

# Survey State Model (SSM) Operators

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## 1 Binary Operators

Binary operators are those which need two operands in order to solve an expression.

### 1.1 Equality and relational operators

The equality and relational operators perform a comparison and return a boolean *true* or *false*.

Operator Name	Operand1	Operand2
EQ (Equals to)	String	String
	Integer / Decimal	Integer / Decimal
NE (Not Equals to)	String	String
	Integer / Decimal	Integer / Decimal
LT (Less than)	Integer / Decimal	Integer / Decimal
LE (Less equals)	Integer / Decimal	Integer / Decimal
GT (Greater than)	Integer / Decimal	Integer / Decimal
GE (Greater equals)	Integer / Decimal	Integer / Decimal

### 1.2 Conditional operators

The conditional operators apply standard boolean algebra operations to their operands and return a boolean *true* or *false*.

Operator Name	Operand1	Operand2
OR	Boolean	Boolean
AND	Boolean	Boolean

### 1.3 Arithmetical operators

The arithmetical operators apply standard mathematical operations to their operands. The result varies depending on the operands, i.e. both operands

integer returns integer, both operands decimal returns decimal or any of both decimal returns decimal.

Operator Name	Operand1	Operand2
ADD (Addition)	Integer / Decimal	Integer / Decimal
SUB (Subtraction)	Integer / Decimal	Integer / Decimall
MUL (Multiplication)	Integer / Decimal	Integer / Decimal
DIV (Division)	Integer / Decimal	Integer / Decimal
MOD (Module)	Integer	Integer

#### 1.4 List operators

Operator Name	Description	Operand1	Operand2	Result
IS_SEL	Checks whether the string is selected in the list or not	List	String	Boolean
IS_UNSEL	Checks whether the string is unselected in the list or not	List	String	Boolean
UNION	Creates a list with the set of elements from operand1 and operand2	List	List	List
INTERSECTION	Creates a list containing all elements of operand1 that also belong to operand2 (or equivalently, all elements of operand2 that also belong to operand1), but no other elements	List	List	List

## 2 Unary Operators

Unary operators are those which need just one operand for solving an expression.

Operator Name	Description	Operand1	Result
POS	Returns the positive value of operand1	Integer / Decimal	Integer / Decimal
NEG	Returns the negative value of operand1	Integer / Decimal	Integer / Decimal
INC	Increments one unit the operand1	Integer	Integer
DEC	Decrements one unit the operand1	Integer	Integer
NOT	Negates the boolean operand1	Boolean	Boolean
EMPTY	Checks whether the operand1 is empty or not	String / List	Boolean
SIZE	Returns the size of operand1, i.e. string size or number of items.	String / List	Boolean
SEL	Returns a list with the items of the list that are selected	List	List
UNSEL	Returns a list with the items of the list that are unselected	List	List
ALL	Returns all the elements of a list	List	List
VALUEOF	Returns the value of the operand1 as string	String / Integer / Decimal / List	String