**TP1**

**Connect to sqlplus :**

commands :

ssh mengzi.zhao@tp-ssh1.dep-informatique.u-psud.fr

sqlplus

login : C##mzhao3\_a

password : mzhao3\_a

**Commands :**

DESC : 看表格里有什么attributes

ex : DESC ORDERS;

DUAL table : 只有一行的表格，可以有多列

ex : SELECT 1+2,SYSDATE FROM DUAL;

@file; : 加载文件

ex : @ORACLE\_NW;

@base-northwind.sql

WGET http://…… : 下载文件

ex : wget <https://www.lri.fr/~groz/documents/m2dk/Oracle_NW.sql>

SET LINESIZE NB : 设置每行中的字符数

ex : set linesize 100;

SET PAGESIZE NB : 重复表头之前有多少行

ex : set pagesize 200;

COLUMN column\_name FORMAT fomat; : 设置行的格式

ex : column mycol format 99.9;

**Useful functions**

ADD\_MONTHS, EXTRACT() :

select extract( day from TO\_DATE(‘21/08/2006‘, ‘dd/MM/yyyy’) ) d,

ADD\_MONTHS(TO\_DATE(‘09/08/2006’, ‘dd/MM/yyyy’),2) Deadline

from DUAL;

BREADTH>DEPTH FIRST, CYCLE

WITH t1( id, parent\_id, 1v1, root\_id, path ) as (......)

SEARCH DEPTH FIRST BY id SET order1

CYCLE id SET cyclecolumn TO 1 DEFAULT 0

SELECT ……, cyclecolumn

FROM t1

ORDER BY order1;

**1 - First steps :**

**LAB Ex 1.1**

Download file Oracle\_NW.sql :

wget https://www.lri.fr/~groz/documents/Oracle\_NW.sql

@Oracle\_NW;

**LAB Ex 1.2**

Order\_Detail

事实数据表 :

只能包含数字度量字段，使事实表与维度表对应项的相关索引字段

不应该包含描述性的信息

不应该包含除数字度量字段及使事实与维度表中对应项的相关索引字段之外的任何数据。

ex : 有名字的，有description的

recursive dimension : Employee

**LAB Ex 1.3**

1 -

select count(\*), country

from customers

group by country;

2 -

1)

select count(\*), ship\_country

from Orders

group by ship\_country

order by ship\_country;

2)

select ship\_country, ship\_city, count(\*) as NBORDERS

from Orders

group by rollup(ship\_country,ship\_city)

order by ship\_country, ship\_city;

select ship\_country, ship\_city, count(\*) as NBORDERS

from Orders

group by grouping sets((ship\_country,ship\_city),(ship\_country),())

order by ship\_country, ship\_city;

-- 这个不行，cube会做对

-- (ship\_country, ship\_city), (ship\_country),(ship\_city),()

-- 做聚合

-- 但是题目要求必须根据(ship\_country, ship\_city) (ship\_country)

select ship\_country, ship\_city, count(\*) as NBORDERS

from Orders

group by cube(ship\_country,ship\_city)

order by ship\_country, ship\_city;

3 -

select c.country as c\_country, s.country as s\_country, sum(od.quantity) as quantity, count(Distinct o.order\_ID) as NBORDERS

from order\_details od, orders o,customers c, products p, suppliers s

where c.customer\_ID = o.customer\_ID

and o.order\_ID = od.order\_ID

and p.supplier\_ID = s.supplier\_ID

AND od.product\_ID=p.product\_ID

group by c.country, s.country

order by c.country, s.country;

