5.347 sign_of

DESCRIPTION LINKS

Origin Arithmetic.

Constraint sign_of(S, X)

Usual name sign

Arguments

S	:	dvar
X	:	dvar

Restrictions

$S \geq -1$
$S \leq 1$

Purpose

According to the value of the first variable S, restrict the sign of the second variable X:

- When $S = -1$, X should be negative (i.e., $X < 0$).
- When $S = 0$, X is also equal to 0.
- When $S = +1$, X should be positive (i.e., $X > 0$).

Example

$(-1, -8)$
$(0, 0)$
$(1, 8)$

- The first sign_of constraint holds since $S = -1$ and $X = -8$ is negative.
- The second sign_of constraint holds since $S = 0$ and $X = 0$ is neither negative, neither positive.
- The second sign_of constraint holds since $S = +1$ and $X = 8$ is positive.

Typical

$S \neq 0$
$X \neq 0$

Arg. properties

Functional dependency: S determined by X.

See also **implies:** same_sign, zero_or_not_zero.

Keywords **constraint arguments:** binary constraint, pure functional dependency.
constraint type: predefined constraint, arithmetic constraint.
filtering: arc-consistency.
modelling: functional dependency.