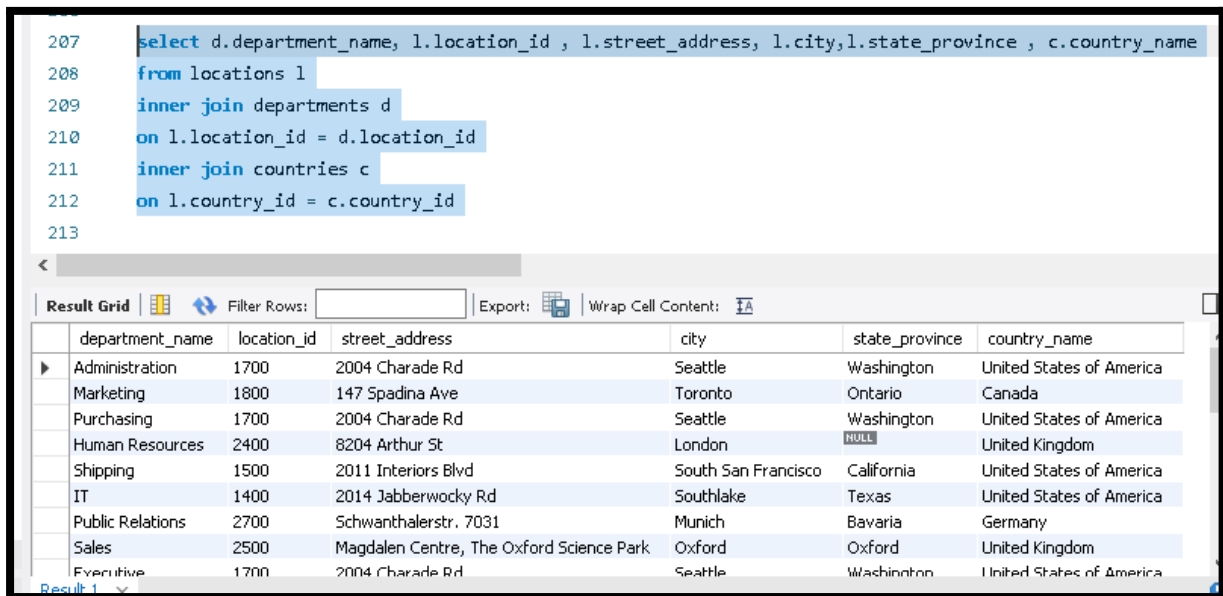


Join

1. Write a query to find the addresses (location_id, street_address, city, state_province, country_name) of all the departments.

```
select d.department_name, l.location_id , l.street_address, l.city,l.state_province ,  
c.country_name  
from locations l  
inner join departments d  
on l.location_id = d.location_id  
inner join countries c  
on l.country_id = c.country_id
```



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

```
207 select d.department_name, l.location_id , l.street_address, l.city,l.state_province , c.country_name  
208 from locations l  
209 inner join departments d  
210 on l.location_id = d.location_id  
211 inner join countries c  
212 on l.country_id = c.country_id  
213
```

Below the query, the results are displayed in a grid. The grid has columns: department_name, location_id, street_address, city, state_province, and country_name. The results are as follows:

department_name	location_id	street_address	city	state_province	country_name
Administration	1700	2004 Charade Rd	Seattle	Washington	United States of America
Marketing	1800	147 Spadina Ave	Toronto	Ontario	Canada
Purchasing	1700	2004 Charade Rd	Seattle	Washington	United States of America
Human Resources	2400	8204 Arthur St	London	NULL	United Kingdom
Shipping	1500	2011 Interiors Blvd	South San Francisco	California	United States of America
IT	1400	2014 Jabberwocky Rd	Southlake	Texas	United States of America
Public Relations	2700	Schwanthalerstr. 7031	Munich	Bavaria	Germany
Sales	2500	Magdalen Centre, The Oxford Science Park	Oxford	Oxford	United Kingdom
Executive	1700	2004 Charade Rd	Seattle	Washington	United States of America