4 -

select c.country, s.country, sum(od.quantity) as quantity, count(distinct o.order\_ID) as NBORDERS

from customers c, suppliers s, order\_details od, orders o, products p

where c.customer\_ID = o.customer\_ID

and o.order\_ID = od.order\_ID

and p.product\_ID = od.product\_ID

and s.supplier\_ID = p.supplier\_ID

group by cube(c.country, s.country)

order by c.country, s.country

5 -

select o.ship\_country, o.ship\_region, o.ship\_city, sum(od.quantity \* od.unit\_price) as price

from orders o, order\_details od, suppliers s, products p

where o.order\_ID = od.order\_ID

and od.product\_ID = p.product\_ID

and s.supplier\_ID = p.supplier\_ID

and s.country = 'France'

group by grouping sets((o.ship\_country,o.ship\_region,o.ship\_city),

(o.ship\_country,o.ship\_region),

(o.ship\_country));

select o.ship\_country, o.ship\_region, o.ship\_city, sum(od.quantity \* od.unit\_price) as price

from orders o, order\_details od, suppliers s, products p

where o.order\_ID = od.order\_ID

and od.product\_ID = p.product\_ID

and s.supplier\_ID = p.supplier\_ID

and s.country = 'France'

group by o.ship\_country, rollup(o.ship\_region,o.ship\_city);

6 -

select o.ship\_country, o.ship\_city,

CASE WHEN (grouping(o.ship\_country) = 0

and grouping(o.ship\_city) = 1)

then 'whole country'

else o.ship\_city end, count(order\_ID) as total

from Orders o

group by rollup(o.ship\_country,o.ship\_city);

**Lab 1.4**

1 -

--对于每个国家分区，数每个国家的orders的数目，再把数来的数目加起来

--对于每个城市分区，数每个城市的orders的数目，再把数来的数目加起来

--对于每个国家分区，数每个城市的orders的数目，取最多

select ship\_country, ship\_city,

sum(count(\*)) over (Partition by ship\_country) as NBORDCTY,

sum(count(\*)) over (Partition by ship\_city) as NBORDCTY,

max(count(\*)) over (Partition by ship\_country) as NBORMAXCTY

from Orders

group by ship\_country, ship\_city

order by ship\_country, ship\_city;

2 -

-- 排名

select o.ship\_country, o.ship\_city,

sum(count(\*)) OVER (Partition by o.ship\_city) as NBORDERS,

RANK() OVER (Partition by o.ship\_country order by count(\*) desc) as rank

from Orders o

group by o.ship\_country, o.ship\_city

order by o.ship\_country, o.ship\_city;

3 -

-- 计算占所有的百分比

select o.ship\_country, o.ship\_city,

sum(count(\*)) over (Partition by ship\_city) as NB\_OR\_CITY,

sum(count(\*)) over (Partition by ship\_country) as NB\_OR\_CNY,

RATIO\_TO\_REPORT(count(\*)) OVER (Partition by ship\_country) as percentage

from Orders o

group by o.ship\_country, o.ship\_city

order by o.ship\_country, o.ship\_city;

4 -

-- lag 计算前一行的数值

WITH TEMP as (

select order\_ID, sum(unit\_price \* quantity) as price,

Lag(sum(unit\_price\*quantity)) OVER (order by order\_ID) as lastprice

from order\_details od

group by order\_ID

)

select order\_ID, lastprice

from TEMP

where CAST(price as FLOAT)/lastprice < 1.1;

5 -

with TEMP as (

select EXTRACT(year from o.order\_Date) as year,

p.product\_Name as product\_Name,

sum(od.quantity) as quantity,

max(sum(od.quantity)) OVER (Partition by EXTRACT(year from o.order\_Date)) as mxqt

from Orders o, order\_details od, Products p

where o.order\_ID = od.order\_ID

and od.product\_ID = p.product\_ID

group by EXTRACT(year from o.order\_Date), p.product\_Name

)

select year, product\_Name, quantity

from TEMP

where quantity = mxqt;

Ex 1.5

WITH TEMP(u) AS(

select 0 from DUAL

UNION ALL

select u+1 from TEMP

where u < 60

)

select u from TEMP

Ex 1.7

with t(i, u) as (

select 0, to\_char( add\_months(sysdate, 0), 'mm-yy' )

from dual

union all

select i+1, to\_char( add\_months(sysdate, i), 'mm-yy' )

from t

where i <= 30

)

select u from t;

To list all tables owned by the current user, type:

|  |  |
| --- | --- |
|  | select tablespace\_name, table\_name from user\_tables; |

To list all tables in a database:

|  |  |
| --- | --- |
|  | select tablespace\_name, table\_name from dba\_tables; |

desc <table\_name>

drop table gender\_tab cascade constraints;