**polyval**

*Function of calculating polynomial value.*

**Syntax:**

*С* = **polyval**(*A, B*);

*x* = **polyval**(*A, y*);

**Arguments:**

*A* – input array comprising coefficients a0, a1, …an of polynomial of the following type:

f(t) = a0+a1t+a2t2+…+antn,

*B* – input array comprising values of arguments for calculating polynomial value,

*y* – value of argument for calculating polynomial value.

**Description:**

*polyval(A, B)* – function returns array of polynomial values specified by an array of coefficients *А* calculated from a set of values of arguments specified by an array of coefficients *B*.

*polyval(A, y)* – function returns polynomial value specified by an array of coefficients *А* calculated from argument *y*.

Input arrays *A, B* can be assigned:

* as variables of array type determined earlier:

*С* = **polyval**(*A,B*);

* as arrays consisting of variables determined earlier:

*С* = **polyval**([*a1,a2,a3,a4*],[*b1,b2,b3,b4*]);

* as constant arrays:

*С* = **polyval**([-1, -6, -4, -2],[-4, 7, 5, -3]);

Argument can be either real or complex number.

**Result:**

*С* – output array comprising values of polynomial calculated from a set of values of arguments specified by an array of coefficients *B*.

*x* – polynomial value specified by an array of coefficients *А* calculated from argument *y*.

**Example:**

|  |  |
| --- | --- |
|  | **const** A = [1, 2, 3];  C = **polyval**(A, [5, 7, 9]); |

As a result, elements of array *C* will be assigned values [86, 162, 262] being the coefficients of polynomial c(t) = 1 + 2t + 3t2 calculated from argument 5, 7 and 9, accordingly.