

## 5.7 alldifferent\_consecutive\_values

	DESCRIPTION	LINKS	GRAPH
<b>Origin</b>	Derived from <a href="#">alldifferent</a> .		
<b>Constraint</b>	<code>alldifferent_consecutive_values(VARIABLES)</code>		
<b>Argument</b>	<code>VARIABLES</code> : <code>collection(var-dvar)</code>		
<b>Restrictions</b>	<code>required(VARIABLES, var)</code> <code>alldifferent(VARIABLES)</code>		
<b>Purpose</b>	<p>Enforce (1) all variables of the collection <code>VARIABLES</code> to take distinct values and (2) constraint the difference between the largest and the smallest values of the <code>VARIABLES</code> collection to be equal to the number of variables minus one (i.e., there is no holes at all within the used values).</p>		
<b>Example</b>	<div style="border: 1px solid black; padding: 2px; display: inline-block;"> <code>((5, 4, 3, 6))</code> </div> <p>The <code>alldifferent_consecutive_values</code> constraint holds since (1) all the values 5, 4, 3 and 6 are distinct and since (2) all values between value 3 and value 6 are effectively used.</p>		
<b>Typical</b>	<code> VARIABLES  &gt; 2</code>		
<b>Symmetries</b>	<ul style="list-style-type: none"> <li>• Items of <code>VARIABLES</code> are <a href="#">permutable</a>.</li> <li>• Two distinct values of <code>VARIABLES.var</code> can be <a href="#">swapped</a>.</li> <li>• One and the same constant can be <a href="#">added</a> to the <code>var</code> attribute of all items of <code>VARIABLES</code>.</li> </ul>		
<b>See also</b>	<a href="#">implies</a> : <a href="#">alldifferent</a> , <a href="#">consecutive_values</a> .		
<b>Keywords</b>	<p><b>characteristic of a constraint</b>: all different, disequality.</p> <p><b>combinatorial object</b>: permutation.</p> <p><b>constraint type</b>: value constraint.</p>		

<b>Arc input(s)</b>	VARIABLES
<b>Arc generator</b>	$SELF \mapsto \text{collection}(\text{variables})$
<b>Arc arity</b>	1
<b>Arc constraint(s)</b>	TRUE
<b>Graph property(ies)</b>	$RANGE(\text{VARIABLES}, \text{var}) =  \text{VARIABLES}  - 1$

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