2. Write a query to find the name (first_name, last name), department ID and name of all the employees.

```
select e.first_name,e.last_name,e.department_id , d.department_name  
from employees e  
inner join departments d  
on e.department_id = d.department_id
```

```

218
219 select e.first_name,e.last_name,e.department_id , d.department_name
220 from employees e
221 inner join departments d
222 on e.department_id = d.department_id
223
224

```

Result Grid

	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
	Sigal	Tobias	30	Purchasing
	Guy	Himuro	30	Purchasing
	Karen	Colmenares	30	Purchasing

Result 2 x

3. Write a query to find the name (first_name, last_name), job, department ID and name of the employees who works in London.

```

select e.first_name , e.last_name , e.job_id , e.department_id , d.department_name
from employees e
inner join departments d
on e.department_id = d.department_id
inner join locations l
on l.location_id = d.location_id
where l.city = "London"

```

```

230 select e.first_name , e.last_name , e.job_id , e.department_id , d.department_name
231 from employees e
232 inner join departments d
233 on e.department_id = d.department_id
234 inner join locations l
235 on l.location_id = d.location_id
236 where l.city = "London"

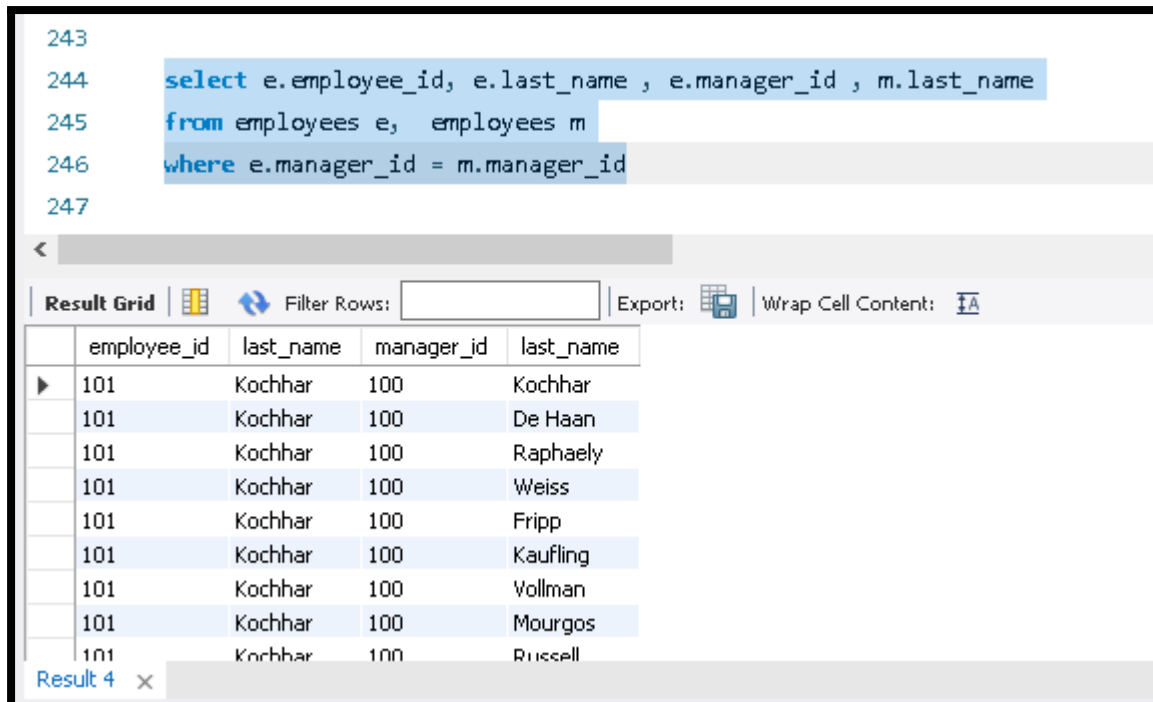
```

Result Grid

	first_name	last_name	job_id	department_id	department_name
▶	Susan	Mavris	HR_REP	40	Human Resources

