**Exists Operator:**

The EXISTS operator is used to test for the existence of any record in a subquery.

The EXISTS operator returns true if the subquery returns one or more records.

**Generic Syntax:**

SELECT column\_name(s)  
FROM table\_name  
WHERE EXISTS  
(SELECT column\_name FROM table\_name WHERE condition);

**Example:**

For instance, let’s create a table named Products:

**create table Products(ProductID INT AUTO\_INCREMENT NOT NULL PRIMARY KEY, ProductName VARCHAR(80) NOT NULL, SupplierID INT NOT NULL, CategoryID INT NOT NULL, Unit INT NOT NULL, Price\_Per\_Unit INT NOT NULL);**

Now, after some insertions the table looks like:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **ProductID** | **Product**  **Name** | **Supplier ID** | **Category ID** | **Unit** | **Price\_Per \_Unit** |
| 1 | Redmi 3s | 1 | 3 | 1 | 120 |
| 2 | Moto E | 1 | 3 | 2 | 130 |
| 3 | Sennheiser Headphone | 2 | 3 | 2 | 19 |
| 4 | SkullCandy Headphone | 2 | 3 | 1 | 15 |
| 5 | Moody’s Roasted Almond | 3 | 1 | 1 | 10 |
| 6 | Bombay dyeing | 4 | 2 | 1 | 15 |

Now, A second table named SupplierInformation is created.

**Create table SupplierInformation**

**(SupplierID INT NOT NULL AUTO\_INCREMENT PRIMARY KEY, SupplierName VARCHAR(80) NOT NULL);**

|  |  |
| --- | --- |
| **SupplierID** | **SupplierName** |
| 1 | TrueComRetails |
| 2 | SuperComNet |
| 3 | GiftsWorld |
| 4 | RetailNet |

Now, the following select query is made:

**SELECT SupplierName FROM SupplierInformation WHERE EXISTS (SELECT ProductName FROM Products WHERE Products.SupplierId = SupplierInformation.supplierId AND Products.Price\_Per\_Unit < 20);**

|  |
| --- |
| **SupplierName** |
| SuperComNet |
| GiftsWorld |
| RetailNet |

But, this can be the result of the following query, too. So, what does exist do? (What’s exist clause speciality)

**Select SupplierInformation.SupplierName from Products, SupplierInformation Where Products.SupplierID=SupplierInformation.SupplierID AND Products.Price\_Per\_Unit<20;**

It works.

Now, I Personally think the efficiency slightly improved using exists.

For instance, Suppose, there are m entries in SupplierInformation. And n entries in Products. (and both m and n are very big).

Now, Now, during second variant of the query

**Select SupplierInformation.SupplierName from Products, SupplierInformation Where Products.SupplierID=SupplierInformation.SupplierID AND Products.Price\_Per\_Unit<20;**

the time complexity is O(mn).

During the first variant of the query:

The time complexity would be O(np)+O(m).

Now, if p is much much less than m, O(np)+O(m) will become much efficient than O(mn)