

exclusive or

/Reference manual/Non-standard extensions to Z

cadiz offers an additional infix logical operator known as exclusive or. It is denoted by the $\underline{\vee}$ symbol. The L^AT_EX mark-up of $\underline{\vee}$ is `\xor`. The troff mark-up of $\underline{\vee}$ is `xor`.

The new operator can be used between expressions and between predicates.

$$\begin{aligned} \textit{Predicate} &= \textit{Predicate}, \underline{\vee}, \textit{Predicate}; \\ \textit{Expression} &= \textit{Expression}, \underline{\vee}, \textit{Expression}; \end{aligned}$$

Its precedence is the same as that of draft Standard Z's inclusive or.

Uses of exclusive or are equivalent to negations of equivalences.

$$\begin{aligned} p_1 \underline{\vee} p_2 &\implies \neg (p_1 \Leftrightarrow p_2) \\ e_1 \underline{\vee} e_2 &\implies \neg (e_1 \Leftrightarrow e_2) \end{aligned}$$

IT 4-Jan-2002