4. Write a query to find the employee id, name (last_name) along with their manager_id and name (last_name).

```
select e.employee_id, e.last_name , e.manager_id , m.last_name
from employees e, employees m
where e.manager_id = m.manager_id
```



243
244 `select e.employee_id, e.last_name , e.manager_id , m.last_name`
245 `from employees e, employees m`
246 `where e.manager_id = m.manager_id`
247

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

	employee_id	last_name	manager_id	last_name
▶	101	Kochhar	100	Kochhar
	101	Kochhar	100	De Haan
	101	Kochhar	100	Raphaely
	101	Kochhar	100	Weiss
	101	Kochhar	100	Fripp
	101	Kochhar	100	Kaufling
	101	Kochhar	100	Vollman
	101	Kochhar	100	Mourgos
	101	Kochhar	100	Russell

Result 4 x

5. Write a query to find the name (first_name, last_name) and hire date of the employees who was hired after 'Jones'.

```
select first_name,last_name,hire_date
from employees
where hire_date > (select hire_date from employees where last_name = 'Jones')
```

OR

```
SELECT e.first_name, e.last_name, e.hire_date
FROM employees e
JOIN employees davies
ON (davies.last_name = 'Jones')
WHERE davies.hire_date < e.hire_date;
```

```

252
253 select first_name,last_name,hire_date
254 from employees
255 where hire_date > (select hire_date from employees where last_name = 'Jones')
256
257

```

Result Grid

	first_name	last_name	hire_date
▶	Luis	Popp	1999-12-07
	Karen	Colmenares	1999-08-10
	Kevin	Mourgos	1999-11-16
	Steven	Markle	2000-03-08
	TJ	Olson	1999-04-10
	Ki	Gee	1999-12-12
	Hazel	Philtanker	2000-02-06
	Gerald	Cambrault	1999-10-15
	Eloni	7lnhkev	2000-01-29

employees 1

6. Write a query to get the department name and number of employees in the department.

```

select j.department_name, count(e.department_id)
from employees e
join departments j
on e.department_id = j.department_id
group by e.department_id

```

```

2
3 select j.department_name, count(e.department_id)
4 from employees e
5 join departments j
6 on e.department_id = j.department_id
7 group by e.department_id

```

Result Grid

	department_name	count(e.department_id)
▶	Administration	1
	Marketing	2
	Purchasing	6
	Human Resources	1
	Shipping	45
	IT	5
	Public Relations	1
	Sales	34

7. Write a query to find the employee ID, job title, number of days between ending date and starting date for all jobs in department 90.

```
select jh.employee_id, j.job_title , datediff(jh.end_date,jh.start_date) as 'Number of Days'
from job_history jh
join jobs j
on jh.job_id = j.job_id
where jh.department_id = 90;
```

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

```
12
13 select jh.employee_id, j.job_title , datediff(jh.end_date,jh.start_date) as 'Number of Days'
14 from job_history jh
15 join jobs j
16 on jh.job_id = j.job_id
17 where jh.department_id = 90;
```

Below the code is a toolbar with 'Result Grid', 'Filter Rows', 'Export', and 'Wrap Cell Content' options. The 'Result Grid' is selected, showing a table with the following data:

employee_id	job_title	Number of Days
200	Administration Assistant	2100
200	Public Accountant	1644

8. Write a query to display the department ID and name and first name of manager.

```
select d.department_id , d.department_name , e.first_name as Manager_Name
from departments d
join employees e
On d.manager_id = e.employee_id
```

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

```
26
27 select d.department_id , d.department_name , e.first_name as Manager_Na
28 from departments d
29 join employees e
30 On d.manager_id = e.employee_id
31
```

