**lsolve**

*Function of solving a system of linear algebraic equations (SLAE).*

**Syntax:**

*Z* = **lsolve**(*X,Y*);

**Arguments:**

*X* – input array of elements [[a11, ..,a1n],…,[ am1, ..,amn]] determining matrix of system of linear algebraic equationsА,

*Y* – input array of elements [b11, ..,b1m] determining vector B of system of linear algebraic equations А.

A :

**Description:**

*lsolve(X, Y)* – function of solving a system of linear algebraic equations (SLAE).

Input arrays *X*, *Y* can be assigned:

* as variables of array type determined earlier:

*Z* = **lsolve**(*X,Y*);

* as variables of array type consisting of *double* variables determined earlier:

*Z* = **lsolve**([[*x11,x12,x13,x14*],[*x21,x22,x23,x24*], [*x31,x32,x33,x34*], [*x41,x42,x43,x44*]]*,*[*y1,y2,y3,y4*]);

*Z* = **lsolve**(([[*x11,x12,x13,x14*],[*x21,x22,x23,x24*], [*x31,x32,x33,x34*], [*x41,x42,x43,x44*]],*Y*);

*Z* = **lsolve**(*X*,[*y1,y2,y3,y4*]);

* as constant arrays:

*Z* = **lsolve**([[1, 2],[2, -3]],*Y*);

*Z* = **lsolve**(*X*,[3, -1]);

*Z* = **lsolve**([[1, 2],[2, -3]], [3,-1]);

**Result:**

*Z* – output array of elements [x1, ..,xn] determining vector of solving system of linear algebraic equations А.

**Example:**

|  |  |
| --- | --- |
|  | //arrays of matrix elements  **const** X = [[1, 2], [2, -3]];  Y = **lsolve**(X, [3, -1]); |

As a result, elements of array *Y* will be assigned values [1, 1], being the solutions for system of equations: