

## 5.79 compare\_and\_count

	DESCRIPTION	LINKS
Origin	Generalise <a href="#">discrepancy</a>	
Constraint	<code>compare_and_count(VARIABLES1, VARIABLES2, COMPARE, COUNT, LIMIT)</code>	
Arguments	VARIABLES1 : <a href="#">collection</a> ( <a href="#">var-dvar</a> ) VARIABLES2 : <a href="#">collection</a> ( <a href="#">var-dvar</a> ) COMPARE : <a href="#">atom</a> COUNT : <a href="#">atom</a> LIMIT : <a href="#">dvar</a>	
Restrictions	$ VARIABLES1  =  VARIABLES2 $ <a href="#">required</a> (VARIABLES1, <a href="#">var</a> ) <a href="#">required</a> (VARIABLES2, <a href="#">var</a> ) $COMPARE \in [=, \neq, <, \geq, >, \leq]$ $COUNT \in [=, \neq, <, \geq, >, \leq]$ $LIMIT \geq 0$	
Purpose	Enforce the condition $\left( \sum_{i=1}^{ VARIABLES1 } VARIABLES1[i].var \text{ COMPARE } VARIABLES2[i].var \right) COUNT \leq LIMIT.$	
Example	$((\langle 4, 5, 5, 4, 5 \rangle, \langle 4, 2, 5, 1, 5 \rangle), =, \leq, 3)$	
	The <code>compare_and_count</code> constraint holds since no more than $LIMIT = 3$ pairs of variables are equal, i.e., the first, third and fifth pairs.	
Typical	$ VARIABLES1  > 1$ <a href="#">range</a> (VARIABLES1. <a href="#">var</a> ) > 1 <a href="#">range</a> (VARIABLES2. <a href="#">var</a> ) > 1 $COMPARE \in [=]$ $COUNT \in [=, <, \geq, >, \leq]$ $LIMIT > 0$ $LIMIT <  VARIABLES1 $	
Arg. properties	<ul style="list-style-type: none"> <li>• <a href="#">Contractible</a> wrt. VARIABLES1 and VARIABLES2 (<i>remove items from same position</i>) when <math>COUNT \in [&lt;, \leq]</math>.</li> <li>• <a href="#">Extensible</a> wrt. VARIABLES1 and VARIABLES2 (<i>add items at same position</i>) when <math>COUNT \in [\geq, &gt;]</math>.</li> </ul>	
See also	<a href="#">common keyword</a> : <a href="#">count</a> ( <i>counting constraint</i> ).	
Keywords	<a href="#">constraint type</a> : <a href="#">predefined constraint</a> , <a href="#">counting constraint</a> .	

