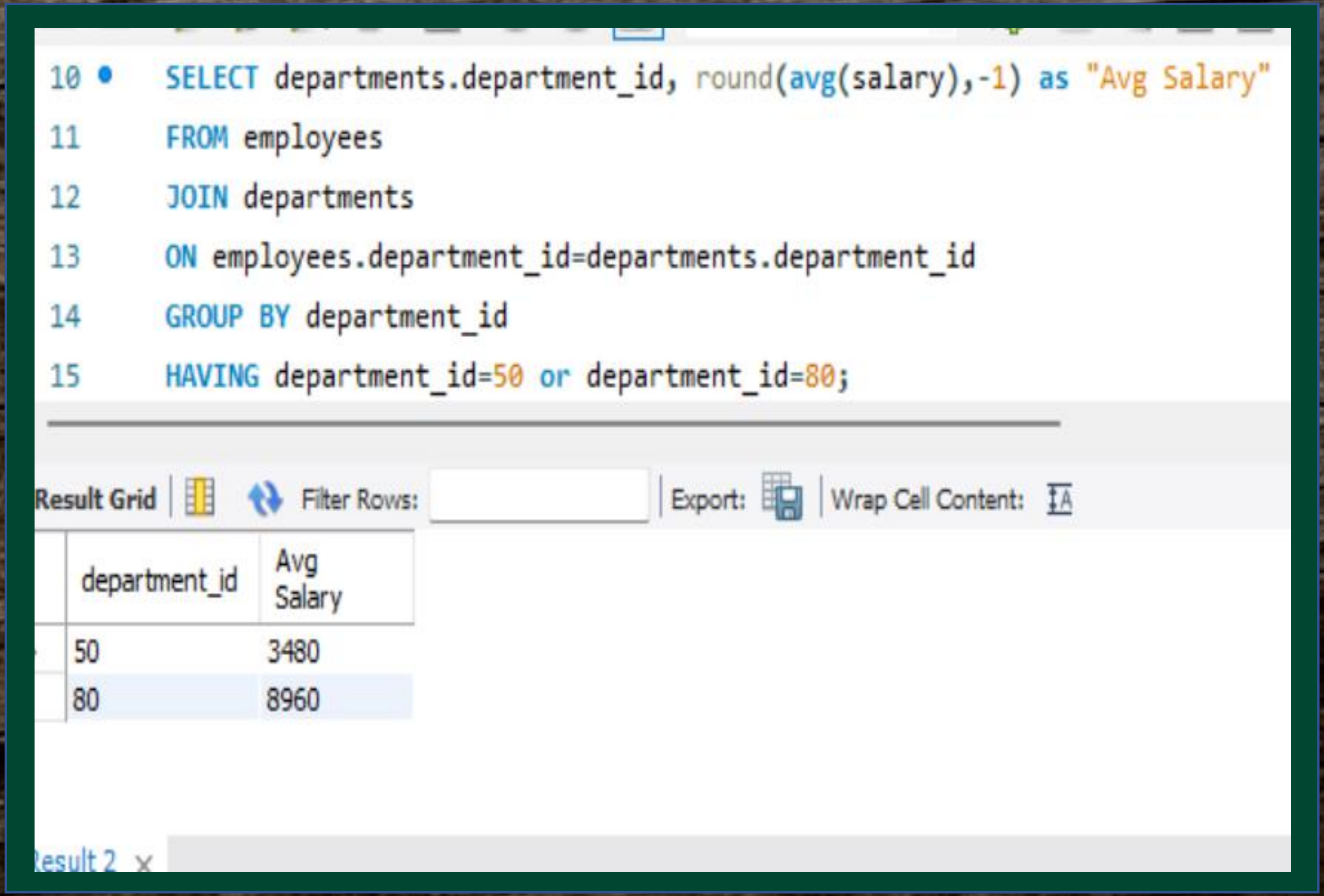
Average salary per department a. Display the department number and average salary for each-- department.



```sql
SELECT departments.department_id, round(avg(salary),-1) as "Avg Salary"
FROM employees
JOIN departments
ON employees.department_id=departments.department_id
GROUP BY department_id;
```

department_id	Avg Salary
90	19330
60	5760
100	8600
30	4150
50	3480

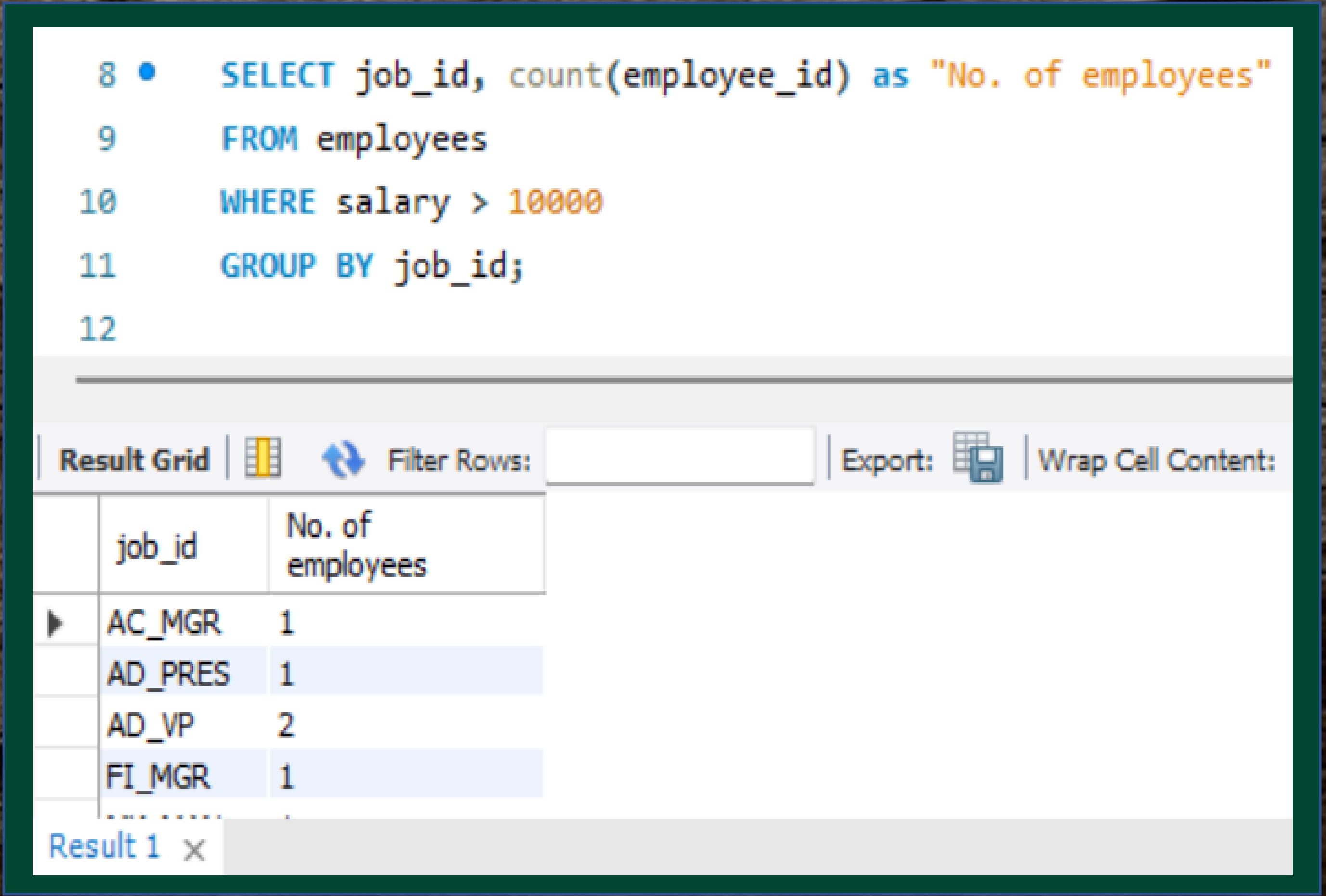
Modify the previous query to display the results only for departments 50 or 80.



```
SELECT departments.department_id, round(avg(salary),-1) as "Avg Salary"
FROM employees
JOIN departments
ON employees.department_id=departments.department_id
GROUP BY department_id
HAVING department_id=50 or department_id=80;
```

