

5.305 order

	DESCRIPTION	LINKS
Origin	Derived from sort_permutation	
Constraint	<code>order(VECTORS, PERMUTATION)</code>	
Type	VECTOR : <code>collection(var-dvar)</code>	
Arguments	VECTORS : <code>collection(vec - VECTOR)</code> PERMUTATION : <code>collection(var-dvar)</code>	
Restrictions	$ VECTOR \geq 1$ $ VECTORS \geq 1$ <code>required(VECTORS, vec)</code> <code>same_size(VECTORS, vec)</code> <code>required(PERMUTATION, var)</code> $PERMUTATION.var \geq 1$ $PERMUTATION.var \leq PERMUTATION $ $ PERMUTATION = VECTORS $	
Purpose	Given a collection of distinct VECTORS, enforces $PERMUTATION.var[i]$ to be equal to the position of vector $VECTORS.vec[i]$ within the sorted vectors of the collection VECTORS.	
Example	$\left(\begin{array}{c} \langle vec - \langle 1, 1, 2, 2 \rangle, \\ \langle vec - \langle 2, 1, 2, 1 \rangle, \\ \langle vec - \langle 2, 1, 1, 1 \rangle, \\ \langle vec - \langle 1, 1, 1, 2 \rangle, \\ \langle vec - \langle 1, 2, 2, 1 \rangle, \\ \langle vec - \langle 1, 1, 1, 1 \rangle, \\ \langle vec - \langle 2, 2, 1, 1 \rangle, \\ \langle vec - \langle 2, 1, 1, 2 \rangle \\ \langle 3, 7, 5, 2, 4, 1, 8, 6 \rangle \end{array} \right),$	
	The order constraint holds since:	
	<ul style="list-style-type: none"> • The vector $\langle 1, 1, 2, 2 \rangle$ is in the third position of the sorted collection VECTORS, • The vector $\langle 2, 1, 2, 1 \rangle$ is in the seventh position of the sorted collection VECTORS, • The vector $\langle 2, 1, 1, 1 \rangle$ is in the fifth position of the sorted collection VECTORS, • The vector $\langle 1, 1, 1, 2 \rangle$ is in the second position of the sorted collection VECTORS, • The vector $\langle 1, 2, 2, 1 \rangle$ is in the fourth position of the sorted collection VECTORS, • The vector $\langle 1, 1, 1, 1 \rangle$ is in the first position of the sorted collection VECTORS, • The vector $\langle 2, 2, 1, 1 \rangle$ is in the eighth position of the sorted collection VECTORS, • The vector $\langle 2, 1, 1, 2 \rangle$ is in the sixth position of the sorted collection VECTORS. 	

Typical

```
|VECTOR| > 1  
|VECTORS| > 1
```

Arg. properties

Functional dependency: PERMUTATION determined by VECTORS.

See also

common keyword: `sort_permutation` (*sort, permutation*).

Keywords

characteristic of a constraint: `sort`.

combinatorial object: `permutation`.

modelling: `functional dependency`.