**conv**

*Function of multiplying polynomials.*

**Syntax:**

*С* = **conv**(*A, B*);

**Arguments:**

*A, B* – input arrays comprising coefficients a0, a1, …an, b0, b1, …bn of polynomial types:

f(t) = a0+a1t+a2t2+…+antn

g(t) = b0+b1t+b2t2+…+bntn

**Description:**

*conv(A, B)* – function returns an array of coefficients of polynomial obtained as a result of multiplying polynomial assigned by the array of coefficients *А* by a polynomial assigned by an array of coefficients *B*.

Input arrays *A, B* can be assigned:

* as variables of array type determined earlier:

*С* = **conv**(*A,B*);

* as arrays consisting of variables determined earlier:

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

* as constant arrays:

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

**Result:**

*С* – output array comprising coefficients of polynomial obtained as a result of multiplying polynomial assigned by the array of coefficients *А* by a polynomial assigned by an array of coefficients *B*:

c(t) = f(t)g(t) = c0+c1t+c2t2+…+c2nt2n

**Example:**

|  |  |
| --- | --- |
|  | **const** A = [2, 3, 5];  **const** B = [-1, -2, 2];  C = **conv**(A, B); //[-2, -7, -7, -4, 10] |

As a result, the elements of array C will be assigned values [-2, -7, -7, -4, 10], which are the coefficients of polynomial c(t) = -2-7t-7t2-4t3+10t4 obtained as a result of multiplying polynomial f(t) = 2+3t+5t2 by polynomial g(t) = -1-2t+2t2. The polynomials f(t) and g(t) have been determined by arrays *A* and *B*.