department_id	Avg Salary
50	3480
80	8960

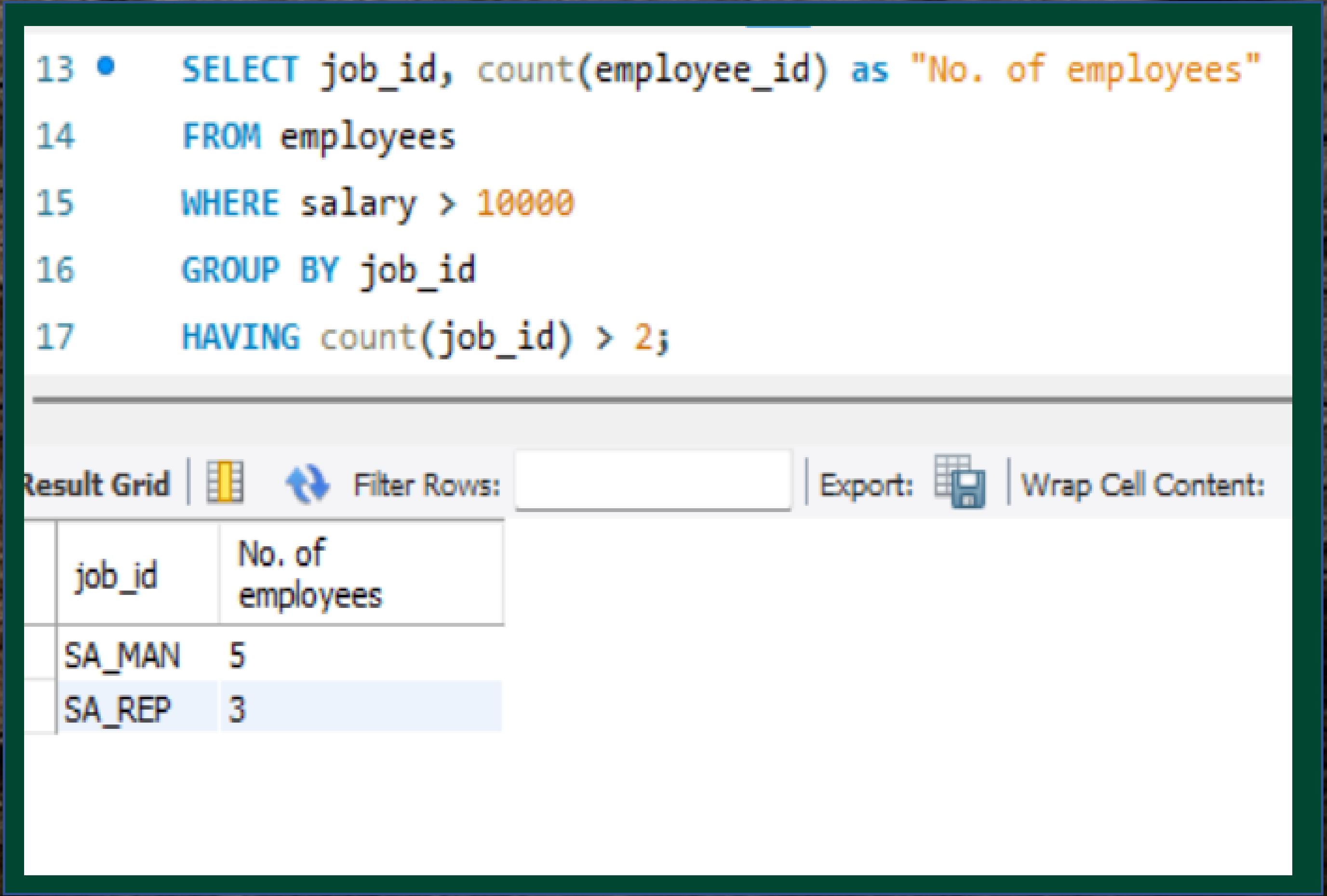
Number of employees per job id-- a. Display the job id and the number of employees for each job id.-- b. Modify your query to display the results only for employees whose salary is greater the-- 10000.



```
SELECT job_id, count(employee_id) as "No. of employees"
FROM employees
WHERE salary > 10000
GROUP BY job_id;
```

job_id	No. of employees
AC_MGR	1
AD_PRES	1
AD_VP	2
FI_MGR	1

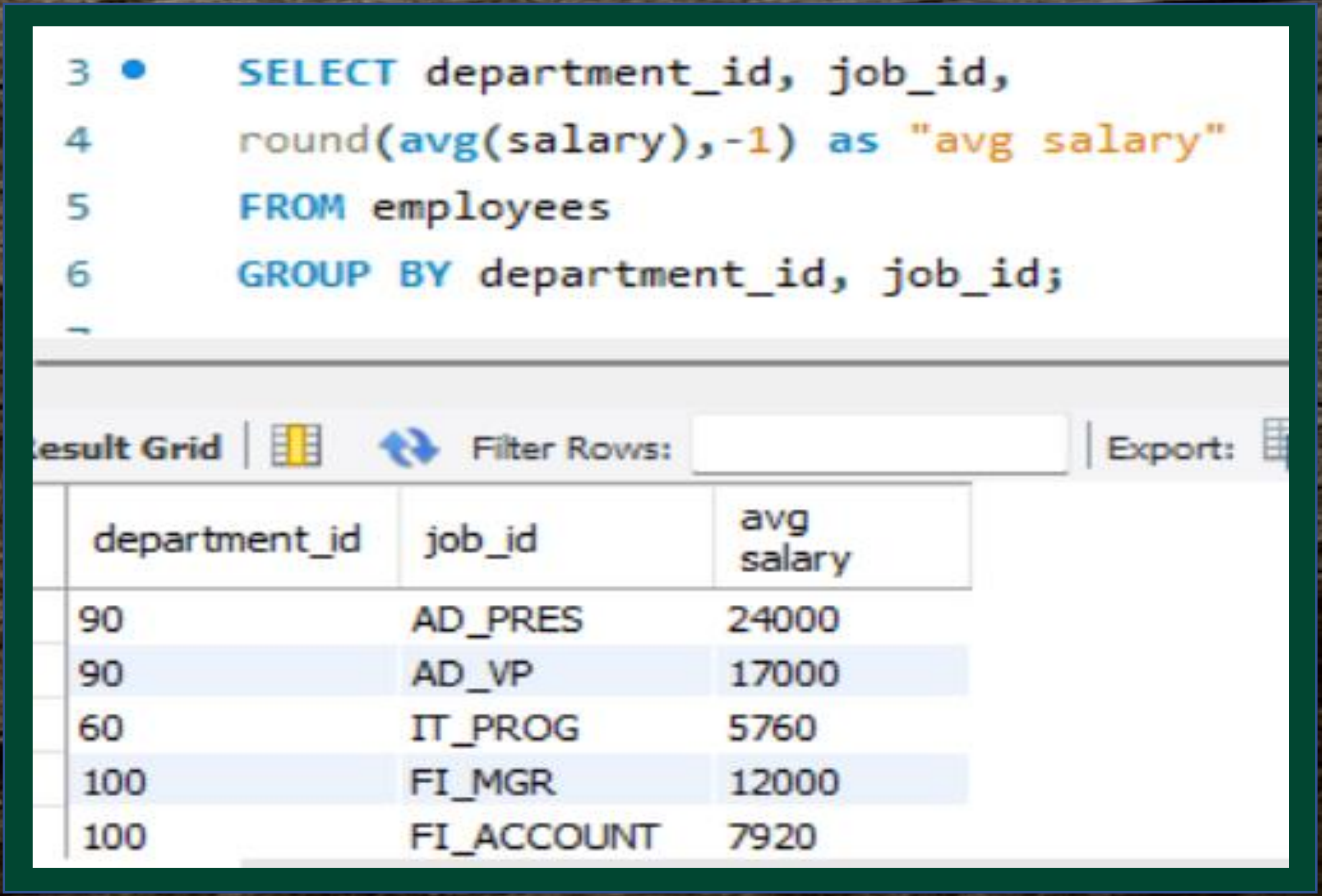
Modify your query again, this time display the results only for jobs with more than 2-- people.



```sql
SELECT job_id, count(employee_id) as "No. of employees"
FROM employees
WHERE salary > 10000
GROUP BY job_id
HAVING count(job_id) > 2;
```

```
job_id   No. of
         employees
SA_MAN   5
SA_REP   3
```

