Types of operations

These are the following types of operations in MQL4[1]:

- Arithmetical
- Assignment
- Relational
- Boolean
- Bitwise

Arithmetical operations

The following symbols are arithmetical operation symbols.

Symbol	Operation	Example	Analog
+	Addition of values	x + 2	
-	Subtraction of values or sign change	x - 3, y = - y	
*	Multiplication of values	3 * x	
/	Quotient of division	x / 5	
%	Residue of division	minutes = time % 60	
++	Addition of 1 to the value of the variable	y++	y = y + 1
--	Subtraction of 1 from the value of the variable	y--	y = y - 1

[1] Source: http://book.mql4.com/

Assignment operations

The following symbols are assignment operation symbols.

Symbol	Operation	Example	Analog
=	Assignment of the value x to the variable y	y = x	
+=	Increase of the variable y by x	y += x	y = y + x
-=	Reduction of the variable y by x	y -= x	y = y - x
*=	Multiplication of the variable y by x	y *= x	y = y * x
/=	Division of the variable y by x	y /= x	y = y / x
%=	Residue of division of the variable y by x	y %= x	y = y % x

Relational operations

The following symbols are relational operation symbols.

Symbol	Operation	Example
==	True, if x is equal to y	x == y
!=	True, if x is not equal to y	x != y
<	True, if x is less than y	x < y
>	True, if x is more than y	x > y
<=	True, if x is equal to or less than y	x <= y
>=	True, if x is equal to or more than y	x >= y

Boolean (logical) operations

The following symbols are Boolean operation symbols.

Symbol	Operation	Example	Explanations
!	NOT (logical negation)	! x	TRUE(1), if the value of the operand is FALSE(0); FALSE(0), if the value of the operand is not FALSE(0)
||	OR (logical disjunction)	x < 5 || x > 7	TRUE(1), if any value of the values is true
&&	AND (logical conjunction)	x == 3 && y < 5	TRUE(1), if all values are true

Precedence Rules

Each group of operations in the table has the same priority. The higher the priority of operations is, the higher it is position of the group in the table. The precedence rules determine the grouping of operations and operands.

Attention: Precedence of operations in the MQL4 language corresponds to the priority adopted in C++.

Operation	Description	Execution Order
() [] .	Function Call Referencing to an array element Referencing to a structure element	From left to right
! ~ ☐ ++ -- (type) sizeof	Logical negation Bitwise negation (complement) Sign changing Increment by one Decrement by one Typecasting Determining size in bytes	Right to left
* / %	Multiplication Division Module division	From left to right
+ ☐	Addition Subtraction	From left to right
<< >>	Left shift Right shift	From left to right
< <= > >=	Less than Less than or equal Greater than Greater than or equal	From left to right
== !=	Equal Not equal	From left to right

&	Bitwise AND operation	From left to right
^	Bitwise exclusive OR	From left to right
|	Bitwise OR operation	From left to right
&&	Logical AND operation	From left to right
||	Logical OR operation	From left to right
?:	Conditional Operator	Right to left
= *= /= %= += -= <<= >>= &= ^= |=	Assignment Multiplication with assignment Division with assignment Module with assignment Addition with assignment Subtraction with assignment Left shift with assignment Right shift with assignment Bitwise AND with assignment Exclusive OR with assignment Bitwise OR with assignment	Right to left
,	Comma	From left to right