



Tahaluf © Copyright
2022- All Right Reserved



Harmony IT Solution

Database Design and Programming

Tahaluf Training Center 2022





1

Subqueries

2

VIEW

3

Sequences (Auto number)

4

Synonyms





Subqueries



- A **subquery** is a query within a query. You can create subqueries within your SQL statements.
- You can place the Subquery in several SQL clauses:
 - **WHERE** clause.
 - **HAVING** clause.
 - **FROM** clause.



WHERE clause :

Most often, the subquery will be found in the WHERE clause. These subqueries are also called nested subqueries.

ID	NAME	EMAIL	DEPARTMENTID	SALARY
1	mutaz	mutaz@gmail.com	3	1000
2	alii	ali@gmail.com	1	2000
3	ahmad	ahmad@gmail.com	2	1000
4	Alva	sami@gmail.com	1	3000
5	sami	alaa@gmail.com	(null)	(null)
6	feras	ferass	1	1000
7	saif	sai@gmail.com	(null)	50002

```
select id, name, salary  
from Employee  
Where salary = (Select min(salary) from employee )
```

ID	NAME	SALARY
1	mutaz	1000
3	ahmad	1000
6	feras	1000



- A **HAVING** clause is used when the group results of a query need to be restricted based on some condition.
- If a subquery's result must be compared with a group function, you must nest the inner query in the outer query's HAVING clause.



HAVING clause :

Most often, the subquery will be found in the HAVING clause. These subqueries are also called nested subqueries.

ID	NAME	EMAIL	DEPARTMENTID	SALARY
1	mutaz	mutaz@gmail.com	3	600
2	alii	ali@gmail.com	1	2000
3	ahmad	ahmad@gmail.com	2	1500
4	Alva	sami@gmail.com	1	3000
5	sami	alaa@gmail.com	3	1600
6	feras	ferass	1	1000
7	saif	sai@gmail.com	3	3200

```
select departmentid ,Min(Salary) as "Lowest Salary"  
from Employee  
Group by Departmentid  
Having Min(Salary) < (Select avg(salary) from Employee )
```

DEPARTMENTID	Lowest Salary
1	1000
2	1500
3	600



VIEW



- Use the CREATE **VIEW** statement to define a view, which is a logical table based on one or more tables or views. A view contains no data itself. The tables upon which a view is based are called base tables.

```
CREATE VIEW view_name AS  
SELECT columns  
FROM tables  
WHERE conditions;
```



ID	NAME	EMAIL	DEPARTMENTID	SALARY
1	mutaz	mutaz@gmail.com	3	600
2	alii	ali@gmail.com	1	2000
3	ahmad	ahmad@gmail.com	2	1500
4	Alva	sami@gmail.com	1	3000
5	sami	alaa@gmail.com	3	1600
6	feras	ferass	1	1000
7	saif	sai@gmail.com	3	3200

```
create View AccountantView AS  
select id,name ,salary  
from Employee;
```

	ID	NAME	SALARY
1	1	mutaz	600
2	2	alii	2000
3	3	ahmad	1500
4	4	Alva	3000
5	5	sami	1600
6	6	feras	1000
7	7	saif	3200



Sequences (Auto Number)



- In Oracle, you can create an **auto number** field by using sequences. A sequence is an object in Oracle that is used to generate a number sequence.
- This can be useful when you need to create a unique number to act as a primary key.

```
CREATE SEQUENCE sequence_name  
MINVALUE value  
MAXVALUE value  
START WITH value  
INCREMENT BY value  
CACHE value;
```

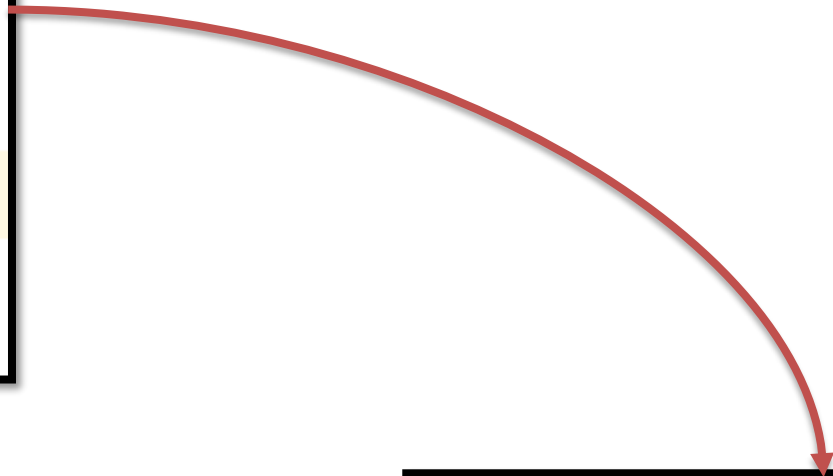


Create Sequences :

```
create SEQUENCE UAE_sequence  
MinValue 10  
MaxValue 100  
increment by 10  
START WITH 10  
cache 20;
```




```
create table UAE (  
id int primary key,  
city varchar2(50)  
);  
  
insert into UAE (id,city) values (UAE_sequence.nextVal,'Ajman');  
insert into UAE (id,city) values (UAE_sequence.nextVal,'Dubai');  
insert into UAE (id,city) values (UAE_sequence.nextVal,'Al ain');
```



ID	CITY
10	Aiman
20	Dubai
30	Al ain



- [illegible]



Question: While creating a sequence, what does cache and **nocache** options mean?

For example, you could create a sequence with a cache of 20 as follows:

```
CREATE SEQUENCE supplier_seq  
MINVALUE 1  
START WITH 1  
INCREMENT BY 1  
CACHE 20;
```

```
CREATE SEQUENCE supplier_seq  
MINVALUE 1  
START WITH 1  
INCREMENT BY 1  
NOCACHE;
```



Answer:

- The cache option specifies how many sequence values will be stored in memory for faster access.
- The downside of creating a sequence with a cache is that if a system failure occurs, all cached sequence values that have not be used, will be "lost".
- This results in a "gap" in the assigned sequence values. When the system comes back up, Oracle will cache new numbers from where it left off in the sequence, ignoring the so-called "lost" sequence values.



Synonyms



- **Synonym** is an alternative name for objects such as tables, views, sequences, stored procedures, and other database objects.
- You generally use synonyms when you are granting access to an object from another schema and you don't want the users to have to worry about knowing which schema owns the object.

```
CREATE PUBLIC SYNONYM SYNONYM_Name  
FOR Student;
```



DROP Synonym:

This DROP statement would drop the synonym called suppliers that we defined earlier.

```
DROP PUBLIC SYNONYM Student;
```




Tahaluf © Copyright
2022- All Right Reserved



Harmony IT Solution

Any Question