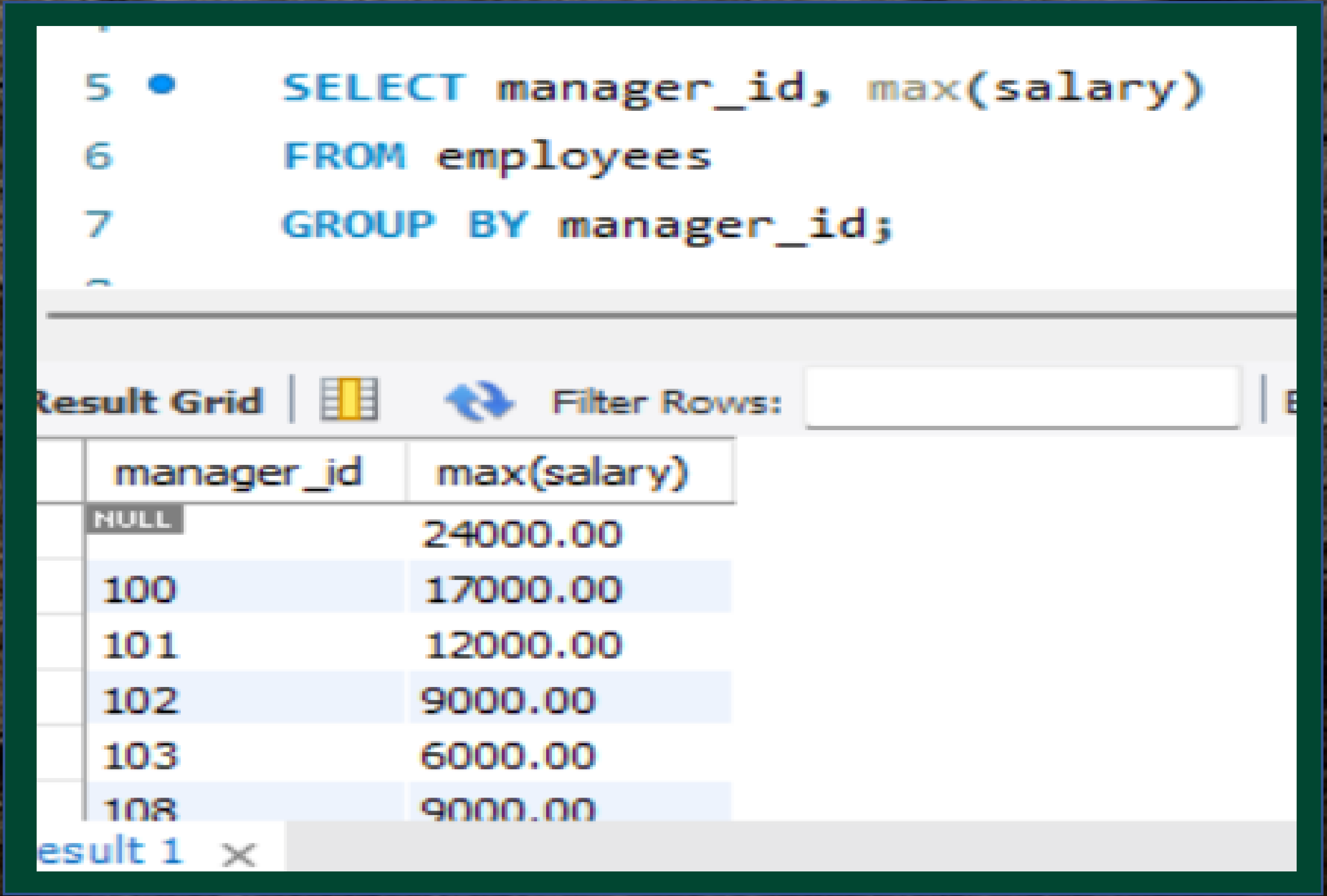
Display the department number, job id, and the average salary for each department and job id.



```sql
SELECT department_id, job_id,
round(avg(salary),-1) as "avg salary"
FROM employees
GROUP BY department_id, job_id;
```

department_id	job_id	avg salary
90	AD_PRES	24000
90	AD_VP	17000
60	IT_PROG	5760
100	FI_MGR	12000
100	FI_ACCOUNT	7920

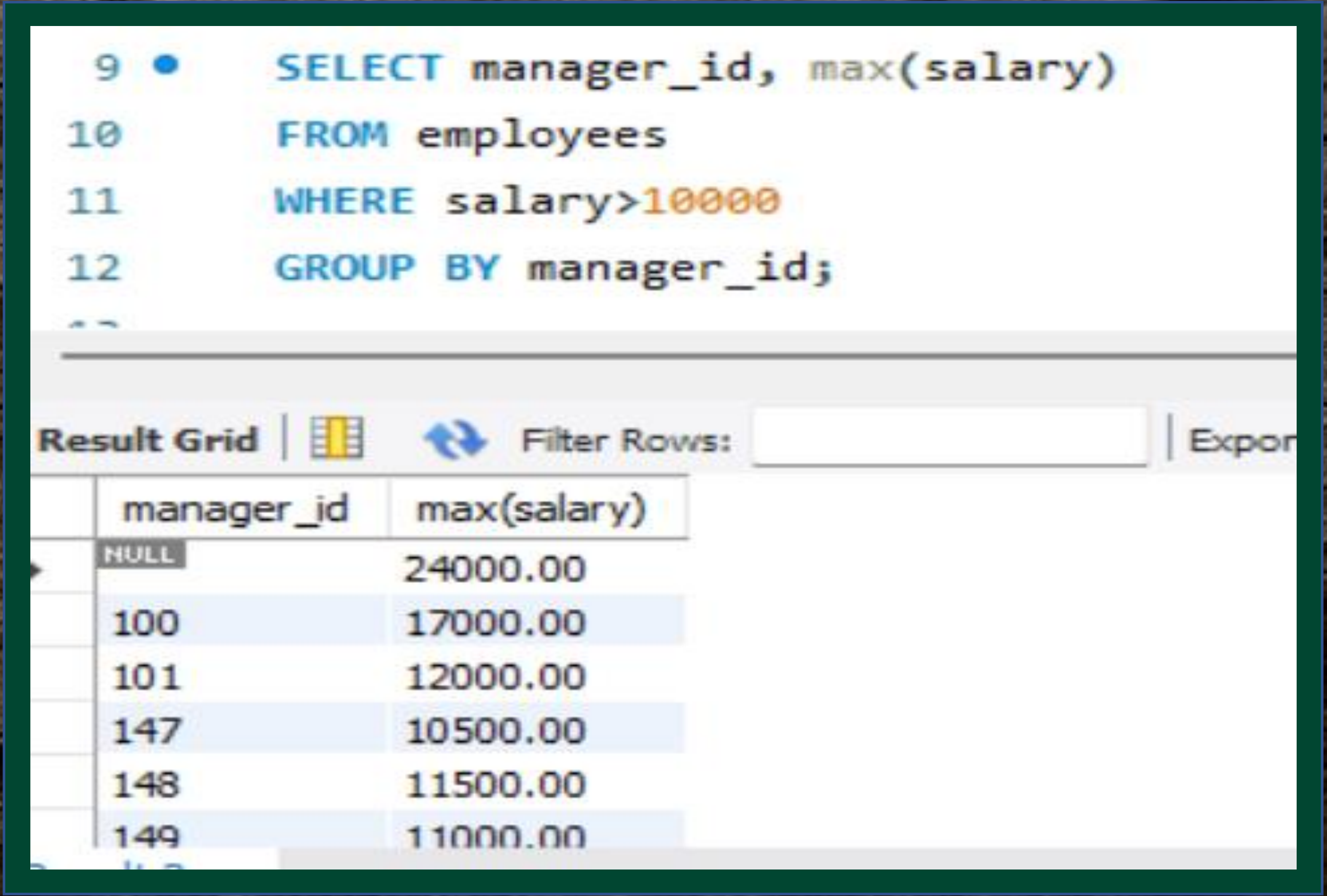
Display the manager number and the highest salary for each manager number.



```
SELECT manager_id, max(salary)
FROM employees
GROUP BY manager_id;
```

manager_id	max(salary)
NULL	24000.00
100	17000.00
101	12000.00
102	9000.00
103	6000.00
108	9000.00

