Set Operators

Set Operators fetch data from multiple tables

1. Set Operators

Fetch same data type of data from multiple tables

1. Join

Fetch same/different data type of data from multiple tables.

Set Operators and Joins both are logical relations.

Set Operators

It will give combined output result of two or more tables.

Select \* from Table1 Select \* from Table2 Select \* from Table3

3 individual (separate tables)

Set Operators

Merge all data in these tables into a single table. So that set operator produces combined output.

Set Operator Type:

1. Union All
2. Union
3. Intersect
4. Except (Minus in Oracle)

Union All

(Combine result 🡺 With duplicate data + data is not sorted)

It returns combined result from multiple selects with duplicates. It does not removes duplicate values.

i.e., It simple combine all the data and returns all the rows from all select statement.

Note:

The number of column in all select statements must be same with similar data type columns.

Syntax:

Select Col1, Col2, Col3, Col4, . . ., From table1 where cond

Union All

Select Col5, col6, col7, . . ., from Table2 where cond

Union

Combine results 🡺 No duplicates + data is sorted

It returns combined results from multiple selects without duplicates (i.e., it combines all the rows from both select statements and remove duplicate rows between them and not let to insert duplicate rows)

Union has to perform distinct sort to remove duplicates which makes it lesser faster than Union All. So, Union all is better in performance and recommended to use.

Union displays all the values from first select statement and then while selecting (Inserting) values from second select statement it checks duplicity of the values and if values duplicates it does not allow that value to be inserted and ignore that value.

Syntex:

Select Col1, Col2, Col3, Col4, . . ., From table1 where cond

Union

Select Col5, col6, col7, . . ., from Table2 where cond

Note: the number of columns in all select statements must be same with similar data types.

Sorted: sorting the results of union and union all -> order by clause should be only on the last select statement. If mentioned in between then CE

Union VS Join

Set operators combines the result set of two or more tables into a single resultset which includes all the rows from all the queries in union

Join retrieve data from two or more tables based on logical relationship between tables.

(i.e., Union combiens rows from 2 or more tables

Join combines columns from 2 or more tables).

Intersect:

Combine result 🡺 only common data

It returns only common data between multilple select statement (i.e., the data which is common in both select statements)

Syntex:

Select Col1, Col2, Col3, Col4, . . ., From table1 where cond

Intersect

Select Col5, col6, col7, . . ., from Table2 where cond

Note: the number of columns in all select statements must be same with similar data types.

Intersect VS Inner Join

1. Intersect filters duplicates and returns only distinct values that are common between left and right query but Inner join does not filter the duplicate values. To make inner join behave like intersect operators use: distinct operator.
2. Inner join treats two nulls as two different values so while joining two tables based on a nullable column and if both tables have nulls in that joining column inner join will not include those rows in resultset but intersect treats two nulls as same value and it returns all matching rows.

Except

It returns unique rows from the left query that are not in the right query result.

It displays value from first select statement and before display it verify whether the value is repeating in second select or not.

If it is repeating then it removes that value and display only non repeating values.

Select Id, Name, Gender, Salary from TblEmp where Salary >= 50000

Except

Select Id, Name, Gender, Salary from TblEmp where Salary >=60000

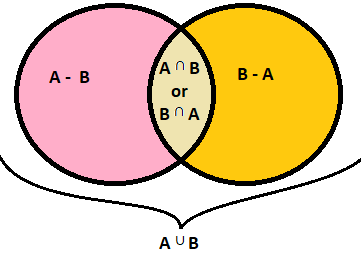
E.g. S1={a,b,c,d}, S2={x,y,z,b,d}

S1 Intersect s2 = S1 S2 = {b,d}

S1 Except s2 = S1 – S2 = {a,c}

S1 Union s2 = S1 S2 = {a,b,c,d,x,y,z}

S1 Union All s2 = {a,b,c,d,x,y,z,b,d}



Note => In all set operators, every select statement within set operators must have same number of columns (fields) with similar data types.

Except VS Not In :

Except operators return all the rows from the left query that are not in the right query’s results.

Not In operator also does the same.

Select Id, Name, Gender from TableA Except Select Id, Name, Gender from TableB

Select Id, Name, Gender from TableA where Id not in (Select Id from TableB)

Difference:

1. Except filter duplicates and returns only distinct values from left query that are not in right query result.

But not in operator doesn’t filter the duplicates.

1. Except expects same no. of columns in both queries but Not in operator compares a single column from the outer query with a single column from subquery. If we try to compare multiple columns then Error.