**cols**

*Function returns a number of matrix columns or number of array elements.*

**Syntax:**

*x* = **cols**(*X*);

*c* = **cols**(*M*);

**Arguments:**

*Х* – input array.

*M* – input matrix.

**Description:**

*cols(X)* – function returns a number of array elements.

*cols(M)* – function returns a number of matrix columns.

The input array *X* can be assigned:

* as a variable of array type determined earlier:

*x* = **cols**(*X*);

* as an array consisting of variables determined earlier:

*x* = **cols***(*[*x1,x2,x3,x4*]);

* as a constant array:

*x* = **cols**([-1.80, -1.60, -1.40, -1.20]);

The input matrix *М* can be assigned:

* as a variable of matrix type determined earlier:

*c* = **cols**(*M*);

* as matrix consisting of variables determined earlier:

*c* = **cols**([[*x1,x2*],[*x3,x4*],[*x5,x6*]]);

* as a constant array:

*c* = **cols**([[1,2],[3,4],[5,6]]);

**Result:**

*x* – number of elements of array *Х.* Features *integer* type,

*c* – number of columns of matrix *M.* Features *integer* type*.*

**Example 1:**

|  |  |
| --- | --- |
|  | **output** na; //output – number of array elements  a = [1,2,3,4,5];  na = **cols**(a); // na = 5 |

As a result variable *na* will be assigned integer 5 corresponding to a number of array elements *a*.

**Example 2:**

|  |  |
| --- | --- |
|  | **output** nb; //output – number of matrix columns  b = [[1,2],[3,4],[5,6]]; //matrix 2x3  nb = **cols**(b); //nb = 2 |

As a result variable *nb* will be assigned integer 2 corresponding to a number of matrix columns *b*.