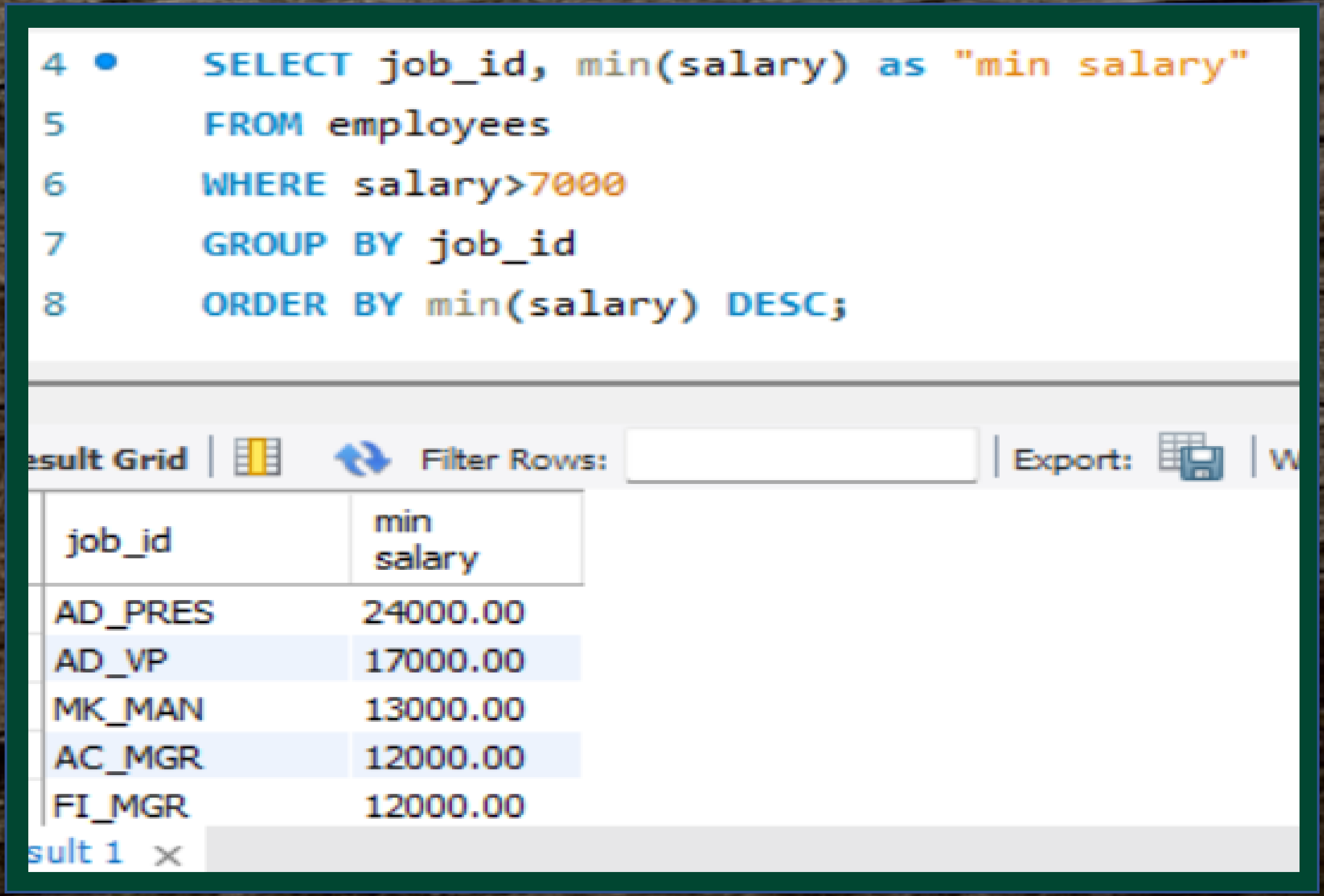
Modify your query to display the results only for employees whose salary is greater than 10000



```
SELECT manager_id, max(salary)
FROM employees
WHERE salary>10000
GROUP BY manager_id;
```

manager_id	max(salary)
NULL	24000.00
100	17000.00
101	12000.00
147	10500.00
148	11500.00
149	11000.00

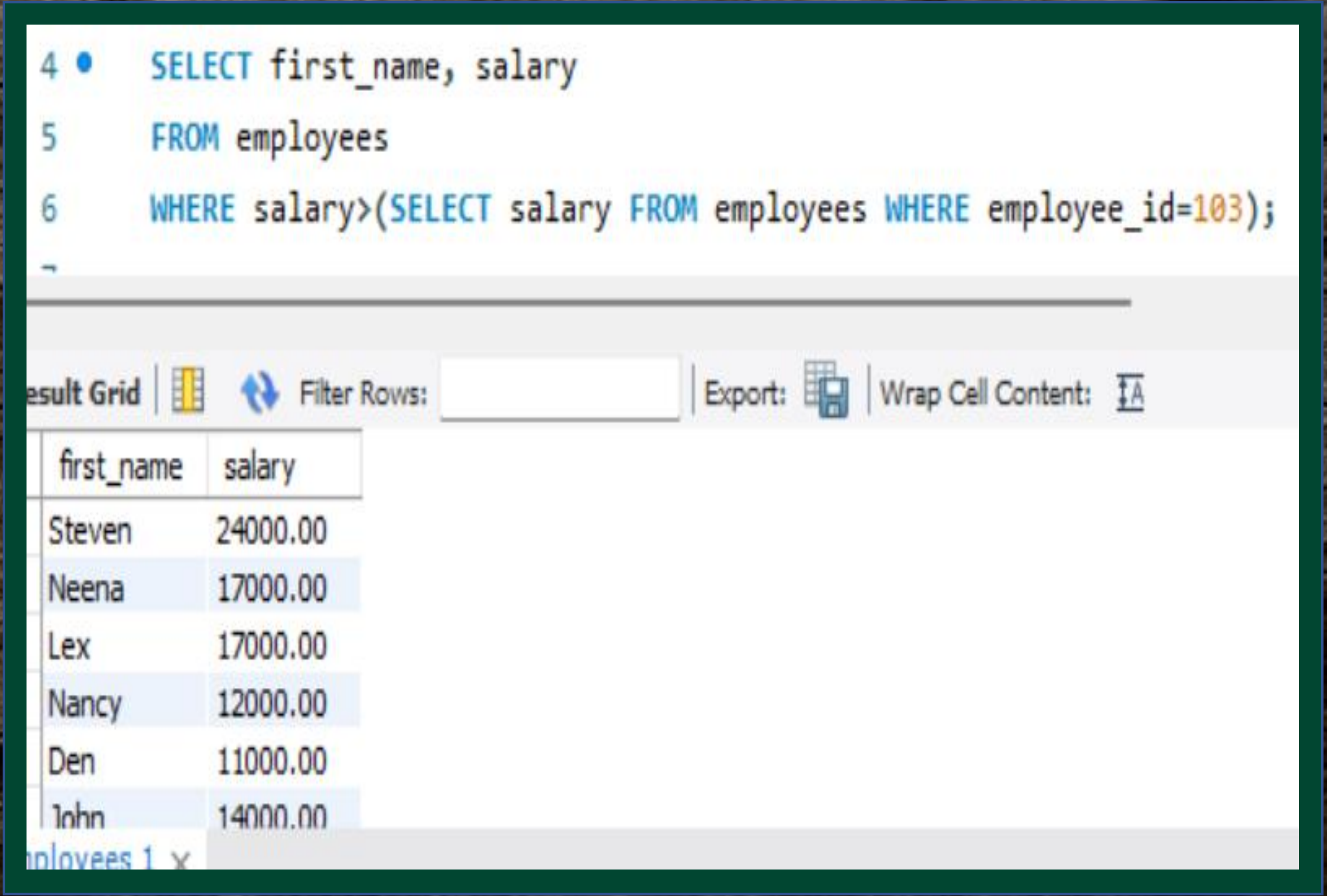
Display the job id and minimum salary for each job id, for all jobs whose minimum salary is greater than 7000.



```sql
SELECT job_id, min(salary) as "min salary"
FROM employees
WHERE salary>7000
GROUP BY job_id
ORDER BY min(salary) DESC;
```

job_id	min salary
AD_PRES	24000.00
AD_VP	17000.00
MK_MAN	13000.00
AC_MGR	12000.00
FI_MGR	12000.00

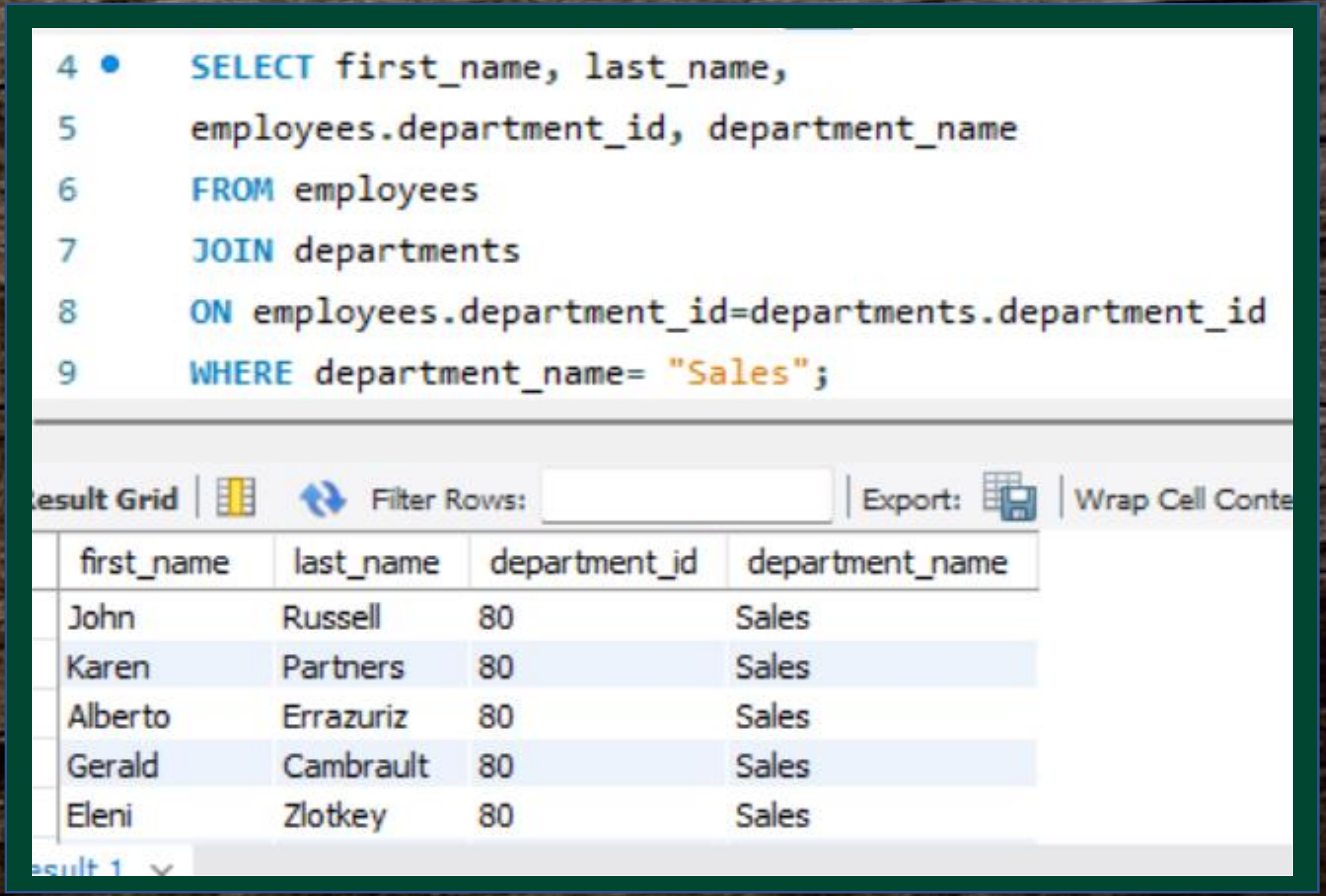
Display the first name and salary for all employees who earn more than employee number 103



```sql
SELECT first_name, salary
FROM employees
WHERE salary>(SELECT salary FROM employees WHERE employee_id=103);
```

