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SQL UNION Operator

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The SQL UNION Operator

The `UNION` operator is used to combine the result-set of two or more `SELECT` statements.

- Every `SELECT` statement within `UNION` must have the same number of columns
- The columns must also have similar data types
- The columns in every `SELECT` statement must also be in the same order

UNION Syntax

```
SELECT column_name(s) FROM table1
UNION
SELECT column_name(s) FROM table2;
```

UNION ALL Syntax

The `UNION` operator selects only distinct values by default. To allow duplicate values, use `UNION ALL` :

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```
UNION ALL
SELECT column_name(s) FROM table2;
```

Note: The column names in the result-set are usually equal to the column names in the first `SELECT` statement.

Demo Database

In this tutorial we will use the well-known Northwind sample database.

Below is a selection from the "Customers" table:

CustomerID	CustomerName	ContactName	Address	City	PostalCo
1	Alfreds Futterkiste	Maria Anders	Obere Str. 57	Berlin	12209
2	Ana Trujillo Emparedados y helados	Ana Trujillo	Avda. de la Constitución 2222	México D.F.	05021
3	Antonio Moreno Taquería	Antonio Moreno	Mataderos 2312	México D.F.	05023

And a selection from the "Suppliers" table:

SupplierID	SupplierName	ContactName	Address	City	PostalCode	
1	Exotic Liquid	Charlotte Cooper	49 Gilbert St.	London	EC1 4SD	

Kelly's
Homestead

Oxford
Rd.

Arbor

SQL UNION Example

The following SQL statement returns the cities (only distinct values) from both the "Customers" and the "Suppliers" table:

Example

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```
SELECT City FROM Customers
UNION
SELECT City FROM Suppliers
ORDER BY City;
```

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Note: If some customers or suppliers have the same city, each city will only be listed once, because `UNION` selects only distinct values. Use `UNION ALL` to also select duplicate values!

SQL UNION ALL Example

The following SQL statement returns the cities (duplicate values also) from both the "Customers" and the "Suppliers" table:

Example

ORDER BY City;

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SQL UNION With WHERE

The following SQL statement returns the German cities (only distinct values) from both the "Customers" and the "Suppliers" table:

Example

```
SELECT City, Country FROM Customers
WHERE Country='Germany'
UNION
SELECT City, Country FROM Suppliers
WHERE Country='Germany'
ORDER BY City;
```

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SQL UNION ALL With WHERE

The following SQL statement returns the German cities (duplicate values also) from both the "Customers" and the "Suppliers" table:

Example

```
SELECT City, Country FROM Customers
```

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```
ORDER BY City;
```

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Another UNION Example

The following SQL statement lists all customers and suppliers:

Example

```
SELECT 'Customer' AS Type, ContactName, City, Country
FROM Customers
UNION
SELECT 'Supplier', ContactName, City, Country
FROM Suppliers;
```
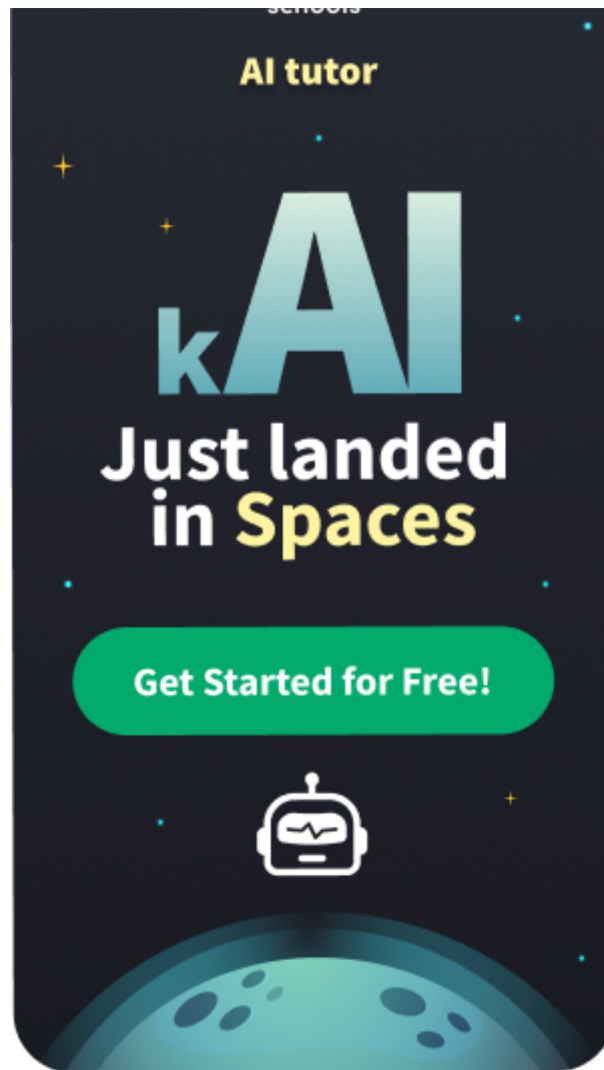
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Notice the "AS Type" above - it is an alias. SQL Aliases are used to give a table or a column a temporary name. An alias only exists for the duration of the query. So, here we have created a temporary column named "Type", that list whether the contact person is a "Customer" or a "Supplier".

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