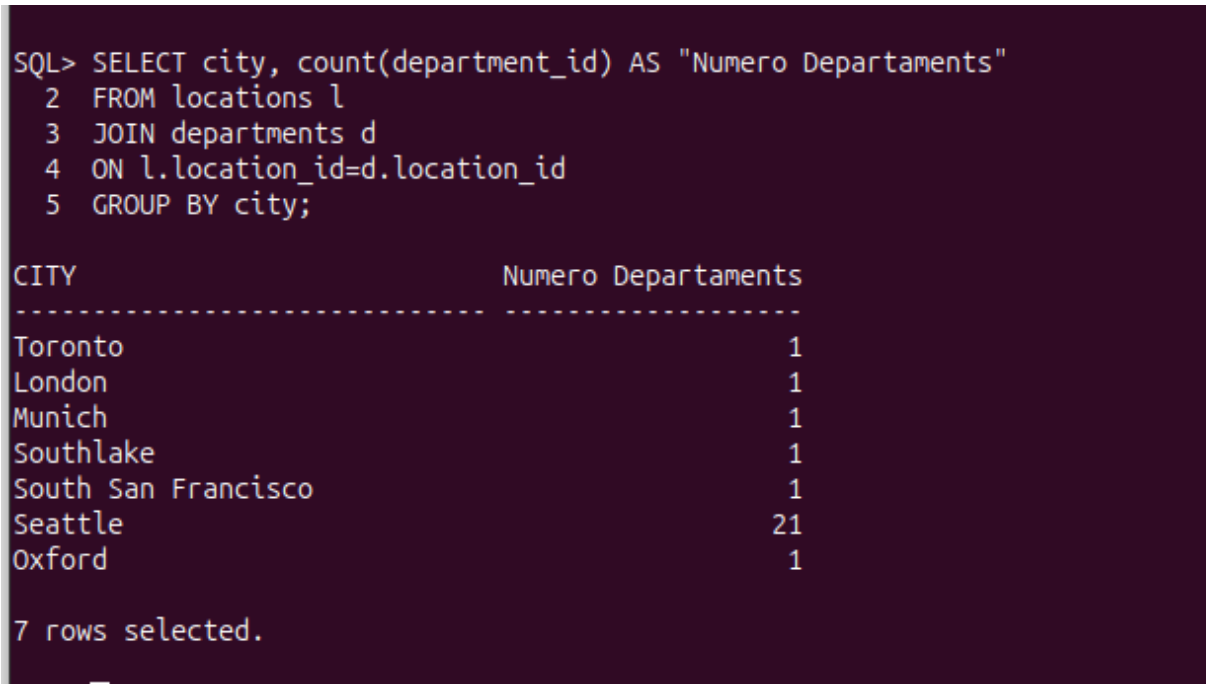
Raúl Morejón Pulido

Exercici 1

select city, count(department_id) from locations l join departments d on l.location_id = d.location_id group by city



```
SQL> SELECT city, count(department_id) AS "Numero Departaments"
  2  FROM locations l
  3  JOIN departments d
  4  ON l.location_id=d.location_id
  5  GROUP BY city;

CITY                           Numero Departaments
------------------------------ -------------------
Toronto                                          1
London                                           1
Munich                                           1
Southlake                                        1
South San Francisco                              1
Seattle                                         21
Oxford                                           1

7 rows selected.
```

Raúl Morejón Pulido

Exercici 2

select city, count(department_id) from locations l full join departments d on l.location_id = d.location_id group by city

```
SQL> SELECT city, COUNT(department_id)
  2  FROM locations l
  3  FULL JOIN departments d
  4  ON l.location_id=d.location_id
  5  GROUP BY city;

CITY                           COUNT(DEPARTMENT_ID)
------------------------------ --------------------
Sao Paulo                                         0
Toronto                                           1
London                                            1
Munich                                            1
Sydney                                            0
Stretford                                         0
Geneva                                            0
Southlake                                         1
Singapore                                         0
Mexico City                                       0
Hiroshima                                         0

CITY                           COUNT(DEPARTMENT_ID)
------------------------------ --------------------
Bern                                              0
Bombay                                            0
Utrecht                                           0
Tokyo                                             0
South San Francisco                               1
Beijing                                           0
Seattle                                          21
South Brunswick                                   0
Oxford                                            1
Roma                                              0
Venice                                            0

CITY                           COUNT(DEPARTMENT_ID)
------------------------------ --------------------
Whitehorse                                        0

23 rows selected.
```

Raúl Morejón Pulido

Exercici 3

select city, count(department_id) from locations l join departments d on l.location_id = d.location_id group by city having count(department_id)>1

```
SQL> SELECT city, COUNT(department_id)
  2  FROM locations l
  3  JOIN departments d
  4  ON l.location_id = d.location_id
  5  GROUP BY city
  6  HAVING COUNT(department_id)>1;

CITY                           COUNT(DEPARTMENT_ID)
------------------------------ --------------------
Seattle                                          21
```

