CM0845 Logic
Propositional Logic: Semantic Tableaux

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Remark

The reference for this section is Ben-Ari [2012, § 2.6].

Semantics Tableaux

Theorem (Ben-Ari [2012], Theorem 2.67)

Let φ be a proposition and $\mathfrak{T}$ be a completed tableau for φ. The proposition φ is unsatisfiable if and only if $\mathfrak{T}$ is closed.

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Example

Prove that $\models (\varphi \wedge \psi \rightarrow \sigma) \rightarrow ((\varphi \rightarrow \sigma) \vee (\psi \rightarrow \sigma))$ using semantic tableaux [Ben-Ari 2012, Exercise 2.9, p. 46].

References

Ben-Ari, Mordechai [1993] (2012). Mathematical Logic for Computer Science. 3rd ed. Springer (cit. on pp. 2–4).