first_name	salary
Steven	24000.00
Neena	17000.00
Lex	17000.00
Nancy	12000.00
Den	11000.00
John	14000.00

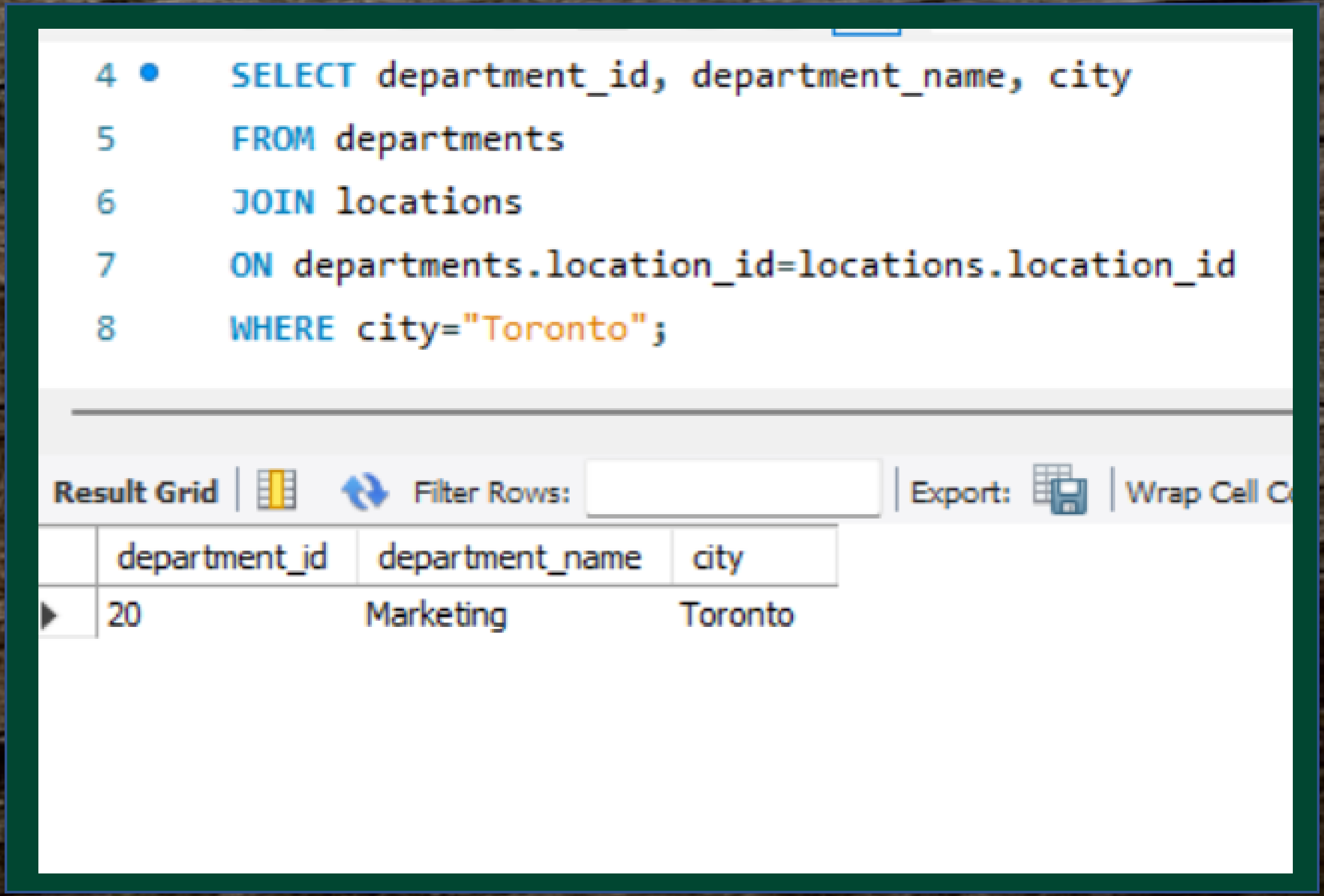
Display the first name, last name, and department number for all employees who work in Sales-- department



```sql
SELECT first_name, last_name,
employees.department_id, department_name
FROM employees
JOIN departments
ON employees.department_id=departments.department_id
WHERE department_name= "Sales";
```

first_name	last_name	department_id	department_name
John	Russell	80	Sales
Karen	Partners	80	Sales
Alberto	Errazuriz	80	Sales
Gerald	Cambrault	80	Sales
Eleni	Zlotkey	80	Sales

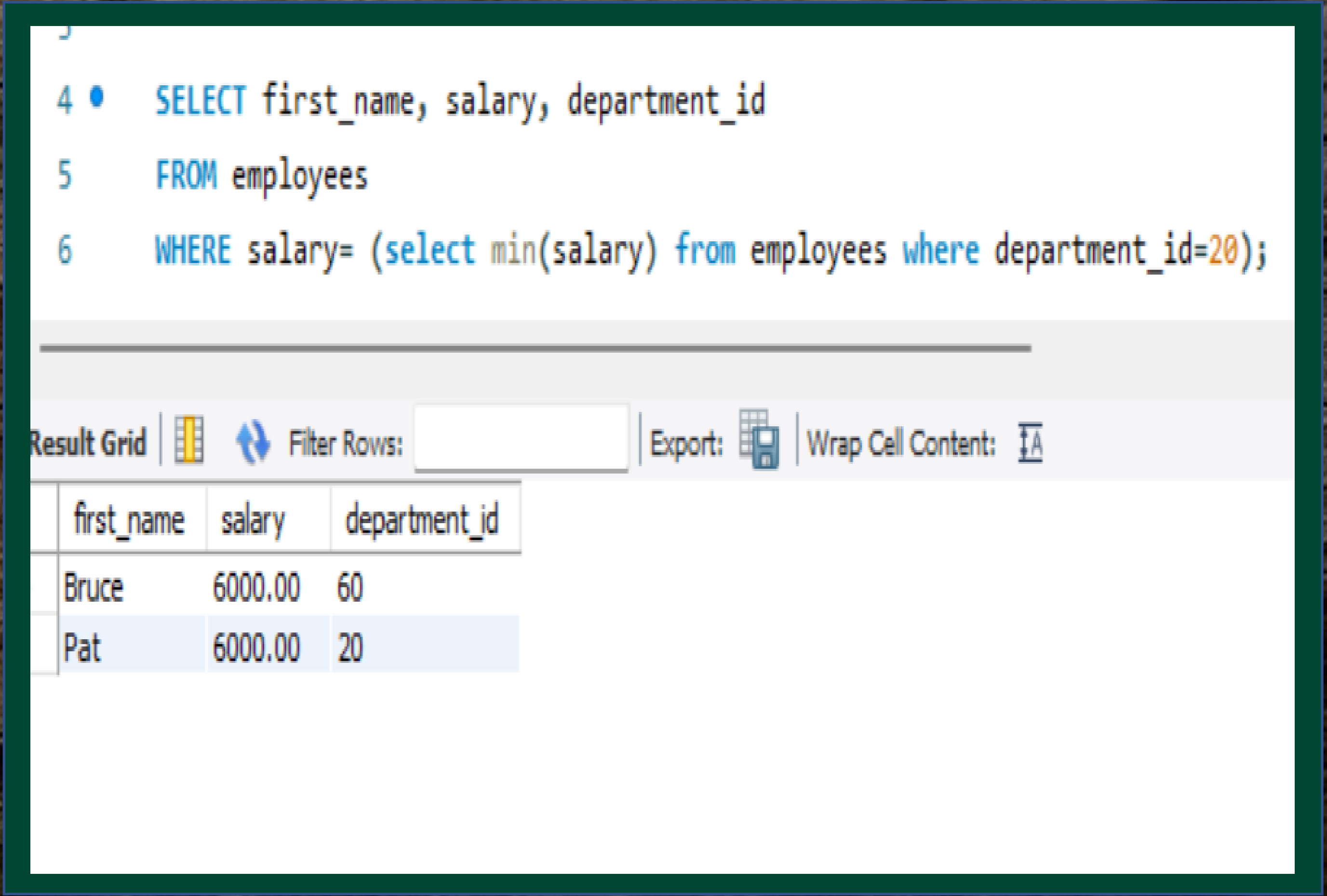
Display the department number and department name for all departments located in Toronto



```sql
SELECT department_id, department_name, city
FROM departments
JOIN locations
ON departments.location_id=locations.location_id
WHERE city="Toronto";
```