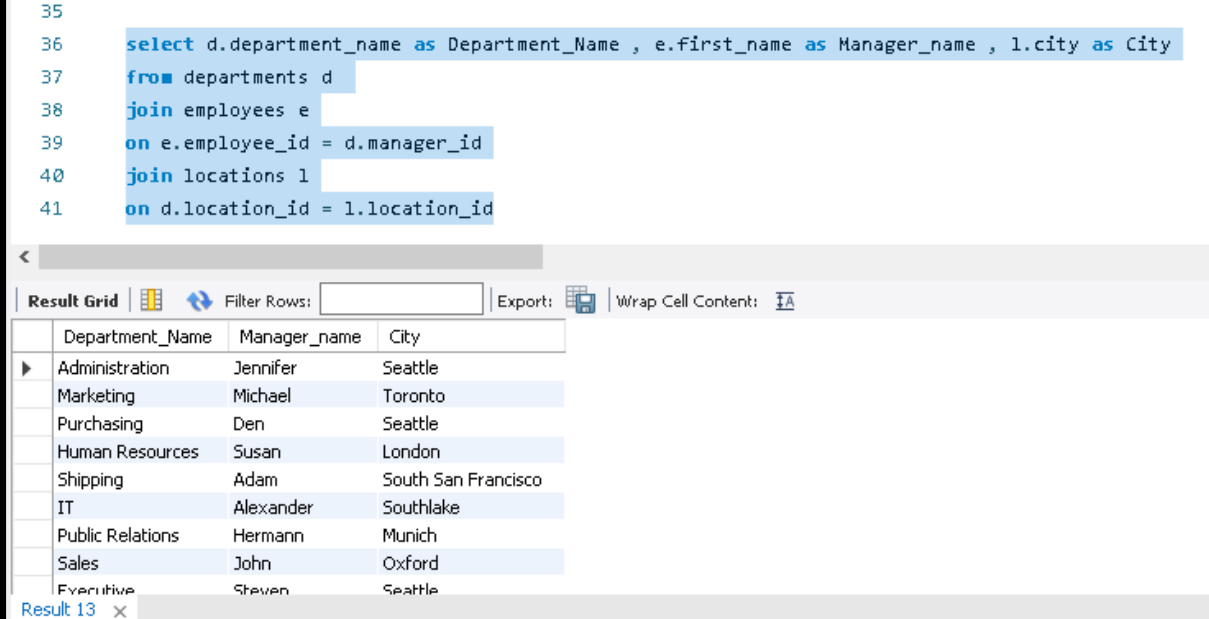
Below the code is a toolbar with 'Result Grid', 'Filter Rows', 'Export', and 'Wrap Cell Content' options. The 'Result Grid' is selected, showing a table with the following data:

department_id	department_name	Manager_Name
10	Administration	Jennifer
20	Marketing	Michael
30	Purchasing	Den
40	Human Resources	Susan
50	Shipping	Adam
60	IT	Alexander
70	Public Relations	Hermann
80	Sales	John
90	Executive	Steven

Result 12 x

9. Write a query to display the department name, manager name, and city.

```
select d.department_name as Department_Name , e.first_name as Manager_name , l.city as  
City  
from departments d  
join employees e  
on e.employee_id = d.manager_id  
join locations l  
on d.location_id = l.location_id
```



The screenshot shows a SQL IDE interface. The top pane displays a SQL query with line numbers 35 to 41. The query selects department names, manager names, and cities from the departments, employees, and locations tables. The bottom pane shows the 'Result Grid' with a table of 13 rows and 3 columns: Department_Name, Manager_name, and City. The table lists departments and their respective managers and cities. The interface includes a 'Filter Rows' field, an 'Export' button, and a 'Wrap Cell Content' checkbox.

