PostgreSQL - Expressions

An expression is a combination of one or more values, operators, and PostgresSQL functions that evaluate to a value.

PostgreSQL EXPRESSIONS are like formulas and they are written in query language. You can also use to query the database for specific set of data.

Syntax

Consider the basic syntax of the SELECT statement as follows −

```
SELECT column1, column2, columnN
FROM table_name
WHERE [CONDITION | EXPRESSION];
```

There are different types of PostgreSQL expressions, which are mentioned below −

PostgreSQL - Boolean Expressions

PostgreSQL Boolean Expressions fetch the data on the basis of matching single value. Following is the syntax −

```
SELECT column1, column2, columnN
FROM table_name
WHERE SINGLE VALUE MATCHTING EXPRESSION;
```

Consider the table COMPANY having records as follows −

```
testdb# select * from COMPANY;
 id | name  | age | address    | salary
----+-------+-----+------------+--------
  1 | Paul  |  32 | California |  20000
  2 | Allen |  25 | Texas      |  15000
  3 | Teddy |  23 | Norway     |  20000
  4 | Mark  |  25 | Rich-Mond  |  65000
  5 | David |  27 | Texas      |  85000
  6 | Kim   |  22 | South-Hall |  45000
  7 | James |  24 | Houston    |  10000
(7 rows)
```

Here is the simple example showing usage of PostgreSQL Boolean Expressions −

```
testdb=# SELECT * FROM COMPANY WHERE SALARY = 10000;
```

The above given PostgreSQL statement will produce the following result −

```
 id | name  | age | address  | salary
----+-------+-----+----------+--------
  7 | James |  24 | Houston  |  10000
(1 row)
```

PostgreSQL - Numeric Expression

These expressions are used to perform any mathematical operation in any query. Following is the syntax −

```
SELECT numerical_expression as  OPERATION_NAME
[FROM table_name WHERE CONDITION] ;
```

Here numerical_expression is used for mathematical expression or any formula. Following is a simple example showing usage of SQL Numeric Expressions −

```
testdb=# SELECT (15 + 6) AS ADDITION ;
```

The above given PostgreSQL statement will produce the following result −

```
 addition
----------
       21
(1 row)
```

There are several built-in functions like avg(), sum(), count() to perform what is known as aggregate data calculations against a table or a specific table column.

```
testdb=# SELECT COUNT(*) AS "RECORDS" FROM COMPANY;
```

The above given PostgreSQL statement will produce the following result −

```
 RECORDS
---------
       7
(1 row)
```

PostgreSQL - Date Expressions

Date Expressions return the current system date and time values and these expressions are used in various data manipulations.

```
testdb=#  SELECT CURRENT_TIMESTAMP;
```

The above given PostgreSQL statement will produce the following result −

```
              now
-------------------------------
 2013-05-06 14:38:28.078+05:30
(1 row)
```