**transp**

*Function of transposition of matrix or vector.*

**Syntax:**

*C* = **transp**(*M*);

**Arguments:**

*M* – array of elements of input matrix or vector.

**Description:**

*transp(M)* – function performs transposition of input matrix or vector *M*.

Input matrix or vector *M* can be assigned:

* as variable of matrix or vector type determined earlier:

*C* = **transp**(*M*);

* as matrix or vector consisting of variables determined earlier:

*C* = **transp**([[*x1,x2*],[*x3,x4*],[*x5,x6*]]);//matrix

*C* = **transp**([*x1,x2*,*x3,x4*,*x5,x6*])//vector

* as constant matrix or array:

*C* = **transp**([[1,2],[3,4],[5,6]]);//matrix

*C* = **transp**([1,2,3,4,5,6]);//vector

**Result:**

*С* – transposed matrix for input matrix or vector.

**Example 1:**

*Matrix transposition:*

|  |  |
| --- | --- |
|  | //arrays of matrix elements  **const** M = [[1, 0], [-2, 3]];  C = **transp**(M); |

As a result, variable *C* will be assigned values of array [[1, -2],[0,3]] determining transposed matrix for matrix *M*.

**Example 2:**

*Vector transposition:*

|  |  |
| --- | --- |
|  | //arrays of vector elements  **const** M = [1, 0, -2, 3];  C = **transp**(M); |

As a result, variable *C* will be assigned values of matrix [[1],[0],[-2],[3]] determining transposed matrix for vector *M*.