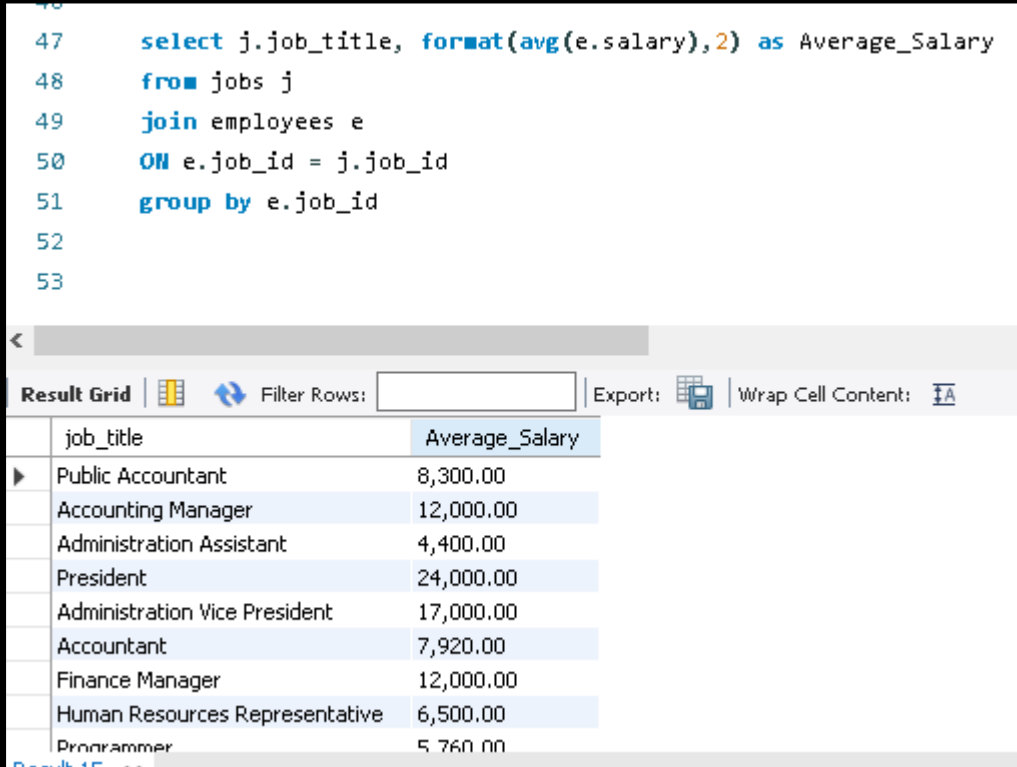
```
35  
36 select d.department_name as Department_Name , e.first_name as Manager_name , l.city as City  
37 from departments d  
38 join employees e  
39 on e.employee_id = d.manager_id  
40 join locations l  
41 on d.location_id = l.location_id
```

Department_Name	Manager_name	City
Administration	Jennifer	Seattle
Marketing	Michael	Toronto
Purchasing	Den	Seattle
Human Resources	Susan	London
Shipping	Adam	South San Francisco
IT	Alexander	Southlake
Public Relations	Hermann	Munich
Sales	John	Oxford
Executive	Steven	Seattle

Result 13

10. Write a query to display the job title and average salary of employees.

```
select j.job_title, format(avg(e.salary),2) as Average_Salary
from jobs j
join employees e
ON e.job_id = j.job_id
group by e.job_id
```