Exercici 4

select department_name, country_name, count(employee_id), sum(salary), avg(salary) from employees e join departments d on e.department_id = d.department_id natural join locations l natural join countries c group by department_name, country_name order by country_name asc, avg(salary) desc;

```
SQL> SELECT department_name, country_name, COUNT(employee_id), SUM(salary), AVG(salary)
  2  FROM employees e
  3  JOIN departments d
  4  ON e.department_id = d.department_id
  5  NATURAL JOIN locations l
  6  NATURAL JOIN countries c
  7  GROUP BY department_name, country_name
  8  ORDER BY country_name ASC, AVG(salary) DESC;

DEPARTMENT_NAME               COUNTRY_NAME
----------------------------- ----------------------------------------
COUNT(EMPLOYEE_ID) SUM(SALARY) AVG(SALARY)
------------------ ----------- -----------
Executive                     Australia
                 3       58000  19333.3333

Accounting                    Australia
                 2       20308       10154

Public Relations              Australia
                 1       10000       10000


DEPARTMENT_NAME               COUNTRY_NAME
----------------------------- ----------------------------------------
COUNT(EMPLOYEE_ID) SUM(SALARY) AVG(SALARY)
------------------ ----------- -----------
Marketing                     Australia
                 2       19000        9500

Sales                         Australia
                34      304500  8955.88235

Finance                       Australia
```

Raúl Morejón Pulido

Exercici 5

select department_name, country_name, count(employee_id), sum(salary), avg(salary) from employees e left join departments d on e.department_id = d.department_id natural join locations l natural join countries c group by department_name, country_name order by country_name asc, avg(salary) desc

```
SQL> select department_name, country_name, count(employee_id), sum(salary), avg(sal
ary) from employees e left  join departments d on e.department_id = d.department_id
 natural join locations l natural join countries c group by department_name, countr
y_name order by country_name asc, avg(salary) desc;

DEPARTMENT_NAME               COUNTRY_NAME
----------------------------- ----------------------------------------
COUNT(EMPLOYEE_ID) SUM(SALARY) AVG(SALARY)
------------------ ----------- -----------
Executive                     Australia
                 3       58000  19333.3333

Accounting                    Australia
                 2       20308       10154

Public Relations              Australia
                 1       10000       10000


DEPARTMENT_NAME               COUNTRY_NAME
----------------------------- ----------------------------------------
COUNT(EMPLOYEE_ID) SUM(SALARY) AVG(SALARY)
------------------ ----------- -----------
Marketing                     Australia
                 2       19000        9500

Sales                         Australia
                34      304500  8955.88235

Finance                       Australia
                 6       51608  8601.33333


DEPARTMENT_NAME               COUNTRY_NAME
----------------------------- ----------------------------------------
```

```
                 6        51608  8601.33333


DEPARTMENT_NAME                COUNTRY_NAME
------------------------------ ----------------------------------------
COUNT(EMPLOYEE_ID) SUM(SALARY) AVG(SALARY)
------------------ ----------- -----------
                               Australia
                 1        7000        7000

Human Resources                Australia
                 1        6500        6500

IT                             Australia
                 5       28800        5760


DEPARTMENT_NAME                COUNTRY_NAME
------------------------------ ----------------------------------------
COUNT(EMPLOYEE_ID) SUM(SALARY) AVG(SALARY)
------------------ ----------- -----------
Administration                 Australia
                 1        4400        4400

Purchasing                     Australia
```

Raúl Morejón Pulido

Exercici 6

select c.country_name, count(e.employee_id) as "Número DE empleats" from employees e JOIN departments d ON e.department_id = d.department_id NATURAL JOIN locations l NATURAL JOIN countries c GROUP BY c.country_name;

```
SQL> SELECT c.country_name, COUNT(e.employee_id) AS "Numero de empleats"
  2  FROM employees e
  3  JOIN departments d ON e.department_id = d.department_id
  4  NATURAL JOIN locations l
  5  NATURAL JOIN countries c
  6  GROUP BY c.country_name;

COUNTRY_NAME                             Numero de empleats
---------------------------------------- ------------------
Brazil                                                  106
Italy                                                   212
Japan                                                   212
Netherlands                                             106
Singapore                                               106
Germany                                                 106
Mexico                                                  106
Australia                                               106
United States of America                                424
Canada                                                  212
China                                                   106

COUNTRY_NAME                             Numero de empleats
---------------------------------------- ------------------
Switzerland                                             212
India                                                   106
United Kingdom                                          318

14 rows selected.
```

Raúl Morejón Pulido

Exercici 7

select c.country_name, count(e.employee_id) as "Número d'empleats" from employees e LEFT JOIN departments d ON e.department_id = d.department_id NATURAL JOIN locations l NATURAL JOIN countries c GROUP BY c.country_name;

```
SQL> SELECT c.country_name, COUNT(e.employee_id) AS "Numero de empleats"
  2  FROM employees e
  3  LEFT JOIN departments d ON e.department_id = d.department_id
  4  NATURAL JOIN locations l
  5  NATURAL JOIN countries c
  6  GROUP BY c.country_name;

COUNTRY_NAME                             Numero de empleats
---------------------------------------- ------------------
Brazil                                                  107
Italy                                                   214
Japan                                                   214
Netherlands                                             107
Singapore                                               107
Germany                                                 107
Mexico                                                  107
Australia                                               107
United States of America                                428
Canada                                                  214
China                                                   107

COUNTRY_NAME                             Numero de empleats
---------------------------------------- ------------------
Switzerland                                             214
India                                                   107
United Kingdom                                          321

14 rows selected.
```