department_id	department_name	city
20	Marketing	Toronto

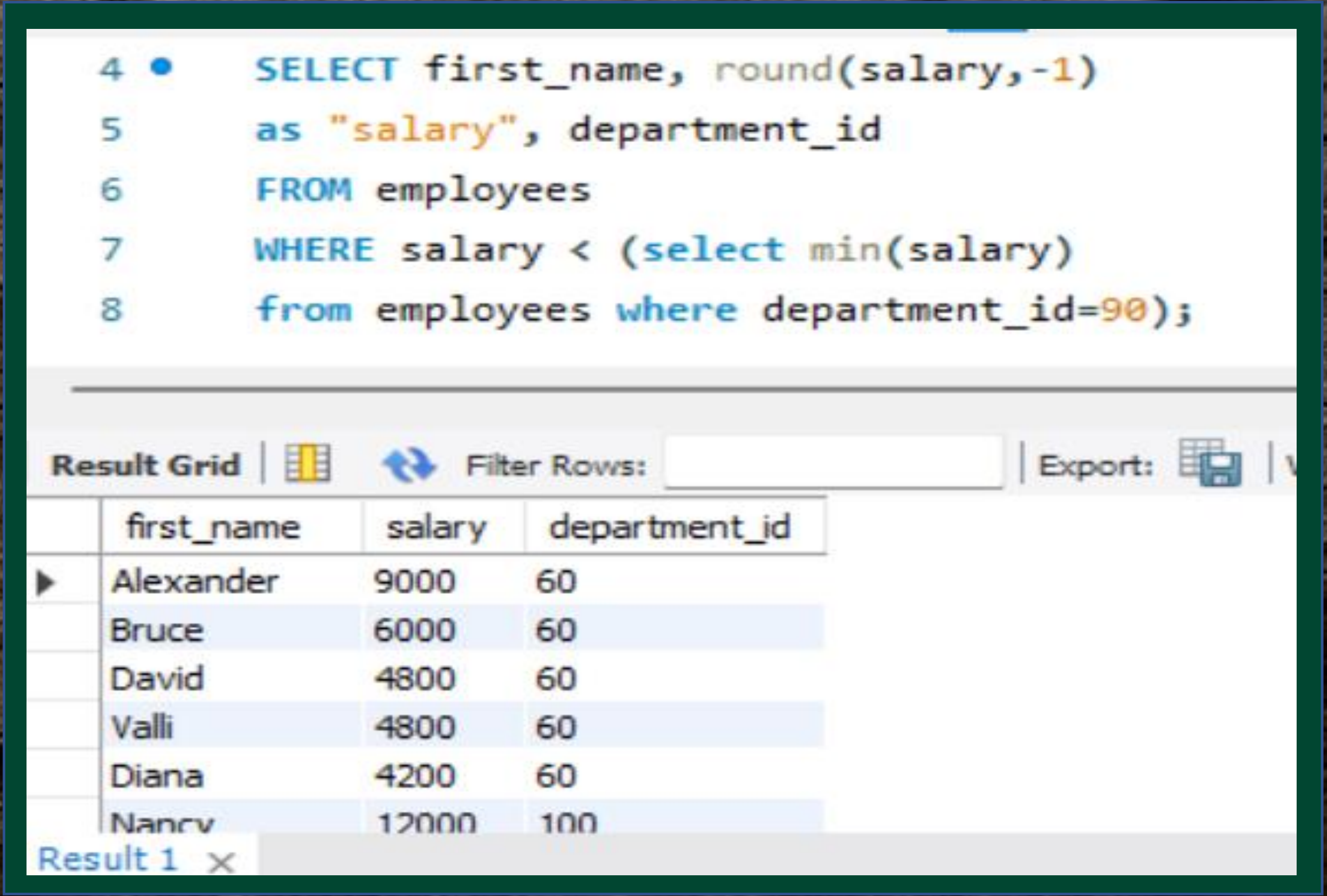
Display the first name, salary, and department number for all employees whose salary equals one of the salaries in department number 20



```
SELECT first_name, salary, department_id
FROM employees
WHERE salary= (select min(salary) from employees where department_id=20);
```

first_name	salary	department_id
Bruce	6000.00	60
Pat	6000.00	20

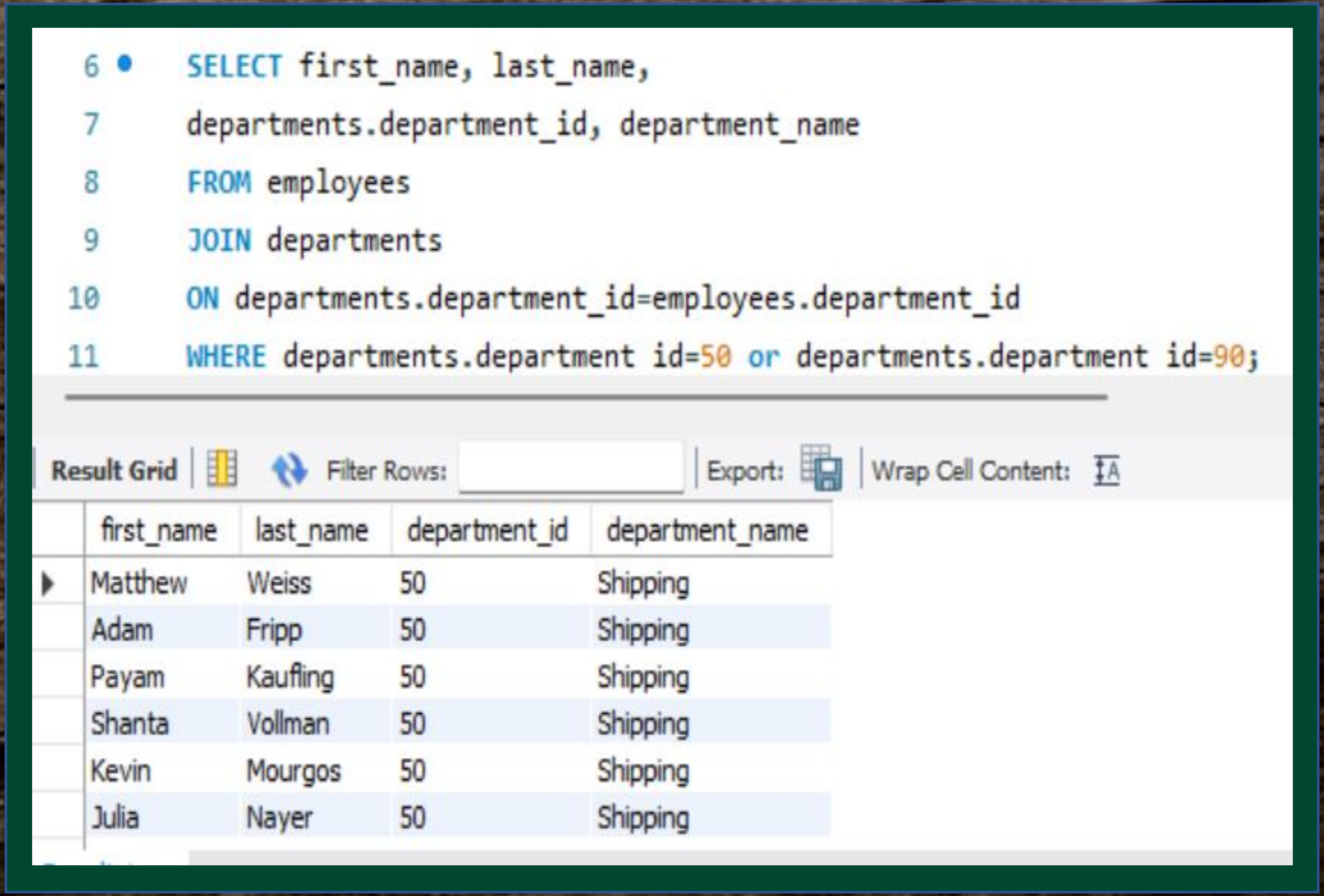
Display the first name, salary, and department number for all employees who earn less than the minimum salary of department number 90



```
SELECT first_name, round(salary,-1)
as "salary", department_id
FROM employees
WHERE salary < (select min(salary)
from employees where department_id=90);
```

first_name	salary	department_id
Alexander	9000	60
Bruce	6000	60
David	4800	60
Valli	4800	60
Diana	4200	60
Nancy	12000	100

