CNF · SAT

Anatoly Weinstein

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TODO A CNF-SAT is an equation ...

Definitions

We will call *CNF* as a structure consisting of sets of literal sets. Defining recursively:

Symbol	Type	
S	$\{D\}$	A set of disjunctions
D	$\{L\}$	A set of literals
L	$x, \neg x$	A positive or negated variable
x	$\top, \bot$	A variable

1 Equations

Set Notation · CNF	$\{\{a, \overline{b}\}, \{b, \overline{c}, \overline{d}\}, \{\overline{a}, \overline{c}\}\}$
Arithmetic · CNF	$(a + \overline{b}) \cdot (b + \overline{c} + \overline{d}) \cdot (\overline{a} + \overline{c})$
Negated · DNF	$\neg(ab + \overline{b}cd + ac)$

CNF Environment Formulas

Zugzwang. If a disjunction consists of one literal, the value of this literal is fixed.

$$\{X\} \in S \Rightarrow X = \top$$
$$\{x_i \cdot \overline{x}_i\} \subseteq S \Rightarrow S = \bot$$

DNF Environment Formulas