**Correction TP**

**Bases de données avancées (SQL)**

1)

Select E.employee\_id, M.employee\_id

from employees E, employees M

where E.manager\_id = M.employee\_id;

Select E.employee\_id, M.employee\_id

from employees E left outer join employees M

on E.manager\_id = M.employee\_id;

Select E.employee\_id, M.employee\_id

from employees E, employees M

where E.manager\_id = M.employee\_id(+);

Select E.employee\_id, E.department\_id, M.employee\_id

from employees E, employees M

where E.manager\_id = M.employee\_id(+);

Select E.employee\_id, M.employee\_id, E.department\_id, D.department\_name

from employees E, employees M, departments D

where E.manager\_id = M.employee\_id(+)

and E.department\_id = D.department\_id;

Select E.employee\_id, M.employee\_id, E.department\_id, D.department\_name

from employees E, employees M, departments D

where E.manager\_id = M.employee\_id(+)

and E.department\_id = D.department\_id(+);

2)

select e.department\_id, count(\*) as nb\_emp

from employees e

group by e.department\_id;

====================================================================

select d.department\_id, department\_name, nvl(nb\_emp,0)

from departments d,

(select e.department\_id, count(\*) as nb\_emp

from employees e

group by e.department\_id) e

where d.department\_id = e.department\_id(+);

====================================================================

select d.department\_id, department\_name, nvl(nb\_emp,0)

from departments d left outer join

(select e.department\_id, count(\*) as nb\_emp

from employees e

group by e.department\_id) e

on d.department\_id = e.department\_id;

====================================================================

select d.department\_id, department\_name, nvl(nb\_emp,0) as nb\_emp

from departments d left outer join

(select e.department\_id, count(\*) as nb\_emp

from employees e

group by e.department\_id) e

on d.department\_id = e.department\_id;

3)

SELECT department\_id, job\_id, SUM(salary),

RANK() OVER(PARTITION BY department\_id

ORDER BY SUM(salary) DESC)

AS rank\_of\_job\_per\_dep,

RANK() OVER(ORDER BY SUM(salary) DESC)

AS rank\_of\_sumsalary

FROM employees

GROUP BY department\_id, job\_id

ORDER BY department\_id;

4)

SELECT department\_id,job\_id,manager\_id,SUM(salary), GROUPING(department\_id), GROUPING(job\_id), GROUPING(manager\_id) FROM employees

GROUP BY ROLLUP(department\_id, (job\_id,manager\_id));

column depart format A30

column manager format A30

SELECT

decode(GROUPING(department\_id),1,'ALL',department\_id) depart,

decode(GROUPING(manager\_id),1,'ALL',manager\_id) manager,

SUM(salary)

FROM employees

GROUP BY ROLLUP(department\_id, manager\_id);

clear column

5)

SELECT department\_id,job\_id,manager\_id,SUM(salary)

FROM employees

GROUP BY department\_id,

CUBE(job\_id , manager\_id);

6)

SELECT employee\_id, salary, department\_id

FROM employees outer

WHERE salary > (SELECT AVG(salary)

FROM employees inner

WHERE outer.department\_id = inner.department\_id);

===============================================================

with req as

(

select department\_id, AVG(salary) Moy

from employees

group by department\_id

)

select employee\_id, E.department\_id, salary

from employees E, req R

where E.department\_id = R.department\_id

and salary > Moy;

===================================================================

SELECT employee\_id, salary, department\_id, (SELECT AVG(salary)

FROM employees inner

WHERE outer.department\_id =

inner.department\_id) as moy\_sal

FROM employees outer

WHERE salary > (SELECT AVG(salary)

FROM employees inner

WHERE outer.department\_id = inner.department\_id);

7)

SELECT employee\_id, first\_name, job\_id, department\_id

FROM employees outer

WHERE EXISTS (SELECT 'X'

FROM employees inner

WHERE inner.manager\_id = outer.employee\_id);

=========

SELECT employee\_id, first\_name, job\_id, department\_id

FROM employees

WHERE employee\_id in (SELECT manager\_id

FROM employees);

8)

SELECT department\_id, department\_name

FROM departments d

WHERE NOT EXISTS ( SELECT 'X'

FROM employees e

WHERE d.department\_id = e.department\_id);

SELECT department\_id, department\_name

FROM departments d

WHERE department\_id NOT in ( SELECT distinct department\_id

FROM employees

where department\_id is not null);

9)

select employee\_id, first\_name

from employees e

where not exists (select \*

from employees m

where manager\_id is not null

and e.employee\_id = m.manager\_id);

=======================================================

select employee\_id, first\_name

from employees e

where employee\_id not in (select distinct manager\_id

from employees

where manager\_id is not null);

