5.406 twin

DESCRIPTION LINKS

Origin Pairs of variables related by hiden element constraints sharing the same table.

Constraint twin(PAIRS)

Argument PAIRS : collection(x−dvar, y−dvar)

Restrictions
required(PAIRS, x)
required(PAIRS, y)
|PAIRS| > 0

Purpose Enforce the condition $\texttt{PAIRS}[i].\texttt{x} = u \wedge \texttt{PAIRS}[i].\texttt{y} = v$ $(i \in [1, |\texttt{PAIRS}|]) \Rightarrow \forall j \in [1, |\texttt{PAIRS}|] : \texttt{PAIRS}[j].\texttt{x} = u \Leftrightarrow \texttt{PAIRS}[j].\texttt{y} = v$.

Example

$$\left\{ \left\langle \begin{array}{ll} \texttt{x}-1 & \texttt{y}-8, \\ \texttt{x}-9 & \texttt{y}-6, \\ \texttt{x}-1 & \texttt{y}-8, \\ \texttt{x}-5 & \texttt{y}-0, \\ \texttt{x}-6 & \texttt{y}-7, \\ \texttt{x}-9 & \texttt{y}-6 \end{array} \right\rangle \right\}$$

The twin constraint holds since 1 is paired with 8, 9 is paired with 6, 5 is paired with 0, 6 is paired with 7.

Typical
|PAIRS| > 1
|PAIRS| >nval(PAIRS.x)
|PAIRS| >nval(PAIRS.y)
nval(PAIRS.x) > 1
nval(PAIRS.y) > 1
nval(PAIRS.x) =nval(PAIRS.y)
nval(PAIRS.x) < |PAIRS|
nval(PAIRS.y) < |PAIRS|

Arg. properties
Contractible wrt. PAIRS.

See also **implied by:** circuit, derangement, proper_circuit, symmetric_alldifferent_loop.

related: element *(pairs linked by an element with the same table).*

Keywords **characteristic of a constraint:** pair.

constraint type: predefined constraint.