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# Genesys Knowledge Management User Guide

Operator Precedence

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# Operator Precedence

If you use more than one operator in a formula, the order in which they are evaluated depends on their relative *precedence* (higher precedence operators are evaluated first). For example, multiplication (\*) has a higher precedence than addition (+), so that the formula below evaluates to 14, not 20:

<\$2 + 3 \* 4\$>

You can use parentheses to override the default precedence. The formula below evaluates to 20:

<\$(2 + 3) \* 4\$>

For a complete list of operators and their relative precedence, see “Operator Precedence” in Chapter 3 of the [eServices 8.1 Reference Manual](#).

## Data Types

Operands of several different types may appear in formulas:

- Number
- String (text)
- Date/time
- Boolean (true/false)
- Object (Contact, Interaction, and Agent)

Each data type behaves differently in formulas, and the operators have different meanings when you use them with different data types. For example, the + operator means “add” when used with numbers, but “concatenate” (paste together) when used with strings. This formula evaluates to *Uncle Sam Wants You*

<\$"Uncle Sam " + "Wants You"\$>

In addition, some operators cannot be used with some data types at all. For example, you cannot use the multiplication (\*) operator on two strings.

All formulas, regardless of their final data type, are converted to strings before being merged into your standard response. This conversion follows a set of default rules that depend on the data type. For example, the default rules for numbers round them off to integers. This formula causes 2 to be inserted into your standard response, even though the real result is 2.25:

<\$9 / 4\$>

You can use the Text function (see below) or format operator:) to override the default formatting.

Either of the following formulas inserts 2.25 into your standard response:

```
<$Text(9 / 4, "#.##")$>
```

```
<$(9 / 4):"#.##"$>
```

For a detailed list of data types and how you can use them, see “Data Types” in the [eServices 8.1 Reference Manual](#).