

Q) Write a query that returns only those Job titles having a count of exactly 2.

→ select Job, count(\*)  
from emp  
to group by Job  
having count(\*) = 2;

Job	count (*)
Analytics	2

NOTE: Order of the statement /query :

- 1) select
- 2) from
- 3) where
- 4) group by
- 5) having
- 6) Order by

(most fighters in the question)

use this for basic

for difficult question



9) Write a query that returns those department numbers that have more than 3 employees working in it.

→ select dept\_no  
from emp  
group by dept\_no  
having count(\*) > 3 ;

Deptno

30

20

EXAMPLE (ii) select, Job, deptno, count(\*)  
from emp  
group by Job, deptno

Job	Deptno	Count(*)
-----	--------	----------

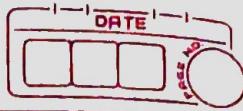
## lotto

Support

```
SELECT col1, col2, col3, ...  
group = function (agggregation function),  
function (function)
```

WHERE conditions ]

```
GROUP BY col1, col2, col3, ...  
[ ORDER BY conditions ]
```



## Syntax

SELECT col-1, col-2, col-3, ... col-n  
group - function (aggregate-expression)

From tables

[ WHERE conditions ]

GROUP BY col-1, col-2, col-3, ... col-n  
[ ORDER BY conditions ]



## \* NESTED QUERY :

It is select within select subqueries.

i)  $\text{select } * \text{ from dept}$   
 $\text{where deptno} = (\text{select deptno}$   
 $\text{from dept where deptno} = 30)$

| is same as |



$\text{select } * \text{ from dept}$   
 $\text{where deptno} = 30$

Deptno	Dname	Loc
30	Sales	Chicago

NOTE: The nested query in the statement gets executed first.

- ii) select \* from dept  
where dep\_id is in (select dep\_id  
from dept where dep\_no <= 1)

DeptNo	Dname	Loc
10	Marketing	Chennai
20	Research	Bangalore

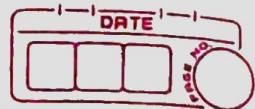
- iii) EXCEPT(n)

and some modification

DeptNo	Dname	Loc
10	Marketing	New York

- iv) select \* from (select \* from dept)

→ This query will give entire dept table as a result.



ii) select \* from dept  
where deptno < (select deptno  
from dept where deptno = 30)

Deptno	Dname	Loc
10	Accounting	Newyork
20	Research	Dallas

(iii) EXAMPLE(ii)  
AND dname = 'ACCOUNTING'

Deptno	Dname	Loc
10	Accounting	Newyork

iv) select \* from (select \* from dept)

→ This query will give entire  
dept table as a result.



Q) WAP that returns all the employees that work in the department located in CHICAGO using Nested query.

→ select \* from emp  
where deptno = ( select deptno  
from dept where loc = 'CHICAGO' )

→ In the above query we are kind of joining two table (emp and dept table) using deptno in the where clause.

(v) select \* from emp  
where deptno = ( select deptno  
from dept )

⇒ ERROR : single row  
subquery returns  
more than one row

→ In the above query, the subquery (ie select deptno from dept)



will give more than one row as a result.

like,

deptno

10

20

30

40

The result (10, 20, 30 and 40) cannot be accepted because the subquery is related to deptno with '=' operated ('=' operated can accept only one row result)  
like, 10 or 20 or 30 or 40

→ The above problem of not accepting more than one row can be solved with comparison operators like (<, >, <=, >=, etc).  
Eg: Example(ii), (iii)

→ 'IN' operator can be used also.

(vi) select \* from emp  
where deptno IN (select deptno  
from dept  
where dept  
in (10,20))

NOTE: We cannot select  
multiple columns in a  
subquery.

