p. 10 -12: We begin by ...of the tree. –> We begin by defining a linear ordering \( \leq_n \) of each level \( n \) by induction on the levels. Suppose \( \sigma \) and \( \tau \) are on level \( n+1 \) and are the immediate successors of \( \sigma' \) and \( \tau' \), respectively, of level \( n \). If \( \sigma' <_n \tau' \) then \( \sigma <_{n+1} \tau \). If \( \sigma' = \tau' \) then we order their immediate successors in some fixed fashion to determine the relationship between \( \sigma \) and \( \tau \).

1. -4: find the largest... \( T \). –> find the smallest level of \( T \) at which the predecessors \( x' \) and \( y' \) of \( x \) and \( y \), respectively, are distinct.

p. 11 Exercise 6: chain –> sequence

p. 11 Exercise 7: We define the lexicographic ordering \(<_L\) on \( n \)-tuples \( \langle x_1, \ldots, x_n \rangle \) of natural numbers as would be expected: \( \langle x_1, \ldots, x_n \rangle <_L \langle y_1, \ldots, y_n \rangle \) if \( x_i < y_i \) for the least \( i \) such that \( x_i \neq y_i \).

p. 14 Figure 2: The root here should be labeled \( ((\neg(A \land B)) \rightarrow C) \) and the left node on the next level should be \( (\neg(A \land B)) \).

p. 17 l. 7: propositions –> propositional letters.

1. 8: proposition –> propositional letter.

p. 21 Exercise 1: (i.e. unabbreviated –> (based on Definition 2.1).

p. 22 Exercise 10 \( \neg \alpha \rightarrow (\neg A) \) and omit "from \( \alpha \".

p. 23 Add Exercise 17: Complete the remaining cases in the proof of Theorem 2.4.

p. 25 l. 3 of Definition 3.8 \( V \rightarrow V(\sigma) \)

1. -2 ± –> \( \Sigma \)

p. 34 l. 7 of proof of 4.8 to end of proof: in the construction.... we would reduce \( E \). –>

in the construction of the \( \text{cst} \), if \( E \) is not already reduced on \( P \), we reduce an unreduced entry on a level \( k \leq n \). Thus we can proceed for at most finitely many steps in this construction before we would reduce \( E \).

p. 35 l. 5: add at the end: This notion corresponds to the number of occurrences of connectives in the proposition.

1. -1 of Definition 4.10: the signed propositions –> the degrees of the signed propositions

p. 36 4b: mismatched parentheses. should be \( ((\alpha \land \beta) \rightarrow \gamma) \rightarrow ((\alpha \rightarrow (\beta \rightarrow \gamma))) \).

p. 42 Last line before Theorem 6.4: \( T \alpha \rightarrow T \alpha_m \)
p. 44 l. -4 At end of this paragraph add: Note that if $\sigma \subseteq \tau \in T$ then $\sigma \in T$ and so $T$ is binary branching.

p. 46 Exercise 7 line before Note: omit "; the order has width three"

p. 51 l. 3: the propositional $\rightarrow$ the negations of propositional

1. -2: parent $\rightarrow$ parents

p. 52 Definition 8.6: a labeled binary tree $\rightarrow$ a finite labeled binary tree

p. 55 l. -4 of Proof of Lemma 8.14: $\ell \rightarrow \ell$ or $\bar{\ell}$

p. 62 Exercise 14: add the hypothesis that $S$ is satisfiable.

p. 64 l. 2: $R^A \rightarrow \mathcal{R}^A(S)$

p. 68 l. 10: proof is an ordinary $\rightarrow$ proof can easily be made into an ordinary

(i) of Definition 10.4: is a clause $\rightarrow$ is a nonempty clause

p. 76 l. -4 above Example 10.18: it is clear that $\rightarrow$ it is clear (for finite programs $P$) that

p. 78 Exercise 4 l. 3 of second paragraph: If Patterson comes...Jones is ill. $\rightarrow$ If Patterson comes, he will force Robinson back to his senses and Patterson will come if Jones is ill.

p. 87 l. -2 of Proof of Theorem 2.12: $s = t \rightarrow s_1 = t_1$


p. 91 l. 1 of Definitions 3.8(i)(2): $\sigma \wedge 0 \rightarrow \sigma^0$

Example 3.9: The formulas on the second level down should be $((\exists x)R(c, f(x, y), g(a, z, w)))$ and $((\forall y)R(c, f(x, y), g(a, z, w)))$. The top level formula should be $(((\exists x)R(c, f(x, y), g(a, z, w))) \wedge ((\forall y)R(c, f(x, y), g(a, z, w))))$.