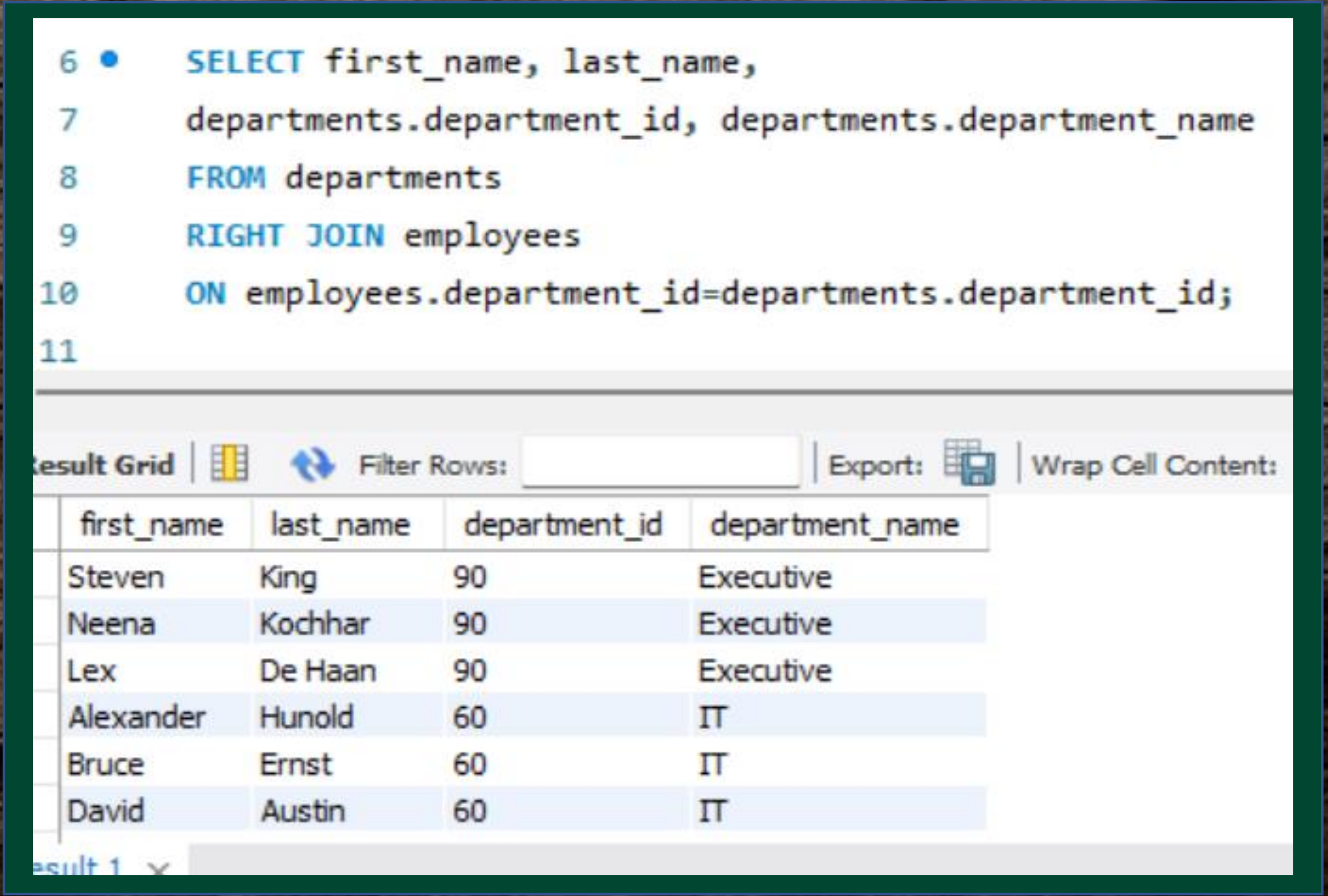
Display the first name, last name, department number, and department name, for all employees in-- departments 50 or 90.



```
SELECT first_name, last_name,
departments.department_id, department_name
FROM employees
JOIN departments
ON departments.department_id=employees.department_id
WHERE departments.department id=50 or departments.department id=90;
```

first_name	last_name	department_id	department_name
Matthew	Weiss	50	Shipping
Adam	Fripp	50	Shipping
Payam	Kaufling	50	Shipping
Shanta	Vollman	50	Shipping
Kevin	Mourgos	50	Shipping
Julia	Nayer	50	Shipping

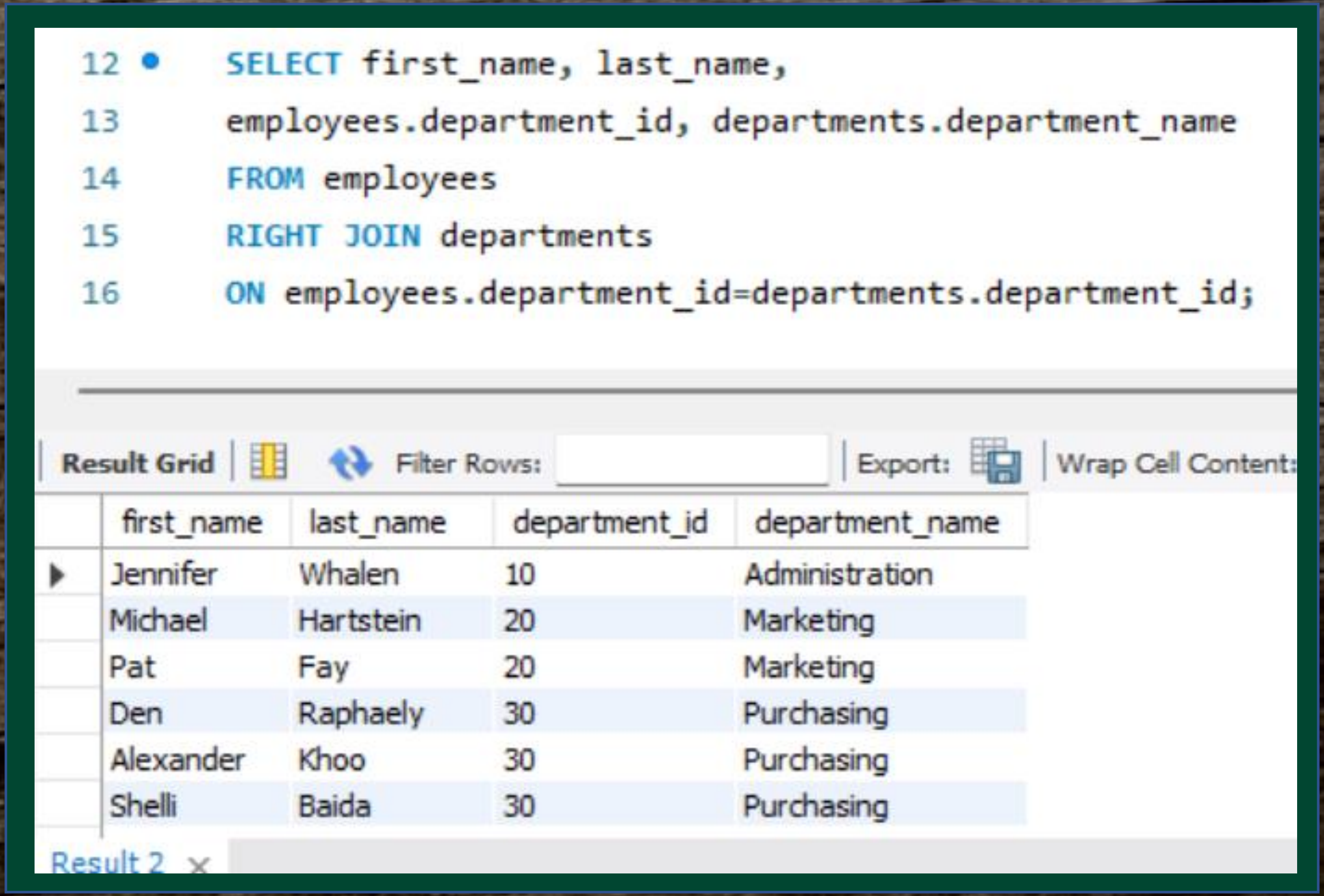
Display the first name, last name, department number, and department name, for all employees-- including those without any department.



```
SELECT first_name, last_name,
departments.department_id, departments.department_name
FROM departments
RIGHT JOIN employees
ON employees.department_id=departments.department_id;
```

first_name	last_name	department_id	department_name
Steven	King	90	Executive
Neena	Kochhar	90	Executive
Lex	De Haan	90	Executive
Alexander	Hunold	60	IT
Bruce	Ernst	60	IT
David	Austin	60	IT

