

Database Development

Exam 70-461 Querying Microsoft SQL Server 2012

Databaser

Outline:

- Sub Query
- Join

Using a Subquery to Solve a Problem

• “WHO HAS A SALARY GREATER THAN

Main Query



“Which employees have a salary greater than Jones’ salary?”

Subquery

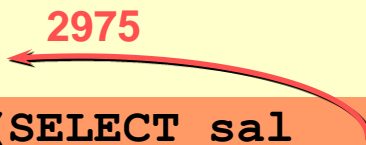


“What is Jones’ salary?”



Using a Subquery

```
SQL> SELECT  ename
      2  FROM    emp
      3  WHERE  sal >
      4          (SELECT sal
      5             FROM emp
      6             WHERE empno=7566) ;
```



In the example, the inner query determines the salary of employee 7566. The outer query takes the result of the inner query and uses this result to display all the employees who earn more than this amount.

```
ENAME
```

```
-----
```

```
KING
```

```
FORD
```

```
SCOTT
```

SQL subqueries

A subquery is a SQL query **nested inside a larger query**.

A subquery may occur in :

- A **SELECT** clause
 - A **FROM** clause
 - A **WHERE** clause
1. The subquery can be nested inside a **SELECT, INSERT, UPDATE, or DELETE** statement or inside another subquery.
 2. A subquery is **usually** added within the **WHERE** Clause of another SQL SELECT statement.
 3. You can use the comparison operators, such as **>**, **<**, or **=**. The comparison operator can also be a multiple-row operator, such as **IN**, **ANY**, or **ALL**.
 4. A subquery can be treated as an **inner query**, which is a SQL query placed as a part of another query called as **outer query**.
 5. The **inner query executes first** before its parent query so that the results of inner query can be passed to the outer query.

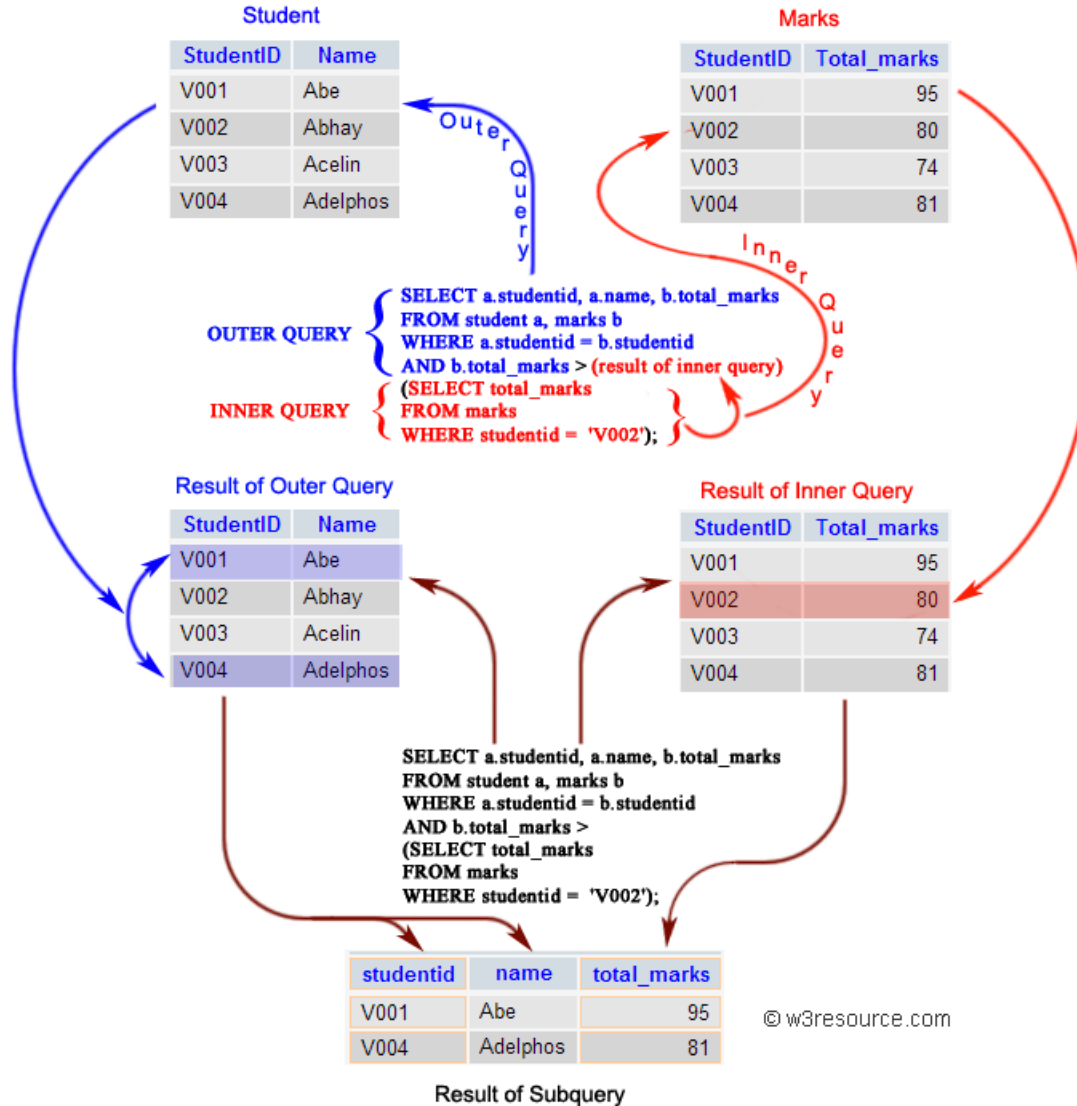
SQL subqueries

Subqueries: Guidelines

There are some guidelines to consider when using subqueries :

1. A subquery must be enclosed in **parentheses**.
2. A subquery must be placed on the **right side of the comparison operator**.
3. Subqueries **cannot manipulate their results internally**, therefore ORDER BY clause cannot be added in to a subquery. You can use a ORDER BY clause in the main SELECT statement (outer query) which will be last clause.
4. Use **single-row operators** with single-row subqueries.
5. **If a subquery (inner query) returns a null value to the outer query, the outer query will not return any rows** when using certain comparison operators in a WHERE clause.

