

Homework 2
Advance SQL

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Who is manager of employee number 104,105,106,107? and what department they are in?

The screenshot shows the DBeaver 21.0.5 interface. The SQL Editor contains the following query:

```
select
a.employee_id ,
a.first_name ,
a.last_name ,
c.job_title,
a.salary ,
c.min_salary ,
c.max_salary ,
b.department_id ,
b.department_name,
a.manager_id ,
d.first_name ,
d.last_name
from datasource.employees a
right join datasource.departments b on b.department_id = a.department_id
right join datasource.jobs c on c.job_id = a.job_id
right join datasource.employees d on d.employee_id =a.manager_id
where a.manager_id between 103 and 107
```

The results are displayed in a table with the following data:

	employee_id	first_name	last_name	job_title	salary	min_salary	max_salary	department
1	107	Diana	Lorentz	Programmer	4,200	4,000	10,000	10
2	106	Valli	Pataballa	Programmer	4,800	4,000	10,000	10
3	105	David	Austin	Programmer	4,800	4,000	10,000	10
4	104	Bruce	Ernst	Programmer	6,000	4,000	10,000	10

The status bar at the bottom indicates "4 row(s) fetched - 36ms".

Please show me total employees in each department. And sort them from the least to the most employees

```
select
  job_title ,
  count(distinct employee_id) as total_employee,
  avg(salary) as average_salary
from (
  select
    a.employee_id ,
    a.first_name ,
    a.last_name ,
    c.job_title,
    a.salary ,
    c.min_salary ,
    c.max_salary ,
    b.department_id ,
    b.department_name,
    a.manager_id ,
    d.first_name ,
    d.last_name
  from datasource.employees a
  right join datasource.departments b on b.department_id = a.department_id
  right join datasource.jobs c on c.job_id = a.job_id
  right join datasource.employees d on d.employee_id = a.manager_id
) table1
group by 1
order by 2 desc
|
```

job_title , count(distinct employee_id) Enter a SQL expression to filter results (use Ctrl-)		
ABC job_title	123 total_employee	123 average_salary
Sales Representative	29	8,396.5517241379
Stock Clerk	20	2,785
Shipping Clerk	20	3,215
Sales Manager	5	12,200
Stock Manager	5	7,280
Purchasing Clerk	5	2,780
Programmer	5	5,760
Accountant	5	7,920
Administration Vice President	2	17,000
Public Accountant	1	8,300
Accounting Manager	1	12,000
Administration Assistant	1	4,400
Finance Manager	1	12,000
Human Resources Representative	1	6,500
Marketing Manager	1	13,000
Marketing Representative	1	6,000
Public Relations Representative	1	10,000
Purchasing Manager	1	11,000
[NULL]	0	[NULL]

Which top 5 non-managerial employees who has highest salary? and what is their job name?

Sales Representative, Shipping Clerk, Accountant, Programmer, Purchasing Clerk.

```
select
  job_title ,
  count(distinct employee_id) as total_employee,
  avg(salary) as average_salary
from (
  select
    a.employee_id ,
    a.first_name ,
    a.last_name ,
    c.job_title,
    a.salary ,
    c.min_salary ,
    c.max_salary ,
    b.department_id ,
    b.department_name,
    a.manager_id ,
    d.first_name ,
    d.last_name |
  from datasource.employees a
  right join datasource.departments b on b.department_id = a.department_id
  right join datasource.jobs c on c.job_id = a.job_id
  right join datasource.employees d on d.employee_id =a.manager_id
) table1
group by 1
order by 2 desc, 3 desc
```

job_title	total_employee	average_salary
Sales Representative	29	8,396.5517241379
Shipping Clerk	20	3,215
Stock Clerk	20	2,785
Sales Manager	5	12,200
Accountant	5	7,920
Stock Manager	5	7,280
Programmer	5	5,760
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Administration Vice President	2	17,000
Marketing Manager	1	13,000
Finance Manager	1	12,000
Accounting Manager	1	12,000
Purchasing Manager	1	11,000
Public Relations Representative	1	10,000
Public Accountant	1	8,300
Human Resources Representat	1	6,500
Marketing Representative	1	6,000
Administration Assistant	1	4,400
[NULL]	0	[NULL]