## StructCalcOp <br> \%StructCalcOp function

Function

## Declaration

## Parameters

## Description

The function performs a given mathematical operation over a part of local structures. This function belongs to the control functions.

```
%StructCalcOp(
    in _recA[fromRowA]^fromColA, IN _recA[toRowA]^toColA,
    in _recB[fromRowB]^fromColB,
    in _recC[fromRowC]^fromColC,
    INT in _operation [, IN BOOL _bInvalidIsZero = @TRUE],
)
```

| _recA[fromRowA] <br> ^fromCoIA, <br> recA[toRowA] <br> ^toCoIA | Reference to the value of local structured variable field. |
| :--- | :--- |
| recB[fromRowB] <br> ^fromColB | Reference to the value of local structured variable field. |
| _recC[fromRowC] <br> ffromCoIC | Reference to the value of local structured variable field. |
| INT IN_operation | Type of performed mathematical operation. |
| IN BOOL <br> _bInvalidlsZero | Optional parameter. Determines a behavior of mathematical operation in case <br> that some of operands has an invalid value. |

The value of parameter _operation determines the mathematical operation according to this table:

| Value | Mathematical operation |
| :--- | :--- |
| 0 | + |
| 1 | - |
| 2 | * |
| 3 | 1 |

The mathematical operation is performed as follows:

$$
C=A+B
$$

where:
Symbol A represents an area of local structured variable values which is given by its left upper corner (field _recA[fromRowA]^fromCoIA) and right lower corner (field _recA[toRowA]^toColA). The structured variable which is used in the first and second parameter must be the same. The dimensions (number of rows and columns) are also defined by this way. They are used in the definition of $B$ and $C$ areas that are defined only by their right upper corner in the parameters.
The mathematical operation (defined by a parameter) is performed among the individual appropriate fields of $A$ and $B$ areas. A result is written into the $C$ area.
A set parameter_bInvalidlsZero (zeroing of invalid value) is interpreted as follows:

- using the operators + and -, the invalid values are, before a calculation, considered as zero values
- using the operators * and $/$, the result is 0

In the following example there is shown an addition of two matrixes.
The first matrix is delimited by fields _A[1]^_firstCoINr (where _firstCoINr has value =1) and _A[2]
^_lastCoINr (where _lastColNr is set on consecutive number of the last column of relevant structure). The second matrix is defined by the field _B[1]^_firstCoINr and consists of two rows and of the same number of columns like matrix in variable _A.
The result is written to appropriate fields in variable _C.

```
BEGIN
    RECORD (SD.BIG) _A
    RECORD (SD.BIG) _B
    RECORD (SD.BIG) _C
    REDIM _A[20]
    REDIM _B[20]
    REDIM _C[20]
INT _firstColNr, _lastColNr
_firstColNr := 1
_lastColNr := _A\CNR
_A[1]^R1 := 1
_A[2]^R1 := 2
_B[1]^R1 := 1
_B[2]^R1 := 2
%StructCalcOp(_A[1]^_firstColNr,_A[2]^_lastColNr,_B[1]^_firstColNr,_C[1]
^_firstColNr,0)
END
```

Related pages:
ESL extended functions
Function Arguments - Types