10)

SELECT employee\_id, first\_name, job\_id, manager\_id

FROM employees

START WITH employee\_id = 124

CONNECT BY PRIOR manager\_id = employee\_id;

SELECT employee\_id, first\_name, job\_id, manager\_id

FROM employees

START WITH employee\_id = 124

CONNECT BY PRIOR employee\_id = manager\_id;

11)

SELECT LPAD(' ', 3 \* level-3)||first\_name , LEVEL, employee\_id, manager\_id, department\_id

FROM employees

START WITH manager\_id IS NULL

CONNECT BY employee\_id = PRIOR manager\_id;

SELECT '\*'||LPAD(' ', 3 \* 3-3)||'\*' from dual;

COLUMN org\_chart FORMAT A20

SET PAGESIZE 200

SELECT LPAD(' ', 3 \* LEVEL-3)||first\_name AS org\_chart,

LEVEL, employee\_id, manager\_id, department\_id

FROM employees

START WITH manager\_id IS NULL

CONNECT BY PRIOR employee\_id = manager\_id;

CLEAR COLUMN

COLUMN nom FORMAT A25

SELECT LPAD(first\_name, length(first\_name)+(3 \* LEVEL-3),' ') AS nom,

LEVEL, employee\_id, manager\_id, department\_id

FROM employees

START WITH manager\_id IS NULL

CONNECT BY PRIOR employee\_id = manager\_id;

CLEAR COLUMN

12)

SELECT department\_id, employee\_id, first\_name, job\_id, salary

FROM employees

WHERE employee\_id!= 124

START WITH manager\_id IS NULL

CONNECT BY PRIOR employee\_id = manager\_id;

13)

SELECT employee\_id, job\_id, commission\_pct,

ROW\_NUMBER() OVER(ORDER BY commission\_pct DESC NULLS LAST)

AS rnum

FROM employees;

SELECT employee\_id, job\_id, department\_id, salary,

ROW\_NUMBER() OVER(partition by department\_id ORDER BY salary DESC)

AS rnum

FROM employees;

SELECT employee\_id, job\_id, department\_id, salary,

ROW\_NUMBER() OVER(partition by department\_id ORDER BY salary DESC) as rnum1,

ROW\_NUMBER() OVER(ORDER BY salary DESC)

AS rnum2

FROM employees;

14)

select r1.employee\_id, r1.first\_name, r2.employee\_id, r2.first\_name

from employees r1, employees r2

where mod(r1.employee\_id,2) = 0

and r1.employee\_id+1 = r2.employee\_id(+);

select r1.employee\_id, r1.first\_name, r2.employee\_id, r2.first\_name

from employees r1 LEFT OUTER JOIN employees r2

on r1.employee\_id+1 = r2.employee\_id

where mod(r1.employee\_id,2) = 0;

select r1.employee\_id, r1.first\_name, r2.employee\_id, r2.first\_name

from

(select employee\_id, first\_name

from employees

where mod(employee\_id,2) = 0) r1 LEFT OUTER JOIN

(select employee\_id, first\_name

from employees

where mod(employee\_id,2) = 1) r2

on r1.employee\_id +1 = r2.employee\_id;

-----------------------------------------------------------------------------------------------------------------

select r1.employee\_id, r1.first\_name, r2.employee\_id, r2.first\_name

from

(select employee\_id, first\_name

from employees

where mod(employee\_id,2) = 0) r1 LEFT OUTER JOIN

(select employee\_id, first\_name

from employees

where mod(employee\_id,2) = 1) r2

on r1.employee\_id + 1 =r2.employee\_id;

===================================================================

select r1.employee\_id, r1.first\_name, r2.employee\_id, r2.first\_name

from

(select employee\_id, first\_name

from employees

where mod(employee\_id,2) = 0) r1,

(select employee\_id, first\_name

from employees

where mod(employee\_id,2) = 1) r2

where r1.employee\_id + 1 =r2.employee\_id(+);

===================================================================

select r1.employee\_id, r1.first\_name, r2.employee\_id, r2.first\_name

from employees r1, employees r2

where mod(r1.employee\_id,2) = 0

and r1.employee\_id+1 = r2.employee\_id(+);

-----------------------------------------------------------------------------------------------------------------with paire as

(

select t.employee\_id,t.first\_name

from

(

select employee\_id,first\_name, mod(employee\_id,2) mo

from employees order by employee\_id asc

)t

where t.mo=0

)

select paire.\*, (select employee\_id from employees

where employee\_id=paire.employee\_id+1) id ,

(select first\_name from employees

where employee\_id=paire.employee\_id+1) name

from paire;