(select dname, deptno, loc  
from dept) → NOT VALID

ERROR ⇒ too many values

Select statement in select  
clause :

(vii) select job, ename, (select job  
from emp)  
from emp;

→ Error ⇒ single row subquery  
returns more than one row



→ select \* from  
select job from emp

Job

Clerk

President

Clerk

Manager

It is giving multiple  
row result → INVALID

viii) select job , ename,  
(select job from emp  
where ename = 'KING')  
as select ...  
from emp ;

Job      Ename      Select

Manager	Blake	President
President	King	President
Manager	Clark	President
Analyst	Scott	President

## Explanation:

The subquery,  
(select job from emp  
where ename = 'KING')  
gives a single row result.  
i.e. 'President'.  $\Rightarrow$  VALID

Job

President

## NOTE :

If we change the subquery  
of EXAMPLE(ii) into :

(A) select 'Hello' from emp )

$\rightarrow$  then it will also give error  
because the subquery is  
giving multiple row result

'HELLO'

HELLO }

HELLO } 14 record

HELLO }



→ This gives single row result

(B) (select 'Hello' from dual)

→ Job      ename      'Hello'

Manager	Blake	Hello
President	King	Hello

NOTE:

We can use subqueries in :

I) select clause : EXAMPLE (viii)

II) From clause : EXAMPLE (iv)

III) Where clause : EXAMPLE (i)

EXAMPLE SYNTAX :

select Job, (select --- )

from( select \* from emp )

where dept = (select --- )



## \* Relating Tables Together using JOINS :

(i) select \*

from emp, dept

where emp.deptno = dept.deptno

EmpNo	Ename	DeptNo	DeptNo	Loc
Clark		10	10	NY
Miller		10	10	NY
Torod		20	20	Dallas

NOTE : • The above joining query works only for those rows which has a matching deptno.

- The deptno = 40 is not included in the result because there is not a single employee working in deptno 40.
- deptno = 40 is in DEPT table only.



ii) select emp.ename, emp.job  
from emp, dept  
where emp.deptno = dept.deptno  
AND dept.loc = 'DALLAS'

IS SAME AS

select ename, job  
from emp, dept  
where emp.deptno = dept.deptno  
AND loc = 'DALLAS'

NOTE: Those columns who are not conflicting does not need to specify the table (eg: ename  $\leftrightarrow$  emp.ename)

### iii) Using Aliases :

select ename, job  
from emp e, dept d  
where e.deptno = d.deptno

Same applies to column name too. After using aliases (emp e, dept d), now we have to use e.ename  $\checkmark$   
and not emp.ename  $\times$

## WORLD

### WORLD ECONOMIC OUTLOOK

1. Effect of climate on market value  
of agriculture

2. Increase in cost of production of those  
products which are fundamental to food  
security & human development

3. Increase in adoption of technologies  
and low cost materials

↳ 2013 statement on what the  
million dollar change in cost of  
agriculture?

### WORLD ECONOMIC OUTLOOK

1. Effect of climate on market value  
of agriculture

↳ 2013 statement on what the  
million dollar change in cost of  
agriculture?



#### iv) Using Subqueries:

select e.ename as name, job,  
e.deptno

from (select \* from emp where  
job in ('MANAGER', 'CLERK')) e,  
(select \* from dept) d

where e.deptno = d.deptno  
and loc = 'DALLAS'

→ This statement can also be  
written 'from' clause in (select \*  
from dept)



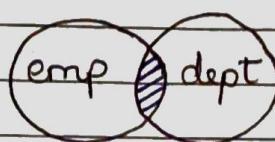
NOTE : The standard SQL

Query follows :

- i) Keywords in UPPER case
- ii) Table name and column name in LOWER case.

INNER JOIN :

Join on common values only.



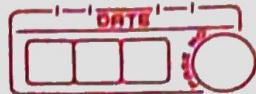
INNER  
JOIN

Select \*

from emp Inner Join dept  
On emp.deptno = dept.deptno

Select \*

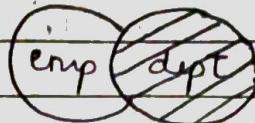
from emp, dept  
where emp.deptno = dept.deptno



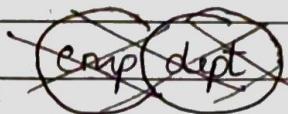
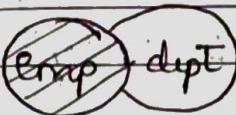
## OUTER JOIN :

### i) Right Join

( matched rows  
+ exclusive right.  
table's rows )



### ii) Left Join



( matched rows + exclusive rows of  
left table )

(i) Right Join : give me all of  
the data in of  
the Right table

select \* from emp right join dept

from emp Right Join dept  
on emp.deptno = dept.deptno

IS SAME AS

Select \*

from emp, dept

where emp.deptno(+) = dept.deptno