

5.290 size_max_seq_alldifferent

	DESCRIPTION	LINKS	GRAPH
Origin	N. Beldiceanu		
Constraint	size_max_seq_alldifferent(SIZE, VARIABLES)		
Synonyms	size_maximal_sequence_alldiff, size_maximal_sequence_alldistinct, size_maximal_sequence_alldifferent.		
Arguments	SIZE : dvar VARIABLES : collection(var-dvar)		
Restrictions	SIZE ≥ 0 SIZE ≤ VARIABLES required(VARIABLES, var)		
Purpose	SIZE is the size of the maximal sequence (among all possible sequences of consecutive variables of the collection VARIABLES) for which the alldifferent constraint holds.		
Example	$\left(\begin{array}{c} \text{var} - 2, \\ \text{var} - 2, \\ 4, \left\langle \begin{array}{c} \text{var} - 4, \\ \text{var} - 5, \\ \text{var} - 2, \end{array} \right\rangle \\ \text{var} - 7, \\ \text{var} - 4 \end{array} \right)$ <p>The <code>size_max_seq_alldifferent</code> constraint holds since the constraint <code>alldifferent</code>(⟨var - 4, var - 5, var - 2, var - 7⟩) holds and since the following three constraints do not hold:</p> <ul style="list-style-type: none"> • <code>alldifferent</code>(⟨var - 2, var - 2, var - 4, var - 5, var - 2⟩), • <code>alldifferent</code>(⟨var - 2, var - 4, var - 5, var - 2, var - 7⟩), • <code>alldifferent</code>(⟨var - 4, var - 5, var - 2, var - 7, var - 4⟩). 		
Symmetry	One and the same constant can be added to the <code>var</code> attribute of all items of VARIABLES.		
See also	common keyword: <code>alldifferent</code> , <code>open_alldifferent</code> , <code>size_max_starting_seq_alldifferent</code> (<i>all different, disequality</i>).		
Keywords	characteristic of a constraint: all different, disequality, hypergraph. combinatorial object: sequence. constraint type: sliding sequence constraint, conditional constraint.		

Arc input(s)	VARIABLES
Arc generator	$PATH_N \mapsto collection$
Arc arity	*
Arc constraint(s)	$alldifferent(collection)$
Graph property(ies)	$NARC = SIZE$

Graph model

Note that this is an example of global constraint where the arc constraints do not have the same arity. However they correspond to the same type of constraint.