**invsortby**

*Sorting vectors by decreasing values of determinative vector.*

**Syntax:**

**invsortby***(X, Y1, Y2,..,Yn);*

**Arguments:**

*Х* – input array comprising elements of sorted out vector determining vector sorting,

*Y1,..,Yn* – input array comprising elements of sorted out vectors.

**Description:**

*invsortby(X, Y1, Y2,..,Yn)* – sorting multiplicity of vectors by decreasing values of the first one takes place (i.е. the first specified vector is determinative, while the elements of the rest vectors get permutated in accordance with the order of permutation of elements of the first one). Sorting for the complex vectors takes place by the modules of numbers.

Input arrays *X, Y1, Y2,..,Yn* can be assigned:

* as variables of array type determined earlier:

**invsortby**(*X, Y1, Y2,..,Yn*);

* as arrays consisting of variables determined earlier:

**invsortby**([*x1,x2,x3,x4*], *Y1, Y2,..,Yn*);

* as constant arrays:

**invsortby**([0,0,2,1,0], *Y1, Y2,..,Yn*);

**Example 1:**

|  |  |
| --- | --- |
|  | X = [2, 3, 1];  Y = [7, 0, 4];  **invsortby**(X, Y); |

As a result, elements of array *Х* will be assigned values [3, 2, 1] corresponding to the elements of original array *X* sorted out by decreasing, elements of array *Y* will be assigned values [0, 7, 4] corresponding to the elements of original array *Y* sorted out in accordance with sorting of the determinative array.

**Example 2:**

|  |  |
| --- | --- |
|  | X = [2, 3, 1];  Y1 = [7, 0, 4];  Y2 = [5, 2, 7];  Y3 = [-1, 0, 8];  **invsortby**(X, Y1, Y2, Y3); |

As a result, elements of array *Х* will be assigned values [3, 2, 1] corresponding to the elements of original array *X* sorted out by decreasing, elements of arrays *Y1, Y2, Y3* will be assigned values [0, 7, 4], [2, 5, 7], [0, -1, 8] accordingly, corresponding to the elements of original arrays *Y1, Y2, Y3* sorted out in accordance with sorting of the determinative array.