

5.390 `sum_powers5_ctr`

	DESCRIPTION	LINKS
Origin	Arithmetic constraint.	
Constraint	<code>sum_powers5_ctr(VARIABLES, CTR, VAR)</code>	
Synonyms	<code>sum_powers5</code> , <code>sum_of_powers5</code> , <code>sum_of_powers5_ctr</code> .	
Arguments	VARIABLES : <code>collection</code> (var-dvar) CTR : <code>atom</code> VAR : <code>dvar</code>	
Restrictions	<code>required</code> (VARIABLES, var) CTR ∈ [=, ≠, <, ≥, >, ≤]	
Purpose	Constraint the sum of the power of five of a set of domain variables. More precisely, let S denote the sum of the power of five of the variables of the VARIABLES collection (when the collection is empty the corresponding sum is equal to 0). Enforce the following constraint to hold: S CTR VAR.	
Example	$((1, 1, 2), =, 34)$ The <code>sum_powers5_ctr</code> constraint holds since the condition $1^5 + 1^5 + 2^5 = 34$ is satisfied.	
Typical	$ VARIABLES > 1$ <code>range</code> (VARIABLES.var) > 1 CTR ∈ [=, <, ≥, >, ≤]	
Symmetry	Items of VARIABLES are <code>permutable</code> .	
Arg. properties	<ul style="list-style-type: none"> • <code>Contractible</code> wrt. VARIABLES when CTR ∈ [<code><</code>, <code>≤</code>] and <code>minval</code>(VARIABLES.var) ≥ 0. • <code>Contractible</code> wrt. VARIABLES when CTR ∈ [<code>≥</code>, <code>></code>] and <code>maxval</code>(VARIABLES.var) ≤ 0. • <code>Extensible</code> wrt. VARIABLES when CTR ∈ [<code>≥</code>, <code>></code>] and <code>minval</code>(VARIABLES.var) ≥ 0. • <code>Extensible</code> wrt. VARIABLES when CTR ∈ [<code><</code>, <code>≤</code>] and <code>maxval</code>(VARIABLES.var) ≤ 0. • <code>Aggregate</code>: VARIABLES(union), CTR(id), VAR(+). 	
See also	common keyword: <code>sum_ctr</code> , <code>sum_cubes_ctr</code> , <code>sum_powers4_ctr</code> , <code>sum_powers6_ctr</code> , <code>sum_squares_ctr</code> (<i>sum</i>).	

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Keywords

characteristic of a constraint: sum.

constraint type: predefined constraint, arithmetic constraint.