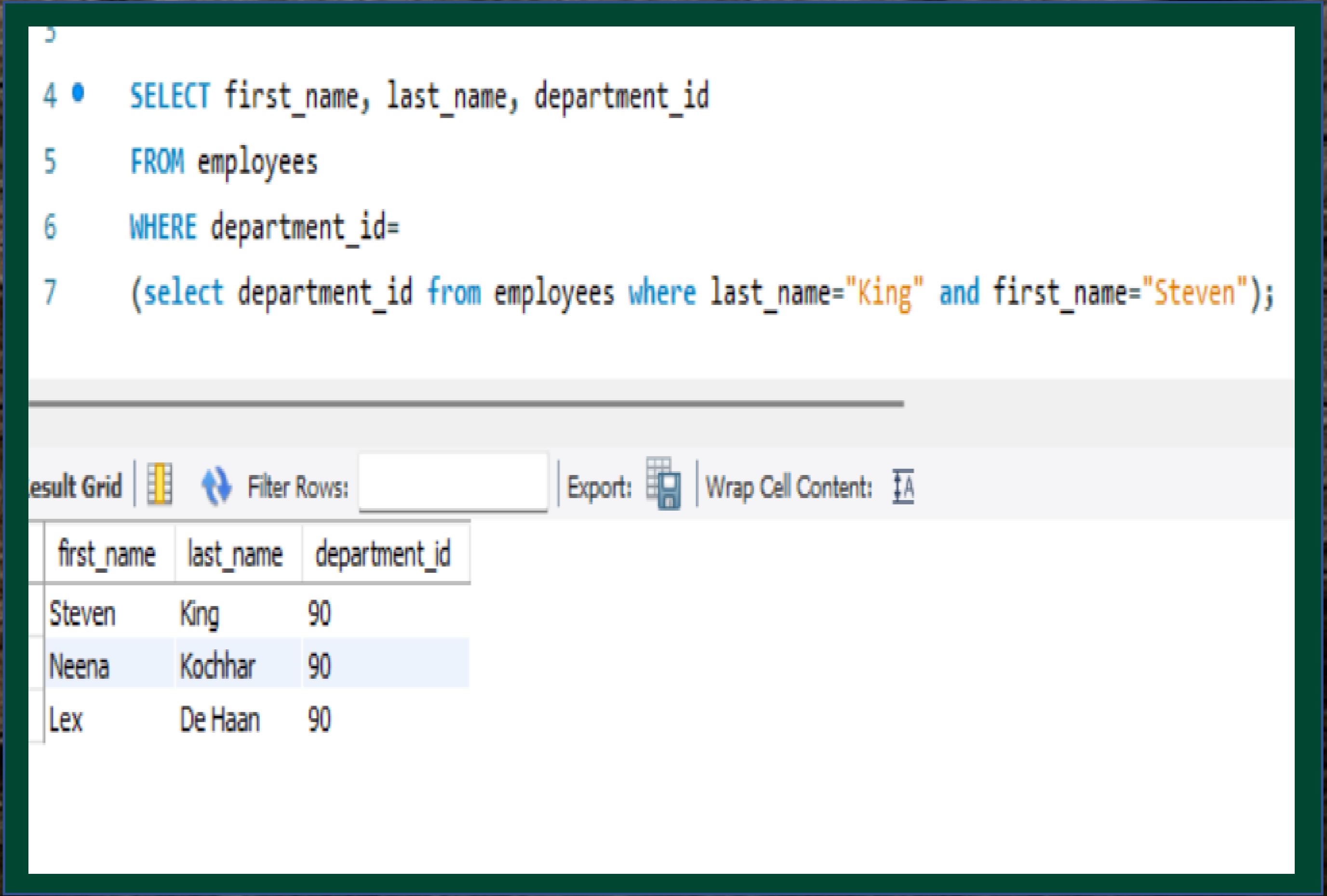
Modify your query to display all departments including departments without any employees.



```sql
SELECT first_name, last_name,
employees.department_id, departments.department_name
FROM employees
RIGHT JOIN departments
ON employees.department_id=departments.department_id;
```

first_name	last_name	department_id	department_name
Jennifer	Whalen	10	Administration
Michael	Hartstein	20	Marketing
Pat	Fay	20	Marketing
Den	Raphaely	30	Purchasing
Alexander	Khoo	30	Purchasing
Shelli	Baida	30	Purchasing

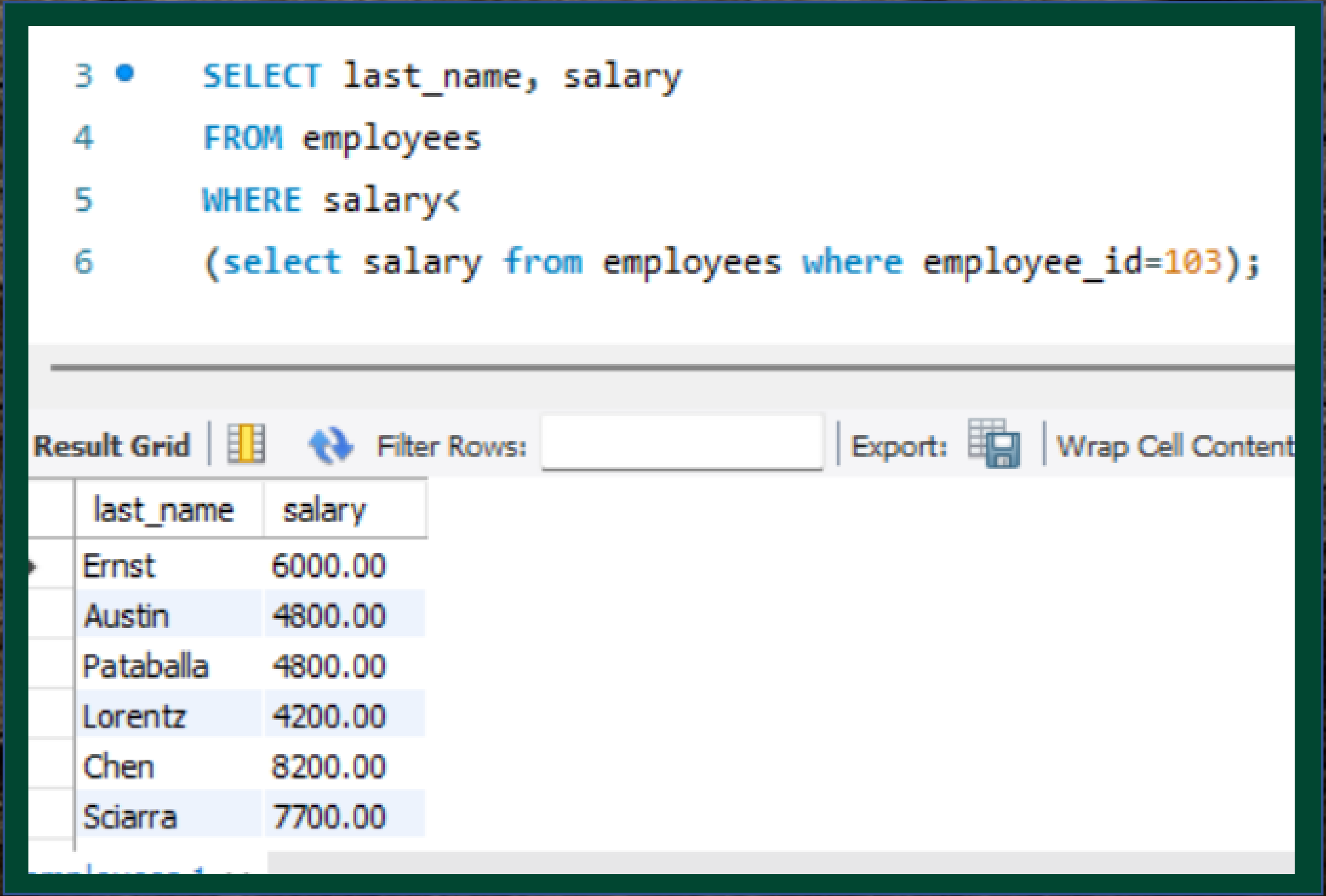
Display the first name, last name, and department number for all employees who work in the same department as an employee whose last name is “King”.



```
SELECT first_name, last_name, department_id
FROM employees
WHERE department_id=
(select department_id from employees where last_name="King" and first_name="Steven");
```

first_name	last_name	department_id
Steven	King	90
Neena	Kochhar	90
Lex	De Haan	90

Display the last name and salary for all employees who earn less than employee number 103



```sql
SELECT last_name, salary
FROM employees
WHERE salary<
(select salary from employees where employee_id=103);
```

last_name	salary
Ernst	6000.00
Austin	4800.00
Pataballa	4800.00
Lorentz	4200.00
Chen	8200.00
Sciarra	7700.00

THANK YOU!