Luis M. Augusto

Many-valued logics: A mathematical and computational introduction.

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Addenda & Errata

(additions in blue; corrections in red; notes in green)

p. 12, **Prop. 2.1.4.1.** ϕ is a propositional variable or has the form $P(t_1, ..., t_n)$.

p. 12, **Def. 2.1.5.1.** Propositional variables and expressions of the form $P(t_1, ..., t_n)$ have no subformulae.

p. 12, **Def. 2.1.6.** ... substituting $p_1, ..., p_n$ by some expressions $\sigma p_1, ..., \sigma p_n$. (The objective is to introduce the *general* notation $p/\sigma p$ for substitutions.)

p. 16, **Def. 2.2.11.** ... (e)valuation function $val_{\mathcal{I}} : F, \Sigma \longrightarrow W$ ...

p. 19, **Def. 2.4.4.** ... called *ground* if no individual variables occur in it.

p. 19, **Def. 2.4.6.** ... $\neg$ is applied only to atoms ...

p. 20, **Prop. 2.4.9.5.** If x appears as a free variable in B, ...

p. 24, l. 6: ... of a formula A with its...

p. 41, **Def. 3.1.7.** ... a relation $\Vdash \subseteq 2^F \times F$ satisfying ...

p. 42, **Def. 3.1.9.1.** a consequence operation Cn (a consequence relation $\Vdash$) on F...

p. 43, **Def. 3.2.2.** ... the set $\{0, 1, ..., n-1\}$

p. 48, **Def. 3.2.11.** ~~We say that ϕ is invalid~~ or *contingent* iff it is...

p. 63, **Prop. 3.5.3.** ~~(T8) $((A \to B) \wedge (B \to C)) \to (A \to C)$~~

p. 87, **Example 4.4.6.** Figure 4.4.4 shows a "proof" in $\mathcal{LK}$ of the FOL invalidity $(\forall x (A(x)) \to B) \to (\exists x (A(x)) \to B)$. (Note how the two branches do not terminate with **Ax**.)

p. 93, **4.5.6.** The *expansion rules* and the *closure rule* expressed...

p. 94, **Theorem 4.5.1.** Expansion rules are also called extension rules.

p. 103, l. 25: instead of a ground term, ...

p. 105, **Fig. 4.5.5.** The tableau is obviously closed.

p. 128, **Exercise 4.14.** Prove that the set C is unsatisfiable...

p. 156, **Prop. 5.5.18.** ... not uniform, and...

p. 177, **5.7.4.** ... condition QD, ...

p. 180, Remark to **Example 5.7.7.**, l. 2. ... replacing x with some Skolem constant, ...

p. 237 (last line) $\mathrm{L} = (\mathfrak{L}, \mathfrak{M}_{\mathfrak{U}}, \mathscr{S}_{\mathrm{L}})$

p. 238, **Def. 7.4.17.** Given some n-valued logic $\mathrm{L} = (\mathfrak{L}, \mathfrak{M}_{\mathfrak{U}}, \mathscr{S}_{\mathrm{L}})$...

p. 249, **Def. 7.5.4.** $Cn_{\mathbb{C}}(\phi) = \langle \{\mathcal{M}_{\phi} | \mathcal{M} \in \mathfrak{S}, \models_{val_{\mathcal{M}}} \phi\} \rangle$

p. 263, **Prop. 8.2.6.3.** (R4*) $\dfrac{S_1[P_1] \quad S_2[P_2] \vee \mathcal{C}}{\mathcal{C}\sigma}$

p. 272, **Def. 8.3.2.** ... (cf. 5.7.15):[5] (corrects the location of the footnote indicator)

p. 274, **Def. 8.3.8.** $\dfrac{\mathcal{C}_1 \quad \mathcal{C}_2}{(\mathcal{C}_1 - \{L_i\}) \cup (\mathcal{C}_2 - \{M_j\})}$

p. 293, **Def. 9.2.6.8.** $glb(B) = x$ or $inf(B) = x$

p. 293, **Def. 9.2.8.3.** The *filter generated by an element* x in a poset $\mathcal{R}$ is the upset $\uparrow \{x\} = \{y \in \mathcal{R} | y \geq x\}$.

p. 298, **Prop. 9.4.2.** $glb(x, y) := x \cap y$

p. 302, **Def. 9.4.11.1.a.** $x \cup y \in A$

p. 302, **Def. 9.4.11.2.a.** $x \cap y \in B$

Last updated: May 2020