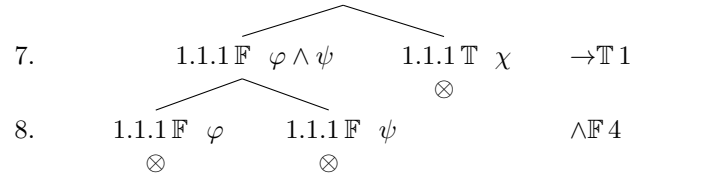


tab.1 Tableaux for Intuitionistic Logic

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Example tab.1. We give a closed tableau that shows $(\varphi \wedge \psi) \rightarrow \chi \vdash \varphi \rightarrow (\psi \rightarrow \chi)$.

1.	1 $\mathbb{T}$	$(\varphi \wedge \psi) \rightarrow \chi$	Assumption
2.	1 $\mathbb{F}$	$\varphi \rightarrow (\psi \rightarrow \chi)$	Assumption
3.	1.1 $\mathbb{T}$	φ	$\rightarrow \mathbb{F} 2$
4.	1.1 $\mathbb{F}$	$\psi \rightarrow \chi$	$\rightarrow \mathbb{F} 2$
5.	1.1.1 $\mathbb{T}$	ψ	$\rightarrow \mathbb{F} 4$
6.	1.1.1 $\mathbb{F}$	χ	$\rightarrow \mathbb{F} 4$
			
7.	1.1.1 $\mathbb{F}$	$\varphi \wedge \psi$	1.1.1 $\mathbb{T}$ χ $\rightarrow \mathbb{T} 1$
8.	1.1.1 $\mathbb{F}$	φ	1.1.1 $\mathbb{F}$ ψ $\wedge \mathbb{F} 4$

Problem tab.1. Find closed intuitionistic **tableaux** to show the following:

1. $\vdash \varphi \rightarrow (\psi \rightarrow \varphi)$
2. $\vdash \neg(\varphi \wedge \neg\varphi)$
3. $\varphi \rightarrow (\psi \rightarrow \chi) \vdash (\varphi \wedge \psi) \rightarrow \chi$
4. $\neg\varphi \vee \neg\psi \vdash \neg(\varphi \wedge \psi)$

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Bibliography