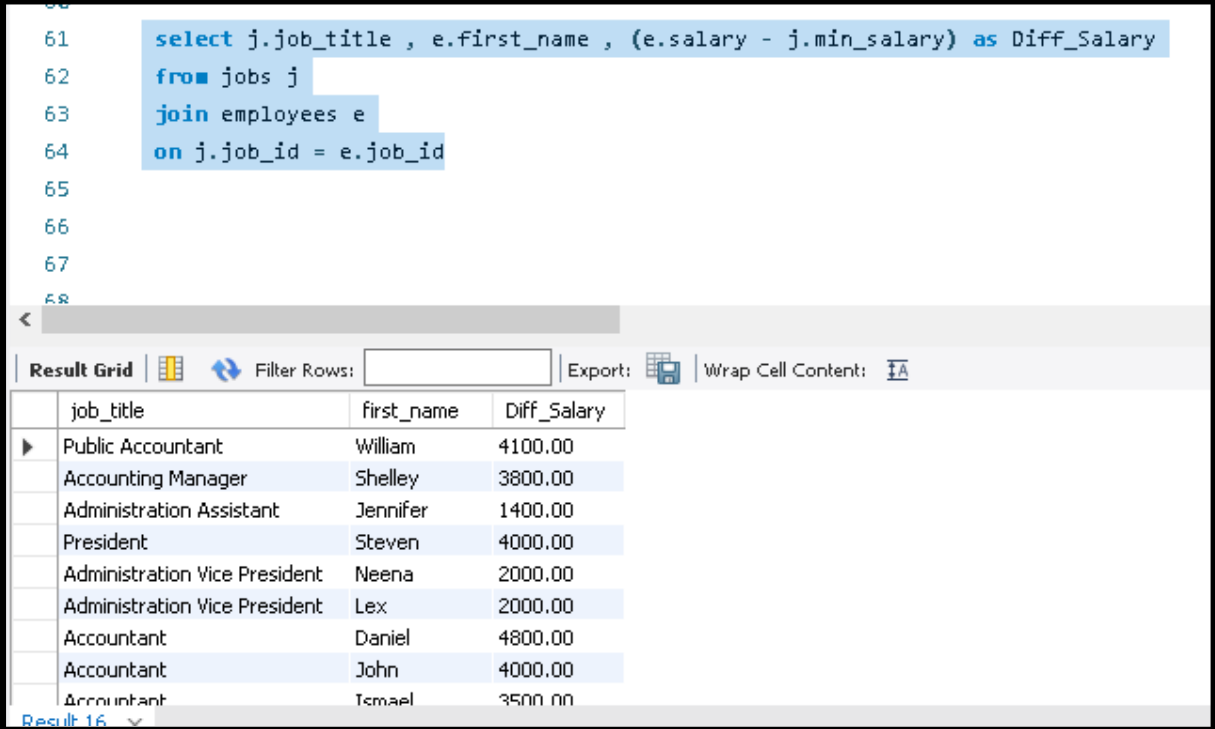


```
46
47 select j.job_title, format(avg(e.salary),2) as Average_Salary
48 from jobs j
49 join employees e
50 ON e.job_id = j.job_id
51 group by e.job_id
52
53
```

job_title	Average_Salary
Public Accountant	8,300.00
Accounting Manager	12,000.00
Administration Assistant	4,400.00
President	24,000.00
Administration Vice President	17,000.00
Accountant	7,920.00
Finance Manager	12,000.00
Human Resources Representative	6,500.00
Programmer	5,760.00

11. Write a query to display job title, employee name, and the difference between salary of the employee and minimum salary for the job.

```
select j.job_title , e.first_name , (e.salary - j.min_salary) as Diff_Salary
from jobs j
join employees e
on j.job_id = e.job_id
```