Raúl Morejón Pulido

Exercici 8

SELECT e.first_name || ' ' || e.last_name AS “Nom”, e.hire_date AS “Data”, m.first_name || ' ' || m.last_name AS “Cap”, d.department_name AS “Departaments”, e.job_id AS “Opcupació” FROM employees e JOIN departments d ON e.department_id = d.department_id LEFT JOIN employees m ON d.manager_id = m.employee_id;

```
SQL> SELECT e.first_name || ' ' || e.last_name AS “Nom”, e.hire_date AS “Data”, m.first_name |
| ' ' || m.last_name AS “Cap”, d.department_name AS “Departaments”, e.job_id AS “Opcupació” FR
OM employees e JOIN departments d ON e.department_id = d.department_id LEFT JOIN employees m O
N d.manager_id = m.employee_id;

???NOM???                                         ???DATA??
------------------------------------------------- ---------
???CAP???                                         ???DEPARTAMENTS???
------------------------------------------------- ------------------------------
???OPCUPAC
----------
Donald OConnell                                   21-JUN-07
Adam Fripp                                        Shipping
SH_CLERK

Douglas Grant                                     13-JAN-08
Adam Fripp                                        Shipping
SH_CLERK

???NOM???                                         ???DATA??
------------------------------------------------- ---------
???CAP???                                         ???DEPARTAMENTS???
------------------------------------------------- ------------------------------
???OPCUPAC
----------

Jennifer Whalen                                   17-SEP-03
Jennifer Whalen                                   Administration
AD_ASST

Michael Hartstein                                 17-FEB-04
Michael Hartstein                                 Marketing
```

Raúl Morejón Pulido

Exercici 9

SELECT e.first_name || ' ' || e.last_name AS Nom, j.start_date AS "Data inici", j.end_date AS "Data fi", d.department_name AS Department, jo.job_title AS Ocupació FROM employees e JOIN departments d ON e.department_id = d.department_id JOIN job_history j ON e.employee_id = j.employee_id JOIN jobs jo ON j.job_id = jo.job_id ORDER BY j.start_date, e.first_name || ' ' || e.last_name;

```
SQL> SELECT e.first_name || ' ' || e.last_name AS Nom, j.start_date AS "Data inici", j.end_dat
e AS "Data fi", d.department_name AS Department, jo.job_title AS Ocupació FROM employees e JOI
N departments d ON e.department_id = d.department_id JOIN job_history j ON e.employee_id = j.e
mployee_id JOIN jobs jo ON j.job_id = jo.job_id ORDER BY j.start_date, e.first_name || ' ' ||
e.last_name;

NOM                                        Data inic Data fi
------------------------------------------ --------- ---------
DEPARTMENT                    OCUPACI??
------------------------------ -----------------------------------
Jennifer Whalen                            17-SEP-95 17-JUN-01
Administration                Administration Assistant

Neena Kochhar                              21-SEP-97 27-OCT-01
Executive                     Public Accountant

Lex De Haan                                13-JAN-01 24-JUL-06
Executive                     Programmer


NOM                                        Data inic Data fi
------------------------------------------ --------- ---------
DEPARTMENT                    OCUPACI??
------------------------------ -----------------------------------
Neena Kochhar                              28-OCT-01 15-MAR-05
Executive                     Accounting Manager

Jennifer Whalen                            01-JUL-02 31-DEC-06
Administration                Public Accountant

Michael Hartstein                          17-FEB-04 19-DEC-07
Marketing                     Marketing Representative
```

Exercici 10

select e.first_name || ' ' || e.last_name AS “Nom”, d.department_name from employees e full join departments d on e.manager_id = d.manager_id

```
SQL> select  e.first_name || ' ' || e.last_name AS “Nom”, d.department_name from employees e f
ull join departments d on e.manager_id = d.manager_id;

???NOM???                                  DEPARTMENT_NAME
------------------------------------------ ------------------------------
Donald OConnell
Douglas Grant
Jennifer Whalen
Michael Hartstein                          Executive
Pat Fay                                    Marketing
Susan Mavris
Hermann Baer
Shelley Higgins
William Gietz                              Accounting
Steven King
Neena Kochhar                              Executive

???NOM???                                  DEPARTMENT_NAME
------------------------------------------ ------------------------------
Lex De Haan                                Executive
Alexander Hunold
Bruce Ernst                                IT
David Austin                               IT
Valli Pataballa                            IT
Diana Lorentz                              IT
Nancy Greenberg
Daniel Faviet                              Finance
John Chen                                  Finance
Ismael Sciarra                             Finance
Jose Manuel Urman                          Finance

???NOM???                                  DEPARTMENT_NAME
```