To build set expressions, we must first get the syntax right. Understand the various elements that make up a set expression and what characters are used to enclose each of them.

- Used to enclose the entire set expression, and to delimit to enclose the element list.

| $ | - Common values used as the set identifier. (See below) |
| < | - Used to enclose a set modifier |

### BASIC CONCEPTS

- **Set identifier**: is used to define the starting point in the definition of the alternative record set that will be used in the final expression.
- **Set modifier**: is the set of field-value definitions with which we modify the initial record set. This can also be thought of as the set of filters that we want to apply on the record set.
- **Element list**: is a list of values we use to filter the record set to create a given field. An element list is tied to a specific field.

### OPERATORS

There are two types of operators: Assignment Operators to determine how to combine the field values with an element list, and Set Operators to work with several element lists or several set modifiers.

#### Assignment Operators

- **Explicitly defines a union between a field/purpose initial record set and the element list, between two element lists, or between two set modifiers.**

#### Set Operators

- **Implicitly defines an intersection between a field/purpose initial record set and an element list, between two element lists, or between two set modifiers.**

### PRO TIPS

#### QlikView Components Scripting Library

Using set expressions for period-over-period comparisons (point in time reporting) has never been easier. With the QlikView Components scripting library, you can generate set variables automatically and enclose them in your expressions right away.

One line of code to create both a master calendar table and the related set variables.

```qlikview
CALL Qvo.CalendarFromField('OrderDate');
```

Then, on the expression, you can put, for instance, the previous year’s sales to date sales with:

```qlikview
Sun([Yr]CDatePreviousYearMD0) Sales
```

#### ELEMENT FUNCTIONS

There are two special functions that can be used in set expressions to implicitly specify an element list. The functions are:

- **P()**: to list all possible values in a field (as dictated by the current selection state) as the element list.
- **E()**: to list all excluded values in a field (as dictated by the current selection state) as the element list.

A quick example:

```qlikview
Sun([Yr]CDatePreviousYearMD0) Sales
```

This expression will use the full set of data disregarding all user selections (using a “p” set identifier, but take into account those records corresponding to the years that the user has selected. In other words, only selections made on the Year field are considered.)

### ABOUT

The material was created by Miguel Ángel García, co-author of the book QlikView for Developers. Check out more resources like this at https://aftersync.com/blog