

$termvar, x, y$ term variable

$index, i, j, k$

$term, t$

$::=$

term

	x	variable
	unit	unit
	contra	contradiction
	(t_1, t_2)	pair
	fst t	first projection
	snd t	second projection
	inj ₁ t	first injection
	inj ₂ t	second injection
	case t of $x.t_1, y.t_2$	sum case
	$\lambda x : T. t$	unary functions
	$t_1 t_2$	function application

$form, type, A, B, C, T$

$::=$

formula and type

	\top	true or the unit type
	\perp	false or the empty type
	$\Box A$	past necessity
	$\blacksquare A$	necessity
	$\Diamond A$	past possibility
	$\blacklozenge A$	possibility
	$A \wedge B$	conjunction
	$A \vee B$	disjunction
	$A \rightarrow B$	implication

Γ, Δ

$::=$

type context

	\emptyset	empty context
	A	formula el
	$x : T$	typed el
	Γ, Γ'	append

$\boxed{\Gamma; \Delta \vdash A}$

$\frac{}{\Gamma; \Delta, A \vdash A} \text{ L_AX}$

$\frac{}{\Gamma, A; \emptyset \vdash A} \text{ L_BAX}$

$\frac{}{\Gamma; \Delta \vdash \top} \text{ L_TRUE}$

$\frac{}{\Gamma; \Delta, \perp \vdash A} \text{ L_FALSE}$

$\frac{\Gamma; \Delta \vdash A \quad \Gamma; \Delta \vdash B}{\Gamma; \Delta \vdash A \wedge B} \text{ L_CONJ1}$

$\frac{\Gamma; \Delta \vdash A \wedge B}{\Gamma; \Delta \vdash A} \text{ L_CONJE1}$

$\frac{\Gamma; \Delta \vdash A \wedge B}{\Gamma; \Delta \vdash B} \text{ L_CONJE2}$

$\frac{\Gamma; \Delta \vdash A}{\Gamma; \Delta \vdash A \vee B} \text{ L_DISJ1}$

$$\begin{array}{c}
\frac{\Gamma; \Delta \vdash B}{\Gamma; \Delta \vdash A \vee B} \quad \text{L_DISJI2} \\
\\
\frac{\Gamma; \Delta, A \vdash C \quad \Gamma; \Delta, B \vdash C \quad \Gamma; \Delta \vdash A \vee B}{\Gamma; \Delta \vdash C} \quad \text{L_DISJE} \\
\\
\frac{\Gamma; \emptyset \vdash A}{\Gamma; \Delta \vdash \Box A} \quad \text{L_BOXI} \\
\\
\frac{\Gamma; \Delta \vdash \Box A \quad \Gamma, A; \Delta \vdash B}{\Gamma; \Delta \vdash B} \quad \text{L_BOXE} \\
\\
\frac{\Gamma; \Delta \vdash A}{\Gamma; \Delta \vdash \Diamond A} \quad \text{L_BDIAI} \\
\\
\frac{\Gamma; \Delta \vdash \Diamond A \quad \Gamma; A \vdash \Diamond B}{\Gamma; \Delta \vdash \Diamond A} \quad \text{L_BDIAE} \\
\\
\frac{\Gamma; \emptyset \vdash A}{\Gamma; \Delta \vdash \blacksquare A} \quad \text{L_BBOXI} \\
\\
\frac{\Gamma; \Delta \vdash \blacksquare A \quad \Gamma, A; \Delta \vdash B}{\Gamma; \Delta \vdash B} \quad \text{L_BBOXE} \\
\\
\frac{\Gamma; \Delta \vdash A}{\Gamma; \Delta \vdash \Diamond A} \quad \text{L_DIAI} \\
\\
\frac{\Gamma; \Delta \vdash \Diamond A \quad \Gamma; A \vdash \Diamond B}{\Gamma; \Delta \vdash \Diamond A} \quad \text{L_DIAE}
\end{array}$$

$$\boxed{\Gamma \vdash t : T}$$

Definition rules: 18 good 0 bad
 Definition rule clauses: 33 good 0 bad