## **Logics Workbench: Notation**

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## **1** Notation

There are some differences in logical notation between 'Logic for AI and Computer Science' by Meyer & vd Hoek and the Logics Workbench. Naturally, LWB uses ascii equivalents for the logical connectives. Also, LWB does not have variable formulas  $\phi$ etc. In the following overview we assume  $\phi$  to be an actual formula having a translation phi in LWB syntax, etc. for  $\psi$  and psi,  $\chi$  and chi, a theory  $\Pi$  and its LWB translation  $\Pi$ , ... An overview:

Meyer & vdHoek	LWB
$\wedge$	&
V	v
$\leftrightarrow$	<->
$\rightarrow$	->
-	~
	box
$\diamond$	dia
$\square_1$	box1
$\diamond_3$	dia3
Τ	true
$\perp$	false
$\{\phi,\psi,\chi\}$	[phi, psi, chi]
$\Pi \vdash \phi$	$provable(phi,[\Pi])$

Just as the symbol  $\vdash$  is a binary relation between a theory  $\Pi$  and a formula  $\phi$  in e. g. the expression  $\{p \rightarrow r, r \rightarrow q\} \vdash p \rightarrow q$ , in the Logics Workbench the predicate provable is a binary relation between (the LWB equivalent of) a theory and (the LWB equivalent of) a formula, as in provable (p -> q, [p -> r, r -> q]). And just as a provability relation  $\vdash$  presupposes a logic, in this case 'classical propositional calculus', in the Logics Workbench we have to be very explicit about this kind of thing, i.e. we have to load that logic first by the command load(cpc). To add comments use '#' at the beginning of the line.