**polyadd**

*Function of addition of polynomials.*

**Syntax:**

*С* = **polyadd**(*A, B*);

**Arguments:**

*A,B* – input signals comprising coefficients a0, a1, …an, b0, b1, …bn of polynomials of the following type:

f(t) = a0+a1t+a2t2+…+antn

g(t) = b0+b1t+b2t2+…+bntn.

**Description:**

*polyadd(A, B)* – function returns array of coefficients of polynomial obtained as a result of adding polynomial specified by an array of coefficients *А* with polynomial specified by an array of coefficients *B*.

Input arrays *A, B* can be assigned:

* as variables of matrix type determined earlier:

*С* = **polyadd**(*A, B*);

* as arrays consisting of variables determined earlier:

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

* as constant arrays:

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

**Result:**

*С* – output array comprising coefficients of polynomial obtained as a result of adding polynomial specified by an array of coefficients *А* with polynomial specified by an array of coefficients *B*:

q(t) = f(t)+g(t) = c0+c1t+c2t2+…+cntn

**Example 1:**

|  |  |
| --- | --- |
|  | **const** A = [1, 2, -1, 0, 1, 2];  **const** B = [-1, -1, 2, 1];  C = **polyadd**(A, B); |

As a result, elements of array *C* will be assigned values [0, 1, 1, 1, 1, 2] being the coefficients of polynomial q(t) = t+t2+ t3 + t4+2t5 obtained as a result of adding polynomial f(t) = 1+2t-t2+t4+2t5 and polynomial g(t) = -1-t+2t2+t3. Polynomials f(t) and g(t) are determined by arrays *A* and *B*.