p. 119 figure 34: the remark (suppose $t_0 = c_0$) can be omitted or put one line higher up and the left path should end with the entry $T(\neg R(c_0, c_0))$.

p. 125 problem 2: infinite model but no finite ones $\rightarrow$ a model with an infinite domain but none with a finite domain.

p. 127 l. -1: From $\forall x \alpha$ infer $\alpha. \rightarrow$ From $\alpha$ infer $\forall x \alpha$ for any formula $\alpha$.

p. 133 Exercise 5a: It is better to write $(\exists y(\forall x R(x, y) \lor Q(x, y)))$ for the formula after the $\land$,

p. 137 problem 3 (indeed least) $\rightarrow$ (indeed least), in the sense of set containment,

p. 140 l. 5: $v(\psi(\theta \sigma).) \rightarrow v(\psi(\theta \sigma))$.

p. 142 l. 7: $\{x/h(z)\}$ is our $\rightarrow$ $\{x/h(z), y/z\}$ is our

1. 3 of next paragraph: If it does not contain $\rightarrow$ If if contains

p. 144 problem 2: $hf(w) \rightarrow h(f(w))$ and $hf(a) \rightarrow h(f(a))$ (in both parts)
p. 147 Example 13.4: Next to last line of tableaux switch the underline from \( \neg P(u, v) \) to \( P(v, u) \) in the left hand clause and change \( P(z, x) \rightarrow P(x, z) \) in the right hand one.

p. 151 l. 6: \( T_1 \) and \( T_2 \), \( \rightarrow T_1 \) and \( T_2 \) with one more resolution giving \( C \) from \( C_1 \) and \( C_2 \).

p. 152-3 problem 6: At beginning change six sentences \( \rightarrow \) seven sentences and at the end of the list add (vii) there is a bank.

p. 155 Definition 14.3 l. 1: We say that \( \rightarrow \) In this situation, we say that

p. 160 l. 1: linear resolution \( \rightarrow \) linear input resolution

p. 162 l.2 of proof of Theorem 1.8: I.10.9 \( \rightarrow \) I.10.11

p. 163 l. 2 of Theorem 1.10: \( G = \{ A_1, \ldots, A_n \} \rightarrow G = \{ \neg A_1, \ldots, \neg A_n \} \)

p. 174 problem 11 after the program: The goal ? - \( tc(a, b) \) will succeed exactly \( \rightarrow \) The fact \( tc(a, b) \) is a logical consequence of this program and the edge database exactly

p. 181 problem 4: II.7-8 and III.11-12 \( \rightarrow \) II.5.7-8 and III.2.12-14

p. 189 l. 7: After (Exercise 4). Add: Note that this does not imply that \( = \) is true identity.

p. 230 Definition 3.2(ii) l. -1: of the form \( Tq \) \( \vdash \) \( \psi \) \( \rightarrow \) of the form \( Tp \) \( \vdash \) \( \psi \), \( Fp \) \( \vdash \) \( \psi \), \( Tq \) \( \vdash \) \( \psi \)

p. 242 line 1 of Definition 4.6(i)(2)(a): about a possible world \( q \rightarrow \) about \( p \) or a possible world \( q \)

p. 243 l. 2 of Definition 4.7(i): about a possible world \( q \rightarrow \) about \( p \) or a possible world \( q \)

p. 244 l. -2 of (iv): , where \( \rightarrow \) , as the second entry of the appended atomic tableau, where

p. 259 l. -7: an open formula \( \rightarrow \) a formula with free variables

1. -5: open \( \alpha \rightarrow \) \( \alpha \) with free variables

p. 323 definition of \( a(S \times R) \): \( aRc \rightarrow aSc \)

p. 351 l. -3: If \( A \) and \( A \rightarrow \) If \( A \) and \( B \)

p. 364 problem 8: \( \alpha(\beta * \gamma) \rightarrow \alpha * (\beta * \gamma) \)

p. 378 Exercise l. 1: Reconstruct the syllogisms \( \rightarrow \) To the extent you can (there is some ambiguity) reconstruct the syllogisms