SQL subqueries: Another Example



What is SQL Joins?

A JOIN works on two or more tables if they have at least one common field and have a relationship between them.

JOIN keeps the base tables (structure and data) unchanged.

SQL JOINS : EQUI JOIN and NON EQUI JOIN

There are two types of SQL JOINS - EQUI JOIN and NON EQUI JOIN

1) SQL EQUI JOIN :

The SQL EQUI JOIN is a simple sql join uses the equal sign(=) as the comparison operator for the condition. It has two types - SQL Outer join and SQL Inner join.

2) SQL NON EQUI JOIN :

The **SQL NON EQUI JOIN** is a join uses comparison operator other than the equal sign like >, <, >=, <= with the condition.

SQL EQUI JOIN : INNER JOIN and OUTER JOIN

The SQL EQUI JOIN can be classified into two types - INNER JOIN and OUTER JOIN

1. SQL INNER JOIN

This type of EQUI JOIN returns all rows from tables where the key record of one table is equal to the key records of another table.

2. SQL OUTER JOIN

This type of EQUI JOIN returns all rows from one table and only those rows from the secondary table where the joined condition is satisfying i.e. the columns are equal in both tables.

In order to perform a JOIN query, the required information we need are:

- a) The name of the tables
- b) Name of the columns of two or more tables, based on which a condition will perform.

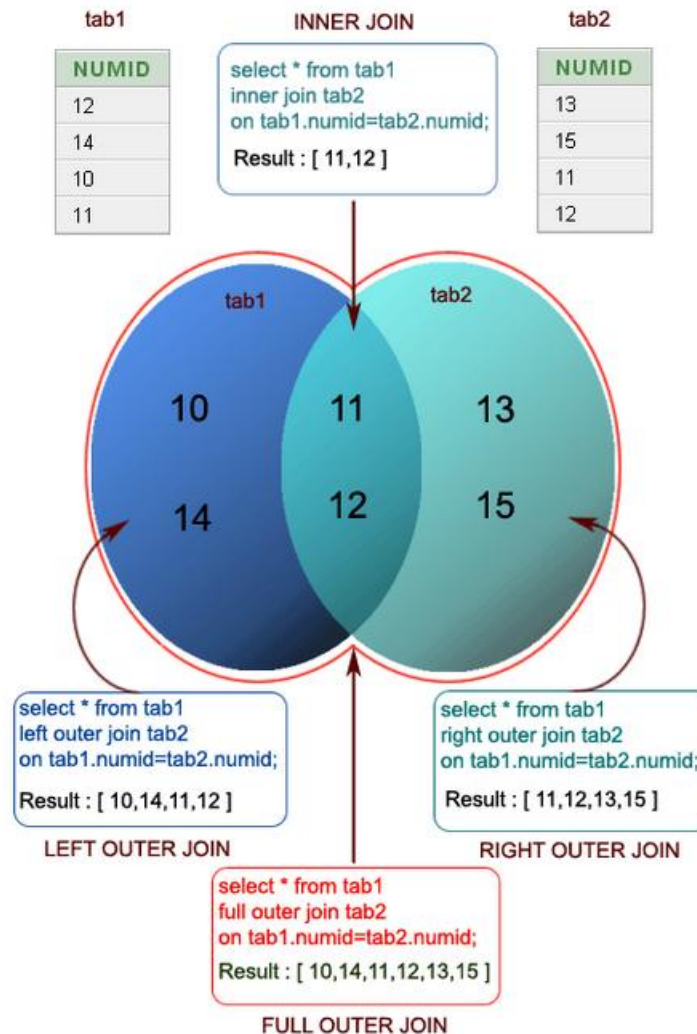
Syntax

FROM table1

join_type table2

[**ON** (join_condition)]

Pictorial Presentation of SQL Joins :



Another way ?

Example

Sample table : company

company_id	company_name	company_city
18	Order All	Boston
15	Jack Hill Ltd	London
16	Akas Foods	Delhi
17	Foodies.	London
19	sip-n-Bite.	New York

Sample table : foods

item_id	item_name	item_unit	company_id
1	Chex Mix	Pcs	16
6	Cheez-It	Pcs	15
2	BN Biscuit	Pcs	15
3	Mighty Munch	Pcs	17
4	Pot Rice	Pcs	15

To join two tables 'company' and 'foods', the following sql statement can be used :

```
view plain print ?
01. SELECT company.company_id,company.company_name,
02.
03. foods.item_id,foods.item_name
04.
05. FROM company,foods;
```

TASK 9:

[From Book Training Kit \(Exam 70-461\) Querying Microsoft SQL Server 2012](#)

- Practice : pg.114

- Using Joins

- Practice : pg.132

- Using Subqueries, Table Expressions, and the APPLY Operator

- What is a cross join? Make a your own example.