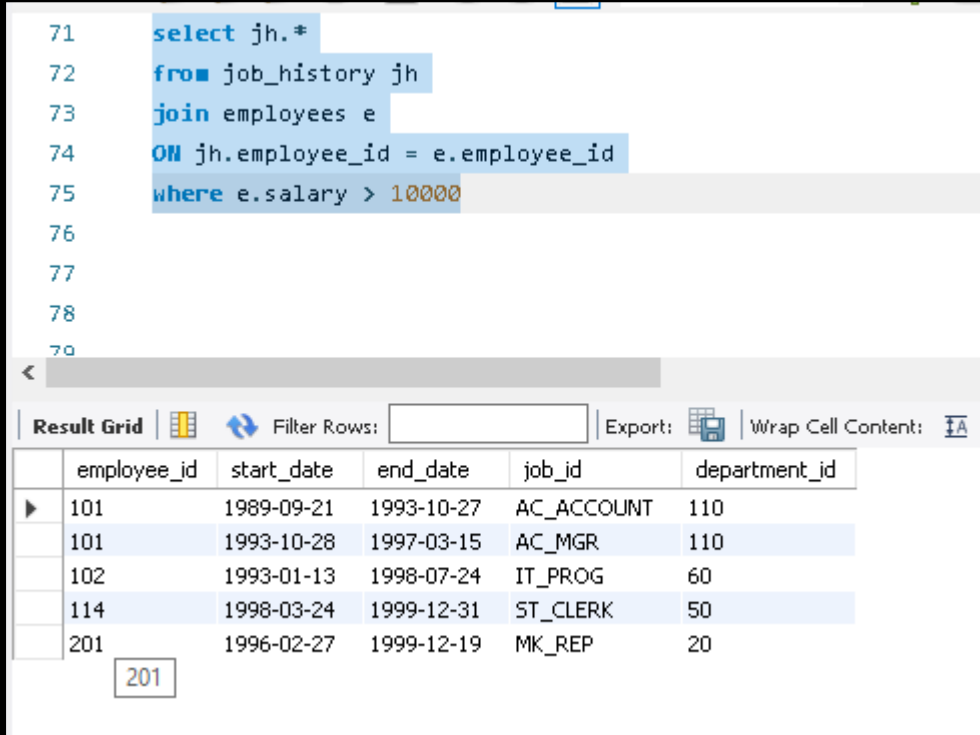


The screenshot shows a SQL query editor with a query that has been executed. Below the editor is a 'Result Grid' displaying the results of the query. The grid has four columns: 'job_title', 'first_name', and 'Diff_Salary'. The results show a list of employees and their corresponding job titles, with the difference between their salary and the minimum salary for that job.

job_title	first_name	Diff_Salary
Public Accountant	William	4100.00
Accounting Manager	Shelley	3800.00
Administration Assistant	Jennifer	1400.00
President	Steven	4000.00
Administration Vice President	Neena	2000.00
Administration Vice President	Lex	2000.00
Accountant	Daniel	4800.00
Accountant	John	4000.00
Accountant	Ismail	3500.00

12. Write a query to display the job history that were done by any employee who is currently drawing more than 10000 of salary.

```
select jh.*  
from job_history jh  
join employees e  
ON jh.employee_id = e.employee_id  
where e.salary > 10000
```



The screenshot shows a SQL query editor with a query on lines 71-75. Below the editor is a 'Result Grid' showing the output of the query. The grid has columns for employee_id, start_date, end_date, job_id, and department_id. The results show five rows of job history for employees with IDs 101, 102, 114, and 201. Employee 101 has two entries: one as AC_ACCOUNT and one as AC_MGR. Employee 102 has one entry as IT_PROG. Employee 114 has one entry as ST_CLERK. Employee 201 has one entry as MK_REP. The interface includes a 'Filter Rows' field, an 'Export' button, and a 'Wrap Cell Content' checkbox.

	employee_id	start_date	end_date	job_id	department_id
▶	101	1989-09-21	1993-10-27	AC_ACCOUNT	110
	101	1993-10-28	1997-03-15	AC_MGR	110
	102	1993-01-13	1998-07-24	IT_PROG	60
	114	1998-03-24	1999-12-31	ST_CLERK	50
	201	1996-02-27	1999-12-19	MK_REP	20

13. Write a query to display department name, name (first_name, last_name), hire date, salary of the manager for all managers whose experience is more than 15 years.

```
select d.department_name , e.first_name , e.last_name , e.hire_date , e.salary
from departments d
join employees e
ON e.manager_id = d.manager_id
where year(e.hire_date) > 15
```

```
81
82      select d.department_name , e.first_name , e.last_name , e.hire_date , e.salary
83      from departments d
84      join employees e
85      ON e.manager_id = d.manager_id
86      where year(e.hire_date) > 15
87
88
```

	department_name	first_name	last_name	hire_date	salary
▶	Marketing	Pat	Fay	1997-08-17	6000.00
	Purchasing	Alexander	Khoo	1995-05-18	3100.00
	Purchasing	Shelli	Baida	1997-12-24	2900.00
	Purchasing	Sigal	Tobias	1997-07-24	2800.00
	Purchasing	Guy	Himuro	1998-11-15	2600.00
	Purchasing	Karen	Colmenares	1999-08-10	2500.00
	Shipping	Laura	Bissot	1997-08-20	3300.00
	Shipping	Mozhe	Atkinson	1997-10-30	2800.00
	Shipping	James	Marlow	1997-02-16	2500.00

Result 19 x