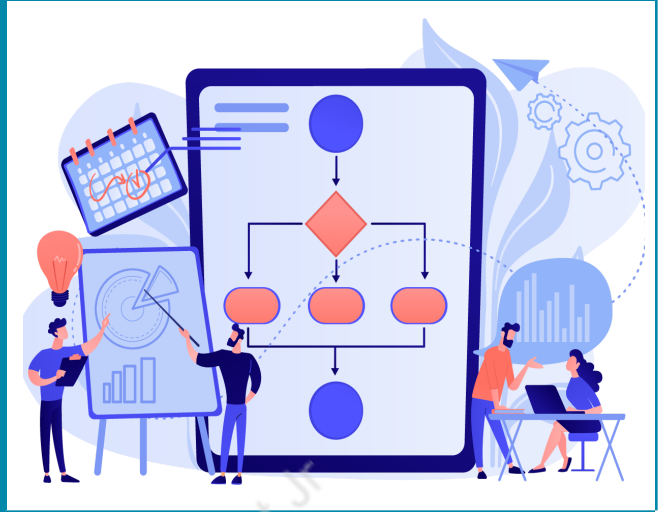**WhiteHat Jr**
Live Online Coding for Kids

Union Operator

What is our GOAL for this MODULE?

In this class, we learned about Union operators in SQL. the **UNION** operator is used to combine the result-set of two or more SELECT statements. It just takes all the rows of the Two tables and displays them as one.

1. Every **SELECT** statement within **UNION** must have the same number of columns.
2. The columns must all have similar data types.
3. The column in every **SELECT** statement must also be in the same order.

What did we ACHIEVE in the class TODAY?
- Introduction to Union statement
- Union SQL statements

Which CONCEPTS/ CODING BLOCKS did we cover today?
- Union Operator
- SQL Union Syntax

How did we DO the activities?

1. We discussed some of the key differences b/wJ JOIN and UNION

JOIN	UNION
JOIN combines data from many tables based on the condition	UNION combines the result of two or more SELECT statements
It combines data into new columns	It combines data into new rows
The number of columns selected from each table can be different	The number of columns selected from different tables should be the same
Datatypes of corresponding columns in different tables can be different	Datatypes of corresponding columns in different tables should be the same

2. We learned about the syntax and conditions of the UNION operator.The UNION operator needs 3 conditions satisfied between the select statements to work. They are as follows -
   - Every **SELECT** statement within **UNION** must have the same number of columns.
   - The columns must all have similar data types.
   - The column in every **SELECT** statement must also be in the same order.

3. Merge the data of the eCommerce company. Query the data of India's all metropolitan cities. -NCR (National Capital Region), Mumbai, Kolkata, Bangalore.

   - Conditions to be taken care of while applying Union operator.

   - *First -*Since the union operator merges the rows of the 2 tables, it needs to make sure that the number of columns is the same. It cannot merge 2 columns of one table with 3 columns of the other table. Therefore, the union operator requires the same number of columns in all the select statements.

   - Second-Suppose that there are 2 tables having the same number of columns, but the data types of these columns are different, then would it make sense to merge the data together through the union? Exactly! We wouldn't want to see strings in a column that should show numbers, or vice versa, since it will confuse us. Therefore, the data types of the columns should be the same.

   - *Third -*The columns in the select statement should be in the same order. Union operator works in a way where it will merge the first column of the first table with the first column of the second table, so on and so forth. Therefore we should always keep in mind to keep our columns aligned in the select

statements.

4. Merge the row *first_name* and *phone no* from **customers**, and *contact_name* and *phone* from **suppliers** -
   - (SELECT first_name, phone from customers) UNION (SELECT contact_name, phone from suppliers);

```
1  (SELECT first_name, phone from customers) UNION (SELECT contact_name, phone from suppliers);
```

Output

Output

Show 10 ⌄ entries

first_name ▲	phone ⬍
Alejandra	(91)7456200
Alexander	0342-023176
Ana	(5)555-4729
Anabela	(11)555-2167
André	(11)555-9482
Ann	(171)555-0297
Anne Heikkonen	(953) 10956
Annette	61.77.61.10
Antonio	(5)555-3932
Antonio del Valle Saavedra	(98) 598 76 54

Showing 1 to 10 of 120 entries   Previous 1 2 3 4 5 ... 12 Next

5. For duplicate entries in two tables, the **UNION ALL** operator is used. The key difference between **UNION** and **UNION ALL** is that **UNION removes the duplicates** whereas **UNION ALL keeps the duplicates**.

6. Get the data for all the cities and countries from both customers and suppliers tables. Syntax for the same.
   - (SELECT city, country FROM customers)UNION ALL(SELECT city, country FROM suppliers);

```
1 (SELECT city, country FROM customers)
2 UNION ALL
3 (SELECT city, country FROM suppliers);
```

Execute

Output

Output

Show 10 entries

city	country
Aachen	Germany
Albuquerque	USA
Anchorage	USA
Ann Arbor	USA
Annecy	France
Barcelona	Spain
Barquisimeto	Venezuela
Bend	USA
Bergamo	Italy
Berlin	Germany

Showing 1 to 10 of 120 entries   Previous 1 2 3 4 5 ... 12 Next

7. To find duplicates, there is another operator called **INTERSECT**. Syntax for **INTERSECT**

- (SELECT city, country FROM customers)INTERSECT(SELECT city, country FROM suppliers);

Output

Show 10 entries

city	country
Berlin	Germany
London	UK
Montréal	Canada
Paris	France

Showing 1 to 4 of 4 entries   Previous   1   Next

8. **UNION, UNION ALL,** and **INTERSECT** operators are all also known as **SET Operators**.

9. Fetch the names of cities in the USA and Brazil from customers and supplies.Syntax :
- (SELECT city, country FROM customers WHERE country='USA' OR country='Brazil')

    UNION

    (SELECT city, country FROM suppliers WHERE country='USA' OR country='Brazil');

```
1  (SELECT city, country FROM customers WHERE country='USA' OR country='Brazil')
2  UNION
3  (SELECT city, country FROM suppliers WHERE country='USA' OR country='Brazil');
```

Output

Output

Show 10 entries

city	country
Albuquerque	USA
Anchorage	USA
Ann Arbor	USA
Bend	USA
Boise	USA
Boston	USA
Butte	USA
Campinas	Brazil
Elgin	USA
Eugene	USA

Showing 1 to 10 of 21 entries

Previous 1 2 3 Next

10. In cases where two tables do not have the same number of columns, use constant values to make them the same number.

(SELECT customer_id, total_amount FROM company_orders) UNION (SELECT id, 0 from customers);

```
1 (SELECT customer_id, total_amount FROM company_orders)
2 UNION
3 (SELECT id, 0 from customers);
```

Output

Output

Show 10 entries

customer_id	total_amount
1	878
1	491.2
1	960
1	851
1	330
1	0
1	1086
2	514.4
2	479.75
2	0

Showing 1 to 10 of 920 entries

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What's next?

In the next class, we will see how we can combine the JOIN with UNION operators and perform a SQL injection on the website, attempting to fetch their user's sensitive data.

EXTEND YOUR KNOWLEDGE:

To know more about SQL Union Set Operator click here