Operations and functions for calculated fields in data blocks

Calculated fields in data blocks use expressions that specify the operations and functions to be performed, the referenced attribute fields, and any needed value conversion. The tables below show the operations and functions that can be used in expressions of calculated fields.

For defining calculated fields it is assumed that you have some familiarity with scripting.

Operations

The following operations can be used in the expression of a calculation field:

Notation	Operation	Explanation
+	Add	Adds the operands. If both operands are integer, the result is also integer. Otherwise the result will be real. Example: `2+3` results in `5`
–	Subtract	Subtracts the right operand from the left. If both operands are integer, the result is also integer. Otherwise the result will be real. Example: `2-1` results in `1`
*	Multiply	Multiplies the operands. If both operands are integer, the result is also integer. Otherwise the result will be real. Example: `2*3` results in `6`

/	Divide	Divides the left operand by the right. If both operands are integer, the operation will perform integer division and the result is also integer. In all other cases, the operation will be a proper division and the result will be real.
		
		Examples:
		
		`4/3` results in `1`
		
		`4.0/3` results in `1.33`

Functions

The following predefined functions can be used in the expression of a calculated field:

Notation	Function	Explanation

`min`	Minimum	Returns the smallest value among its arguments.
		
		Examples:
		
		`min(3,1)` results in `1`
		
		`min(2/5,1)*10+4` results in `4`
		
		(intermediate calculations: `= min(0,1)*10+4 = 0*10+4 = 0+4 = 4`)

`max`	Maximum	Returns the largest value among its arguments.
		
		Examples:
		
		`max(3,1)` results in `3`
		
		`max(10/5,1)*10+4` results in `24`
		
		(intermediate calculations: `= max(2,1)*10+4 = 2*10+4 = 20+4 = 24`)

`sum`	Sum	Returns the sum of its arguments.
`prod`	Product	Returns the product of its arguments.
`avg`	Average	Returns the arithmetic average value of its arguments: the sum of the values divided by the number of values.
`geoman`	Geometric mean	Returns the geometric mean value of its arguments: the N-th root of the product of the values (with N equal to the number of values).

`sqrt`	Square root	Returns the square root of its (single) arguments.
`abs`	Absolute value	Returns its (single) argument unchanged if it.

Parentheses and brackets

Notation	Operation	Explanation
`( )`	Parentheses	Can be used for specifying the order of operations. Example: `2*(3+4)` results in `14`
`< >`	Angle brackets	Can be used for referencing other attribute fields. Example: `2.0*<licensecosts> + 3.0*<maintenancecosts>`

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